THE 25% SHIFT

The Benefits of Food Localization for Northeast Ohio & How to Realize Them

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EXECUTIVE SUMMARY

The local food revolution has come to Cleveland—big time. The city now has so many community gardens, farmers markets, community-supported agriculture (CSA) subscriptions, urban farms, celebrity chefs, and local-food procurement programs that the environmental web site, *SustainLane*, recently ranked Cleveland as the second best local-food city in the United States. But the region has only just begun to tap the myriad benefits of local food.

The following study analyzes the impact of the 16-county Northeast Ohio (NEO) region moving a quarter of the way toward fully meeting local demand for food with local production. It suggests that this 25% shift could create 27,664 new jobs, providing work for about one in eight unemployed residents. It could increase annual regional output by $4.2 billion and expand state and local tax collections by $126 million. It could increase the food security of hundreds of thousands of people and reduce near-epidemic levels of obesity and Type-II diabetes. And it could significantly improve air and water quality, lower the region's carbon footprint, attract tourists, boost local entrepreneurship, and enhance civic pride.

Standing in the way of the 25% shift are formidable obstacles. New workforce training and entrepreneurship initiatives are imperative for the managers and staff of these new or expanded local food enterprises. Land must be secured for new urban and rural farms. Nearly a billion dollars of new capital are needed. And consumers in the region must be further educated about the benefits of local food and the opportunities for buying it.

To overcome these obstacles, we offer more than 50 recommendations for programs, investment priorities, and policies. In a period of fiscal austerity, we argue, the priority must be to create "meta-businesses" that can support the local food movement on a cash-positive basis. For example:

- To mobilize consumers in the region to buy local food, we suggest creating local debit, credit, and gift cards, and purchasing platforms that better connect local food businesses to one another and to government procurement agencies.

- To increase the competitiveness of local food businesses, we recommend the creation of local business alliances that facilitate peer learning and new kinds of delivery services, local-food malls, and joint procurement cooperatives.

- To make more capital available to local food businesses, we propose establishing new revolving loan funds, municipal food bonds, and a local stock market.

- To support a new generation of local food entrepreneurs, we recommend deployment of a network of food-business incubators and "food hubs" operating in concert within a network of enterprise support.

Our final—and most ambitious—recommendation is the creation of a NEO Food Authority, potentially owned and capitalized by thousands of shareholders in the region. This Authority might issue tax-exempt bonds and then provide seed capital for many of our initiatives. The next step should be to prepare a business plan for this idea.

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Introduction

A. The Local Food Revolution

Any doubts about the importance of the local food movement in the United States were dispelled in May 2007, when the cover of *Time* magazine proclaimed "Forget Organic, Eat Local." That same year, the *Oxford Dictionary* called "locavore" one of its important new "words of the year." And Barbara Kingsolver's book *Animal Vegetable Miracle*, describing her family's efforts to embrace a 100-mile diet, became a national bestseller. Today, anyone who walks through an American city, suburb, or town will find at least one restaurant, supermarket, or farmers market advertising its connection to local food. This movement is now spreading worldwide. Slow Food International, for example, boasts more than 100,000 members in 132 countries.

The local food revolution has come to Cleveland—big time. The environmental web site, *SustainLane*, ranks Cleveland the second best city in the country for local food and agriculture (Minneapolis is number one). Here's why: "Cleveland takes second place in our bakeoff with 12 farmers markets and 225 community gardens reported, serving truckloads of fresh food to its population of over 450,000. A nearly 600 percent increase in the total number of farmers markets and a sizable increase in community gardens since 2006 explain Cleveland's ascent in this rankings category."

Many Clevelanders, however, do not yet recognize the significance of this revolution. They appreciate that local food is aesthetically pleasing, tastes good, and makes enjoyable farmers markets possible. However, they perceive local food as confined to boutique foodie businesses and symbolic policies helping a few trendy urban farms. The bottom line, they believe, is that local food is too expensive for most residents, especially those living on slim budgets.

In fact, local food is becoming a powerful economic development strategy, its players in the many thousands, and its products and services increasingly competitive. Among its many benefits are the following:

- ***Stronger Community Economies*** – Local food is a critical economic driver for local economies. Local food businesses can provide the NEO region tens of thousands of new jobs and pay more than a hundred million dollars in new state and local taxes. Every loaf of bread unnecessarily imported means the leakage of bread dollars outside the local economy and the loss of local bread business that could contribute to regional prosperity. But the case for local food businesses is even more compelling, because locally owned businesses spend more of their money regionally than do comparable

non-local businesses. Unlike outsider-owned businesses, local businesses tend to have local CEOs, advertise in local media, hire local accountants and attorneys, and reinvest profits in their community. Numerous studies have documented that a dollar spent at a local business yields two to four times the "economic multiplier"—the underlying source of income, wealth and jobs—as an equivalent non-local business.[1] Additionally, there is a growing body of evidence that local businesses are particularly good at attracting tourists and future entrepreneurs, promoting creative economies, and stimulating charitable contributions.[2]

- ***Ecological Sustainability*** – Local food promotes not general economic development, but also *sustainable* economic development. Farmers, whether rural or urban, are among the most important stewards of the land. Because agriculture accounts for approximately 30% of the earth's land surface, environmentally sensitive production of foodstuffs is critical to maintaining the healthy habitats, air, water, soil, and ecosystems needed to support healthy people.[3] To eat sustainably, moreover, means growing and processing foodstuffs in a sustainable manner, and doing so self-reliantly within a local ecosystem makes the effort all the more compelling. Any community on the planet that cannot sustainably feed itself necessarily places burdens on the ability of other communities seeking to feed themselves. Put positively, business models that meet local food needs sustainably can, if shared and multiplied globally, teach communities in other parts of the world how to feed themselves sustainably.[4] Moreover, since local businesses, including local food businesses, tend to spend their money locally, their inputs travel less, use less energy, and thereby emit fewer pollutants and less climate-disrupting carbon.

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[1] The best studies in this area have been done by two economists at Civic Economics based in Austin. See, for example: Matt Cunningham and Dan Houston, "Economic Impact Analysis: A Case Study" (Austin, Texas: Civic Economics, December 2002); and Matt Cunningham and Dan Houston, "The Andersonville Study of Retail Economics" (Austin, Texas: Civic Economics, October 2004), available at *www.civiceconomics.com*.

[2] Michael H. Shuman, *The Small Mart Revolution: How Local Businesses Are Beating the Global Competition* (San Francisco: Berrett-Koehler, 2006), pp. 39-62.

[3] World Resources Institute, "World Resource 2000-2001 People and Ecosystems: The Fraying Web of Life" (Washington, DC: Elsevier Science, 2000), p. 56.

[4] The growing, harvesting, raising, or capturing of specific foodstuffs are all dependent on many natural endowments—water, climate, ecology, genetics—that are not universally available. But technology is steadily leveling the playing field to the point where there are compelling examples of communities feeding themselves in every extreme—cold or hot, wet or dry, high or low, urban or rural. The development and spread of better and cheaper greenhouses, hydroponics, rooftop and suburban lawn gardening, and urban farms will hasten this equalization. A further point is that even if a community is capable of producing no raw foodstuff, it still in theory can find, from other communities, excellent models for small-scale food processing, distribution, retail, and restaurants. And from a value-added standpoint, these may be by far more important than raw food production.

- ***Better Nutrition and Health*** – Another dimension of economic development is the well-being of human capital, and here local food also has much to contribute. Because many foods lose nutrients over time, local food means quicker delivery of foodstuffs of generally greater nutritional value. Moreover, knowing a farmer or rancher tends to enhance a consumer's trust in the healthfulness of his or her products. Local foods also typically involve less processing, which means fewer chemicals and additives. According to the U.S. Department of Agriculture, Americans need to increase fresh fruit consumption by 132%, legumes by 431%, while reducing high-starch foods by 35%.[5] The USDA further notes that if all Americans adopted a healthy diet, there is presently not enough healthy food grown domestically to meet this need. Replacing processed food with fresh food, as author Michael Pollan argues, is a powerful way to improve consumer health and reduce the incidence of obesity and diabetes.[6] Every headline about a breakdown in the mainstream food system – outbreaks of e-coli in hamburger meat and in peanut butter from distant suppliers, for example – is a reminder about the health value of purchasing food from known and trusted producers.
- ***More Civic Engagement*** – A final important component of economic development, as Harvard sociologist Robert Putnam has argued in *Bowling Alone*, is civil society.[7] Anyone who has been to a farmers market knows that the shopping experience is fundamentally different from that of a typical supermarket (let alone a Wal-Mart Supercenter). A supermarket is about finding and purchasing foods as quickly and efficiently as possible. A farmers market is about consumers chatting among, learning from, and developing relationships with local food producers, and about neighbors interacting with one another. An entire sociology literature underscores that communities characterized by local business result in greater civic welfare, less social strife, and greater equality.[8]

It is true that, at the moment, local food tends to cost more than mainstream food. But two points are worth making here. First, one important reason local food prices are high is that demand exceeds supply. Additionally, a lack of distribution and aggregation infrastructure reduces efficiencies and cost savings

[5] J. C. Buzby, H. F. Wells, and G. Vocke, "Possible Implications for U.S. Agriculture from Adoption of Select Dietary Guidelines" (Washington, DC: United States Department of Agriculture Economic Research Service, 2006).
[6] Michael Pollan, *In Defense of Food: An Eater's Manifesto* (New York: Penguin, 2008).
[7] Robert Putnam, *Bowling Alone* (New York: Simon & Schuster, 2000).
[8] See, e.g.: C. Wright Mills and Melville Ulmer, "Small Business and Civic Welfare," *Report of the Smaller War Plants Corporation to the Special Committee to Study Problems of American Small Business*, Document 135, U.S. Senate, 79th Congress, 2nd session (Washington, DC: U.S. Government Printing Office, 1946); and Thomas A. Lyson, "Big Business and Community Welfare: Revisiting A Classic Study" (Ithaca, NY: Cornell University Department of Rural Sociology, 2001), p. 3.

in the local food system. As local food businesses grow and spread, prices will begin to adjust downward. Second, economic success does not just occur with provision of the lowest price goods and services. No one, for example, would criticize Starbucks as a failed model because its lattés are the most expensive in town. Consumers of all incomes are not only looking for the lowest priced food but also the *best value* for a given price. And in many ways, consumers—even low-income consumers—are finding that local food, even if it's nominally pricier, delivers better value.[9]

Still, for the local food movement to reach its full potential, the price gap between local and conventional food, where it exists, will have to shrink. This may well be on the verge of happening. At least five trends are likely to help local food undercut the global competition over the next decade:

- ***Distributional Inefficiency*** – While the production costs of food can be brought down by moving factories to low-wage regions with few regulations, global distribution of food is becoming increasingly inefficient. Economist Stewart Smith of the University of Maine, for example, estimates that a dollar spent on a typical foodstuff item in the year 1900 wound up giving 40 cents to the farmer, with the other 60 cents split between inputs and distribution.[10] Today, about seven cents of every retail food dollar goes to the farmer, rancher, or grower, and 73 cents goes toward distribution.[11] Whenever the distribution cost greatly exceeds the production cost, there are opportunities for cost-effective localization. Not just in the United States, but worldwide, local distribution offers opportunities for reducing the need for, and expense of, every component of distribution, including transportation, refrigeration, packaging, advertising, insurance, and middle people. The Oklahoma Food Coop, for

[9] A recent study found that 500 South Carolina consumers were willing to pay 27% more for locally grown produce and 23% more for local animal products. Carlos E. Carpio and Olga Isengildina-Massa, "Intermediate Economic Evaluation of the South Carolina Agricultural Marketing and Branding Campaign" (March 2008). Another study of residents in Maine, New Hampshire, and Vermont found that 17 to 40% of consumers in each state were willing to pay two dollars more to buy a locally produced five-dollar food item. Kelly L. Giraud, Craig A. Bond, and Jennifer J. Keeling, "Consumer Preferences for Locally Made Specialty Products Across Northern New England" (Durham, NH: Department of Resource Economics and Development, 2005), p. 20. *See also*: Kim Darby, Marvin Batte, Stan Ernst and Brian Roe, "Decomposing Local: A Conjoint Analysis of Locally Produced Foods," *American Journal of Agricultural Economics* (2008), pp. 476-486; Gretchen Nurse, Yuko Onozaka, and Dawn Thilmany McFadden, "Understanding the Connections Between Consumer Motivations and Buying Behavior: The Case of the Local Food System Movement" (Southern Agricultural Economics Association 2010 Annual Meeting), available at *http://ageconsearch.umn.edu/handle/56494*; and J.K. Bond, D. Thilmany *et al.*, "Direct Marketing of Fresh Produce: Understanding Consumer Purchasing Decisions," *Choices: The Magazine of Food, Farm, and Resource Issues* (American Agricultural Economics Association, 2006), pp. 229-235.

[10] Stewart Smith, personal communication to Michael Shuman, 2 December 2005, updating Stewart Smith, "Sustainable Agriculture and Public Policy," *Maine Policy Review*, April 1993, pp. 68–78.

[11] See Michael Shuman *et al.*, *Community Food Enterprises* (Wallace Center, December 2009).

example, is a no-frills internet-based food distribution company that has reduced distribution costs to 18 cents on the dollar.

- ***Rising Energy Prices*** – Long-distance food distribution will become more costly still when, as most analysts expect, global oil prices rise.[12] Adding to these market forces are political pressures to enact carbon taxes to slow global climate disruption. Because foodstuffs have a relatively low value per unit weight (except for a few products like expensive wines and spices), they are disproportionately vulnerable to rising energy prices and taxes.
- ***Homeland Security*** – Global concerns about terrorism have focused the attention of security officials on scenarios in which national food supplies could be contaminated or destroyed.[13] They are recognizing that the shorter supply lines and community self-reliance that come with local food can reduce these security risks. This is translating into a recalibration of government policies to impose higher insurance premiums on global food producers and to offer more assistance to local food businesses. Professor David Orr of Oberlin College is consulting with the Joint Chiefs of Staff at the White House on the connection between distributed and self-reliant local food and energy systems on the one hand and national security on the other.
- ***Telecommunications*** – The spread of the internet, affordable computers, and mobile phones provides local food entrepreneurs with information about market opportunities that once was only available to larger companies. Even the smallest food and farm entrepreneurs are experimenting with no or low-cost social media tools to successfully reach their customers. The millennials, as an emerging demographic cohort, are already mobilizing their purchasing power in favor of local food in their quest for authenticity.
- ***Local Finance*** – One of the most formidable barriers to the expansion of regional food economies is the lack of accessible local capital. The financial crisis of 2008, caused by global banks and investment funds that hid high levels of real-estate risk in exotic securities and derivatives, has given many people worldwide a powerful incentive to move their savings into local banks and credit unions and their investments into local businesses. Internet-based tools like *Prosper.com* and *Kiva.org*, which are connecting local lenders with local-food business borrowers, will soon be joined by local stock exchanges connecting local investors with local food businesses.

A final factor increasing the competitiveness of local food is that local food businesses themselves are learning from their global brethren how to compete

[12] Christopher Steiner, *$20 Per Gallon: How the Inevitable Rise in the Price of Gasoline Will Change Our Lives for the Better* (New York: Grand Central Publishing, 2009).
[13] Brian Halweil, "Home Grown: The Case for Local Food in a Global Market" (Washington, DC: Worldwatch Institute, 2003).

more effectively. In fact, in *every* food category of the North American Industrial Classification System (NAICS), there are more examples of successful small business than examples of successful large business. Economists tend to focus on the *average* scale of an enterprise in a given NAICS category. What matters, however, is finding the appropriate scale enterprise for a particular place. And even in relatively centralized sectors, like poultry production, there are compelling examples of small-scale success throughout the United States that can provide guidance to NEO food entrepreneurs.

As pointed out in a recent study on *Community Food Enterprise* funded by the Kellogg and Gates Foundations, locally owned businesses are deploying more than a dozen strategies—such as low-cost technology, the internet, vertical integration, and consumer ownership—to compete effectively against large-scale players.[14] Moreover, networks of local food businesses and non-food businesses are forming—creating joint procurement cooperatives, for example—that are improving their economies of scale. Many local food advocacy groups and intermediaries are deploying peer learning strategies and "communities of practice" to more effectively diffuse innovation.

In short, local food is here to stay and likely to become more competitive. And Cleveland is already well positioned to take full advantage of this movement. But significant barriers abound, and the region will only be able to realize the full array of benefits if it undertakes significant private, public, and civic initiatives.

[14] See Michael Shuman *et al.*, *supra* note 11.

B. What Is Local Food?

To many, local food is about proximity—that is, discriminating consumers demanding higher quality food grown, raised, caught, processed, cooked, distributed, and sold by people nearby they know and trust. But equally important is local ownership of the food businesses involved in a region's value chains. Proximity and ownership, of course, are naturally interrelated. Locally owned food businesses tend to focus on local markets, and locavores tend to favor locally owned businesses. But this is not always the case. As locally owned food businesses grow, they naturally begin to reach into non-local markets.[15] And large, non-local businesses, including Wal-Mart and Sysco, who fully understand the growing market opportunity, are now attempting to provide local food to their customers.

This report is primarily about the economic benefits that flow from reduced food miles, with NEO businesses growing, raising, processing, packaging, distributing, cooking, and serving NEO customers. It assumes that nearly all the new businesses involved will be small and locally owned. However, involvement of non-local businesses as market partners or investors in these initiatives is welcomed and encouraged.

C. About the Study

This study aims to help the greater Cleveland area fully realize the benefits of the local food revolution. Its five sections aim to answer the following questions:

- ***What's going on here already?*** Section I presents highlights of local food innovations in four different parts of the NEO region: two big cities (Cleveland and Youngstown), one small town (Oberlin), and one rural area (Wayne County).

- ***How strong is the local food movement here?*** To answer this, Section II performs an analysis of SWOT—strengths, weaknesses, opportunities, threats of existing food businesses in the region—based on available data and the views of leaders in the region's local food movement.

- ***What would be the impact of expanding the movement?*** Section III answers this by sketching a scenario of moving 25% of the way toward

[15] Some think local businesses exporting food is an oxymoron—or at least contradicts the goal of helping other communities become more food self-reliant. In fact, the goal of the local food movement is better understood to be maximizing self-reliance in communities worldwide, with an appreciation that some foodstuffs still must come from trade. With the greater wealth that comes from food self-reliance, communities will increasingly have the purchasing power to import more exotic foodstuffs. Ironically, then, worldwide food localization could expand global trade.

complete food localization, analyzing the benefits that would flow from it, and highlighting the biggest obstacles that stand in the way.

- ***How would the local food movement strengthen itself?*** Section IV presents a composite of suggestions—specific programs, investments, and policies from the affinity groups we helped assemble—about how to overcome the obstacles facing the 25% shift.

- ***What strategic priorities would most benefit the movement?*** In Section V, we present our own priority programs, investments, and policies, based on our assessment of which initiatives cost the least and leverage the most.

Even though this study was initiated by major institutions in Cleveland—the Cleveland Foundation, ParkWorks, Kent State University Cleveland Urban Design Collaborative, Neighborhood Progress, Inc., and the Cleveland-Cuyahoga County Food Policy Coalition—the leaders of these institutions understood that it is smart to build a *regional* food system. Broadly speaking, a regional perspective enables one to connect rural farms with urban consumers, and to envision a market broad enough to create right-scaled businesses in nearly every food sector. The study focuses on the 16 counties surrounding Cleveland, as shown in Chart 1.[16]

Chart 1
The Northeast Ohio Region

[16] This includes Ashland County, Ashtabula County, Carroll County, Columbiana County, Cuyahoga County, Geauga County, Lake County, Lorain County, Mahoning County, Medina County, Portage County, Richland County, Stark County, Summit County, Trumbull County, and Wayne County.

We began our work by synthesizing and analyzing existing studies, reports, and databases, listed in Appendix I. While no resources were available to undertake new studies, we did try to tap into on-the-ground expertise in the region by speaking to literally hundreds of people involved in the local food movement or in state, regional, and local economic development generally. Some of these conversations occurred with individuals and in small groups, but a large proportion of input was received through a website we created, *NEOFoodWeb.org*.

We organized experts in the region into 35 "affinity groups," each an important constituent part of the local food economy. The affinity groups, as shown in Charts 2a-2e, fell into five broad sectors:

- *Agricultural Production* – The bedrock of the local food system are farmers that use the region's land. This sector includes urban growers, specialty produce and grain growers, grassfed meat and dairy producers, and commodity farmers.

- *Markets* – Markets represent the end-point in the local food cycle, the places where consumers buy most of their food. This sector includes proprietors involved in farmers markets, community-supported agriculture, food cooperatives, restaurants, food banks, grocery stores, and institutional purchasing offices.

- *Supply Chain Infrastructure* – The supply-chain infrastructure is made up of intermediaries that help connect producers with markets. This sector includes business people involved in aggregation (storage and warehousing), distribution (intermediaries that transport food from farms to markets), and processing/manufacturing (such as canning, freezing, baking, dehydration, and meat processing).

- *Supporting Businesses* – Many important businesses provide direct services to support farmers and food enterprises. We include in this sector representatives from communications, information technology (IT), composting and waste re-use, materials and building supply companies, farm supply and support businesses (such as equipment dealers and seed/nursery businesses), and energy companies (such as those providing fuels for farm use).

- *Food System Capacity* – Finally, many private agencies, non-profit organizations, and government bodies are playing a pivotal role in providing resources and other support to the local food economy. This sector includes representatives from educational institutions (K-12, colleges and universities, vocational education), civic institutions (non-profit organizations, food policy councils, community-development corporations, philanthropy, public art and artists), local government

(elected representatives/government officials, public health, economic development, natural resources/conservation), and the financial and business-development sectors (micro-finance, land access, business incubators).

Taking input from our steering committee, from members of the Ag-Bio Industry Cluster Leadership Council (an initiative between Ohio State University and the Fund for Our Economic Future), and from leaders in farming organizations and food policy councils, we identified representatives for each of these groups and invited them to participate in several public events we held between June and November 2010. We also asked them to participate in a viritual think-tank housed at the *NEOFoodWeb.org*. The site became an important portal for their input through surveys, discussion topics, and comments on early drafts of this paper. The *NEOFoodWeb* also provided an information clearing house of reports, previous regional food studies, and video vignettes highlighting diverse perspectives in the region about local food topics.

About 200 people participated in the *NEOFoodWeb*. An analysis of their occupations, residencies, and interests revealed two important points:

- First, the majority of the participants were from Cuyahoga County, which is unsurprising given that this study was initiated by Cleveland-based organizations. Yet about a third came from outside Cuyahoga County, which demonstrates the breadth of regional interest in this work and the opportunities for future organizing.

- Second, half the participants were members of the food system capacity cluster, and a third were in agricultural production. There was relatively limited participation from those involved with markets, supply-chain infrastructure, and supporting businesses. To remedy this gap, we conducted additional one-on-one interviews with key players in these clusters.

It is our hope that the sponsors of this study continue to use and grow the *NEOFoodWeb* as our recommendations are implemented.

Chart 2a
Agricultural Production Affinity Groups

Affinity Group	Types of Members	Role in Local Food Economy	Needs
Commodity and Production Agriculture	200+ acre farms, commodity farms, large producers	Provide high volume agricultural production, specialization of products, organic waste management (manure, crop residue), and opportunities for energy and fuel production.	High capital equipment, facilities for storage, labor, irrigation, access to large acreage, price supports
Specialty Grain and Produce	Small- to medium-scale farms (1-200 acres)	Provide medium to high volume agricultural production, specialized crops, and mixed crops. The organic waste is typically re-used onsite.	Equipment, irrigation, cold storage, greenhouses
Specialty Meat and Dairy	Small- to medium-scale dairies, poultry, rabbit, livestock, and aquaculture farms	Provide small to medium volume agricultural production, along with organic waste for use by other farms.	Livestock facilities, certified processors, irrigation, equipment
Urban Growers	Small-scale urban growers, community gardeners, home gardeners	Provide small volume agricultural production, and access to fresh food in food deserts.	Greenhouses, irrigation and access to water, small equipment, cold storage

Chart 2b
Markets Affinity Groups

Affinity Group	Types of Members	Role in Local Food Economy	Needs
Community-Supported Agriculture	CSA managers, farmers operating CSAs, multi-farmer CSA groups or organizations	Cluster demand. Provide market stability for farmers, convenience for consumers, and start-up capital for farmers.	Farmer networks, marketing and promotions, volunteers to support distribution
Cooperatives	Buying clubs, food coop grocers, farmer and consumer coops	Reduce costs through volunteer labor, retain profits in community, cluster demand, and provide education for members on cooking and nutrition	Retail storefronts, refrigeration, storage capacity
Farmers Markets	Farmers market managers, vendors, local government officials	Aggregate local producers, and increase diversity and variety of products for consumer. Offer neighborhood or downtown revitalization with a low start-up cost. Cluster farmers to incubate other activities like kitchen incubators. Provide educational forum for consumers and host social events.	Farmer networks, start-up funds, marketing and promotion
Food Banks	Food banks, community food centers, hot meal programs, emergency food relief	Absorb farm surpluses, distribute healthier food, and provide warehousing and storage.	Subsidies and donations, farmers who can donate or sell for low prices, consolidators, warehousing, distribution and trucking
Grocers	Supermarket chains, independent stores, corner stores, natural food stores	Provide large volume markets, promote local farmers, educate consumers, and manage food waste for composting.	Consolidators, aggregation, storage, larger trucks, distributors, marketers
Institutional Food Services	Public schools, colleges and universities, hospitals	Provide large volume markets, produce food waste for composting, and generate waste grease for recycling and composting.	Consolidators, distributors, larger trucks, storage
Restaurants	Boutique restaurants	Provide small to medium volume markets, specialty items, advertising on menus, and food waste for recycling and composting.	Distributors, consolidators, trucks

Chart 2c
Food System Capacity Affinity Groups

Affinity Group	Types of Members	Role in Local Food Economy	Needs
Business Incubators	Incubator kitchens, business incubation services	Facilitate business planning. Provide shared-use space, coaching and mentoring, and start-up capital.	Grant or government support, networks of entrepreneurs, experienced staff
Community Development Corporations	Neighborhood CDCs	Assist with funding, financing, and land acquisition. Support commercial development and neighborhood organizing.	Grant or government support, experienced staff, city government connections
Economic Development	Economic development agencies, government departments, chambers of commerce	Assist with funding, financing, development, and clustering. Provide shared-use facilities, and coordinate area businesses.	Grant or government support, experienced staff
Elected Officials and Civil Servants	City council members, state and federal representatives, county government officials, township trustees, government employees	Participate in policy councils, develop supportive legislation, and facilitate funding, financing and infrastructure development.	Supportive grassroots constituents, strong networks, public deliberation and legitimacy
Food Policy Councils	City or county food policy councils, multi-county regional councils	Foster collaboration, conduct assessments, and influence public policy.	Strong mixed networks, member support, government support, communications support
Higher Education	Universities, colleges, community colleges	Provide access to campus land for model programs, production, education and training. Provide research and evaluation.	Institutional support, student interest, faculty interest, supporting curriculum
K-12 Education	Public schools, private schools, charter schools	Provide education for youth, opportunities for summer internships, and school land for production.	School district support, student interest, faculty support, community connections
Land Access	Land banks, land trusts, land conservancies	Provide access to land, secure land for long-term production, and reduce land costs.	Government support, funding for acquisition, entrepreneurial farmers
Microfinance	Government agencies, banks, credit unions	Provide access to capital and support business planning.	Financial capital, entrepreneurs with strong business plans

Chart 2c, continued
Food System Capacity Affinity Groups

Affinity Group	Types of Members	Role in Local Food Economy	Needs
Natural Resource Conservation	Soil and water conservation districts	Provide land planning support, provide federal funding for projects, and support environmental conservation.	Farmers to utilize services, federal funds, outreach and technical staff
Non-profit Organizations	Advocacy, neighborhood development, and local food groups	Provide training, education, and financing. Facilitate grassroots organizing, and conduct studies and assessments. Act as conveners and incubators.	Grant or government support, strong supporting memberships, strong social networks
Philanthropy	Foundations, donors	Provide capital for social enterprises and program development, and support assessment work.	Innovative non-profits
Public Art and Artists	Artists, arts organizations	Address quality of life and aesthetic issues, and facilitate public education. Act as artisan entrepreneurs.	Grant funding, community support, spaces for art display or installations
Public Health	Hospitals, health care organizations, city and county government officials	Increase market demand through food desert outreach and nutrition education. Provide preventative health care through nutrition education.	Grant or government support, opportunities for collaboration with other advocacy groups
Students and Youth	College students, high school students	Provide support to local groups through summer internships, and help develop supporting curricula that includes entrepreneurship skills and local food education.	Supporting institutions, community access, teacher and faculty support
Vocational and Entrepreneurial Education	Vocational schools, cooperative extensions	Provide adult education and workforce training.	Participating students, grants to develop curricula, state and public funding

Chart 2d
Supply Chain Infrastructure Affinity Groups

Affinity Group	Types of Members	Role in Local Food Economy	Needs
Aggregation and Warehousing	Warehouse, cold storage, consolidation and sorting businesses	Promote efficiency of distribution, reduce costs, and provide economies of scale.	Finance capital, physical facilities, active distribution systems, strong markets, growers
Distribution	Trucking, logistics and marketing businesses	Expand markets for growers, increase efficiency, and reduce transportation costs. Provide market for alternative fuels.	Aggregators, strong markets, stable supply base
Food Processing and Manufacturing	Canning, freezing, baking, dehydration, packaging, and meat-processing businesses	Extend seasonal availability, provide value-added economic activity, and new enterprise opportunities.	Certified facilities, storage, management expertise, strong supply base, year-round activities, distribution

Chart 2e
Supporting Business Affinity Groups

Affinity Group	Types of Members	Role in Local Food Economy	Needs
Communications and IT	Traditional media, social media, and IT businesses	Provide communications and messaging, raise public interest, and facilitate education and collaboration between groups.	Business development, contracts, network technology, social networks
Energy and Fuel Production	Renewable energy, alternative fuels, and waste re-use businesses	Provide local fuels and renewable energy for farm use, encourage local food facilities development, and facilitate transportation and distribution.	Capital, supply of farmers growing fuel, facilities for vegetable oil storage and processing, mechanical support
Farm Supplies and Support	Nurseries, farm equipment and inputs businesses, maintenance professionals	Provide inputs for farm enterprises and farm infrastructure support. Sell and provide maintenance for farm equipment.	Critical mass of farmers
Materials and Construction	Materials salvage and construction companies, carpenters	Build farm infrastructure, construct efficient facilities, and re-use salvaged materials for on-farm usages.	Critical mass of farmers, capital, storage, well-trained workers
Waste Recovery	Composting and waste recovery businesses	Provide fertility inputs and handle organic waste streams.	Permitted facilities, networks of farmers, capital, equipment

D. What's Next?

This work was not conceived as a study that would sit on a shelf after completion, but rather as a strategic action plan that could immediately strengthen local networks, identify the most innovative efforts already taking place in Northeast Ohio, and engage key stakeholders to seize new opportunities for food localization. We are confident that the steering committee overseeing this report, the members of our affinity groups, and the many leaders in the region we spoke with can and will take our policy, programmatic, and investment recommendations, improve them, and grow the NEO region's reputation as one of the nation's local food pioneers.

Clockwise from top left: Winter squash on display at Local Roots Cooperative in Wooster; Amish farmers make-up a significant percentage of Northeast Ohio's smaller and more diversified farms; beans climb up a trellis at the Ohio City Farm behind a Cuyahoga Metropolitan Housing Authority complex; and an urban market-garden helps to revitalize this neighborhood in Youngstown.

I. A Tale of Four Cities

The Northeast Ohio (NEO) region studied in this paper encompasses 16 counties surrounding Cleveland. It represents a land mass of 7,624 square miles with a remarkable diversity of human settlements—dense urban neighborhoods, rural areas with rich farmland, and many suburbs. According to data from the U.S. *Census*, the total population in the region in 2008 was 4,146,249, residing in about 1.7 million households. Chart 3 further shows that the total workforce in May 2010 was 2,149,007, with 214,148 people unemployed.

Chart 3
NEO Population and Employment Statistics

County	Total Population July 2008	Median Income	Labor Force	Unemployment Rate May 2010	Unemployed
Ashland	55,125	43,151	$27,558	11.40%	3,142
Ashtabula	100,648	41,899	$48,494	12.60%	6,110
Carroll	28,439	43,889	$14,412	6.30%	908
Columbiana	107,873	40,700	$54,363	12.30%	6,687
Cuyahoga	1,283,925	44,324	$664,470	9.40%	62,460
Geauga	94,753	62,223	$50,290	7.40%	3,721
Lake	234,030	58,228	$128,526	8.30%	10,668
Lorain	304,373	52,878	$156,791	9.40%	14,738
Mahoning	237,978	40,508	$119,231	11.40%	13,592
Medina	171,210	65,621	$94,340	8.10%	7,642
Portage	155,991	52,725	$87,628	9.50%	8,325
Richland	124,999	42,891	$59,445	11.60%	6,896
Stark	379,214	44,682	$196,958	11.50%	22,650
Summit	542,562	49,528	$286,302	10.10%	28,917
Trumbull	211,317	41,419	$100,594	11.90%	11,971
Wayne	113,812	48,453	$59,605	9.60%	5,722

Source: U.S. *Census FactFinder*, U.S. Bureau of Labor Statistics

To estimate regional demand for food, an excellent tool is the Consumer Expenditure Survey, published annually by the U.S. Bureau of Labor Statistics, which lays out how much residents spend on various kinds of food products.[17] As shown in Chart 4, annual consumer demand for food in the NEO region is just over $11 billion, with $6.5 billion purchased at stores and $4.6 billion spent eating

[17] One can access the U.S. Bureau of Labor Statistics Consumer Expenditure Survey at *http://www.bls.gov/cex*.

out. Additionally, NEO residents spend three quarters of a billion dollars each year on alcoholic beverages.

Chart 4
Consumer Demand for Food in the NEO Region

Food	$11,102,310,476
Food at home	$6,469,399,505
Cereals and bakery products	$873,758,147
Cereals and cereal products	$291,945,885
Bakery products	$581,812,262
Meats, poultry, fish, and eggs	$1,466,430,921
Beef	$413,763,882
Pork	$282,382,095
Other meats	$183,908,393
Poultry	$275,369,432
Fish and seafood	$222,227,336
Eggs	$88,315,774
Dairy products	$741,896,414
Fresh milk and cream	$291,169,260
Other dairy products	$450,292,600
Fruits and vegetables	$1,136,684,257
Fresh fruits	$384,307,777
Fresh vegetables	$366,300,779
Processed fruits	$201,013,139
Processed vegetables	$184,731,377
Other food at home	$2,250,762,590
Sugar and other sweets	$222,924,235
Fats and oils	$180,659,279
Miscellaneous foods	$1,171,846,122
Nonalcoholic beverages	$591,623,091
Food prepared by consumer unit on out-of-town trips	$83,695,208
Food away from home	$4,632,556,096
Alcoholic beverages	$763,342,494

Source: U.S. *Census FactFinder*, U.S. Consumer Expenditure Survey.

Consumer spending is just part of the overall demand picture. The Consumer Expenditure Survey does not include food purchases by businesses or public institutions. The Economic Research Service (ERS) of the U.S. Department of Agriculture (USDA) periodically estimates these expenditures by institutions nationally, though the last time it did so was in 2003. Chart 5 adjusts the 2003

estimate to the population of the 16-county NEO region to give a sense of the likely institutional spending. We estimate that total demand by institutions and residents (but not businesses) is $15 billion. In Section II, we present data about the supply side of the local food system, showing that the NEO region has 16,119 food-related establishments—nearly all of them small businesses. Additionally there are 21,715 people working as farmers or farm employees, and all together, we estimate that 315,000 people work in the NEO food system.

Chart 5
Institutional Demand for Food in the NEO Region

Institution	Sub-Category	$ Millions
Household	Store Bought Food	$6,469
	Store Bought Alcohol	$763
Commercial	Full Service Restaurants	$2,564
	Limited Services Rest's	$2,914
	Other Eating Places	$119
	Drinking Establishments	$36
	Lodging Places	$298
	Retail Hosts	$275
	Recreation and Entertainment	$221
Schools	Elementary and Secondary	$272
	Colleges and Universities	$217
Institutions	Military	$59
	Plants and Offices	$107
	Hospitals	$68
	Nursing Homes	$137
	Vending	$60
	Transportation	$90
	Associations	$24
	Correctional	$132
	Daycare Centers	$117
	Elderly Feeding	$2
	Other	$104
Total Institutional Demand for Food		**$15,050**

Source: National Agricultural Statistics Service of the USDA[18]

[18] USDA National Agricultural Statistics Service. Table 13-12. "Agriculture Statistics 2005," available at *http://www.nass.usda.gov/Publications/Ag_Statistics/2005/agstats2005.pdf*.

Efforts to scale up the demand and the supply sides of the local food equation can be seen across the region. The initiatives are as diverse as the region itself. The post-industrial cities in Northeast Ohio are turning to local food systems to address challenges with poverty, public health, vacant land, and declining neighborhoods. The rural areas in the region see local food as a way to connect commercially, and profitably, with urban markets.

To give the reader a sense of the remarkable activities going on across the region, we share brief profiles of four different places: a big city (Cleveland), a mid-sized industrial city (Youngstown), a smaller college town (Oberlin), and a rural county with a high concentration of farmers (Wayne County).

A. Cleveland and Cuyahoga County

Cuyahoga County is the most populous county in the state of Ohio, with 1.4 million inhabitants, a third of whom live in the city of Cleveland. The city's current population of 433,748 represents a 9% drop since 2000 and a more than 50% drop since the 1950s. The only city in the United States that has suffered a steeper population decline over the past decade is New Orleans after Hurricane Katrina. [19]

Since the 1970s many major manufacturers in the region have moved abroad. Even before the recent financial crisis, years of economic disinvestment led to massive layoffs, foreclosures, and abandoned properties. The county officially currently has 3,500 acres of vacant land.[20] Disinvestment also led to many other businesses being shut down, including grocery stores. According to the Cuyahoga County Planning Commission, residents in Cleveland's urban core now must travel 4.5 times farther to reach a full-service grocer than a fast food establishment. The loss of grocery stores and other healthy food outlets has left remaining residents vulnerable to significant increases in obesity, diabetes, heart disease, and other diet-related ailments.[21]

One obvious solution to the twin problems of vacant land and food deserts has been to expand community gardens. And much of the local food activity within Cuyahoga County, and certainly the most-publicized parts of it, have focused on urban farming. This has come in three waves.

According to the Cleveland Memory Project at Cleveland State University, extensive school-based gardens actually could be found at almost every public school after World War II. A few continued, such as five-acre Ben Franklin

[19] Damon Sims, "Cleveland Leads Big Cities in Population Loss, Census Figures Show," *Cleveland Plain Dealer,* 9 July 2008.
[20] Dan Meaney and Meghan Chaney, Cuyahoga County Planning Community, personal communication, 15 October 2010.
[21] Claire Kilbaine, "Community Food Assessment: Cuyahoga County Food Insecurity Analysis," a public presentation sponsored by the Cleveland-Cuyahoga County Food Policy Council at the Cleveland Foodbank, 16 April 2008.

community garden in Brooklyn neighborhood, but most disappeared when school budgets started shrinking.[22] In the 1970s the city introduced its Summer Sprout program, which helped 4,000 residents create and maintain more than 210 gardens. The program explicitly forbade, however, any produce grown in the gardens from being sold.[23] Instead, the emphasis was on grassroots engagement, neighborhood empowerment, and household nutrition.

A second wave came in 2005, when vacant lots began to be seen as economic opportunities. City Fresh and Ohio State University (OSU) Extension developed an urban-market-garden training program with a business planning component. Because the City Land Bank was not yet committed to market gardening and the Summer Sprout program continued to restrict sales, urban market gardeners focused on securing their own land. They leased land from private owners, obtained access to common land, and used their own properties. These urban gardeners tended to be business-minded entrepreneurs or social-service or non-profit agencies interested in connecting gardening with their own social service missions. To distribute their produce, many of these urban farmers formed partnerships with City Fresh, farmers markets, and local restaurants.[24]

A third wave occurred in 2010 as more institutions and organizations saw the opportunities for more ambitious urban farming operations. Some examples:

- The Cuyahoga County Board of Developmental Disabilities (CCBDD) established its first urban farm at the Stanard School site, on the east side of Cleveland, providing its disabled clients with employment.[25]

- In early 2010 the Ohio City Fresh Food Collaborative (OCFFC) converted six acres of land on the west side of Cleveland into an urban farm surrounded by local food restaurants, the West Side Market, and the Great Lakes Brewing Company. The parcel is being used by residents of an adjacent public housing project, by refugees who recently moved to Cleveland, and by market-garden entrepreneurs. OCFFC also is developing plans for an incubator kitchen, a large-scale composting operation, and a distribution program at the West Side Market.[26]

- Green City Growers, part of the Evergreen Cooperatives in University Circle, is developing 4.6 acres of hydroponic greenhouses that will provide

[22] The Cleveland Memory Project Archive assembled by Cleveland State University, "Feeding Cleveland: Urban Agriculture," 2009.
[23] David Pearl and Morgan Taggart, "Cleveland-Cuyahoga County Food Policy Coalition Fact Sheet" (Ohio State University Cooperative Extension, July 2010), available at *http://www.neofoodweb.org/resources/114.http://www.neofoodweb.org/resources/114*.
[24] Brad Masi, "Growing Food System Equity in Northeast Ohio: Three Year Viability Plan for City Fresh Social Enterprise" (New Agrarian Center, 15 March 2010).
[25] Richard Hoban, personal interview, 13 September 2010.
[26] Amanda Dempsey, personal interview, 10 September 2010.

year-round employment opportunities for an estimated 35 to 40 local residents.[27]

- The Community Greenhouse Partners, a non-profit, recently acquired a three-acre site on Cleveland's east side that includes a former Catholic church, a school, and a large amount of vacant land. Plans include year-round vegetable and greens production, aquaculture, and educational services for the surrounding neighborhood.[28]

- A partnership among the USDA, the City of Cleveland, the Ohio Department of Agriculture, OSU Extension, and Burten, Bell, Carr Development, Inc., has formed to develop a $1.6 million Cleveland Urban Agriculture Incubator Pilot Project. This project will begin with cultivation of six acres of land-bank properties in the Central/Kinsman neighborhood. It includes a Beginning Entrepreneurs in Agricultural Networks (BEAN) program which will parcel out 20 market garden sites to 35 beginning urban farmers. OSU will manage a half-acre demonstration and research garden as a part of this project.[29]

- New businesses are also forming to provide support services for urban agriculture. Tunnel-Vision Hoops, for example, is a for-profit partnership among three urban growers who are selling and installing locally assembled greenhouse kits to widen the growing season for other urban farms. This enterprise came out of the local-food working group that held the Cleveland 2019 Summit in 2009. [30]

The urban gardening movement is now growing rapidly, with 50 new gardens appearing in 2009 alone. That year an estimated $2.6-3.0 million worth of fresh fruits and vegetables were grown on 56 acres—about 2% of the vacant land in Cuyahoga county.[31] Seeing the multiple connections between urban farming and other issues—economic development, public health, community empowerment, biological diversity, productive greenspace, and stormwater retention—many civic groups have joined the local food movement, including OSU Extension, ParkWorks, Neighborhood Progress, Inc, and the Kent State University Cleveland Urban Design Collaborative.[32] Farms are being equipped with all kinds of innovative social service programs, including community mental health

[27] Mary Donnell, personal interview, 17 September 2010.
[28] Timothy Smith, personal interview, 10 September 2010.
[29] Mark Gillispie, "New $1.1 Million Program to Create Urban Farms in Cleveland's Kinsman Neighborhood" *Cleveland Plain Dealer*, 27 October 2010.
[30] Carlton Jackson, personal interview, 20 September 2010.
[31] David Pearl and Morgan Taggart, *supra* note 22.
[32] Kent State University's Cleveland Urban Design Collaborative, *Re-Imagining a More Sustainable Cleveland: Citywide Strategies for Re-use of Vacant Land* (Neighborhood Progress, December 2008).

treatment, drug and alcohol addiction recovery, youth entrepreneurship, nutritional education, and preventative health care.

Accompanying the rise of urban farming has been the proliferation of local food restaurants and markets. One of the early pioneers in Cleveland was Parker Bosley, owner of the former Parker's Bistro (now Light Bistro) in Ohio City. Bosley established the Bistro in the mid-1980s and bought much of his food directly from small growers in nearby rural counties. The Coit Road Market in East Cleveland is the oldest standing farmers market in Cleveland, operating year-round for almost 80 years as a producer-only farmers market. The North Union Farmers Market was established in 1995 in Shaker Square and has since grown to become one of the largest farmers markets in Northeast Ohio, with more than 40 vendors showing up year-round. The North Union Farmers Market has since evolved into an association that manages seven farmers markets in Cuyahoga County. For 30 years the Mustard Seed Market and Café in Solon, a suburb south of Cleveland, has been procuring organic and local produce from local farms and dispatching its own truck to pick up produce directly from NEO farmers, many of them Amish.[33]

About 25 independently owned restaurants now feature locally grown ingredients as a major part of their menu, including Fire Food and Drink in Shaker Square, the Greenhouse Tavern and Crop Bistro in downtown Cleveland, and Bar Cento and the Flying Fig in Ohio City. The Great Lakes Brewing Company operates a restaurant and micro-brewery, buys its beer ingredients from local farms, operates its own Pint Size Farm in the Cuyahoga Valley, and has recently invested in the Ohio City Fresh Food Collaborative's six-acre farm. A number of local farms also use spent grains from Great Lakes to feed livestock or re-furbish soils. A handful of businesses, including Local Crop and Fresh Fork Market, have formed in the past two years to help deliver local food directly to restaurants.

The region also has seen a growth in other direct-marketing initiatives. Farmers markets in Cuyahoga County have expanded from three in the 1990s to more than 20 today, and they are increasingly used by urban farmers as points of sale.[34] City Fresh was founded in 2005 to improve food access in food desert neighborhoods. An initiative of the New Agrarian Center in Oberlin along with twelve local agencies and businesses, City Fresh sets up neighborhood-run distribution and nutrition-education centers called "Fresh Stops." To make local food more affordable, wealthier shareholders effectively subsidize low-income shareholders.[35] FarmShare, a for-profit, is another initiative that connects local farms with employees of larger companies, including Forest City. About 25

[33] Brad Masi, "Regional Food System Assessment for Northeast Ohio: Recommendations to the Northeast Ohio Foodshed Alliance" (Cleveland State University graduate thesis, December 2002).
[34] *http://www.localfoodcleveland.org.*
[35] Brad Masi, *supra* note 23.

independent CSA programs exist in NEO region, with several farmers organizing drop-off points in Cleveland neighborhoods.[36]

Local food has increasingly appeared in city-sponsored public-health programs. Beginning in 2004, the City of Cleveland organized Steps to a Healthier Cleveland, a broad-based campaign to improve nutrition and healthy lifestyles through neighborhood-based assessment, outreach, and education.

The Ohio City Fresh Food Collaborative includes a recently established urban farm incubator on 6 acres of land that overlooks the downtown skyline. The farm includes gardens for public housing residents, refugee families, and entrepreneurial market gardeners.

Community gardens and City Fresh were among several initiatives supported by the Steps program.[37] The Cleveland Corner Store Project at Case Western Reserve University has been working to get more healthy and locally grown food options into corner stores. The Cuyahoga County Board of Health launched programs to establish community gardens and healthy food options.

The three primary health care institutions in Cleveland—MetroHealth, University Hospitals, and the Cleveland Clinic—have programs focused on community engagement and preventative health care that include local food. The Cleveland Clinic has installed several urban gardens on its properties as teaching tools for the community. The Clinic also operates a farmers market for clinic staff and neighboring residents, and recently inaugurated a local procurement policy.[38] The MetroHealth hospital supports several preventative health care projects featuring local food, including its diabetes clinics throughout the city and county. It also sponsors a City Fresh "Fresh Stop," which it uses as a vehicle to improve

[36] *http://www.localfoodcleveland.org*.
[37] Matt Russell and Morgan Taggart, "Steps to a Healthier Cleveland: 2006 Community Gardens Report" (February 2002).
[38] Christine Ayers, personal interview with Cleveland Clinic Sustainability Team, 28 July 2010.

local food access and as a site for doing preventative health screenings and nutrition education by hospital dieticians.[39]

Pulling all these initiatives together now (by, for example, commissioning this report) is the Cleveland-Cuyahoga County Food Policy Coalition (CCC-FPC), formed in 2007 through a collaboration among the Cleveland Department of Public Health, OSU Extension, the New Agrarian Center, and Case Western Reserve University. Funded initially by the Steps to a Healthier Cleveland program, the CCC-FPC has working groups on health and nutrition, community food assessments, urban land use policy, waste re-utilization, and local purchasing. The CCC-FPC has worked with city and county government to develop several landmark policies to support local food systems, including a zoning category for urban gardens and farms, local purchasing policies, and legislation permitting urban chicken-raising and bee-keeping.[40]

Urban agriculture in Cleveland continues to grow in sophistication and reach. What once was a movement to sponsor community gardens has ripened into multi-level partnerships to build a thriving local food sector of the economy. There's an emerging consensus that providing more residents with access to healthy food, neighborhood-based green-space, and a rich array of small-scale and large-scale urban farms can improve property values, promote tourism, retain residents and businesses, and expand Cleveland's employment and tax base.

Lessons from Cleveland

- Combining public health with local food initiatives can address many
- diet-related diseases and grow markets for locally grown foods.
- Urban agriculture can serve a variety of missions, including community empowerment, food self-sufficiency, entrepreneurship training, and better social services.
- In addition to population density, which makes for strong markets, cities have densities of businesses that improve economies of scale for competitive local-food distribution.
- Using vacant land for agriculture strengthens social networks, reduces maintenance costs to municipalities, and improves the local quality of life.
- By creating partnerships with nearby rural communities, urban agriculture can foster both learning and joint market development.

[39] John Corlett and Mark Moran, The MetroHealth System, personal interviews, 28 July 2010.
[40] Brad Masi, "Toward a Healthy, Just, and Sustainable Food System for Cleveland, Cuyahoga County, and Northeast Ohio" (Annual Report of the Cleveland-Cuyahoga County Food Policy Coalition, January 2008).

B. Youngstown

Youngstown is a mid-sized city near the Pennsylvania border with 72,000 residents. Like Cleveland, it was built for a much larger population but has lost more than half its residents. Between the 1920s and the 1960s, Youngstown was known as an important industrial hub because of its steel manufacturers. Unfortunately, the city economy never diversified, and when the steel mills moved overseas, little industry remained. The shut-down of Youngstown Sheet and Tube Company in 1977 led to a layoff of 5,000 workers that became known nationally as "Black Monday". By the mid-1980s, the city had lost 40,000 jobs, 400 businesses, and $414 million per year in personal income. Opportunities for recovery were continually thwarted by closed civic networks, political corruption, in-fighting, and relatively few small businesses and entrepreneurs.[41]

Today there are signs of a turnaround. The city recently elected Jay Williams, who is both the city's youngest and first African American mayor. It now has a business incubator, a dynamic arts community, a downtown core, and a strong university (Youngstown State). The Youngstown 2010 plan, unveiled in 2005, is a participatory process to define the future of the city. The plan emphasizes "right-sizing" around a smaller population, reducing infrastructure services in abandoned sections of the city, and revitalizing the downtown core. It's also committed to converting significant swaths of urban land into green space and urban farms.[42]

Local food networks in the city, and in the surrounding Mahoning/Trumbull County region, have grown so significantly over the past three years that Youngtown is emerging as a model green city (according to a 2007 article in the *Wall Street Journal*).[43] Given the city's history, local food is as much about rebuilding the city's civil society as it is about economic development. Efforts are focused on strengthening networks and collaborations, supporting entrepreneurs, and revitalizing neighborhoods.[44] There is also a commitment to use the more than 22,000 vacant lots within the city—one of the highest per-capita vacancy rates in the United States—for urban farming. Thus far, these efforts have proceeded through separate, independent, and mostly non-profit initiatives.[45]

Goodness Grows is a non-profit organization formed by the Common Ground Church Community in North Lima, a small town about seven miles south of downtown Youngstown. It has a 22-acre learning farm on the property of the church, where one can find an eight-week market-garden training program, a CSA, and a summer internship program for college students. According to the

[41]Sean Safford, *Why the Garden Club Couldn't Save Youngstown: The Transformation of the Rust Belt*. (Cambridge: Harvard University Press, 2009).
[42]Youngstown State University. *Youngstown 2010: Citywide Plan* (City of Youngstown, 2005).
[43] "As Population Declines, Youngstown Thinks Small: Rather than Trying to Grow, Ohio City Plans for More Open Space," *Wall Street Journal,* 3 May 2007.
[44] Sean Safford, *supra* note 40.
[45] Maurice Small, personal interview, 13 July 2010.

Church's pastor, Steve Fortenberry, Good Grows is "a faith-based organization that works through community groups, congregations, and work places to help families grow their way out of hunger and poverty." The goal is a regenerative agriculture that renews soil, communities, and economies.

Goodness Grows recently entered a partnership with Flying High, a downtown Youngstown group that works on job training and educating juvenile offenders. Young adults in the Flying High program travel to the Goodness Grows Farm to participate in GED classes and learn basic business and micro-enterprise skills as they work their own plots of land. The partnership is now piloting a "workforce food center," where waste heat from a local steel company flows into a greenhouse to grow fresh fruits and vegetables, which are in turn sold back to the workers at the plant. Goodness Grows is also developing a workforce food center at the plant that will provide workers with healthy food and nutritional education.[46]

Maurice Small, urban farming trainer for the Youngstown Neighborhood Development Corporation, shares some gardening resources with youth who helped to install more than three acres of gardens on vacant lots throughout the city. The Mineral Springs urban garden site includes raised beds lined with strawbales, bioswales to absorb stormwater, and a mix of perennial plants.

The Youngstown Neighborhood Development Corporation (YNDC) was established to implement the recommendations of the Youngstown 2010 Plan and has since played a major role in transforming blight throughout the city into productive green spaces. YNDC engaged neighborhood block clubs to create

[46] Steve Fortenberry, personal interview, 29 July 2010.

five urban farms in May 2010, which used horse manure from the county fairgrounds for raised beds lined with straw bales. The gardens collectively cover about three acres. They were installed by hundreds of volunteers and interns from each neighborhood. Some of the gardens used deconstructed building materials from surrounding homes to build pavilions and small structures to support these gardens. Thanks to the application of the manure and other organic municipal wastes, the gardens have become highly productive and are selling produce to local restaurants and farmers markets. Neighborhood youth continue to run some of the gardens.[47]

On one of its garden sites, YNDC is planning to create a 2.5-acre inner-city research and demonstration farm, with assistance from OSU Extension and Joe Kovach from the Ohio Agricultural Research and Development Center (OARDC). This polyculture garden will include a mix of annual and perennial crops, orchards, and bio-swales, as well as educational and research programs to train future urban farmers.[48]

Common Wealth, a community development agency, operates a farmers market in partnership with several churches. It recently acquired the Stuart's Place apartment complex, located near the historical Wick Park neighborhood and the Youngstown State University campus. It plans to fill the building's empty storefronts with a mixed-use local foods center that will feature a retail food cooperative (modeled after Local Roots in Wooster), a worker-owned restaurant, and a shared-use kitchen incubator. The incubator, which will support food storage, aggregation, processing, and distribution, aims to provide entrepreneurial opportunities to urban farmers in Youngstown and rural farmers in the greater Mahoning Valley region. The organization is financing this project by leveraging its own assets (an estimated $15 million of property) and raising additional capital from its members. Common Wealth also operates an urban research and demonstration farm on a vacant lot behind the Stuart Place apartment complex. In charge of this program is a rural farmer from nearby Geneva who has been working to train and mentor urban farmers.[49] Common Wealth also piloted a "Resettle Youngstown" Initiative, another outgrowth of the Youngstown 2010 Plan, which aims to attract green-minded entrepreneurs. Resettle Youngstown is working to develop and market an "urban homestead"—that is, a house with an adjacent 1-2 acre area for intensive urban food production.[50]

Another nonprofit, established to "create a healthy, socially just, economically viable, and inter-dependent local food system," is Grow Youngstown. It runs two community-supported agricultural (CSA) programs in Youngstown and nearby Warren, distributing to shareholders produce and meat from four participating

[47] Presley Gillespie and Ian Beniston, personal interviews, 13 July 2010.
[48] *Ibid.*
[49] Jim Converse and Pat Rosenthal, personal interviews, 20 August 2010.
[50] *Ibid.*

farms. It set up a community garden in the Wick Park neighborhood. It also has worked with the Mahoning Valley Organizing Collaborative (MVOC), a collaborative of government and civic organizations, to form a food policy council for the three counties along the northeast edge of Ohio.[51]

The MVOC has spearheaded regional efforts to make available healthy options in the food deserts in inner-city Youngstown and Warren. MVOC is also looking to organize broader farmer networks around local food. It recruited a dozen community-based organizations to facilitate the "Grey to Green" festival in Wick Park, which educates the public about local food, sustainable energy, and economic development.[52]

All together, these local food initiatives have reached a tipping point in Youngstown, one that might grow into the kind of broader movement that has taken hold in Cleveland. A network meeting hosted by the newly established Common Ground Church in the winter of 2007 introduced a variety of local food groups across the city to one another, including a north-side farmers market, men's and women's garden clubs, and several environmental groups. Through a process facilitated by the New Agrarian Center in Oberlin, the groups began to identify opportunities for collaboration. Over the intervening three years, these groups have developed their own niches. While not without its frictions, this collaboration represents a huge leap in Youngstown's social infrastructure—one that will make more ambitious local food initiatives possible.

Lessons from Youngstown

- Engagement in local food systems should be part of a larger strategy for diversified and place-based economic development.
- Local food efforts can contribute to economic development, entrepreneurship, and neighborhood revitalization.
- A wide range of civic and economic initiatives, linked through a decentralized and open structure, can encourage public participation.
- Many groups pursuing many niches and approaches (such as CSA's, farmers markets, community food incubators, urban land reclamation projects, etc.) can add up, through collaboration, to a strong local food system.
- Top leadership (through the Mayor's office, for example) can sometimes catalyze grassroots innovation and initiative.

[51] Elsa Higsby, personal interview, 21 September 2010.
[52] *Ibid.*

C. Oberlin

The name "Oberlin" refers both to one of the most competitive liberal arts colleges in the country and to the small city in Lorain County where the college is based. The town has a population of about 6,500 permanent residents and 2,800 students, and its location has made it a crossroads between rural regions to the south and the urban centers of Elyria and Lorain to the north and east. Thanks to work at the college, the town itself has become a crucible for local food initiatives.

Oberlin's entrée into local food came in 1988, with a student-driven study on the economic and environmental benefits of local food purchasing. The study was overseen by David Orr, who had previously directed the Meadowcreek Project in Arkansas, where he had helped to develop the nation's first local-food purchasing program at Hendrix College. Orr worked with the Oberlin students to replicate the Hendrix project, looking at how the college could leverage its multi-million dollar food-purchasing budget to support local farmers. The study proposed changing the sourcing and menus at the two main dining systems at the college, the traditional food service option and the 650-member Oberlin Student Cooperative Association (OSCA), a student-owned-and-operated dining and housing cooperative.[53]

In 1990 Orr joined the faculty of the Environmental Studies Program, and encouraged his student to identify more opportunities to improve the sustainability of the school's practices with respect to food, energy, waste, landscaping, and materials. OSCA used this research to develop a local food purchasing program. Students drove a coop-owned truck to pick up food directly from nearby farms. They also educated fellow students using tactics that varied from guerrilla theater to local-food recipes. These initiatives easily took root among Oberlin students who had long been preoccupied with remedying social and environmental injustices through food initiatives such as Cesar Chavez's grape boycott and solidarity with women-owned agricultural cooperatives in Nicaragua.

In 2000, students convinced the college to select Bon Appétit Management Company to run its food services, based in part on the company's commitment to localize its food purchasing. By 2008, the coops and Bon Appétit spent a combined $1.2 million supporting local farms and food businesses in the greater Oberlin area.[54]

Another major local food contribution of Oberlin has been the New Agrarian Center (NAC). The NAC began with the transformation of a 70-acre farmstead

[53] David Orr *et al.*, "Oberlin Student Cooperative Association Local Food Project Assessment." (Oberlin College Environmental Studies Program, November 1988).
[54] Dan Ferrell, personal interview, 8 November 2010.

owned by the college, which had been rented to commodity grain farmers throughout the 1990s. It formally took over the farm in 2001, restored about 40 acres of critical habitat, and rejuvenated the soil through the application of compost and "chicken tractors." It provided work opportunities—as volunteers, interns, and entrepreneurs—for high school and college students, as well as for adult learners in the community. In 2003, the NAC branched out beyond the farm and organized the first Northeast Ohio Regional Food Congress at Cleveland State University. A partnership formed there by 15 organizations and businesses led to the creation of City Fresh, an initiative to bring fresh local food into Cleveland food deserts (discussed earlier). In 2007, the NAC co-founded the Cleveland-Cuyahoga County Food Policy Coalition. The next year it collaborated with LESS Productions to produce a feature-length documentary on local food efforts in Northeast Ohio called *PolyCultures: Food Where We Eat*. Recent efforts have focused on StrawVille, an initiative to apply strawbale building techniques to a variety of food-related buildings, from walk-in coolers to greenhouses and offices.[55]

The George Jones Farm is a 70-acre farmstead in Oberlin. It includes this permaculture learning garden, attached to a strawbale office for the New Agrarian Center (NAC), that was designed by college students. The farm, like many sustainable food enterprises in Oberlin, was started by a graduate of the college.

David Orr is now pushing Oberlin to expand its initiatives into a full-scale reinvention of the town as a model green community. The Oberlin Project involves the college, the city, the school district, and private-sector organizations, and envisions the creation of a green arts district, carbon-free energy generation, and a large sub-regional network of farms (20,000 acres total) to provide food, wood, materials, energy, and carbon-sequestration services. If successful, the project will be a model of localized food and energy systems that, if spread, could strengthen national security against terrorist attacks or climatic disruptions.[56]

[55] Brad Masi, "Annual Report for 2009" (New Agrarian Center, April 2010).
[56] BNIM Architects, "The Oberlin Project: Green Arts District Conceptual Plan" (2010).

Perhaps the most important contribution of Oberlin has been its annual crop of talented students, many committed to promoting local food in the NEO region. One of the co-authors of this report, Brad Masi, founded the NAC. Joe Waltzer started the Black River Café and the Agave burrito bar, both of which use locally grown foods, and is now starting Common Goods in an abandoned grocery store south of downtown Oberlin to sell green products, including local food. Sam Merrett took over an abandoned gas station south of downtown Oberlin to establish Full Circle Fuels, a fuel station that dispenses only vegetable oil and bio-diesel and converts vehicles across the mid-west to operate on vegetable oil. One of the converted trucks now delivers local food to Cleveland neighborhoods through City Fresh. Oberlin's visionary curriculum empowered these students to become successful change agents in the NEO region.

Lessons from Oberlin

- College courses can connect students with local issues and thereby open up entrepreneurial opportunities to address these issues after graduation.
- Students can pioneer small initiatives that can later be brought to scale by institutional or community partners.
- Efforts to grow local food systems and sustainable economies can provide an effective local response to larger national and international issues of climate change and national security.
- Small college towns can incubate local food enterprises by leveraging their intellectual and financial resources.

D. Wooster and Wayne County

Wayne County lies in the southern part of the NEO region and has myriad agricultural production and processing activities, along with the largest number of farmers in the region. On its rolling hills can be found Amish producers with horse-drawn tillage, commodity farmers, and small and medium-scale organic farms. The town of Wooster supports a mix of retail and commercial markets, many selling local food. The county also has a number of larger-scale food manufacturers, and is home to the Ohio Agricultural Research and Development Center (OARDC), the Agricultural Technical Institute (ATI), and Wooster College.

This is a place where there never has been any question about the value of harnessing local food for economic development. As a largely rural county with a

population of about 110,000 people (25% living in Wooster), Wayne County has long been interested in connecting its farms and processors with nearby markets. It has also been eager, as part of its strategy for preserving agricultural land, to attract agro-tourists. As Wayne County Economic Development Council coordinator Brian Gwinn says, "Every time we build a barn in this area for livestock, we protect our landscape for other opportunities." One important group in the area is the Ag Success Team of Wayne County—an informal network of county commissioners, non-profit organizations, extension education leaders, agriculture finance experts, and local cooperatives—which promotes information sharing and collaboration to strengthen the county's agricultural sector.[57]

A number of initiatives can be found in Wayne County linked to local food. The Agroecosystems Management Program (AMP) at the OARDC supports state-wide research related to agroecosystems, including organic farming, greenhouse production, and intensive polyculture management. It sponsors a range of networking tools, including the web site *LocalFoodSystems.org* and the Ag-Bio Industry Cluster Leadership Council for Northeast Ohio. The Small Farm Institute, run by some of the AMP program coordinators, helps to develop family farm and forestry ventures. ATI is developing a two-year sustainable agriculture certification associates program. Like Oberlin, Wooster College is promoting local food purchasing and engagement of its students in local food and farming initiatives.[58]

An important driver for local food innovation in the region has been Local Roots, a hybrid producer-consumer cooperative. Formed in 2009, the cooperative currently has several hundred consumer members and 110 agricultural producer members. It is housed in two storefronts in downtown Wooster that had been empty for more than a decade. With a $60,000 grant from the Ohio Department of Agriculture (ODA), Local Roots was able to acquire freezers, refrigerators, displays, and a computer scanning and bar coding system. The operations of the cooperative depend largely on volunteer participation. The renovation of the storefront proceeded like an Amish barn-raising, with dozens of members showing up, applying their skills, bringing tools and supplies, and applying their skills. Since opening in March 2010, monthly sales have averaged almost $27,000. Its food products include baked goods, dairy, eggs, flowers and herbs, produce, grains, free-range and grass-fed meats, and mushrooms. Local Roots also plans to build a commercial kitchen facility that can be used by its members for anything from home-canning to processing food products. Local Roots received the Local Hero award from Governor Ted Strickland in 2010.[59]

[57]Brian Gwinn, Wayne County Economic Development Council, personal interview, 28 September 2010.
[58]Casey Hoy, Ohio Agriculture Research and Development Center, personal interview, 13 May 2010.
[59]Jessica Barkheimer and Marlene Barkheimer, and other members of the Local Roots Cooperative, personal interviews, 7 May 2010.

Local Roots demonstrates three important ways to improve the competitiveness of local food. First, a shared-use storefront gives many small farmers a stake in a retail business that they could not afford to create on their own. Second, Local Roots expands the ability of many farmers and food entrepreneurs to sell directly beyond farmers markets (which many also participate in). Farmers can drop off and stock their products on display shelves, coolers, or freezers, and the hours of the cooperative (Wednesday through Saturday) extend well beyond what farmers markets offer. Additionally, because farmers do not have to work at the displays, they have more time to focus on production or pursuing other markets.

Martha Gaffney of Martha's farm, stocks green beans in her display at the Local Roots cooperative in Wooster, Ohio. Martha is one of 110 farmer-owners of the downtown storefront.

Third, Local Roots harnesses its distributional efficiencies to give farmers a much greater percentage of the selling price. The cooperative retains 10% of all revenues to support the maintenance and operation of the storefront. The remaining 90% of revenue goes to farmers based on what they sell. Each farmer has a membership number that is included in a barcode for their products. As products are sold, a database records sales by each farmer and a weekly check is cut for the farmer. Local Roots also has an online ordering system that enables customers to request specific items in advance, and it hopes to expand its online ordering system to include items from other local businesses in downtown Wooster.[60]

The innovations in Wayne County show that local food businesses can succeed, even in a rural setting, when they operate in close proximity to one another. These “agglomerations” create economies of scale and spin-off effects. When

[60] *Ibid.*

many related local businesses cluster, they draw together more local suppliers and customers than a single business could on its own. Local Roots also provides a powerful model of how to build a year-round market space—one that could be replicated by urban farmers in cities like Akron, Cleveland, or Youngstown.

Another model for agglomeration in Wayne can be found in the Greenfield Cooperative. A small group of Amish farmers and businessmen started the cooperative to improve their ability to market to nearby cities. The impetus for project, in the words of co-founder Wayne Wengerd of Pioneer Equipment, was "survival." Many Amish farmers were becoming increasingly concerned about their long-term viability. The Greenfield Cooperative now has 90 members, and its products include eggs, cheeses, and produce. It has its own brand, Greenfield Farms, says Wengerd, "to avoid exploitation of our heritage for commercial reasons." (Many commercial brands that include names and images of Amish farms actually have no connection whatsoever to Amish communities.) The cooperative owns a truck that handles pick-ups and deliveries to markets throughout Northeast Ohio, Pittsburgh, and Chicago. According to one of its farmers, before the development of Greenfield Cooperative "there is no way that I could have sold 200 dozen eggs per day." [61]

Lessons from Wayne County

- Rural areas, often termed "micro-politan areas," can look to nearby small towns and cities for new markets.
- Rural areas have the land and skills necessary to meet much of the growing demand for local food in adjacent urban areas.
- Local agriculture can be an important contributor to rural economic development.
- Producer cooperatives enable smaller, scattered rural enterprises to access larger markets while retaining a greater share of the selling price for their farmer-owners.
- Economic development strategists need to look more seriously at linking rural land with urban markets.

[61] Seth Teter, "Saving Ohio's Green Fields: A Madison Avenue Mindset Meets Old Fashioned Cooperation on these Amish Farms" (Ohio Farm Bureau Federation, February 2008).

II. An Assessment of the Current NEO Food System

To get a deeper sense of the strengths and weaknesses of the NEO food system, we surveyed affinity group members and other stakeholders. We asked for their thoughts on the region's SWOT—that is strengths, weaknesses, opportunities, and threats. While there are statistics incorporated below, the qualitative descriptions are equally important. As we consider options for scaling up existing local food businesses, the assessment below provides insight into where investment, public policy, and educational programming are most needed.

Before proceeding, we offer one caveat. Almost every strength can be rephrased as a weakness ("we have significant financial capital" vs. "we need more financial capital"), or even as an opportunity or a threat. In the recitation below, we try not to repeat points and instead place each point in the one category that made the most sense.

A. Strengths

(1) Diversity – The NEO region has a diversity of agricultural systems, driven by diverse microclimates, topographies, and cultures. Differing from the sprawling monocultures of much of the mid-west, Lake Erie and the local geology sustain a variety of growing conditions. The presence of strong Amish and Mennonite cultures contribute to a robust base of smaller farms and cohesive farming communities. Larger-scale production and commodity agriculture also can be found, particularly in the flatter landscapes. The spread of urban agriculture in cities like Cleveland and Youngstown has shown that vacant urban land and neighborhood assets can support micro-farming models.

(2) Cleveland/Cuyahoga County – The City of Cleveland has emerged as a pioneer in its policies supporting urban agriculture. Cleveland was one of the first major cities in the United States to develop urban agriculture zoning and to allow the keeping of chickens, bees, and small livestock in the city. Cuyahoga County Treasurer Jim Rokakis developed state legislation that led to the formation of the Cuyahoga County Land Bank. The Cleveland-Cuyahoga County Food Policy Coalition is one of the largest and most active food policy councils in Ohio and the mid-west.

(3) Innovative Models – The NEO region has a number of highly innovative local food initiatives. Countryside Conservancy uses national park land to lease historic farmsteads to entrepreneurial farmers. Local Roots in Wooster is an innovative farmer-consumer cooperative. City Fresh has cultivated a network of over 20 area farmers to expand food access in urban neighborhoods in Lorain, Cuyahoga, Mahoning, and Summit Counties. A variety of groups in Youngstown, through the Youngstown

2010 Plan, are developing and promoting urban farmsteads as a way to revitalize neighborhoods and attract people back to the city.

(4) *Business Linkages* – Cleveland has a rich history of businesses that support NEO farms through local purchasing and investment. Early adopters illustrating the wholesale, restaurant, and institutional buying power for local foods include the Mustard Seed Market and Cafe, Parker's Bistro (now Light Bistro), and Oberlin College. A variety of restaurants and independent grocery chains are now purchasing local foods and many restaurants in the region make local cuisine a core feature of their menus.

(5) *Urban Agriculture* – Cleveland has more than 210 community and market gardens, with 50 new gardens created in 2009 alone. Morgan Taggart, program specialist for the urban agriculture program of OSU Extension-Cuyahoga County, points out that in the last five years urban and suburban market gardens and farms have risen from fewer than ten to more than 50 in 2010. Grants ranging from $10,000 to $20,000 are available to would-be farmers through the Re-Imagining Cleveland (a collaboration between the City of Cleveland, Neighborhood Progress, Inc. and the Kent State University Cleveland Urban Design Center). The city's Gardening for Greenbacks program provides grants of up to $3,000 to start-up market gardens.

(6) *Rural Production Capacity* – Given a diverse base of small-, medium-, and large-scale farms throughout Northeast Ohio, there is significant untapped capacity for production that can connect rural producers with urban markets. A diverse base of farmers in many rural counties, such as Wayne, Medina, Ashland, Richland, Trumbull, and Columbiana, has the potential to shift production to supply urban markets.

(7) *Educational and Non-Profit Resources* – Ohio State University Extension provides a range of education and training resources, including support for community gardening, nutrition education, and market garden training. The Ohio Agricultural Research and Development Center (OARDC) is an influential education institution in the region that is committed to safe, healthy, and affordable food and agricultural products; sustainable food and agricultural systems; strong rural and urban communities; stewardship of natural resources and the environment; and Ohio's global competitiveness. Along with the Agricultural Technical Institute (ATI), these educational institutions and their commitments to local food are unique to Ohio. Many other non-profit organizations in the area support educational activities related to local food, including the Small Farm Institute in Wooster, the Cleveland Botanical Gardens Green Corps Program, the New Agrarian Center, the Crown Point Ecology Center, and Countryside Conservancy. Other non-profit organizations, such as the Entrepreneurs for Sustainability, provide opportunities for networking and

innovation through regular events for local food entrepreneurs. Sustainable Cleveland 2019 supports local food efforts and other sustainability initiatives.

B. Weaknesses

(1) *Rural and Urban Poverty* – The NEO region has heavy concentrations of poverty in both its urban and rural areas, and poverty is both a cause and a symptom of inadequate food access. The lack of local wealth and taxable infrastructure, moreover, makes larger public investments in local food systems difficult. Many rural producers remain isolated from urban markets, and a lack of accessible finance inhibits entrepreneurship that could bridge this gap.

(2) *Food Deserts* – Most urban-core neighborhoods in the NEO region (Cleveland, Youngstown, Akron, and Lorain) have significant numbers of neighborhoods that lack full-service grocers. In these food desert communities, a food outlet with healthy options is not within walking distance of most residents. In many Cleveland neighborhoods between a quarter and half of residents do not own a vehicle. Food deserts are not just an urban phenomenon. Large stretches of rural areas also have few healthy food outlets, and residents there who lack cars face even greater barriers to accessing healthy food.

(3) *Infrastructure Gaps* – Even though market demand for local food is growing, there is significant under-utilized production capacity in many rural communities. The absence of accessible and efficient aggregation, distribution, and processing infrastructure limits opportunities for rural producers to expand. Small and mid-sized agricultural producers do not have affordable access to co-packing facilities. Small-scale food and meat processing operations are not inclined to expand or innovate because of capital gaps and a daunting regulatory environment. Thermal processing and freezing facilities, critical to preserving local food to make it available year-round, are also unavailable to most producers in Northeast Ohio.

(4) *Social and Political Divisions* – A lack of regional governance increases competition among municipalities. Many municipalities have retreated into a survivalist or expansionist mentality that poisons potential collaborations. Urban centers are also marked by racial divides. In Cleveland, for example, even though 52% of the population and two thirds of urban farmers are African American, local food advocates and consumers are largely Caucasian. Many nonprofit organizations that work on local food issues have mostly white board members and staff.

(5) *Public Skepticism* – Much of the public still regards local food as experimental or trendy. Some political and business leaders do not see

local food as much more than a hobby or feel-good activity. Even when public officials see the advantage of using idle land for urban farming, they are reluctant to commit that land to farming for the long-term. Economic development practitioners at the regional, municipal, and county levels do not yet appreciate the job- or wealth-creating impacts of local food.

(6) *Bootstrapping* – While private philanthropy has recently begun to support local food initiatives, the majority of local food efforts are carried out on shoe-string budgets. The absence of sufficient funding leads to balkanization among groups, who see each other more as competitors than as collaborators. Many project staff work on short-term contracts and there is a lack of the long-term investment necessary to build managerial and professional capacity. A vicious cycle exists between funders who do not want to keep investing because of inadequate scale, and social enterprises and advocacy organizations that lack the resources and capital to reach that scale.

(7) *Seasonality* – Many markets, gardens, and farms in the NEO region do not have the capacity to supply a twelve-month market. Creating a local food system year-round requires a physical infrastructure of permanent markets, greenhouses, storage spaces, and distribution networks, all of which, as noted, are under-developed in the NEO region. Agricultural season extension and crop variety strategies are needed for local food to assume a bigger role with restaurant, wholesale grocery, and institutional buyers.

(8) *Environmental Degradation* – While the region's urban centers have a large supply of vacant land, many parcels are polluted and contaminated. Soil tests cover only a limited band of lead and heavy metals, and more complete testing is too expensive to be done widely. Many stretches of rural land also have lost nutrients and topsoil through erosion and compaction. Converting land from commodity production to organic production requires a three-to-five-year transition period as soil is built back.

(9) *Loss of Entrepreneurial Culture* – As an industrial manufacturing center, the NEO region once had many of its jobs in large-scale businesses, where large unions played a leading role in ensuring job, health-care, and pension security. While manufacturing remains a significant part of the regional economy, a large number of manufacturing jobs have departed overseas. Future growth in the region will require a more entrepreneurial culture with networks of smaller, inter-linked and locally owned businesses. It also requires an educational system that goes beyond technical or vocational learning and fosters entrepreneurship.

(10) Job Readiness – Not everybody, of course, can be expected to be an entrepreneur. To skill-up the local food economy needs a stronger base of job-training programs through community colleges and vocational schools that focus on local food.

C. Opportunities

(1) Financial Investment – Even though more than a quarter of its residents live at or below the poverty level, Cleveland has sizable capital resources. The city has a number of well-endowed private foundations, including the second largest community foundation in the United States. It has a high concentration of top-ranked health care institutions, such as the Cleveland Clinic, which also have large endowments and a significant capacity for influencing public health policies. Directing even a small percentage of their endowments into local businesses could provide crucial investment capital for a healthier NEO food system. An example of what's possible is the Fund for Our Economic Future, a collaborative of philanthropic organizations and donors that underwrote the Ag-Bio Industry Cluster.

(2) Corporate Giving – Cleveland has a rich base of civic-minded businesses, such as the Great Lakes Brewing Company, Progressive Insurance, and CitiBank, that make generous contributions to community groups. Cleveland also has become a leader in local food systems in part through the financial and in-kind support of food-business leaders such as Bon Appétit Management Company.

(3) Leadership – The mayors of Cleveland and Youngstown have embraced *sustainable* development with local food as a core component. The Youngstown 2010 plan supports green space and urban agriculture within the city. The Sustainable Cleveland 2019 plan, in which over 700 participants helped develop a strategic vision for the city, has made local food systems one of its top priorities.

(4) New National Narrative – Cleveland's continued reputation as a crucible for local food innovation could create a new national narrative for selling the region—and could provide a source of inspiration for other distressed regions across the country.

(5) Vacant Land – The large reservoir of vacant land in cities such as Cleveland and Youngstown represents a huge opportunity. A large and diverse mix of urban agricultural farms and gardens can increase the quality of life within the city while improving food access. Even modest investments in urban agriculture can create positive impacts. All kinds of participants, young and old, with or without disabilities, can learn the basic skills of growing food and earn income from their yields. These experiences instill essential skills of entrepreneurship.

D. Threats

(1) *Culture of Self-Deprecation* – Abandoned buildings, vacant land, pollution of Lake Erie, the burning of the Cuyahoga River, and the disappointing (if short-term) departures of hallmark sports teams and players have hurt Cleveland's reputation, both nationally and regionally. For many residents, this multi-decade demoralization has created a psychic quicksand that prevents them from seeing and seizing opportunities.

(2) *Urban-Rural Divide* – The urban and rural divide in Northeast Ohio runs deep. In elections, Ohio has a significant blue state/red state divide with urban centers trending toward the Democratic Party and rural areas trending Republican. This is true in the NEO region as well. Recent political battles have increased mistrust and created a difficult environment for collaboration.

(3) *Energy and Climate Change* – As the recent crisis in the Gulf of Mexico has underscored, petroleum resources are becoming increasingly difficult, expensive, and dangerous to obtain. Oil prices will almost certainly rise, which will increase the price of non-local food that currently travels over 1,500 miles from farm to table. Continued reliance on a carbon-based economy will lead to further climate destabilization, which will weaken the productivity of local agriculture through droughts, destructive weather, and flooding.

(4) *Government Corruption* – Government corruption in many communities, like Youngstown, has led to a less stable and less supportive political environment, and has undermined the ability of public institutions to forge effective partnerships, collaborations, and policies.

E. Affinity Group Surveys

We asked our affinity group members for input on their motives; their assessment of regional strengths, weaknesses, and barriers; and their judgments about existing local food networks. Below we summarize the key findings:

(1) Rationales

What are the most important reasons affinity group members are working on local food? The responses, summarized in Chart 6, suggest that residents care primarily about strengthening community and the economy. Almost half are enthusiastic about local food because it builds a stronger civil society, 35% favor making food more available to broader socio-economic groups and improving public health, and 28% want to improve the quality of life in the region. Economic outcomes are especially important, with 45% favoring the retention of local dollars, 28% favoring job creation, and 25% favoring stimulating local businesses. Less compelling to respondents are environmental issues: About 17% see local food primarily as a way of reducing carbon emissions, and 10% care mostly about the links to conserving land and water resources and reducing energy consumption. Another 10% are mainly interested in better connections between urban and rural populations.

(2) *Assets*

What assets are needed to expand the region's local food system? The top requirements, cited by 30-35% of the respondents, were:

- *Financial Resources* – Financial resources, especially for farm and food start-ups, were cited as the single most important asset for long-term success. Capital is needed for new urban farm enterprises. Program funding is needed for promoting local agriculture, for closing food gaps in distressed or food desert communities, and for underwriting related youth initiatives.

- *Skills and Knowledge* – Cited almost as frequently as finance was the need for greater skills and knowledge. Respondents identified needs for: greater access to information about agricultural production, more training for existing and aspiring farmers, better access to information about farming techniques, more formal education programs for food entrepreneurs, and more research into the best local-food business models.

- *Social Networks* – Another important need is for stronger social networks. There's a need for better links, more collaboration, and

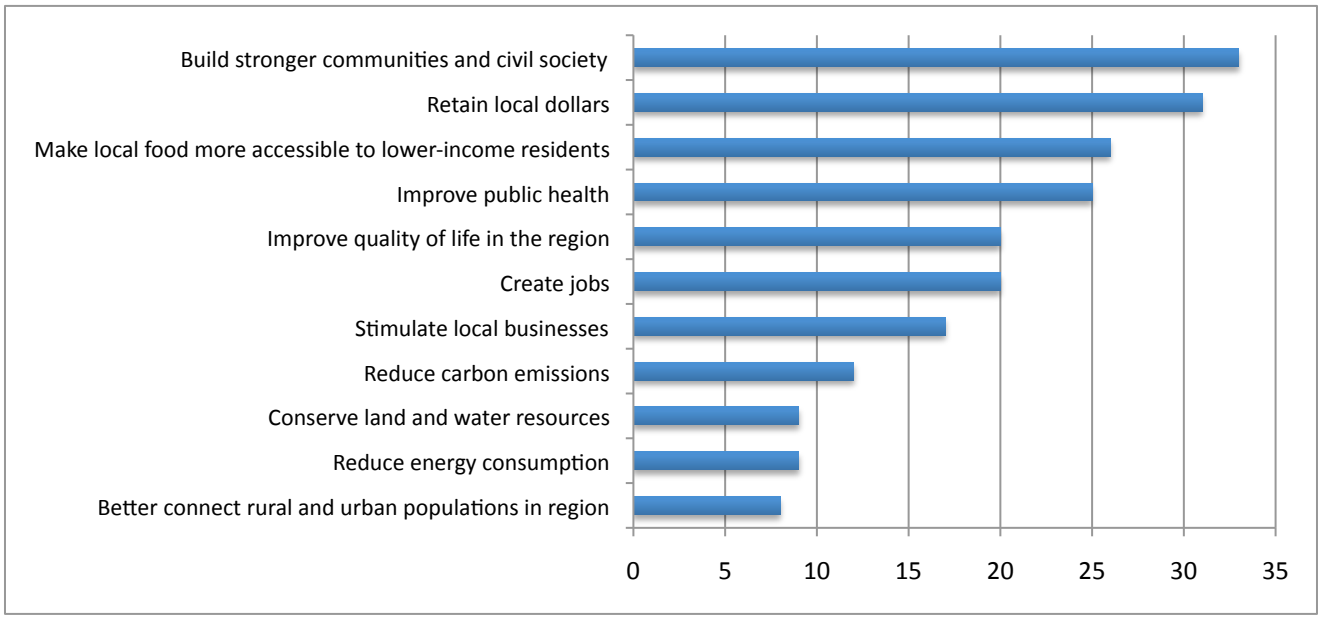
improved communication among farmers, food businesses, and local food advocates.

The secondary tier of needs, cited by 20-30% of respondents, were:

- *Land* – The enormous interest in the NEO region in urban farming accounts for affinity group members being keenly interested in resolving problems surrounding vacant or underused land, including clean-up, long-term access and ownership, soil quality, and water. Among rural respondents, land access and farmland preservation were also key concerns.

- *Markets* – Affinity group members are interested in meeting growing consumer demand for local food through expanded access to mainstream consumer markets (wholesalers, retailers, and restaurants) and through enhanced direct marketing options such as farmers markets and community-supported agriculture.

Chart 6:
Affinity Group Preferences for Most Important Outcomes of Local Food Activity



(3) *Strengths and Weaknesses*

What are the principal strengths and weaknesses of the existing food system? The survey presented affinity group members with statements about key indicators of a strong local food economy, and respondents were asked to indicate their confidence in each. Chart 7 summarizes the findings.

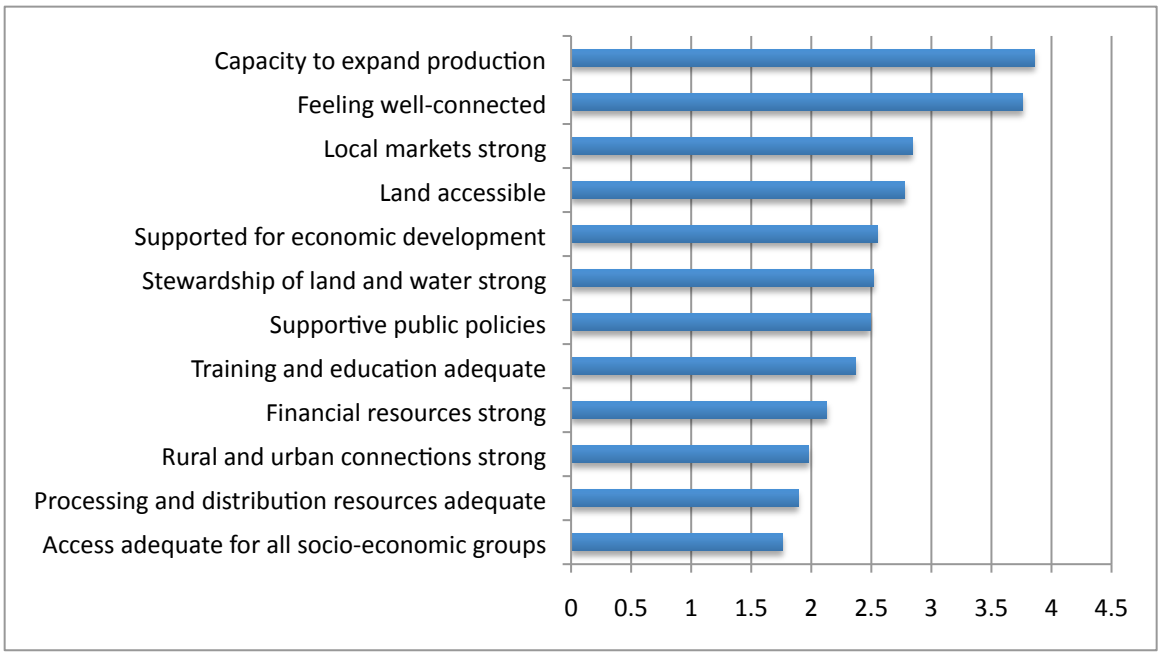
The indicators of the local food system in which respondents had the highest levels of confidence were:

- The region's capacity to expand agricultural production to meet growing demand for local food.
- The support and connections local-food-movement participants enjoy with one another.
- The openness and strength of the region's emerging markets for local food.
- The availability of land for growing local food.

The indicators in which respondents had the lowest levels of confidence were:

- The accessibility of local food for all socio-economic groups.
- The ability of the region to address gaps in processing and distribution of local food.
- The strength of rural-urban links.
- The availability of adequate financing.
- The presence of adequate training, education, and research aimed at improving production and processing.

Chart 7
Overall Confidence Levels on Key Indicators



(4) Barriers

What are the key barriers to expanding the NEO region's local food system? Respondents were asked to identify, from a list (see Chart 8), the most significant barriers to expanding the local food system. In the top tier of barriers were the following:

- Food distribution and warehousing are not adequate.
- Consumers need to better understand the benefits of local food and get more help finding it (perhaps though local branding or broader distribution).
- Finance for local food businesses is in short supply.
- Facilities available for value-added processing are not adequate.

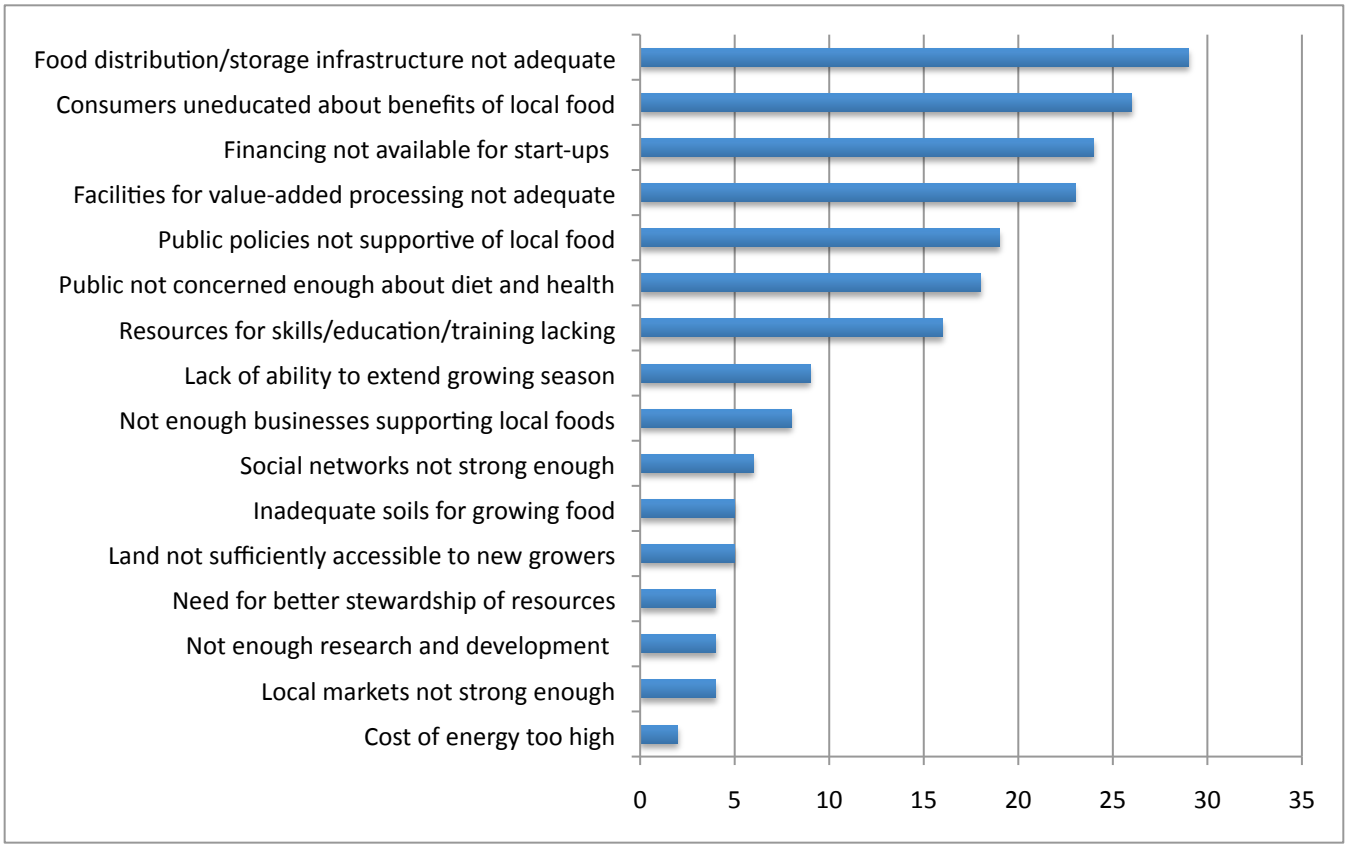
The second tier of barriers included:

- Public policies needed to support and expand local food systems are inadequate.
- Public concern about diet and health issues is too small.
- Resources for skills/education/training are lacking.

The barriers regarded as less significant included:

- The inability to extend the growing season throughout the year.
- The limited number of businesses supporting local food.
- The shortcomings of social networks.
- Limits on the supply of good soil for growing local food.
- The difficulty new growers have in finding land.
- The need for better stewardship of land and water.
- Limits on research and development being conducted on behalf of local food systems.
- Weaknesses in local markets.
- The high cost of energy.

Chart 8
Barriers to Expanding Local Food System



(5) Network Analysis

To determine the relative strength of networks, we reviewed two online social networks that promote local food systems development in Northeast Ohio. The *NEOFoodWeb* is the tool we deployed for this assessment process, and we asked participants to divide into affinity groups that represented their areas of interest. *LocalFoodCleveland.org* is a social network site for farmers, businesses, advocates, and consumers interested in local food has about 50 topic groups. The two sites have a strong presence of farmers, producers, non-profits, and government agencies. There is less representation of food marketers on each site (11% of total participants on the *NEOFoodWeb* and 31% of participants on *LocalFoodCleveland*). Both social networks have almost no presence of supporting businesses (i.e. seed suppliers, nurseries, construction, etc.) or supply-side businesses (i.e. aggregation, warehousing, processing/manufacturing, or distribution).

It should be noted that just because clusters or affinity groups are not represented on these sites does not mean that they do not exist. It means that there are not strong network connections with these particular businesses, organizations, or individuals. Scaling up activity in local food systems will require a more focused effort to improve these network connections.

These survey results, while coming from a relatively small sample, paint a remarkably consistent picture of the NEO region's current food system. We recommend that further surveys be taken to deepen this understanding and also to measure whether efforts to overcome barriers are succeeding.

III. A Localization Scenario

What's a plausible scenario for food localization for the NEO region? We propose a 25% shift. What we mean is that the localization gap in each food-business sector—that is, the gap between the level of business that exists today and the level needed to achieve self-reliance in that sector—is closed a quarter of the way.[62] We envision this shift occurring over a decade. We believe that this goal—a 25% shift in 10 years—is big enough to inspire regional mobilization of the business, policymaking, and grassroots communities, but not so big as to be wildly unrealistic. We consider it the local equivalent to President John F. Kennedy's speech proposing to put a man on the moon by the end of the 1960s.

Locally, institutions such as Oberlin College, which now purchases 30-40% of its food locally, have demonstrated that a shift of this magnitude is possible. In the following pages, we begin by suggesting what the 25% localization scenario would look like *in theory*. We then explore the impacts of this scenario—on jobs, on the economy, on carbon-dioxide emissions, and on public health. Finally, we explore the formidable challenges to achieving this goal.

A. The Current Food Economy

The starting place for scenario planning is to define a baseline: What does the current food economy in the NEO region look like, and how does it compare with other regions in the United States? Several different tools can answer this question.

To understand the supply side of the NEO food system, a useful tool is the North American Industrial Classification System (NAICS), which has about 1,100 categories of business. Charts 9a-9h show the composition of business for 133 of these categories directly or indirectly related to food. Note that NAICS data do not cover several categories important to food. For example, they do not include farmers. Nor do they include people who are self-employed. Most government employees also are not included. So other data sources—our summary of farmers in Appendix III, for example—must be looked at alongside these data.

[62] Percentages applied to food localization turn out to be very tricky. The percentage of fresh foodstuffs in any region grown locally is usually a very small number, typically 1-3%. The percentage of businesses involved in food that are locally owned is typically very high, well over 50%. And most regions tend to have similarly high percentages of locally owned grocery stores and restaurants. Our measure of localization, which cuts across all sectors including farming, aims to create a uniform yardstick.

Chart 9a
Jobs in Farming, Forestry, and Fishing

Farming, Forestry, and Fishing	Total Establishments	Establishments by Employees									NEO Jobs
		1 - 4	5 - 9	10 - 19	20 - 49	50 - 99	100 - 249	250 - 499	500 - 999	1000+	
113110 Timber Tract Operations	2	0	2	0	0	0	0	0	0	0	13
113210 Forest Nurseries and Gathering of Forest Products	2	1	1	0	0	0	0	0	0	0	8
113310 Logging	12	8	3	1	0	0	0	0	0	0	48
114111 Finfish Fishing	0	0	0	0	0	0	0	0	0	0	0
114112 Shellfish Fishing	0	0	0	0	0	0	0	0	0	0	0
114119 Other Marine Fishing	0	0	0	0	0	0	0	0	0	0	0
114210 Hunting and Trapping	0	0	0	0	0	0	0	0	0	0	0
115111 Cotton Ginning	0	0	0	0	0	0	0	0	0	0	0
115112 Soil Preparation, Planting, and Cultivating	5	3	1	1	0	0	0	0	0	0	26
115113 Crop Harvesting, Primarily by Machine	1	1	0	0	0	0	0	0	0	0	2
115114 Postharvest Crop Activities (except Cotton Ginning)	3	2	0	0	0	1	0	0	0	0	73
115115 Farm Labor Contractors and Crew Leaders	0	0	0	0	0	0	0	0	0	0	0
115116 Farm Management Services	1	1	0	0	0	0	0	0	0	0	2
115210 Support Activities for Animal Production	41	35	5	1	0	0	0	0	0	0	110
115310 Support Activities for Forestry	3	3	0	0	0	0	0	0	0	0	5
TOTAL	**70**	**54**	**12**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**287**

Chart 9b
Jobs in Food Manufacturing

Food Manufacturing	Total Establishments	Establishments by Employees									NEO Jobs
		1 - 4	5 - 9	10 - 19	20 - 49	50 - 99	100 - 249	250 - 499	500 - 999	1000+	
311111 Dog and Cat Food Manufacturing	5	2	0	1	2	0	0	0	0	0	77
311119 Other Animal Food Manufacturing	17	4	2	2	8	1	0	0	0	0	358
311211 Flour Milling	6	1	2	1	2	0	0	0	0	0	89
311212 Rice Milling	0	0	0	0	0	0	0	0	0	0	0
311213 Malt Manufacturing	0	0	0	0	0	0	0	0	0	0	0
311221 Wet Corn Milling	0	0	0	0	0	0	0	0	0	0	0
311222 Soybean Processing	0	0	0	0	0	0	0	0	0	0	0
311223 Other Oilseed Processing	0	0	0	0	0	0	0	0	0	0	0
311225 Fats and Oils Refining and Blending	2	0	0	1	0	0	1	0	0	0	164
311230 Breakfast Cereal Manufacturing	0	0	0	0	0	0	0	0	0	0	0
311311 Sugarcane Mills	0	0	0	0	0	0	0	0	0	0	0
311312 Cane Sugar Refining	0	0	0	0	0	0	0	0	0	0	0
311313 Beet Sugar Manufacturing	1	0	0	0	0	1	0	0	0	0	69
311320 Chocolate and Confectionery Manufacturing from Cacao Beans	5	2	0	3	0	0	0	0	0	0	44
311330 Confectionery Manufacturing from Purchased Chocolate	17	4	5	2	3	1	1	1	0	0	715
311340 Nonchocolate Confectionery Manufacturing	12	7	3	1	1	0	0	0	0	0	76
311411 Frozen Fruit, Juice, and Vegetable Manufacturing	2	0	0	1	1	0	0	0	0	0	44
311412 Frozen Specialty Food Manufacturing	6	0	2	0	1	0	1	1	0	1	2,685
311421 Fruit and Vegetable Canning	8	0	1	1	2	1	2	0	1	0	1,119
311422 Specialty Canning	0	0	0	0	0	0	0	0	0	0	0
311423 Dried and Dehydrated Food Manufacturing	0	0	0	0	0	0	0	0	0	0	0

Chart 9b, continued
Jobs in Food Manufacturing

Food Manufacturing, continued	Total Establishments	Establishments by Employees									NEO Jobs
		1 – 4	5 – 9	10 – 19	20 – 49	50 – 99	100 – 249	250 – 499	500 – 999	1000+	
311511 Fluid Milk Manufacturing	7	1	0	2	1	0	1	2	0	0	885
311512 Creamery Butter Manufacturing	0	0	0	0	0	0	0	0	0	0	0
311513 Cheese Manufacturing	7	0	1	1	2	0	3	0	0	0	531
311514 Dry, Condensed, and Evaporated Dairy Product Manufacturing	0	0	0	0	0	0	0	0	0	0	0
311520 Ice Cream and Frozen Dessert Manufacturing	4	2	1	1	0	0	0	0	0	0	24
311611 Animal (except Poultry) Slaughtering	18	4	4	7	3	0	0	0	0	0	218
311612 Meat Processed from Carcasses	14	3	2	3	2	2	0	0	2	0	1,595
311613 Rendering and Meat Byproduct Processing	1	0	0	1	0	0	0	0	0	0	13
311615 Poultry Processing	4	0	0	1	1	1	0	1	0	0	450
311711 Seafood Canning	0	0	0	0	0	0	0	0	0	0	0
311712 Fresh and Frozen Seafood Processing	0	0	0	0	0	0	0	0	0	0	0
311811 Retail Bakeries	102	42	30	25	4	1	0	0	0	0	801
311812 Commercial Bakeries	34	10	3	5	7	3	2	4	0	0	2,175
311813 Frozen Cakes, Pies, and Other Pastries Manufacturing	4	0	0	0	1	2	1	0	0	0	318
311821 Cookie and Cracker Manufacturing	6	1	4	0	0	0	0	1	0	0	366
311822 Flour Mixes and Dough Manufacturing from Purchased Flour	5	2	1	0	2	0	0	0	0	0	71
311823 Dry Pasta Manufacturing	1	0	0	1	0	0	0	0	0	0	13
311830 Tortilla Manufacturing	1	1	0	0	0	0	0	0	0	0	2

Chart 9b, continued
Jobs in Food Manufacturing

Food Manufacturing, continued	Total Establishments	Establishments by Employees									NEO Jobs
		1 - 4	5 - 9	10 - 19	20 - 49	50 - 99	100 - 249	250 - 499	500 - 999	1000+	
311911 Roasted Nuts and Peanut Butter Manufacturing	3	1	0	1	0	0	1	0	0	0	166
311919 Other Snack Food Manufacturing	7	0	2	0	1	2	1	0	1	0	1,000
311920 Coffee and Tea Manufacturing	4	2	1	1	0	0	0	0	0	0	24
311930 Flavoring Syrup and Concentrate Manufacturing	2	0	1	1	0	0	0	0	0	0	20
311941 Mayonnaise, Dressing, and Other Prepared Sauce Manufacturing	5	1	1	2	1	0	0	0	0	0	65
311942 Spice and Extract Manufacturing	4	0	0	1	0	2	1	0	0	0	302
311991 Perishable Prepared Food Manufacturing	8	0	2	3	1	1	0	1	0	0	491
311999 All Other Miscellaneous Food Manufacturing	3	2	1	0	0	0	0	0	0	0	10
312111 Soft Drink Manufacturing	5	1	1	0	1	0	2	0	0	0	339
312112 Bottled Water Manufacturing	4	0	1	3	0	0	0	0	0	0	47
312113 Ice Manufacturing	6	2	3	0	1	0	0	0	0	0	54
312120 Breweries	1	1	0	0	0	0	0	0	0	0	2
312130 Wineries	14	7	3	3	0	1	0	0	0	0	142
312140 Distilleries	1	0	0	0	0	1	0	0	0	0	69
333111 Farm Machinery and Equipment Manufacturing	6	2	1	1	2	0	0	0	0	0	84
333294 Food Product Machinery Manufacturing	9	2	0	3	3	1	0	0	0	0	203
335221 Household Cooking Appliance Manufacturing	1	1	0	0	0	0	0	0	0	0	2
335222 Household Refrigerator and Home Freezer Manufacturing	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**372**	**108**	**78**	**79**	**53**	**21**	**17**	**11**	**4**	**1**	**15,922**

Chart 9c
Jobs in Food Wholesale

Food Wholesale	Total Establishments	Establishments by Employees									NEO Jobs
		1 - 4	5 - 9	10 - 19	20 - 49	50 - 99	100 - 249	250 - 499	500 - 999	1000+	
423820 Farm and Garden Machinery and Equipment Merchant Wholesalers	0	0	0	0	0	0	0	0	0	0	0
424410 General Line Grocery Merchant Wholesalers	41	22	5	5	6	1	1	1	0	0	878
424420 Packaged Frozen Food Merchant Wholesalers	32	11	7	5	2	2	4	1	0	0	1,271
424430 Dairy Product (except Dried or Canned) Merchant Wholesalers	19	5	4	4	4	1	0	0	1	0	948
424440 Poultry and Poultry Product Merchant Wholesalers	4	1	1	0	1	0	0	1	0	0	377
424450 Confectionery Merchant Wholesalers	40	18	9	6	5	0	2	0	0	0	624
424460 Fish and Seafood Merchant Wholesalers	9	4	1	1	1	2	0	0	0	0	195
424470 Meat and Meat Product Merchant Wholesalers	25	8	6	5	5	0	1	0	0	0	423
424480 Fresh Fruit and Vegetable Merchant Wholesalers	44	17	8	8	7	1	2	1	0	0	1,110
424490 Other Grocery and Related Products Merchant Wholesalers	131	43	21	23	27	10	5	1	1	0	3,789
424510 Grain and Field Bean Merchant Wholesalers	11	7	2	1	1	0	0	0	0	0	70
424520 Livestock Merchant Wholesalers	6	4	1	1	0	0	0	0	0	0	27
424590 Other Farm Product Raw Material Merchant Wholesalers	3	3	0	0	0	0	0	0	0	0	5
424810 Beer and Ale Merchant Wholesalers	25	4	1	2	3	12	2	1	0	0	1,597
424820 Wine and Distilled Alcoholic Beverage Merchant Wholesalers	14	4	3	1	1	3	2	0	0	0	578
424910 Farm Supplies Merchant Wholesalers	68	37	17	5	4	4	1	0	0	0	794
424930 Flower, Nursery Stock, and Florists' Supplies Merchant Wholesalers	51	21	8	13	5	2	2	0	0	0	855
TOTAL	**523**	**209**	**94**	**80**	**72**	**38**	**22**	**6**	**2**	**0**	**13,542**

Chart 9d
Jobs in Food Retail

Food Retail	Total Establishments	Establishments by Employees									NEO Jobs
		1 - 4	5 - 9	10 - 19	20 - 49	50 - 99	100 - 249	250 - 499	500 - 999	1000+	
444220 Nursery, Garden Center, and Farm Supply Stores	276	128	53	72	17	4	2	0	0	0	2,641
445110 Supermarkets and Other Grocery (except Convenience) Stores	820	304	118	82	113	82	117	4	0	0	30,434
445120 Convenience Stores	522	337	121	54	10	0	0	0	0	0	2,442
445210 Meat Markets	118	59	37	15	7	0	0	0	0	0	766
445220 Fish and Seafood Markets	15	12	1	2	0	0	0	0	0	0	55
445230 Fruit and Vegetable Markets	56	37	9	4	5	1	0	0	0	0	400
445291 Baked Goods Stores	45	25	16	3	1	0	0	0	0	0	222
445292 Confectionery and Nut Stores	63	21	18	17	5	1	0	1	0	0	944
445299 All Other Specialty Food Stores	105	71	19	8	6	0	1	0	0	0	694
445310 Beer, Wine, and Liquor Stores	313	208	79	22	4	0	0	0	0	0	1,318
446191 Food (Health) Supplement Stores	116	77	29	6	2	0	2	0	0	0	774
446199 All Other Health and Personal Care Stores	191	135	26	20	6	4	0	0	0	0	1,143
447110 Gasoline Stations with Convenience Stores	1,097	254	457	328	57	1	0	0	0	0	9,696
452111 Department Stores (except Discount Department Stores)	60	0	1	0	0	12	46	1	0	0	8,084
452112 Discount Department Stores	114	1	0	1	6	31	60	15	0	0	16,418
452910 Warehouse Clubs and Supercenters	34	1	0	0	0	6	16	11	0	0	6,536
452990 All Other General Merchandise Stores	525	126	222	134	43	0	0	0	0	0	4,803
454210 Vending Machine Operators	95	51	15	9	6	7	6	1	0	0	2,216
TOTAL	**4,565**	**1,847**	**1,221**	**777**	**288**	**149**	**250**	**33**	**0**	**0**	**89,587**

Chart 9e
Jobs in Food Storage

Food Storage	Total Establishments	Establishments by Employees									NEO Jobs
		1 - 4	5 - 9	10 - 19	20 - 49	50 - 99	100 - 249	250 - 499	500 - 999	1000+	
493120 Refrigerated Warehousing and Storage	13	4	3	2	1	0	3	0	0	0	535
493130 Farm Product Warehousing and Storage	4	0	1	1	2	0	0	0	0	0	80
TOTAL	**17**	**4**	**4**	**3**	**3**	**0**	**3**	**0**	**0**	**0**	**615**

Chart 9f
Jobs in Food Waste Management

Food Waste Management	Total Establishments	Establishments by Employees									NEO Jobs
		1 - 4	5 - 9	10 - 19	20 - 49	50 - 99	100 - 249	250 - 499	500 - 999	1000+	
562111 Solid Waste Collection	100	42	19	15	15	2	7	0	0	0	2,046
562212 Solid Waste Landfill	28	9	7	5	6	1	0	0	0	0	380
562213 Solid Waste Combustors and Incinerators	0	0	0	0	0	0	0	0	0	0	0
562219 Other Nonhazardous Waste Treatment and Disposal	7	1	4	1	0	0	1	0	0	0	192
562910 Remediation Services	46	19	7	14	3	1	1	1	0	0	917
562920 Materials Recovery Facilities	18	10	4	2	1	1	0	0	0	0	171
TOTAL	**199**	**81**	**41**	**37**	**25**	**5**	**9**	**1**	**0**	**0**	**3,706**

Chart 9g
Jobs in Food Restaurants and Services

Food Restaurants and Services	Total Establishments	Establishments by Employees									NEO Jobs
		1 - 4	5 - 9	10 - 19	20 - 49	50 - 99	100 - 249	250 - 499	500 - 999	1000+	
624210 Community Food Services	52	32	7	6	4	3	0	0	0	0	513
721110 Hotels (except Casino Hotels) and Motels	390	102	37	108	100	22	18	3	0	0	10,134
721191 Bed-and-Breakfast Inns	10	4	2	3	1	0	0	0	0	0	91
721199 All Other Traveler Accommodation	4	2	2	0	0	0	0	0	0	0	17
721310 Rooming and Boarding Houses	16	11	2	2	1	0	0	0	0	0	90
722110 Full-Service Restaurants	2,671	647	412	502	673	377	60	0	0	0	65,980
722211 Limited-Service Restaurants	3,306	896	548	783	924	149	6	0	0	0	54,844
722212 Cafeterias	142	92	33	7	4	5	0	1	0	0	1,284
722213 Snack and Nonalcoholic Beverage Bars	683	266	124	186	78	29	0	0	0	0	8,158
722310 Food Service Contractors	304	157	47	58	28	8	4	2	0	0	4,049
722320 Caterers	204	102	28	31	32	8	2	1	0	0	2,943
722330 Mobile Food Services	68	56	6	2	4	0	0	0	0	0	289
722410 Drinking Places (Alcoholic Beverages)	1,102	723	233	92	46	6	2	0	0	0	6,197
TOTAL	**8,952**	**3,090**	**1,481**	**1,780**	**1,895**	**607**	**92**	**7**	**0**	**0**	**154,590**

Chart 9h
Jobs in Food Advocacy

Food Advocacy	Total Establishments	Establishments by Employees									NEO Jobs
		1 - 4	5 - 9	10 - 19	20 - 49	50 - 99	100 - 249	250 - 499	500 - 999	1000+	
813312 Environment, Conservation and Wildlife Organizations	52	24	11	8	7	2	0	0	0	0	573
813319 Other Social Advocacy Organizations	89	58	23	4	3	1	0	0	0	0	471
813410 Civic and Social Organizations	596	269	190	80	38	14	5	0	0	0	5,689
813910 Business Associations	189	138	28	12	9	1	1	0	0	0	1,088
813920 Professional Organizations	82	58	13	7	2	2	0	0	0	0	484
813930 Labor Unions and Similar Labor Organizations	413	148	111	99	46	7	1	0	0	1	6,510
TOTAL	**1,421**	**695**	**376**	**210**	**105**	**27**	**7**	**0**	**0**	**1**	**14,816**

Source for Chart-9h: U.S. Census Bureau NAICS County Business Source for Charts 9a-9h:
Source for Charts 9a-9h: U.S. Census Bureau NAICS County Business Patterns

Chart 10
Total Jobs by Food Business Categories

Food Business Categories	Total Establishments	Establishments by Employees									NEO Jobs
		1 - 4	5 - 9	10 - 19	20 - 49	50 - 99	100 - 249	250 - 499	500 - 999	1000+	
Farming, Forestry, and Fishing	70	54	12	3	0	1	0	0	0	0	287
Food Manufacturing	372	108	78	79	53	21	17	11	4	1	15,922
Food Wholesale	523	209	94	80	72	38	22	6	2	0	13,542
Food Retail	4,565	1,847	1,221	777	288	149	250	33	0	0	89,587
Food Storage	17	4	4	3	3	0	3	0	0	0	615
Food Waste Management	199	81	41	37	25	5	9	1	0	0	3,706
Food Restaurants and Services	8,952	3,090	1,481	1,780	1,895	607	92	7	0	0	154,590
Food Advocacy	1,421	695	376	210	105	27	7	0	0	1	14,816
TOTAL	**16,119**	**6,088**	**3,307**	**2,969**	**2,441**	**848**	**400**	**58**	**6**	**2**	**293,064**

Source: U. S. Census Bureau NAICS County Business Patterns

Looking at Chart 10, which summarizes the NAICS data, we can see that there are just over 16,000 establishments involved in food in the region employing 293,000 people. All but eight of these establishments employ fewer than 500 people. Two of these have more than 1,000 employees, but one is actually a labor union and therefore only indirectly involved in food. The other is Stouffer's, a national company focused on frozen food processing. There are six other companies with between 500 and 1,000 employees in the region, detailed in Chart 11.

Chart 11
Companies with 500 to 1,000 Employees

Name	Number of Employees	Ownership	Products
J.M. Smucker Co., Orrville, OH	750	Local	Syrups, frozen and cold pack products, baking mixes, jams, jellies, and preserves
Acme Fresh Market, Inc., Salem, OH	650	Local	Processed meats
HJ Heinz Co., Massillon, OH	600	Non-local	Frozen fruits and vegetables
Alfred Nickles Bakery, Inc., Navarre, OH	550	Local	Fresh and frozen breads
Pepsi-Cola Co., Twinsburg, OH	500	Non-local	Bottled soft drinks and wholesale groceries
Great Lakes Cheese Co., Hiram, OH	500	Local	Wholesale cheese

Source: U.S. Census Bureau NAICS County Business Patterns

To improve this estimate, we must add farmers. Chart 12 shows that there are 21,715 farmers in the region: 3,600 growing crops, 5,400 raising animals, and the rest involved in horticulture and other niches.[63] This brings the total number of food employees in the region to about 315,000. To put this number in perspective, recall the NEO region has a workforce of 2,379,904 individuals.

[63] These data come from the 2007 USDA *Agricultural Census*, which provides very specific data about numbers of farms per county, but only aggregate numbers of total numbers of farmers and farm employees per county. We assume that the number of farmers and farm-employees per farm is the same across all subcategories. The 2007 *Agricultural Census* can be accessed at: *http://www.agcensus.usda.gov*.

That means about one in seven workers in the region is currently involved in a business linked with food.

Chart 12
Number of Farmers in the NEO Region

	Crops	Animals	Horticulture and Other	Total
Ashland	583	613	402	1,598
Ashtabula	451	693	579	1,723
Carroll	150	652	408	1,210
Columbiana	332	887	466	1,684
Cuyahoga	26	119	51	196
Geauga	210	714	476	1,399
Lake	73	116	240	428
Lorain	559	503	391	1,453
Mahoning	264	402	248	914
Medina	401	690	428	1,520
Portage	301	602	388	1,291
Richland	295	908	344	1,548
Stark	526	1,011	445	1,983
Summit	129	244	171	544
Trumbull	467	582	432	1,481
Wayne	660	1,694	390	2,743
TOTAL	5,392	10,506	5,817	21,715

Source: USDA National Agricultural Statistics Service

The percentage is probably smaller, however, because some of the NAICS categories we include here have both food and non-food workers. Most of the 15,000 or so employees involved in non-profits groups are focused on other issues. Most of the 3,700 employees involved in waste management are dealing primarily with non-food waste. In the food retail category, more than half of the 89,500 people employed are in gas stations, department stores, warehouse stores, mail order operations, and vending-machine services that handle multiple products including food. And 10,000 people in the food service category work in hotels, which deliver many services besides food. So perhaps a more realistic estimate is that one out of ten workers in the region is involved with food. Still, these calculations underscore how important food is right now in the NEO economy.

The observation that all but eight of the 16,000 food establishments employ fewer than 500 people might suggest the sector contains exclusively small businesses. After all, the official definition of “small business” by the U.S.

government is a business with fewer than 500 employees. What's tricky, however, is that "establishments" represent branches, outlets, factories, or franchise operations of larger "firms."

It is possible to estimate the number of food employees working for non-local firms by looking at recently published data from the Edward Lowe Foundation (available at *www.YourEconomy.org*).[64] Chart 13 estimates that 83,617 workers, about a third of all food employees, are employed by non-local companies. The percentage of these employees is highest in manufacturing (38%) and retail (37%), and lowest in farming (2%) and advocacy (6%).

Chart 13 [65]
Number of Employees for Nonlocal Companies in the NEO Region

NAICS Code		NEO Employees	Ohio State % Nonresident	Employees for Nonresident Firms
11	Farming, Forestry, and Fishing	287	2%	7
31	Food Manufacturing	15,922	38%	6,078
42	Food Wholesale	13,542	26%	3,552
44	Food Retail	89,587	37%	33,246
48	Food Storage	615	30%	185
56	Food Waste Management	3,706	8%	294
72	Food Restaurants and Services	154,590	25%	39,372
81	Food Advocacy	14,816	6%	883
	TOTAL			**83,617**

Source: The Lowe Foundation, U.S. Census Bureau

[64] The data are derived from Dun & Bradstreet (*http://www.dnb.com*), which compiles data on every business operating in the state, including their sectors of activities, sales, jobs, and headquarters location. While it is possible to fine-tune these estimates for each six-digit NAICS category of food business, it would require purchase of the Dun & Bradstreet database, an expense beyond the budget of this study.

[65] The Lowe Foundation data (*http://www.edwardlowe.org*) present percentages of nonresident employees for two-digit NAICS codes statewide. We apply these percentages to the NEO region. Additionally, we adjust the percentages, because Lowe Foundation data include self-employed individuals.

B. Economic Impacts of 25% Shift

To analyze the impacts of a 25% shift toward total food localization, we assume that food exports remain constant. The only changes we envision are in the behavior of local purchasers—that is, local residents, businesses, and government institutions. Their increased demand then expands the size and number of local food businesses in the region.

The principal tool we use to measure the impacts of this shift is the IMPLAN input-output model, which is widely used by economic-development agencies across the United States.[66] IMPLAN is built on a variety of federal and private databases, and improves on the NAICS data in a number of respects. For example, it fills in the omissions of NAICS with respect to farmers, self-employed individuals, and government workers. The model also draws from state and national economic patterns to model where every dollar of spending goes, and how every dollar is in turn re-spent. IMPLAN can therefore model how a change in demand can lead not only to direct new jobs from expanded business activity, but also how the new spending by this business creates new jobs (*indirect* effects) and how the new spending by new employees in all these businesses creates even more new jobs (*induced* effects).

IMPLAN carves up the universe of business into 432 categories, some of which combine the 1,100 categories of NAICS. To measure the impacts of 25% localization, we focused only on the 57 categories that relate to food either exclusively or *primarily*. Again, what we mean by a 25% shift is that we are increasing the demand in each of the 57 food-related IMPLAN categories a quarter of the way toward total self-reliance.

A hypothetical example illustrates what this methodologically looks like.[67] (The following numbers are made up.) Suppose breweries in the NEO region were producing $100 million worth of beer, $10 million of which was sold locally. Further suppose total demand in the region for beer was $200 million, which means that the region was importing $190 million worth of beer. Total self-reliance would mean that the region would need to produce at least $200 million worth of beer. If all local production went to local demand, total self-reliance would mean that local breweries could expand by $100 million in annual output. But since we assume that exports are constant—in this case $90 million—potential output expansion is actually $190 million. Getting a quarter of the way to this would imply $47.5 million of new output.

[66] IMPLAN can be found at *http://implan.com*.
[67] Formally, the Regional Purchasing Coefficient (RPC) within IMPLAN estimates how much of Total Gross Demand is currently met by local industry. The demand figure includes both local and nonlocal consumption. Multiplying Total Gross Demand by 1-RPC shows how much additional industry is possible to meet local demand (without reducing production for export).

Chart 14 below summarizes the results of the IMPLAN model after ramping up demand in each of the 57 food-related sectors. A total of 27,664 jobs can be created—15,723 directly, 6,856 through new business spending, and 5,085 through new consumer spending.

Chart 14
IMPLAN Predicted Jobs in Food-Related Sectors

Overview	Direct	Indirect	Induced	Total
Retail, Restaurants and Consumer Service	3,583	239	1,269	5,091
Farming and Animal Growing	8,246	1,739	14	9,998
Food Processing	3,894	166	21	4,081
Indirect and Induced Impacts	0	4,712	3,781	8,493
Total	15,723	6,856	5,085	27,664

Source: IMPLAN Data

Chart 15 shows the impacts in all 57 food sectors. We group them broadly into three categories: retail, restaurants, and consumer service; farming and animal growing; and food processing. By far, the largest number of new jobs, roughly 10,000, come from farming and animal growing. About 5,000 come from retail, restaurants, and consumer service. And about 4,000 come from food processing. The remaining 8,500 jobs come from the indirect and induced impacts in other sectors, summarized in Chart 16. An important point here concerns wages. Even though direct jobs are primarily in lower wage sections like food service and farming, indirect jobs are spread throughout the economy, including many high wage sectors.

To put these numbers in perspective, recall (see Chart 3) that unemployment in the region right now is over 214,000. Unemployment throughout Ohio is now above 10% and in some of the counties in the region it's over 12.5%. *The 25% shift therefore has the potential to put one out of eight currently unemployed workers in the region back to work.*

Chart 15
Impacts of 25% Shift in NEO Food Sectors

Retail, Restaurants, and Consumer Service	Direct	Indirect	Induced	Total
Food services and drinking places	1,525	199	562	2,285
Private household operations	913	0	109	1,022
Community food, housing, and other relief services, including rehabilitation services	826	0	30	855
Retail Stores - General merchandise	195	13	175	382
Retail Stores - Food and beverage	60	13	187	260
Retail Stores - Miscellaneous	29	7	90	126
Retail Stores - Health and personal care	13	4	68	86
Retail Stores - Gasoline stations	21	4	49	74
Subtotal	**3,583**	**239**	**1,269**	**5,091**
Farming and Animal Growing	**Direct**	**Indirect**	**Induced**	**Total**
Animal production, except cattle and poultry and eggs	1,468	312	2	1,782
Grain farming	1,400	169	1	1,570
Support activities for agriculture and forestry	921	380	1	1,302
Oilseed farming	679	131	0	810
Dairy cattle and milk production	329	407	5	740
Cattle ranching and farming	499	203	0	702
Fruit farming	669	30	1	700
Commercial Fishing	645	0	0	645
All other crop farming	349	48	0	397
Vegetable and melon farming	515	15	1	531
Greenhouse, nursery, and floriculture production	496	10	1	506
Poultry and egg production	81	26	0	107
Commercial hunting and trapping	71	0	0	71
Tree nut farming	67	0	0	67
Forestry, forest products, and timber tract production	30	3	0	33
Commercial logging	26	6	0	32
Subtotal	**8,246**	**1,739**	**14**	**9,998**

Chart 15, continued
Impacts of 25% Shift in Food Sectors

Food Processing	Direct	Indirect	Induced	Total
Animal (except poultry) slaughtering, rendering, and processing	665	18	1	684
Poultry processing	561	16	2	579
Bread and bakery product manufacturing	418	2	4	424
Fruit and vegetable canning, pickling, and drying	225	7	1	233
All other food manufacturing	203	2	0	206
Frozen food manufacturing	169	9	2	180
Wineries	144	4	0	147
Cookie, cracker, and pasta manufacturing	146	1	0	147
Seafood product preparation and packaging	140	0	0	141
Confectionery manufacturing from purchased chocolate	116	1	1	117
Soft drink and ice manufacturing	100	4	4	109
Cheese manufacturing	91	7	0	97
Snack food manufacturing	91	1	1	94
Seasoning and dressing manufacturing	87	4	0	91
Non-chocolate confectionery manufacturing	78	0	0	78
Breweries	77	0	0	77
Fluid milk and butter manufacturing	57	16	2	75
Distilleries	68	2	0	70
Tortilla manufacturing	55	0	0	56
Dog and cat food manufacturing	55	0	0	55
Coffee and tea manufacturing	53	0	0	53
Ice cream and frozen dessert manufacturing	48	1	0	49
Other animal food manufacturing	5	40	0	45
Breakfast cereal manufacturing	44	0	0	44
Flour milling and malt manufacturing	39	2	0	41
Flavoring syrup and concentrate manufacturing	17	14	0	31
Soybean and other oilseed processing	25	4	0	29
Dry, condensed, and evaporated dairy product manufacturing	28	0	0	28
Fats and oils refining and blending	27	0	0	27
Chocolate and confectionery manufacturing from cacao beans	24	0	0	24
Sugar cane mills and refining	21	2	0	23
Wet corn milling	15	0	0	15
Beet sugar manufacturing	4	8	0	13
Subtotal	**3,894**	**166**	**21**	**4,081**

Source: IMPLAN Data

Chart 16
Summary of Indirect and Induced Impacts

Summary of Indirect and Induced Impacts	Direct	Indirect	Induced	Total
Distribution and Wholesale	0	1,346	218	1,564
Business Services	0	1,358	369	1,726
Retailers (Non-Food)	0	49	512	561
Health Care	0	70	836	906
Education (Private)	0	37	192	229
FIRE (Finance, Insurance, and Real Estate)	0	608	556	1,164
Information Systems	0	72	39	111
Construction and Housing	0	258	97	354
Other Household and Personal Services	0	289	622	911
Other Sectors (25+ Jobs Each)	0	626	340	966
Total	**0**	**4,712**	**3,781**	**8,493**

Source: IMPLAN Data

A huge job stimulus is not the only economic benefit of the 25% shift in food localization. Additionally, *each year* there would be:

- $4.2 billion of additional output
- $1.5 billion in additional value-added activity
- $868 million in additional wages
- $126 million of additional state and local tax revenues (primarily through sales and property taxes)

The last item, additional tax revenue, seems especially relevant. It suggests that annual expenditures by state, county, and local governments up to $126 million per year would, if they help achieve the shift, actually be net money-makers.

There are other economic benefits of this 25% shift that are harder to quantify, but worth mentioning:

- *Branding* – As the epicenter of a local food renaissance, the greater Cleveland area would become a powerful new magnet for tourism. The NEO region has far lower tourist traffic than most other regions in the United States, and simply bringing the region up to the national average could generate another 10,000 new jobs in hotels and motels.
- *Attraction and Retention* – While the value of economic development agencies essentially bribing non-local businesses to come or stay in

the region has been largely discredited, there is no question that being a fabulous dynamic region that *naturally* attracts and retains non-local businesses—Richard Florida's notion of a creative economy—is economically valuable.

- *Entrepreneurship* – As noted, nearly all of the food businesses in the region right now are small. Indeed, except for a few food-processing businesses, the vast majority of food enterprises, such as farms and food service operations, can be started by a good entrepreneur with modest capital. The 25% shift would lead to a region-wide entrepreneurship revolution, with positive spillovers throughout the NEO economy.

- *Public Assistance* – Increased employment and entrepreneurship would lead to dramatic reductions in public assistance outlays in unemployment, food stamps, housing vouchers, health subsidies, and other government supports. In 2009 the region's 214,000 unemployed residents received more than a billion dollars from the state's essentially broke unemployment-compensation fund. Putting 27,000 back to work would thus save $133 million per year. The state of Ohio currently spends $439 million per year on TANF, just one of its welfare programs, to support 1,133,880 families. Were the 25% shift able to move 27,000 families from TANF, the state would save another $10 million per year.

- *Fiscal Health* – Reduced government outlays and increased tax revenues would improve the fiscal health of county and local governments in the region. This would improve their credit worthiness, lower their cost of capital, and reduce their payments on existing and future bonds and other debts.

- *Capital Improvements* – Improved government fiscal health would also allow more investments in public schools (human capital) and infrastructure (built capital), both of which will add to economic vitality, foster entrepreneurship, and increase the attractiveness of the region to outside business and investors.

- *Rural Economies* – The 25% shift would provide a stimulus for the rural counties in the NEO region to expand existing farms, diversify farm economies, and revive farms that have gone bankrupt or otherwise been abandoned. By connecting urban demand with rural supply, food localization could lead to a renaissance of rural economic life.

- *Economic Security* – Diversification of the local food system could help inoculate the region against sudden cutoffs in food that might occur because of contamination, war, terrorism, or global shortages.

C. Noneconomic Benefits of a 25% Shift

The 25% shift would also generate a host of other benefits concerning the environment, public health, and quality of life. These benefits are difficult to quantify in strictly dollar terms, but they are nevertheless worth weighing.

(1) Environmental Benefits

Our data suggest that a big part of food localization is the expansion of farming in both rural and urban areas in the region. Both would generate significant environmental benefits.

Revival of rural farms means improved stewardship of parcels of land that otherwise may become unmanaged or purchased for sprawling subdivisions. Well-managed farms can improve water retention, prevent floods, sequester carbon, and improve habitat for natural species. Nothing guarantees, of course, that the additional farming from food localization will be well-managed. Indeed, expansion of commodity-oriented agriculture dependent on pesticides and fertilizers could cause greater environmental problems for the region. But commodity agriculture, by definition, is focused on export. The expansion of farms diversified with many fruits and vegetables and with a variety of animals is more consistent with cutting-edge agriculture practices that minimize the use of pesticides and fertilizers. And while there is also no automatic link between local food and organic food, consumers who favor one also tend to have greater interest in the other. Ohio benefits from two strong state-wide farm organizations, the Ohio Ecological Food and Farm Association (OEFFA) and the Innovative Farmers of Ohio (IFO), which promote organic production, pastured livestock practices, and sustainable farming.

The same observations apply to urban farming, only with greater force, because the parcels of land being redeployed fall into the category of “blight” right now. Urban farming usually occurs on parcels that otherwise are serving no useful purpose (except as dumps). The reclamation of these parcels and appropriate management techniques can improve urban water and air quality, prevent runoff, and control insects, rats, and other pests.

Another important environmental benefit of local food is a lower carbon footprint. To be sure, the entire science of counting and assessing carbon-equivalent emissions is fraught with uncertainty. Consider the contradictory conclusions of just three recent studies:

- A 2007 study at the University of Washington in Seattle found that a local plate with four food items—salmon, apples, asparagus, and potatoes—had about two thirds the total carbon emissions of an

equivalent non-local plate.[68] The heavy fuel use involved in salmon production, both local and non-local, dominated the overall equation. Remove the fish and transportation dominates.

- Another study completed in 2007 by two professors at Carnegie Mellon University, looking at the total emissions of foodstuffs over its lifetime, found that transportation as a whole accounts for only 11% of the nation's carbon emissions, and final delivery costs from producer to retailer account for only 4% of consumer food expenditure.[69] They argue, "[S]hifting less than one day per week's worth of calories from red meat and dairy products to chicken, fish, eggs, or a vegetable-based diet achieves more GHG reduction than buying all locally sourced food." The strengths of the study include its attention to the impacts of farm equipment, fertilizers, and other supplies, as well as similar inputs of food manufacturers. A weakness, however, is that it reflects the relative impact of *existing* practices, many built around cheap oil and non-local inputs. Serious localization would reduce the embedded energy costs not only in food but in all non-food inputs. Plus, even the study's own data suggest that food localization would result in modest reductions in GHG.

- A third study published by a team of researchers in Belgium, suggest two other big factors can dominate the overall carbon emissions.[70] One is how someone shops. Taking an inefficient SUV on two or three special trips to the CSA or farmers market is enormously wasteful. So is the decision to consume any produce if it is out of season or if it comes from local greenhouses heated by fossil fuels. Shopping for in-season produce by bicycle, in contrast, is a carbon-minimizing home run.

A big problem that bedevils all these studies is that they assume that carbon emissions from international ocean shipping are relatively benign. A new study from the United Nations' Intergovernmental Panel on Climate Change, however, suggests that the actual carbon emissions from ships are three times greater than previously estimated.[71] This would mean, for example, that the Carnegie Mellon study would show a greater percentage of carbon emissions linked with transportation and a greater advantage from localization.

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[68] Daniel Morgan *et al.*, "Seattle Food System Enhancement Project: Greenhouse Gas Emissions Study" (University of Washington Program of the Environment, 2007).
[69] Christopher L. Weber and H. Scott Matthews, "Food-Miles and the Relative Climate Impacts of Food Choices in the United States," *Environmental Science & Technology*, 42:10, pp. 3508-3513.
[70] Annelies Van Hawermeiren *et al.*, "Energy Lifecycle Inputs in Food Systems: A Comparison of Local versus Mainstream Cases," *Journal of Environmental Policy & Planning*, 9:1, March 2007, pp. 31-51.
[71] John Vidal, "True Scale of CO2 Emissions from Shipping Revealed," *The Guardian*, 13 February 2008.

Estimates of carbon savings from food localization are therefore inherently unreliable. Still, some order-of-magnitude numbers are possible. The Carnegie Mellon researchers estimated that carbon generated by food consumption by the typical household in the United States is 8.1 Mt. Given that there are 1.7 million households in NEO region, the total carbon emissions associated with all food would be 14 MMt. Under the Carnegie Mellon calculations, all food transportation would therefore amount to 1.6 MMt, and they would argue that only a small fraction of that could be saved through localization. If allowances are made for data uncertainties and for potential reductions of refrigeration and packaging through localization, then perhaps 1-2 MMt reduction might be achievable—as much as a sixth of the total annual emissions from Cuyahoga County.[72]

This reduction, while modest, is not inconsequential. A 25% shift envisions roughly 10,000 new farmers and farms. The Rodale Institute estimates that converting 10,000 farms to organic production would be the equivalent of getting 1.3 million cars off the road.

To realize even this goal, NEO localization initiatives should follow some of the following guidelines:

- Encourage residents to buy, cook, and eat seasonally available produce.
- Introduce greenhouses only if they are passively heated or using renewable energy inputs.
- Revamp *intra*state hauling with vehicles fueled from locally available biomass, preferably using agriculture and forestry waste products as feed stocks for cellulosic conversion.
- Integrate localization efforts in different parts of the state so that consumers need less driving to reach food stores.
- Make it easier for people to bike and walk, through smart-growth measures for example, so that local food systems can reduce overall energy consumption.
- Encourage farming techniques that maximize the sequestration of atmospheric carbon in soils and plant bio-mass.

[72] The Vulcan Project of Purdue University, financed by the U.S. Department of Energy and NASA, has a carbon emission inventory that estimates total emissions for Cuyahoga County at 11.4 million tons of carbon per year. The project can be accessed here: *http://www.purdue.edu/eas/carbon/vulcan/index.php.*

(2) Public Health Benefits

Another clear benefit of local food is improved public health. A growing scientific literature underscores that Americans have become fatter and unhealthier with their increasing consumption of processed foods. According to the Centers for Disease Control and Prevention, household eating habits have shifted from fresh foods bought at a grocery store to ready-to-eat processed food purchased at corner stores, gas station mini-marts, and fast-food restaurants. This has led to an epidemic of Type II diabetes and obesity, even in small children. By expanding the availability and value of fresh fruits, vegetables, grains, eggs, meats, and dairy products, food localization is becoming almost universally recognized as a critically important tool for strengthening public health.

The NEO region has more than its proportional share of food deserts. Because of widespread poverty, all but two of the 36 neighborhoods in Cleveland have at least a quarter of residents receiving food stamps or other forms of public food assistance. Estimates in 2006 suggest that a third of Cleveland residents are obese and another third overweight—well over the statewide average. An assessment of the Cuyahoga County Planning Commission in 2008 found that residents of Cleveland can find fast food 4.5 times more easily than large grocery stores (large meaning >25,000 square feet).[73] Residents of Cuyahoga County have to travel three times farther. The comparable rate in surrounding suburbs is two times farther (itself a problem). One out of four Cleveland households do not own a vehicle to travel to a distant grocery store (the rate is one out of seven in the suburban communities in Cuyahoga County).

Poor food access in Cleveland and Cuyahoga County mirrors trends across the United States. A growing body of evidence indicates that Americans' health outcomes vary widely by income, race, and geography.[74] Access to healthy foods is one of the primary predictors of disparities in health outcomes. A majority of studies indicates that people who have regular access to full-service supermarkets tend to have lower incidences of obesity.[75] While the verdict is not without controversy, several studies have demonstrated that neighborhoods with greater access to convenience stores have higher rates of obesity.[76] A study of 10,000 adults living in four comparable geographic areas found that census tracts with good access to supermarkets had the lowest rates of obesity (21%). Conversely, the highest obesity rates were found in census tracts without supermarkets, with 34-40% of residents suffering from obesity.[77] These factors also have a racial dimension, with the availability of supermarkets in predominantly African American neighborhoods about half of that of white

[73] Claire Kilbaine, *supra* note 20.
[74] Nicole Larson *et al*., "Neighborhood Environments: Disparities in Access to Healthy Foods," *U.S. American Journal of Preventative Medicine* (Elsevier, 2009), p.74.
[75] *Ibid*., p. 74.
[76] *Ibid*., p. 75.
[77] *Ibid*., p. 76.

neighborhoods.[78] Further, a majority of U.S. studies have shown that fast-food restaurants are more present in lower-income and minority neighborhoods than in high-income, predominantly white neighborhoods.[79] This finding of abundant fast-food restaurants was echoed in a 2008 presentation at the Cleveland Foodbank by Claire Kilbaine.[80]

According to the American Public Health Association, food security for many communities in the United States is made more difficult by a U.S. farm policy that offers huge incentives for production, not of fruits, vegetables, or grass-fed meats, but of foods containing high levels of sugars, fats and grain-fed meats. This policy contradicts the USDA's 2005 *Dietary Guidelines for Americans*.[81] Current agricultural incentive programs encourage the over-production of commodity crops that are processed into high fructose corn syrup and soy-based oils present in most processed foods, enabling these sweets and fats to be convenient and inexpensive for consumers. Further, 60% of the U.S. corn crop and 47% of the soy crop are used to produce grain for livestock, not counting what is utilized for fish or poultry.[82] Meat from corn and soy fed animals is high in omega-6 fatty acids compared to grass-fed animals that have a much higher concentration of healthier omega-3 fatty acids. Studies show that Western diets of grain-fed meats have more than 16 times the optimal omega-6:omega-3 ratio. High ratios are associated with adverse health outcomes, including cardiovascular disease, cancer, osteoporosis, and inflammatory auto-immune diseases.[83]

There are a number of other health impacts from the industrialized system of food production that warrant mention:

- Industrialized animal production is a major source of pathogens affecting food-borne illnesses.[84]

- More than 70% of all U.S. antibiotics are routinely fed to hogs, poultry, and beef cattle. This leads to a greater prevalence of antibiotic-resistant pathogens, which contributes to the antibiotic resistance of pathogens affecting humans.[85]

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[78] I*bid*., p. 75.
[79] *Ibid*., p. 77.
[80] Claire Kilbaine, *supra* note 20.
[81] American Public Health Association, "Toward a Healthy, Sustainable Food System," Policy Statement #200712, 6 November 2007.
[82] *Ibid.*
[83] AP Simopoulos, "Evolutionary Aspects of Diet, the Omega-6/Omega-3 Ratio and Genetic Variation: Nutritional Implications for Chronic Diseases," *Biomedicine Pharmacotherapy*, 2006, pp. 502–507.
[84] D Pimentel and M Pimentel, "Sustainability of Meat-Based and Plant-Based Diets and the Environment," *American Journal of Clinical Nutrition*, 2003, pp. 660S–663S.
[85] MJ Gilchrist *et al.*, "The Potential Role of Concentrated Animal Feeding Operations in Infectious Disease Epidemics and Antibiotic Resistance." *Environmental Health Perspective*, 2007, pp. 313–316.

- The conventional food system has high reported rates of occupational injury, illness and death, and, in 2002, meat processing had the highest rates of reported occupational injuries of any industrial sector in the country.[86]

Fully appreciating these facts, the major health-care institutions in Cleveland—all highly ranked nationally—are now educating their patients and the public to eat more locally. The Cleveland Clinic, for example, sponsors a regular farmers market in its parking lot, has gotten rid of soda machines, and makes smoking and obesity negative factors in its hiring decisions. Three of its hospitals are growing their own food in hospital gardens and using the produce in cooking classes they sponsor for diabetes prevention. The Cleveland Clinic, after modest testing of local procurement methods, is now ramping up to maximize inclusion of food grown within 75 miles. Its *Facebook* page encourages members—physicians and patients alike—to discuss how to access fresh and local food.

The 25% shift will clearly make it easier and cheaper for institutions like the Cleveland Clinic, as well as much smaller players, to carry out their healthy eating programs. And these efforts, in time, will accelerate the 25% shift.

(3) Quality of Life Benefits

A final benefit worth mentioning is the synergistic impact of a 25% shift on quality of life. The combination of economic, ecological, and health benefits could well transform local and national perceptions of the region. Once identified with the song "Burn on Cuyahoga," Cleveland may become recognized as one of the most innovative regions in the country for its local food initiatives.

The clear benefits from localizing one part of the economy—food—will inevitably lead to creative initiatives to localize others, such as energy, finance and even manufacturing. A sociology literature review suggests that as a region becomes more dependent on local small businesses, it experiences a stronger civil society.[87] A political science literature review similarly suggests that this kind of transformation, by making people feel like they have a stake in the region's future, moves residents to vote more regularly and volunteer more often.[88]

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[86] US Bureau of Labor Statistics. Table SNR02. "Highest Incidence Rates of Nonfatal Occupational Injury and Illness Cases with Days Away from Work, Restricted Work Activity, or Job Transfer, Private Industry, 2002," available at *www.bls.gov/iif/oshwc/osh/os/ostb1233.pdf*.
[87] Robert Putnam, *supra* note 7.
[88] Harvard political scientist Robert Putnam has identified the long-term relationships in stable communities as facilitating the kinds of civic institutions—schools, churches, charities, fraternal leagues, business clubs—that are essential for economic success. Robert Putnam, *Making Democracy Work* (Princeton: Princeton University Press, 1993). As one group of scholars recently concluded after reviewing the social science literature: "[T]he degree to which the economic underpinnings of local communities can be stabilized—or not—will be inextricably linked with the quality of American democracy in the coming century." Thad Williamson, David

D. Caveats about the Model

Like all economic models, IMPLAN needs to be treated critically. Parts of the model may well understate the potential benefits of a 25% shift. Other parts may overstate them. Above all, a model is no better than an educated guess about an uncertain future.

Here are considerations that suggest that IMPLAN understates the potential benefits of from localization:

- First, IMPLAN draws no distinction between locally owned businesses and non-local ones. The multipliers of each sector are drawn from national, state, and regional aggregates of all businesses, local and non-local. If some chain businesses were replaced by local ones—a likely eventuality if the region embraced a comprehensive plan for food localization—the economic benefits would be much higher.

- Second, no effort has been made here to model the impacts of a growing population over the ten years envisioned for the shift. A larger population will mean that, in absolute numbers, the benefits of localization will be proportionally larger as well.

- Third, the model has not been adjusted for the probable price increases of non-local foods. These rises, already front-page news over the past year worldwide, are likely to accelerate, as will the benefits of localization.

- Finally, as noted above, movement to localize one sector will naturally lead to a localization of other sectors as well, and no effort has been made here to model these spillover effects.

At the same time it's worth noting other factors that could reduce the predicted benefits from localization:

- As various economic factors such as labor, land, and capital are increasingly put to use in the state, their own relative prices will rise. For example, greater demand for farmers could raise the incomes of farmers—and the costs of food. This could lead to local pockets of inflation and of reduced spending power for residents.

Imbroscio, and Gar Alperovitz, *Making A Place for Community: Local Democracy in a Global Era* (New York: Routledge, 2003), p. 8. An economy with many long-term homegrown businesses is more likely to contribute to such stability than the boom-and-bust economy created by place-hopping corporations.

- Some economic factors, such as land and water, might simply be unavailable to achieve the levels of self-reliance sought (as elaborated in the next section).

- The economic benefits envisioned here will likely attract more people to move into the state, which could bring down per capita income.

E. Challenges

Envisioning a 25% shift, of course, is easier than making it happen. In this section we enumerate some of the challenges in carrying out the shift. Fully understanding the challenges is critical, because they underscore the importance of our implementation initiatives, private and public, discussed in the next section.

(1) Economic Reality

Mainstream economists are skeptical about localization, arguing that what exists today is the natural result of supply and demand efficiently intersecting. This view assumes that the market is a perfect expression of efficiency. It assigns no weight to the myriad public policies, laws, and subsidies that have decidedly tilted markets against local business.[89] It assumes that consumers have perfect information, even though they turn out to be remarkably uninformed about local goods and services because local businesses are notoriously poor advertisers. It further assumes that businesses themselves have perfect information about how to structure themselves efficiently, while in fact innovation diffuses slowly with local businesses (how many small business proprietors can afford to attend summer programs at Harvard Business School?). Perhaps most significantly, the view of neoclassical economics suggests that what exists is all that's possible.

As noted in the Introduction, however, there are a number of factors that are likely to shake apart the existing food system. Global food systems have high distribution costs, and local competitors are learning how to bring them down. Rising oil prices will hasten this shift. Public demand for local food is rising, in part because of rising concerns about the untrustworthiness of food from distant places like China and the health benefits of eating locally. And local food entrepreneurs are making huge strides, some working alone and others working in partnerships and cooperatives, in improving their competitiveness.

[89] A forthcoming study by one of the authors, looking at the three largest state economic development programs in fifteen states, including Ohio, finds that 90 percent of these programs spend most of their money—often well over 90 percent—on attracting or retaining nonlocal business.

Nevertheless, localization of some food sectors faces severe natural resource constraints like land, water, and weather. A good way to determine which categories of food business in the NEO region are so constrained is by analyzing which categories presently have zero activity. This turns out to be the case for only eight of the 57 food sectors in IMPLAN:

- For farming, the three sectors in which there is no activity are tobacco, cotton, and sugar cane, all of which depend on warmer climates. Because of this, we excluded these categories from the modeled 25% shift.

- There is no commercial fishing to speak of in the region, reflecting the absence of an ocean and the stressed fishing stock of Lake Erie. Nevertheless, we include this sector to model the opportunities for inland fish farming.

- Several food manufacturing sectors have no activity now, include wet-corn milling (for corn syrup), breakfast cereals, fats and oils refining, and dry milk production. Given the likely escalation of oil prices and increased competitiveness of local manufacturing of items like these with a low value-to-weight ratio, we see no reason not to model localization of these sectors.[90]

For all the other sectors in which there are some business activities already, we ought to remember two considerations. The first is that if even a small amount of economic activity is present, then the economist Kenneth Boulding's adage—anything that exists is possible—applies. The second is that choosing a 25% shift rather than 50% or 75% partially reflects localization obstacles within each sector.

(2) Human Capital

A second undeniable obstacle to the 25% shift is people. Can enough skilled entrepreneurs be found to lead this revolution? And are there enough properly skilled workers to be employed by them? With over 214,000 unemployed recorded in May 2010, there are ample numbers of people to fill the 27,000 new jobs with a 25% shift. But do today's unemployed have the necessary skills? Or can they be trained to fill emerging new jobs?

[90] Whether increasing all these sectors is desirable is another question. Corn-milling, for example, is associated with corn syrup, a staple for processed foods that tend to have less nutritional value and cost more than local food alternatives. We decided not to incorporate such exclusions. One practical reason is that from a job perspective, reduced demand in one part of the food industry is likely to lead to increased demand in another part—and will have very minor net job impacts. Plus, the number of jobs in these sectors is quite small. The corn-milling sector, for example, accounts for 15 new direct jobs.

Can 10,000 new people be recruited into farming and raising domestic animals? In the competitive world of high-tech agriculture, today's farmers must excel at a wide-range of skills: setting up and managing a farm business, raising crops and animals, selling their outputs directly or through attractive intermediaries, maintaining and using proper tools and technology, and preparing sophisticated financial and marketing plans.[91] Moreover, different demographic groups have different needs. Immigrant populations may have extensive experience in traditional farming, but need support in finance and marketing. Those laid off from a manufacturing job, with no background in agriculture, may require more comprehensive training. Women and nonwhites may especially need support entering a profession that historically has been dominated by white men.[92] The good news is that beginning farmers represent a growing fraction (now nearly a third) of all farmers in the NEO region, and they are increasingly female and non-white.[93]

The proliferation of urban farming in high poverty areas in Cleveland suggests that the transformation of unemployed city residents into new farmers is possible. The Cleveland Botanical Gardens, for example, has a Green Corps program to train teams of 80+ high school students how to grow and process food. The Cuyahoga County Board of Developmental Disabilities has initiated the Stanard Farm, with the eventual goal of creating 100 jobs in urban farming and food processing for adults with developmental disabilities. There is also the Green City Growers, part of the Evergreen Cooperatives, which is eventually looking to hire 45-50 employees to work a 4.8 acre hydroponic greenhouse.

While much support is now available for training farmers through resources like OSU Extension, small business centers, master gardeners classes, and mentorships with area farmers, many more programs like these will be essential. State-wide organizations such as the Ohio Ecological Food and Farm Association and Innovative Farmers of Ohio offer workshops, networking events, conferences, and farm tours to support existing and emerging farmers interested in local food systems. Countryside Conservancy offers workshops, such as "Exploring the Small Farm Dream," which provide potential farmers with basic business-planning skills. The Conservancy also has established eleven new farms on historic farmsteads within the Cuyahoga Valley National Park, with the

[91] The New England Small Farm Institute has prepared extension self-evaluation processes for potential farmers which are available at *http://www.smallfarm.org/main/for_service_providers/tools_and_resources_for_working_with_new_farmers/nesfi_tools_and_resources/dacum_occupational_profile.*

[92] In Ohio, according to the USDA *Agricultural Census*, the average age of a farmer is 53.8 years and 99.51% of all farms are operated by whites. Only 8.15% of farms in Ohio have a woman as the principal operator. In Ohio there are only 251 farms, which is 0.22% of all farms, with African American operators. Because young people and African Americans represent a disproportional number of the unemployed in the 16 counties, it will be crucial to encourage minority populations to participate in urban agriculture.

[93] Mary Ahearn and Doris Newton, "Beginning Farmers and Ranchers" (USDA, May 2009), available at *http://www.ers.usda.gov/Publications/EIB53*.

goal of eventually activating 20 farmsteads. The George Jones Memorial Farm in Oberlin provides entrepreneurial training and youth education opportunities at its 70-acre farmstead. The 2009 Sustainable Cleveland Summit helped to cultivate Growhio, a regional branding organization and Tunnel Vision Hoops, a partnership of urban farmers working on season extension models

The training challenge for 4,000 more food manufacturing jobs and 5,000 more food service jobs seems manageable. These jobs generally involve very limited training, and that training generally is possible on the job.

What about training new entrepreneurs? Hundreds of new food businesses will be necessary, which will certainly strain the existing entrepreneurship and small-business support programs in the region. There are several noteworthy new initiatives to cultivate new entrepreneurs in the local food system. Entrepreneurs for Sustainability, a Cleveland-based non-profit organization, hosts regular networking events and educational forums throughout the year for entrepreneurs interested in local food. It also organizes *LocalFoodCleveland* as a networking tool. Most meetings are attended by 100 or more participants and connect new entrepreneurs with one another. Sustainable Cleveland 2019 has hosted two summits with 700-800 participants from across the region and local food has emerged as a major area of focus.

(3) Land

A 25% shift based on agriculture as usual implies increasing the number of farmers and farm employees in the region by about 10,000, from 22,000 to 32,000. The land-use concerns are particularly important for crop growing and animal raising portions of this increase, and their numbers increase by 7,300, from 9,000 to 16,300. Is there enough land in the region to accommodate 7,300 more farmers and animal growers?

To answer this question, consider how much land is deployed for farming now. According to the 2007 *Agricultural Census*, a total of 1.6 million acres is presently devoted to agricultural production in the 16 counties of Northeast Ohio, a drop from the 1.9 million acres in production in 1987.[94] The average size of farms in Northeast Ohio has shrunk to about 107 acres, down from 127 acres reported in 1987. This compares to a state-wide average of 184 acres. The smaller acreage average indicates the growing presence of small and medium-sized farms that offer a wide mix of products.

[94] In terms of overall acreage devoted to agriculture, Wayne County has the largest land area devoted to agricultural land-uses, with almost 250,000 acres in production. Ashtabula, Ashland, Richland, Stark, Columbiana, Trumbull, Lorain, and Carroll counties have between 110,000 to 160,000 acres devoted to agricultural production. Urban-influenced counties in closer proximity to Cleveland, Akron, or Youngstown (Medina, Portage, Mahoning, Geauga, Lake Counties) have between 60,000 to 90,000 acres devoted to agricultural production. Summit and Cuyahoga Counties have the least amount of farmland acreage, although the *Agricultural Census* does not include land area devoted to urban gardening or non-market gardening activities.

If new farmers each use as much land as the average farm today in the region, 781,000 new acres would be needed—an extraordinarily difficult goal. Five considerations, however, may make the 25% shift more plausible.

First, as recently as 1997, another 100,000 acres were available in the region for farming. Some of this land was lost to subdivisions and cannot be easily recovered.[95] But in many of the NEO counties (though not all), the number of farmers decreased because of the difficult plight farmers faced.[96] In an economy where the demand for local food rises, some farmers would be motivated to purchase and revive some of these properties. Moreover, research currently under way by the Fund for Our Economic Future suggests that substantially more land in the region could be put into the service of farming.

Second, urban lots can contribute modestly to the land needed for the 25% shift, though not as much as enthusiasts sometimes assert. Cuyahoga County alone has an estimated 17,500 vacant lots with 3,423 acres with decent growing potential—a tiny percentage of what's needed.[97] Plus, the quality of vacant city land remains a challenge. Many of the vacant lots, as noted, require decontamination (even these, however, could be deployed for farming immediately through raised beds or greenhouse development). Land that is not contaminated often is highly compacted with soils containing bricks and building materials. The land also has uncertain titles, though the city and county have recently implemented important programs to overcome this obstacle. The Cuyahoga County Land Bank was established in 2009 to accelerate the banking and turn-over of vacant, delinquent, or foreclosed properties for productive uses like urban farming.

Yet another plausible source of urban land for farming are sites with other purposes that have large underutilized land parcels. Blue Pike Farm,

[95] Not surprisingly, the more urban-influenced counties of Cuyahoga and Summit counties lost the greatest acreages of farmland in the past 20 years, with Summit losing about 23% and Cuyahoga County about 45%.

[96] Despite the loss of acreage of farmland, the actual number of farm enterprises increased from 1987 to 2007 in six counties, with Geauga County seeing the greatest amount of growth at more than 25%, followed by Summit County (12%), Carroll County (10%), Portage County (5%), Wayne County (3%) and Trumbull County (2%). All other counties lost farmers during the same time period, with the urban-influenced counties of Lorain (-12%), Mahoning (-13%), and Cuyahoga (-15%) having the greatest losses. The total number of farms in Northeast Ohio was about 14,000 in 1987 and then dropped to just over 12,000 in 1997. From 1997 to 2007, the number of farms in Northeast Ohio rose again to about 14,000, matching 1987 levels.

[97] Cuyahoga County has 24,455 parcels of vacant land larger than a tenth of an acre. If one examines the 17,514 parcels larger than 0.25 acre, 3,801parcels representing 4,292 acres are on "prime farmland" (by USDA standards). If one eliminates parcels in industrial zones, which have the greatest potential for contamination and non-agriculture redevelopment, and one adds the further criterion that the land be "unforested," 2,937 parcels are left representing 3,423 acres. Dan Meaney and Meghan Chaney, Cuyahoga County Planning Community, personal communication, 15 October 2010.

Cleveland's first large-scale urban farm, is located on a privately owned site in an industrial area. It cannot be deemed vacant and did not appear in any of the lists maintained by the city and county land banks. Some *vacated* land throughout Cuyahoga County, moreover, is not yet officially classified as *vacant.* There are also residential properties across the region, not to mention schools, churches, and apartment buildings, that could have their lots deployed or leased for small-scale farming. Pioneering work around the world growing gardens on rooftops (in Toronto, for example), alongside highways, and in the walls of green buildings suggests that the full potential for urban agriculture is barely understood. In the analogous field of renewable energy, assessments of these omissions have all but put to rest concerns about land availability for urban photovoltaics. A more comprehensive inventory of possible urban land for gardening needs to be assembled.

Ultimately, unused rural land parcels in the NEO region will be easier to re-enlist for farming and animal husbandry. All the gaps in urban land assessments are true for rural land assessments—only the land area is far greater, and the studies less far along. The zoning challenges in urban areas do not apply to many rural communities, although competing demands for residential and commercial development and a growth of settlement in rural areas threaten to undermine local farm economies. This highlights why smart-growth, including protection of farms and farm regions from development, may be a critical requirement for the 25% shift. The Wayne County Economic Development Council has organized the Ag Success Team of Wayne County, a multi-stakeholder group that works to collaborate around economic development in local agriculture, including securing and protecting land for agricultural production and supporting new initiatives to strengthen the agricultural base in this largely rural county.

Third, in the NEO counties where the number of farmers has grown recently, they have tended to be the proprietors of smaller and medium-scale farm operations (as indicated by the rise in the number of farmers from 1997 to 2007 and by the declining average size of farms during the same time period). Some of this growth can be attributed to the expansion of smaller-acreage nursery operations producing landscape crops. With a considerable growth in residential development in the rural counties surrounding the traditional urban cores of Northeast Ohio from 1987 to 1997, there has been a greater demand for landscape and nursery crops for suburban growth. But much of growth in small-scale farming is linked to the expansion of local food markets generally. Farmers participating in both City Fresh and Greenfield have noted that the presence of each distribution program has enabled them to expand or start new farming enterprises to replace income that previously was earned through non-food related activities.

Fourth, those just entering farming in recent years have shown an interest in applying new intensive growing methods on significantly smaller plots. There is some evidence that these methods can increase yields per acre, and profits, by

one or two orders of magnitude. About 50 market gardening enterprises have been established in Cuyahoga County in the past four years. Through the utilization of intensive farming methods (permaculture, SPIN farming, high tunnel production), these farms are providing significant yields on small acreages of land. The Green City Growers initiative of the Evergreen Cooperatives is working to employ 35-40 individuals through development of 4.9 acres of land in hydroponic greenhouses. Specialization of crops appropriate to small acreages (including greens, herbs, lettuces, tomatoes, and green peppers) can greatly increase the supply of foods grown in the city.

Finally, farming may be a sector where it makes sense to relax our assumptions that exports and per-capita consumption remain constant. Shifting agriculture away from the commodity crops that dominate farming today to fruits, vegetables, nuts, and grains, which would reduce exports, could increase the income of existing farmers and meet local demand for a healthier diet without necessarily requiring more land. According to Casey Hoy, professor of agricultural ecosystems management at Ohio State University, "In preliminary studies, we've estimated that the land in Northeast Ohio that is currently used for annual crop production, much of it for exported commodity crops like corn and soybeans, could feed approximately 45% of the region's people if it were used to produce a balanced human diet."[98] Additionally, shifting diets in the NEO region to be less dependent on meat would further bring down the land requirements of the 25% shift.

(4) Financial Capital

According to Robert Boggs, the outgoing Director of the Ohio's Department of Agriculture, one of the biggest impediments to food localization is the availability of capital, whether to expand existing food enterprises or to start new ones. Affinity group members, in their responses to our surveys, emphasized this as well. Farmers and small businesses always have some difficulty getting credit, but the challenges have become especially acute since the recent financial crisis. Even companies with terrific track records for borrowing and repaying are having difficulty today obtaining credit from mainstream banks, thrifts, or credit unions. How much additional capital might be needed for the 25% shift? We estimate, very roughly, that just under $1 billion would be required.[99] There's no question

[98] Casey Hoy, personal communication with Michael Shuman, 6 December 2010.

[99] According to the 2010 *U.S. Statistical Abstract* (Table 757), the net stock of private fixed assets in 2007 was $566 billion in "agriculture, forestry, fishing, and hunting," $220 billion in "food and beverage and tobacco products," and $247 billion for "food services and drinking places." Additionally, perhaps 10% of wholesale and retail business sales, collectively $576 billion, can be ascribed to food. That's just over $1 trillion. The population of the NEO region is 1.35% of the country, so if the NEO region had food businesses proportional to the country, its capital stock would be $14.7 billion. Recall that earlier we estimated that 315,000 currently worked in the NEO food system. Moving a quarter of the way toward self-reliance would mean another 15,700 direct jobs in the sector, or an expansion of about 5%. Assuming the food system has a constant relationship between jobs and capital, the additional capital required would be $735 million.

that this capital, in theory, is available in the region. NEO residents have approximately $105 billion in local financial institutions in checking accounts ($4 billion), savings accounts ($83 billion), and money market accounts ($18 billion). But unless banking institutions feel confident to lend these savings to local food businesses, they cannot be relied on for the 25% shift.

Equity capital for small business today is virtually nonexistent, and the disparity between available resources and actual investment patterns is stunning. The total level of long-term savings for residents in the area (based on national trends) is $375 billion,[100] broken into the following categories:

Chart 17
Estimated Personal and Nonprofit Capital in the NEO Region

Long-Term Savings Category	$ Billions
Corporate Bonds	$30
Corporate Stock	$101
Mutual Funds	$56
Life Insurance Funds	$16
Pension Funds	$172
Total	$375

Because local small business accounts for about half of all business in the United States (by jobs and output), an efficient capital market would allocate half of the $375 billion to local business. In fact, almost no savings are being invested in local businesses. This is largely because of outdated securities laws (which make it difficult and expensive for 98% of investors to place money in small business) and outdated investment institutions (which were built for very large companies traded on global stock exchanges). All of this is changing now, which means that, over time, the NEO region could allocate as much as $186.5 billion dollars for new or expanded local business—several hundred times greater than what is needed to finance the 25% shift and to support parallel efforts in local energy, distributed manufacturing, and material economies. Just looking at public employees in the 16-county NEO region, we estimate there are assets of $28 billion in OPERs (most public employees) and $23 billion in STRS (public teachers).

Obviously, this number could be significantly higher, if new businesses turn out to be more capital intensive than food businesses are today.

[100] These numbers were calculated using the U.S. Federal Reserves "Flow of Funds" estimate for the United States, and scaling them down to the population of the NEO region. This kind of calculation can now be done easily through the new "Leakage Calculators" of the Business Alliance for Local Living Economies (*www.livingeconomies.org*).

(5) Consumers

A final challenge for the 25% shift is to convince consumers, including business and public agency consumers, to buy more local foodstuffs. The general consensus now is that local food demand exceeds local food supply. Demand for locally grown food in the past five years has grown for consumers, businesses, institutions, schools, and municipalities. The supply capacity for locally grown foods can grow to meet these demands if idle vacant land can be productively used, if some commodity farms transition to more diversified farms, and if physical and human capital is deployed to process, aggregate, and distribute locally grown food conveniently and efficiently to consumers. While a variety of surveys across the country suggest that consumers are interested in local food and willing to pay more for it, a 25% shift will require broader participation among lower and medium-income consumers. Expanding these markets will require greater emphasis on locally processed food and locally prepared meals that meet price points competitive with Wal-Mart and other food stores.

Shifting a quarter of all purchasing will not be easy. For individual consumers, it will require broad education about the health, environmental, and economic benefits of local food, which stores are locally owned, and which foodstuffs are locally produced. For businesses, institutions, and other mainstream food purchasers this will require greater ease in purchasing bulk food items, prepared foods, and partially processed foods (i.e. chopped or diced vegetables). Aggregation will also be critical to enable larger-volume buyers to access the products of local producers. For public agencies or institutions such as schools, this will require an overhaul in their procurement practices.

IV. Achieving the 25% Shift

How can the NEO region maximize the probability of achieving the 25% shift over the next decade? To answer this question, we begin by sharing recommendations from our affinity group experts and project stakeholders. We then elaborate public policy shifts at the state, regional, and local levels that they, and we, believe would be most helpful. These ideas represent a long and formidable to-do list. In Section V, we boil down this list to set a small number of priorities.

A. Affinity Group Recommendations

The first place we turned for ideas on how to implement the 25% shift was our affinity group members, among the best experts in the region on what is and is not achievable. We asked them to highlight the biggest obstacles to the envisioned shift, both generally and within their affinity group sector, and to indicate the most promising approaches for overcoming those obstacles. We also asked them to identify: the best business opportunities for private investment; the best research, education, or other programmatic opportunities for "soft money" from foundations and donors; and the best public policy opportunities for state and local government. We organize their recommendations below into six thematic areas: food access and public health, local food infrastructure, urban agriculture, rural-urban collaboration, education and skill training, and supporting businesses.

(1) Food Access and Public Health

Stakeholders in the NEO region are committed to ensuring that an expanded local food system includes residents with low-to-moderate incomes. They are enthusiastic about public and private initiatives that couple access to healthy foods with public health campaigns. Examples include Steps to a Healthier Cleveland, City Fresh, the Sustainable Street Food Pilot Program, Cuyahoga County's Health and Land-Use Initiative, the local food directory of the Cleveland-Cuyahoga County Food Policy Coalition, the diabetes clinics of MetroHealth, and the Prevention Research Center for Healthy Neighborhoods at Case Western Reserve University. There are also a number of important and relevant grassroots initiatives in the region focused on teaching good nutrition and healthy food preparation in church kitchens, at farmers markets, in public housing facilities, and even in private households. Here are the key recommendations from stakeholders about how to improve these initiatives:

- *Health Education Where People Get Their Food* – Public-health education should occur where people actually access healthy food. Wherever local food is sold or distributed, there should be information about local food cooking, recipes, preservation, and safety. Workshops and mini-courses

might be available at corner stores, natural food stores, farmers markets, Fresh Stops, or CSA drop-off points. These educational programs could involve health care professionals, medical interns, and other students. Besides improving market demand and tapping existing food businesses, these initiatives could provide an enjoyable environment for health professionals and health-challenged residents to meet with and learn from one another.

- *Expanded Farmers Markets and CSAs* – Farmers markets, City Fresh stops, and individual CSA initiatives all represent low-cost, low-capital approaches to connecting producers of local food with mixed-income urban consumers. These local food businesses might reach more customers by aggregating themselves into fewer common spaces. A single cooperative distribution system involving many urban farms and CSAs, perhaps spearheaded by City Fresh, might make local food available—at all hours—in corner stores, neighborhood food cooperatives, or other outlets. Community groups also might be able to find spaces in unused or under-utilized buildings for local food aggregation, storage, and distribution.

- *Healthy Food Business Start-ups* – The number, profitability, and reach of local food businesses in low-income communities could be improved by introducing their entrepreneurs to existing business-planning programs. Businesses whose managers seem especially important to support include corner stores with larger healthy food sections, neighborhood buying clubs, food cooperatives, and mobile food carts with healthy options.

- *Urban Farm and Garden Infrastructure* – Urban farms and gardens need to be better connected to the ultimate points of sale. But given the small scale and production volume of many urban farms and gardens, rural suppliers are also needed. Mapping projects can identify the best locations for neighborhood hubs for aggregation, storage, distribution, and sales.

- *Public Education on the Benefits of Local Food* – Government agencies and private organizations involved in public health need to present more unified messages on local food: about the benefits of sustainable agriculture production inside and outside cities; about the importance of a diversified fresh-food diet with local fruits, vegetables, and grass-fed meats; and about the links between local food and social justice.

- *Farm-to-School Programs* – Schools in lower wealth neighborhoods can provide resident families with better access to healthy foods. Schools can host, for parents and kids alike, food-share distribution programs, cooking classes, and small-scale farmers markets. School curricula can teach kids

about nutrition and gardening. Improving the healthfulness of school meals can improve student nutrition while expanding markets for local farmers. Federal and state initiatives currently being piloted to support Farm-to-School programs, if successful, should receive more funding.

- *Government Assistance Programs* – More low-income consumers should be able to use EBT, Senior Vouchers, and WIC coupons to buy local food. Those working in food outlets in low-income communities should be trained to use these tools. The more than $260 million entering Cuyahoga County in the form of public food assistance each year has enormous potential to expand local food markets. These public assistance programs need to be redesigned to make it easier for smaller farmers markets to accept coupons. In the summer of 2010, as an incentive to expand urban access to fresh produce, the George Gund Foundation piloted a program to match $5 expenditures of EBT users at farmers markets with additional $5 in free tokens. Preliminary tallies of participation were encouraging, according to Morgan Taggart of the Cleveland-Cuyahoga County Food Policy Coalition. Another good reform would be to allow food stamps to be used for CSA shares or for prepared meals that use healthy and local ingredients.

- *Emergency Relief Programs* – Northeast Ohio has an extensive network of emergency food relief agencies that provide surplus food to the unemployed, homeless, or disabled. Much of what they presently distribute is commodity foodstuffs or highly processed foods with little nutritional value and deleterious long-term health consequences. The recent trend of food banks taking local food donations from farmers and from gleaning programs at urban gardens should be expanded. The Cleveland Foodbank, for example, is considering the addition of a flash freezing system to better preserve locally grown food for year-round distribution.

(2) Urban Agriculture

Much of the public's attention on local food in the NEO region has focused on urban agriculture. The productive re-use of vacant land in post-industrial cities, including Cleveland, Youngstown, and Akron, has shown enormous promise in reducing the public costs of mowing and maintaining vacated parcels, reducing blight, improving ecological services such as storm water retention, invigorating neighborhoods, improving local food access, creating venues for physical activity through gardening and farming, and enlarging the menu of available social services in distressed communities. The term "urban agriculture" actually refers to a wide variety of activities, including backyard or community gardening, refugee micro-enterprise training and assimilation programs around urban farming, and income-generating activities related to food by non-profits. As noted

earlier, however, a number of challenges impede the scaling up of urban agriculture. The following recommendations address some of these challenges:

- *Urban Agriculture and Urban Planning* – In 2006 Ohio State University Extension began training programs, through City Fresh, to transform urban agriculture from just gardening (that is, growing food largely for oneself) into an income-earning profession. Neighborhood Progress, Inc., and the Cleveland Urban Design Collaborative created a guidebook with model designs of urban farms and green spaces on vacant lots as part of the Reimagining Cleveland project. Many public officials, however, remain skeptical. They are comfortable with urban agriculture as a temporary land-use, but reluctant to make it permanent. To change this attitude, there must be better quantification of the long-term contribution of urban agriculture to green space, food access, community strength, and, ultimately, property values. Youngstown offers a good model for how to "right-size" a city by scrapping old or under-utilized urban infrastructure and using the cleared land for new urban farms. Another useful contribution will come from a study now being conducted at Oberlin College on the impact of urban farms on municipal property values.

- *Job Creating Farms* – Significantly more attention and funding is needed to support several urban farming models in Cleveland/Cuyahoga County that hold the potential to achieve higher economies of scale and thereby provide a significant number of new jobs for unemployed or under-employed residents. The Cuyahoga County Board of Developmental Disabilities started the one-acre Stanard Farm, which currently employs six-to-eight adults with developmental disabilities to maintain and harvest produce. There are plans to replicate this program at ten other sites. The Green City Growers project in the Central neighborhood will employ 40-45 adults in its 4.8 acre greenhouse facility, including a mix of higher-wage management positions and lower-wage farm work positions. Their employment will target residents in the greater University Circle area, including under-employed, unemployed, and previously incarcerated individuals. The Ohio City Fresh Food Collaborative has cultivated a six-acre urban farm, the largest in the Cuyahoga County and one of the largest in the country, near the West Side Market. The project works with residents at the Cleveland Metropolitan Housing Authority and with the Refugee Response program, which provides entrepreneurial opportunities for refugees who have recently re-located to Cleveland. All three models plan to add food processing components that could generate hundreds of year-round jobs. A recently announced farm incubator program in the Kinsman neighborhood will offer one-quarter-acre lots to beginning urban farmers. For now, these programs rely on outside resources, ranging

from tax levies to philanthropic investments, but they are modeled to become at least partially self-financing. These are exactly the kinds of programs that should become new centerpieces for NEO economic development.

- *Community Gardens* – While the programs above see urban agriculture as a job generator, the more traditional, smaller-scale operations emphasize non-financial goals like education and local food self-reliance. Both approaches are clearly valuable. Even small community gardens ultimately deliver economic value by stretching income for low- or moderate-income participants, spreading basic skills needed to feed more people in the city, and building social capital and neighborhood networks. Small operations always have the potential to grow into commercial market gardens and larger food-growing cooperatives.

- *Urban Farmer Collaboratives* – Urban agriculture in Cleveland thus far has largely come about through individual or small-group initiative. To scale up, these entrepreneurs and program leaders need to work together to secure needed infrastructure and policy changes. In Cleveland there have been several efforts to form associations of urban farmers, but they could be strengthened were they to incorporate marketing cooperatives or shared-used storefronts like Local Roots in Wooster. Other joint initiatives that could cement these collaboratives might include composting cooperatives that capture and process urban food waste, shared-use kitchen incubators developed in partnership with rural farmer networks, or purchasing cooperatives that bring down the costs of farming supplies and other inputs.

- *Financial Resources* – More financial resources are needed to seed all scales of urban farming and all kinds of support businesses. The economic development office of the City of Cleveland formed the Gardening for Greenbacks initiative to provide start-up grants of up to $3,000 to support market-garden development. The Reimagining Cleveland initiative of Neighborhood Progress Inc. and the Kent State University Cleveland Urban Design Collaborative provide $10,000-$20,000 grants to support urban farming and other green space initiatives. These programs represent important sources of funding, although some feedback indicates that their guidelines could be made simpler and more flexible. Some programs like Gardening for Greenbacks need to be advertised more widely. And they all need to increase their support for businesses and infrastructure that expand the productivity of urban farms (processing spaces, storage and aggregation, greenhouses, and other on-farm facilities).

- *Advanced Design Models* – Various models of urban farming are still being tested. To improve their chances of success, innovative urban farmers should be better linked with extension and other learning institutions. More education and training is needed in such methods as permaculture design, Small Plot Intensive (SPIN) farming, mixed polycultures, aquaculture, incorporation of small livestock, and advanced greenhouse design, all of which can improve the productivity of urban farms. The emergence of Green Triangle, a non-profit collaborative that focuses on permaculture design services for urban lots, suggests that some of these innovations can be met through new businesses. These innovations also can be spread and replicated through a region-wide learning network of urban farmers. Successful urban farmers might be encouraged to educate their struggling peers, perhaps on a fee-for-service basis. Exchanges with existing state organizations, such Ohio Ecological Food and Farm Association, also could help connect urban farmers with innovative rural farmers.

- *Season-Extension Programs* – To overcome the competitive *dis*advantage of the short growing season in the NEO region, urban farmers need to develop strategies to move toward year-round production. These could include year-round market outlets (Local Roots, Coit Road, and North Union markets provide good models), more greenhouse construction, and more processing and storage infrastructure (discussed earlier). Season extension research should become a research and development priority of area institutions and land-grant colleges.

- *Urban-Agrarian Commons*— Most urban farmers in Cleveland do not own their land and instead have short-term lease arrangements with other land owners or land banks. Given that it takes three-to-five years of hard work for urban land to reach optimal production levels, urban farmers lack the proper incentive for needed financial and sweat equity investments. One promising solution is to develop a commons or land trust in which ownership is retained by a public or civic organization but long-term leases are offered to growers or food entrepreneurs. Commons also can weave together food-business clusters involving food processing, storage, distribution, food-waste processing, and storage, where economies of scale are achieved through shared equipment, facilities, and land. Commons could provide sites for industrial ecology arrangements, where the outputs of one operation provide the inputs to another. Livestock manure could provide fertility inputs for vegetable and fruit production, or processing machinery that releases heat could be coupled with greenhouses. Models for such commons can be found at Countryside Conservancy and at the university farms at Oberlin and Case Western.

- *Soil Testing and Remediation* – Contaminated soil remains a barrier to expanding urban farms. Soil testing for lead and a limited band of heavy metals has become commonplace, but a number of other contaminants remain un-tested due to the expense. Public programs are needed for broader testing and remediation.

- *Learning Networks with Rural Farmers* – Northeast Ohio is endowed with a rich and diverse base of entrepreneurial farmers, many of whom have been working the land for four or five generations. These farmers possess significant experience, skill, and wisdom that can and should be tapped by urban farmers. Likewise, urban-farming innovations such as intensive growing techniques can be taught to rural farmers. Formal mentoring programs and workshops at rural farms, such as those sponsored by the New Agrarian Center or Countryside Conservancy, could be used for this purpose. Workshops and mentoring also could lead to specific rural-urban collaborations in co-marketing, co-branding, or shared-use facilities.

- *Support Businesses* – As urban farming continues to expand, a range of supporting businesses and social enterprises will be needed. Some of these businesses might be operated by partnerships or cooperatives of urban farmers. Tunnel Vision Hoops is an example of three urban farmers who formed a partnership to install high-performance greenhouses assembled locally. Other promising support businesses might focus on waste collection, processing, and composting. They might use deconstruction materials, as the Stanard school has in Cleveland, for structures, pathways, or raised beds on urban farms. Or they might provide seedlings and plant stock for urban farmers (ideally grown in facilities using urban waste heat), reducing the need to build seedling greenhouses on every urban farm.

- *Supply-Side Infrastructure* – Just as rural farms need well situated sites for aggregation, distribution, and processing, a secondary supply-side infrastructure is needed to support urban farms. Larger urban farms might become infrastructure hubs for smaller farms. Neighborhood hubs might provide spaces for aggregating produce from smaller-scale growers. These hubs might be scaled to be operated by youth who might use “trikes” or rickshaws to deliver smaller quantities of urban-grown food to churches, senior centers, or other delivery points.

- *Regional Food Systems* – Networks, forums, and events that bring rural and urban farmers together could lead to coordinated product specialization. Urban farms are ideally situated to supply lettuce greens, sprouts, or fresh herbs, without the costly refrigeration and transportation required by rural suppliers. Rural areas have greater

land capacity to support dairy, meat, and larger-volume production of space-intensive vegetables like squash or grains. A clearer division of work could lead to a more productive use of scarce urban and rural land.

(3) Rural-Urban Collaboration

Expanding the NEO region's local food system requires more rural-urban collaboration. Urban centers and the surrounding suburbs have the population densities that can support both urban and rural growers. There are already success stories. Farmers markets in the region are regularly bringing together rural and urban food players. The local food purchasing programs at Oberlin and Case circulate almost $2 million in rural farming communities. Some rural farmers in the NEO region are now sharing equipment and expertise with urban farmers (an Amish farmer, for example, prepared the land for the six-acre urban farm in Ohio City). Specialty restaurants in Cleveland, Wooster, and Oberlin are working directly with specialty producers to feature local items on their menus. City Fresh is connecting three urban centers with a network of 30 rural farmers. Local Roots' storefront in Wooster provides an outlet for more than 100 rural growers. Countryside Conservancy provides land to incubate a network of specialty growers, many of whom market in Akron, Peninsula, and other areas. The Greenfield Cooperative in Fredericksburg serves urban markets in three states. But growth in the region's food economy will require further deepening of these social and economic networks. Here are some of the ways affinity group members believe it can happen:

- *Next Generation CSAs and Farmers Markets* – Right now, CSAs and farmers markets provide low-cost ways to bring large numbers of urban residents in direct contact with farmers. But these demand too much time from producers, and are open too few hours for consumers. Other direct-marketing models need to be developed. The Local Roots store, for example, requires less time from its farmer owners and offers expanded hours for customers, while still allowing farmers to avoid losing income to middlemen.

- *Urban-Rural Farmer Associations* – Ohio has a number of strong support organizations for rural farmers, including the Ohio Ecological Food and Farm Association and Innovative Farmers of Ohio. These organizations should organize chapters in urban centers. Urban farmers can sharpen the marketing insight of rural farmers, while rural farmers can provide training and mentoring for urban farmers.

- *Farmer Cooperatives* – Urban and rural farmers might find it helpful to create joint cooperatives. The majority of farmers presently participating in the local food economy, whether rural or urban, are small acreage producers. They need to make it easier for retailers, schools, or

commercial outlets to buy their products. Cooperatives like Local Roots provide an effective way for smaller producers to aggregate their output for larger buyers. Cooperatives also can include shared facilities for processing, storage, and distribution.

- *Medium Scale Producers* – Many smaller-scale farms (10 acres or less) supply local food markets, while larger acreage farms (200 acres or more) produce commodity crops stabilized by government subsidies. Sitting in a neglected netherworld are medium-scale operations (10-200 acres) that have capacity to produce larger volumes but lack the time to participate in farmers markets or other direct marketing channels. These farms should be matched with larger-scale purchasers of food, including schools, grocery chains, and institutions.

- *Carbon Sequestration Strategies* – A promising area for urban-rural partnership is in managing regional carbon emissions. In a 2002 study of the 3,141 counties in the United States, Cuyahoga County ranked fourth in the United States for carbon emission (11.14 million tons per year). Local food, of course, reduces carbon emissions by reducing shipping and food miles. But rural and urban farms throughout the 16-county region can also play a major role in naturally capturing and storing carbon in the soil. Carbon-capturing farming methods, like keyline plowing combined with grass-fed livestock production, provide other environmental services for farms including moisture retention, nutrient cycling, oxygen exchange, and microbial activity. As markets develop for carbon sequestration, one could imagine urban food consumers and producers co-financing rural sequestration initiatives.

(4) *Education and Skill Training*

Affinity group members believe there is a need for better training and education around local food systems. Our surveys of college/university faculty, extension educators, school teachers, farmers market managers, and workshop leaders suggest a need for a more comprehensive framework for teaching and research related to local food, one that recalibrates the entire K-12 educational process to prepare future consumers, workers, and entrepreneurs. To date, there are no formal career tracks directly linked to local food. Existing agricultural schools are stuck focusing on large-scale production. Here are some of the ideas and recommendations for expanding the region's educational capacity:

- *Learning Farms* – Learning farms integrate education and training. Oberlin has operated the George Jones Memorial Farm as a CSA and learning farm since 2000, and other learning farms are being developed at Case Western and in Wooster. These farms tap into the research and expertise of their partnering institutions. More learning farms could be developed in urban neighborhoods, as has been done with the Cleveland Botanical

Gardens' Green Corps program, the Youngstown Neighborhood Development Corporation, and Common Wealth. These farms can serve a variety of functions, including applied research in growing techniques, places to foster community partnerships and peer learning, incubation spaces for beginning farmers or potential farmers looking for land, and repositories for shared equipment, facilities, composting, processing, or food storage.

- *Grassroots Learning Networks* – An effective form of education occurs when growers mentor each other, share techniques, and collaborate on projects. Grassroots learning networks can accelerate the spread of innovative growing techniques, products, or marketing arrangements. To facilitate learning, these networks should feature a mix of digital media and rotating regional workshops and skill-sharing sessions.

- *Vocational Education and Workforce Development* – Existing vocational schools and cooperative extension programs need to educate new farmers and food entrepreneurs. They should incorporate into their curricula practicing farmers who impart hands-on learning. Several recent initiatives in Cleveland that provide direct vocational training on working urban farms can serve as models. The Cuyahoga County Board of Developmental Disabilities has recruited urban farms in Cleveland and Cuyahoga County to train their clients in basic methods of organic crop production. The Ohio City Fresh Food Collaborative sits on a vacant property owned by the Cuyahoga Metropolitan Housing Authority, and provides training and entrepreneurial opportunities for CMHA residents, as well as for refugees who recently re-located to Cleveland. The Agricultural Technical Institute, Cuyahoga Community College, and Lorain County Community College are in the beginning stages of developing degree programs in local food systems and agriculture. Other community colleges and extension programs should develop more formal certification or degree programs in sustainable agriculture, culinary arts, and local food business development.

- *K-12 Schools* – The Cleveland Metropolitan School District has long supported school gardens, with the mission of connecting students to nature and making them better aware of good nutrition, but many have disappeared over the years. These gardens need to be brought back and integrated with existing entrepreneurship and business programs. Elementary schools are especially promising locations for learning gardens that offer teaching opportunities in biology, plant science, and soils. Students in the region also can learn about gardening through summer internships offered by the STEM program in Cleveland, Cleveland Green Corps, Garden Boyz in Central neighborhood in Cleveland, and the Youngstown Neighborhood Development Corporation. Vermilion High School in Lorain County recently installed a learning garden and is

working to expand institutional purchasing of local foods. Other schools, perhaps working together across the region, can tap into the many farm-to-school curricula available. Courses should combine in-classroom learning with experiential opportunities on school grounds or in surrounding neighborhoods.

- *Colleges and Universities* – The NEO region should take advantage of its rich endowment of higher learning institutions, including several nationally ranked liberal arts colleges and private universities, two state universities, and several community colleges. Oberlin College has had a long-standing commitment to local food systems education through its Environmental Studies Program. The college also partners with the George Jones Farm to support summer internships and an entrepreneurial training initiative for beginning farmers and recent college graduates. Case Western Reserve University recently opened its Squire Valleevue farmstead. Cleveland State University has an on-campus farmers market and conducts local food research through grad students in its urban affairs school. The Agricultural Technical Institute of Ohio State University just announced the beginning of a sustainable agricultural degree program. All together, the colleges and universities in Northeast Ohio have the ability to deploy a fabulous mix of courses, research projects, and partnerships to support the 25% shift. Food specialists at each institution should work together to develop a regional agenda of complementary research, partnerships, and learning farms.

(5) Supporting Businesses

Another significant gap in the NEO regional food system is the absence of other, non-food businesses that can support, and profit from, the expansion of local food activities. Examples might be energy service companies or waste-processing companies. Among the businesses signed up on social networks supporting local food systems (*NEOFoodWeb*, *LocalFoodSystems*, and *LocalFoodCleveland*), almost none have goods or services that support local food businesses. These businesses, of course, will grow as the local food system expands. Here are some of the biggest opportunities:

- *Alternative Fuels and Energy* – One industry closely linked to local food is energy production. Full Circle Fuels in Oberlin, for example, uses waste vegetable oil from area restaurants and institutions to produce diesel fuel for the vehicles (some of which are used by local food companies like City Fresh and the Great Lakes Brewing Company). The Ag-Bio Industry Cluster has identified a number of sites in the NEO region where farm waste could be converted into methane and natural gas, which in turn could be tapped for heat and electricity. Marginally useful land in the region, such as industrial brownfields, could be employed to support wind, solar, or bio-digestion facilities. Demand for stored biomass-based energy,

in the form of biochar, also could provide new markets for the waste products from local farmers and other food businesses.

- *Waste Businesses* – The green-business landscape includes firms that process and convert waste streams into income flows and products. There are plenty of opportunities linked to food. Food waste, for example, can be converted into salable compost for rural farms and urban gardens. For urban areas like Cleveland, reducing the transportation costs associated with removing these wastes is a valuable service. Well-managed farms, whether urban and rural, can benefit by transforming waste into on-farm composting, sheet mulching, or vermi-composting (using worms to process organic waste). The Filtrexx company based in Grafton has modified compost tubes and socks to grow food productively. The socks include woven fabric that contains composted materials into which plants can be directly grown, which is useful in urban contexts where the plants can be quickly laid down on asphalt or other hard surfaces. The George Jones Memorial Farm in Oberlin and Green Corps gardens in Cleveland mix food waste with other organics for growing beds. Straw from the harvesting of wheat, barley, rye, and other grains in the region can be used for other income-generating applications, ranging from strawbale structures to bedding for livestock, supports for raised-bed gardens, or mulch. Tunnel Vision Hoops locally fabricates metal supports for high tunnel greenhouses and installs them on urban and rural farms. StrawVille, a social enterprise of the New Agrarian Center, is combining strawbale construction with salvaged building materials to create high efficiency greenhouses, storage coolers, and office spaces. Urban deconstruction, already being done by companies like A Piece of Cleveland and the Urban Lumberjacks of Cleveland, can provide building materials for farms or gardens, including lumber, stone, and brick. Farm construction can provide a useful secondary market for these deconstruction companies while more elite woods can be used for high-end furniture or flooring.

- *On-Farm Timber* – Farms in the region can also provide sustainably harvested timber products for building and construction. The sawdust from timber milling can be used as a bulking agent for compost or bedding for livestock. Municipalities can enter contracts with local saw mills to convert old and diseased trees or storm-damaged trees into quality lumber. These businesses also can help to thin or clear timber stands on farms, generating new sources of wood while increasing the productivity of the region's forests.

B. Policy Recommendations

Supportive public policy is needed to make the 25% shift possible. Below are key recommendations for state, county, and local action, some of which came from affinity group members and advisors, and some of which we offer ourselves. We are mindful that public budgets in today's lean times are running large deficits and that the best public policies must cost little or nothing.

(1) Comprehensive Policies at All Levels

- *Agricultural Viability* — Large and small farms in the NEO region are creatively deploying direct marketing strategies, while mid-size farms are disappearing at an alarming rate. According to an August 2009 Ohio Food Policy Council report, Ohio's agriculture and food related industries contribute nearly $100 billion annually to the state economy, and yet the state is losing prime farmland faster than almost every other state in the country.[101] There is a need to expand the Farm Link Program, operated by Countryside Conservancy, to explicitly serve all 16 counties in Northeast Ohio. Farm Link connects beginning or prospective farmers with older farmers who are nearing retirement but who want to see their land remain in agriculture. Similarly valuable are urban farm homestead acts, which provide land grants and low interest loans to beginning farmers who are committed to transforming vacant lots, brown-fields, or abandoned commercial properties into viable farms.

- *Access-to-Capital Programs* – Existing programs, such as the Ag-Link Agricultural Linked Deposit Program operated by the state treasurer's office, should be expanded. Current loan and grant programs within the Ohio Department of Development and Ohio Department of Agriculture can be directed to low-wealth food entrepreneurs and underserved urban and rural farmers, perhaps under the headings of "promotional outreach" and "technical assistance." Regional food policy councils and related coalitions should work with community and institutional lenders to design new agricultural loan products.

- *Training and Technical Support for NEO Farmers* – There is a need for coordination of the training and technical assistance programs of the region's farm associations (OEFFA, IFO, Farm Bureau, etc.), OSU Extension, regional food policy councils, and educational institutions. Public and private funders could provide discretionary grant funds for Good Agricultural Practices (GAP) and Good Manufacturing Practices (GMP) training for farmers in local food value chains and underserved

[101] Chris Henney, "Speak Out: Ohio's Food Policy Council" (Columbus, Ohio: Ohio Farm Bureau, August 2009).

rural farmers in the 16 county region. Food policy councils and other local food groups might seek corporate sponsorships and apply for federal funding programs to expand in public schools Edible Schoolyard initiatives, Future Farmers of America, and 4H programs. The region's community colleges should create Sustainable Agriculture degree programs.

- *Public Health and Nutrition* – Agricultural programs, policies, and incentives should be overhauled to support the production of foods consistent with the USDA's 2005 Dietary recommendations for fruit, vegetable, meat, and dairy consumption.

(2) Ohio State Policies

- *Procurement* – Around the United States, state and local governments are beginning to comprehend the economic benefits of selectively purchasing goods and services from local businesses. About two dozen local governments, including Cleveland, give modest bidding advantages to local vendors. We recommend that the state of Ohio and other municipalities in the NEO region do so as well. We are mindful that across-the-board bidding preferences are sometimes hard to defend economically or legally. No one wishes to undermine the basic principle of good government that contracts should go to the lowest-cost bidder. A better approach might be for the state to obtain representations from every bidder about how much of the bid will be spent in-state. A quick multiplier analysis can be done to determine how much additional tax revenue the state will collect. Bidders that spend more in-state will generate more tax revenue than bidders that spend out of state. By adjusting the bid by the anticipated tax revenue, the state can better calculate which bidder is truly delivering the best price. Moreover, because non-local vendors can perform equally well under this approach, the measure is not discriminatory and therefore legally sound.

- *Economic Development* – A soon-to-be-published study by one of the authors of this report will show that the three largest economic development programs in the state are spending most of their funds on attracting or retaining non-local businesses, which turns out to be the least effective strategy for stimulating the economy and creating jobs. Such funds should focus instead on local food business. Better still, focus on providing seed capital for food meta-businesses throughout the state. The current Ag Link program, for example, which allows Ohio farmers to apply for reduced-interest loans of up to $100,000, should be expanded. Ohio Agricultural Finance Bonds should also be reinstated, to be used by county port authorities and other economic development councils for the development of local food infrastructure.

- *Securities Law* – Like most states, Ohio makes it expensive and difficult for small investors to put money into local small business. We encourage the state to pass a series of reforms that would expand financing of food cooperatives and local food businesses. For example: Allow in-state cooperatives to create investment funds with their members' capital (to invest in other cooperatives or other local food businesses). Create a low-cost mechanism, as New Mexico has, for local businesses to issue direct public offerings tradable only intrastate. Create an exemption from any significant filing paperwork for an in-state micro-business that seeks no more than $100 per investor. Lighten the regulatory requirements on local stock exchanges. Reform laws governing pensions to encourage public funds to place more investment in local securities, cooperatives, and banks.

(3) Policies for the 16-County NEO Region

Given that there is not a formal government structure or system that works across the 16-county NEO region (except for the Northeast Ohio Area-wide Coordinating Agency, which covers only part of the region), we recommend developing a network that fosters collaboration, connection, and cross-learning among local food practitioners. A regional network here could do the following:

- *Virtual Learning Networks*—Continue and expand the *NEOFoodWeb* as a cross-learning tool and virtual library of key documents, reports, evaluations, videos, and best practices from across the Northeast Ohio region. Grow *LocalFoodSystems* as a tool to foster collaboration between regional and local efforts in Ohio, and use it to foster the enterprise initiatives under the Ag-Bio Industry Cluster. Expand the *LocalFoodCleveland* site to build social networks, create a common events calendar, and mobilize volunteers—and replicate it in similar sites across the state (for example, a *LocalFoodYoungstown* and a *LocalFoodOberlin*). There already is regional participation on *LocalFoodCleveland*, and it could expand through a regional events calendar. Additionally, *CCCFoodPolicy.org* contains information on legislation and other projects relating to local food in the region. All four websites should coordinate with one another to better define their niches and to better cross-reference each other.

- *Regional Branding* – The Cleveland brand already has regional appeal. A drive through nearby rural areas reveals all kinds of banners and flags of the Cleveland Browns, Cavaliers, or Indians hanging from railings and gutters. A similarly identifiable regional food brand, grounded in well-defined sustainable practices, could connect local food with the region's history and culture. The brand could be boosted with a website containing colorful narratives about growers throughout the region. Perhaps Growhio

can serve this role. A successful brand also might certify that participating farms and food businesses were complying with enunciated labor, environmental, and community standards. The Ohio Ecological Food and Farm Association (OEFFA), which presently oversees organic certification in the state, could help develop a certification process for the NEO region. Ohio Proud also could sub-divide into regional brands. A good local model is the brand developed by the Greenfield Cooperative, which combines high standards of production (beyond organic) with Amish heritage.

- *Annual Food Congress* – There have been three regional "Food Congresses" in Northeast Ohio in 2003, in 2008, and, as a part of this study, in 2010. (Appendix III summarizes the results from the most recent Congress.) Each event attracted a cross-section of farmers, educators, consumers, businesses, and policymakers, and served to frame regional initiatives. A NEO Food Congress should become an annual event. It could foster greater cross-regional collaboration, facilitate sharing of best-practices and successful models, and set priorities for future initiatives.

- *Regional Council* – A regional council should be formed that meets quarterly or twice annually to oversee all of the activities above. It could connect local food policy council initiatives across the region, and help to establish new municipal or county policy councils. Standing food policy council and Ag-Bio stakeholder groups might place representatives onto this regional council.

- *Collaborative Municipal Exchange* – This study shows the value of mixing rural, municipal, and regional perspectives. As more municipalities in the NEO region become involved in local food work, they might find it valuable to participate in a municipal exchange to share best practices, policies, and business models. Cities can and should play a leadership role in regional food development, because of their high densities of social, market, and financial resources. A collaborative municipal exchange would include a mix of larger cities (Cleveland, Akron), medium cities (Youngstown, Wooster), and small towns (Oberlin).

(4) Policies for the City of Cleveland and Cuyahoga County

Together, Cuyahoga County and the City of Cleveland provide a strong national model for municipal policy innovations around local food. Recent policies supporting local food efforts include garden zoning, a local procurement policy, county land bank consolidation, and legislation permitting poultry-raising and bee-keeping within the city. Additional policies, however, are needed from Cleveland, Cuyahoga County, or a partnership of the two:

- *Slow Munis* – A national nonprofit called Slow Money is now exploring the use of municipal bonds, the interest of which is tax exempt, to provide

capital for local-food-business loan funds, either directly or indirectly through loan guarantees. The rationale is that bonds make sense not just for physical infrastructure investments with long-term public payoffs, including roads, bridges, or light-rail systems, but also for human-infrastructure investments needed for a local food system. Above-market default rates are covered by expanded local taxes from new local food businesses. As noted earlier, the 25% shift could generate $126 million in additional tax revenue each year, so modest support of local-food-business success is fiscally sound. The Cleveland-Cuyahoga County Port Authority has indicated interest in exploring the viability of these bonds. In the final section of this report, we explore developing a Food Authority (perhaps within the Port Authority) that uses bonds to leverage loans for key local food businesses.

- *Streamlined Process for Agricultural Buildings* – Present city rules impose unnecessary costs, delays, and uncertainty for urban growers. Individuals wishing to construct greenhouses, chicken coops, or other temporary structures for agricultural operations are at a loss about how to proceed. Current regulations, which require contractors to register and obtain compliance bonds, are too burdensome for small producers and most urban farmers. The City Planning Office and Deputy Code Administrator should streamline the process for constructing buildings for agricultural usage.

- *Public Health* – The Cuyahoga County Board of Health and Cuyahoga Planning Commission have convened two public sessions to develop a process of "Health Impacts Assessment" for land-use decisions. This effort has led to a mapping of healthy food access points, urban farms and gardens, and pedestrian-friendly transit areas. The Cleveland Department of Public Health and Cuyahoga County Board of Health should convene an initiative with the major health-care institutions in Cuyahoga County to elevate elimination of food deserts on a par with elimination of tobacco use. The goal should be a comprehensive public campaign promoting production and consumption of local foods for preventative health care.

- *City Land Bank* – Cleveland should develop a more streamlined process through which urban agriculture entrepreneurs can access vacant land-bank parcels. Use of these parcels for urban agriculture places responsibilities for maintenance and upkeep on the urban farmer. However, regulations are also needed to ensure that urban farm operations with land leases maintain high standards for business performance and land aesthetics. There is also a need for greater collaboration between the city and county land bank systems to inventory potential agricultural land more comprehensively, to develop plans for urban food districts and urban-farm clusters, and to make it easier for individuals or groups to start food enterprises on vacant land.

- *Urban Farm Development Fund* – Some have estimated that the city spends about $3.3 million per year to maintain vacant lots. The city should place avoided maintenance costs into an off-set fund that could provide a new source of capital for urban farms.

- *Urban-Food Districts* – Cleveland should designate certain areas of the city as urban-food districts where it could strategically create clusters of farms and food businesses. This should occur where there are lower residential densities and where there is a lower likelihood of future commercial or residential development. These districts might be placed on par with traditional parks, as places where people can connect with nature, exercise, and hold civic activities.

- *Climate Policy* – Given Cuyahoga County's significant carbon footprint, the city and county should integrate local food with their emerging climate policies. To date, the City of Cleveland has launched a number of promising initiatives that reduce carbon emissions through energy efficiency and renewable energy production, but it has not yet focused on carbon sequestration. The city and county, for example, might implement purchasing preferences for organic foods. Public funding for urban food programs might underwrite equipment and training for farmers to employ the best soil management practices.

- *Local Food Infrastructure* – The Cleveland-Cuyahoga County Food Policy Coalition (CCC-FPC) should lead a city-county effort to expand the capacity for aggregating, storing, processing, and distributing local food. It might assemble an inventory of empty or under-utilized buildings to identify facilities that could support these functions. It might build this capacity around or near incubator kitchens throughout the city and county. It might forge partnerships with rural communities outside of Cuyahoga County that have the capacity to supply high-volume crops, large livestock, or other items that cannot be easily produced inside the city.

- *Federal Policies* – *NEOFoodWeb* stakeholders regularly raised concerns about federal policies relating to local food systems. The federal farm bill, for example, influences both the level and structure of funding for local food infrastructure, and creates price distortions that make less healthy and highly processed foods cheaper (such as corn syrup generated from corn). The CCC-FPC should organize a working group that collects information about federal policies that affect local food systems. This working group might leverage local resources to influence state or federal policies. Senator Sherrod Brown, who sits on the Agriculture, Nutrition, and Forestry Committee, as well as Congresswoman Marcy Kaptur (9th Congressional District) who has an extensive track record of support for local agricultural initiatives in Congress, can help lead this effort.

- *Cleveland Metropolitan School District* – The Cleveland Metropolitan School District Board should enunciate a policy that connects local food with fair food access and healthy school meals. Schools should be recruited in three ways: to dedicate some portion of their grounds for gardens; to use these gardens to teach nutrition, health, and basic ecology; and to buy local food for school lunches, breakfasts, and summer meals. The last policy could benefit if farming counties in the region, perhaps facilitated by Wayne County Economic Development Council, organized growers and processors to provide year-round food supplies.

Local produce on display at Youngstown Northside Farmers Market.

V. A Strategy to Implement the 25% Shift

To prioritize and implement the lengthy to-do list in the previous section, we offer recommendations of meta-business tools that might offer promising starting places. Meta-businesses are cash-flowing enterprises, like a local gift card, that can promote a wide variety of local food businesses. We then highlight a specific class of local food businesses—those that tie together consumers and producers—that we believe could be particularly catalytic and deserve special attention. Finally, we offer some concluding thoughts about how the region might strategically pursue these multiple objectives through a new institution we call the NEO Food Authority.

A. Key Meta-Business Tools

The ideas in the previous section are all useful, and yet their collective number, scope, and difficulty are daunting. How can these ideas be usefully organized, tasked, and prioritized? We believe that one helpful concept for prioritizing is that of a meta-business. By meta-business, we mean a cash-flowing business design that supports a variety of local food businesses. Whereas most of the ideas enumerated by the affinity groups cost money—private money, foundation money, or public money—a well-designed meta-business makes money. And cash flow from the first meta-businesses can then support additional meta-businesses and ultimately many of the other initiatives enumerated in the previous section.

Below are brief descriptions of 20 meta-businesses that the NEO region could consider launching. We organize them under five of the major challenges discussed in Section III:

- How can NEO consumers be mobilized to buy local?
- How can local food businesses improve their competitive advantage?
- How can more land be made available for new local farming?
- How can investment in local food businesses be stimulated?
- How can new local food entrepreneurs be developed?

(1) Consumer Mobilization

The first challenge is consumer demand. If residents of the NEO region demand local food, supply will follow. For this to happen, consumers must be better educated about the benefits of local food. They must be able to identify easily which foods and which vendors are local. And they must be able to access local food affordably. Nine meta-businesses can help address these needs:

- *B2B Marketplace* – In the 1980s and early 1990s, the Oregon Marketplace operated out of six offices in which staff helped local businesses purchase local inputs from other local businesses: "I see you're making flags and importing cloth from Japan. Suppose we found you a cloth manufacturer in Oregon—same cost and same quality. Would you make the substitution?" If the deal was done, the Marketplace got a finder's fee from the Oregon cloth manufacturer. The Oregon Marketplace came close to covering its administrative costs but never quite got there, in a largely pre-internet era. With a well-designed software package, this concept could become a viable means of promoting regional purchasing.

- *Local First Directory* – A meta-business could be created around a directory (online and in print) of local food businesses. This would help NEO residents conveniently find goods and services from locally owned businesses below their radar. It could also guide tourists to spend more money in locally owned food businesses. There are roughly two dozen of these directories nationwide, some of which break even or generate small profits. Cash flows come from advertising sales and from selling the directory (through participating businesses, tourism bureaus, or local bookstores).

- *Local First Advertiser* – A free monthly or weekly newspaper could be created that circulates to NEO residents, each with an updated and expanding directory of local businesses, complemented with case-studies, profiles, and other local-business articles. Web-based publishing would reduce printing costs and allow for continuous updating of information. Examples of these kinds of advertisers include the several dozen *Edible* magazines (focused on local food businesses in specific cities) and thousands of neighborhood advertisers (focused on all kinds of local businesses).

- *Local Debit Card* – About five years ago the Locals Care Card was pioneered in Santa Fe, New Mexico, in partnership with a local bank. It was essentially a loyalty debit card. Every time the card was used for a purchase at a local business, loyalty points were accumulated for discounts at any participating local business. The model also invited users to designate local beneficiaries of charitable donations from the program. Revenues were generated from fees charged to participating businesses. This program ultimately failed during the recession, but the model still holds promise.

- *Local Credit Card* – A variation on the debit card program is to affiliate it with a national credit card program rather than a local bank. The Interra Project, a non-profit initiative, has been developing a credit card integrating a Visa platform with a local loyalty program. Like the Locals Care program, revenues come from fees charged to participating

businesses and from each transaction. And it also allows card-users to designate local charities as beneficiaries of a percent of net revenues. This business model is still being prototyped and tested.

- *Local Gift Card* – The region could create a gift card usable only at locally owned businesses in the NEO region. It would help introduce residents and tourists to unfamiliar local businesses. The card would be a great stocking-stuffer, and a promising promotional item sold to tourists. Generally, gift card programs are more attractive to local businesses than debit, credit, or loyalty programs, because they are more likely to award dollar-for-dollar redemption. Whereas every dollar a business accepts in a local debit, credit, or loyalty transaction means surrendering some percent in fees and discounts (typically 3-5%), a dollar accepted through a gift card usually gets completely paid. The administrative costs of gift card programs are covered by lost, discarded, or unused cards, called "shrinkage," often amounting to 15-25% of total card purchases.

- *Local Currency* – One estimate is that there are more than three thousand local currency efforts worldwide and several dozen within the United States.[102] The two most advanced systems in the United States are Ithaca HOURS and BerkShares, both of which print paper bills for community transactions. Very popular in Europe and Australia are Local Exchange Trading Systems (LETS) in which buyers and sellers exchange virtual money online. Because credits (whether paper credits or virtual credits) can only be exchanged for local goods and services, these systems promote local purchasing. "Demurrage" systems de-value bills over time, which encourages holders to spend them faster—in theory stimulating the local economy. Few local money systems have any means of covering administrative costs, and instead are run through volunteer efforts and charitable contributions. Annual membership fees (to consumers, businesses, or both) and small transaction fees could help to support these systems. The most successful systems were deployed during the Great Depression, when municipal governments dedicated staff to their implementation.

- *Time Dollars* – The concept of Time Dollars, developed by law professor Edgar Cahn, facilitates a community-wide bank of volunteered time for certain categories of social service. John, a teenager, mows a lawn for Ted (who's sick), Joan tutors John, Phil teaches Joan how to play the flute, etc. Unlike most barter or local currency transactions, Time Dollars are tax-exempt. Communities can download free software programs to facilitate local exchanges. Like local currency experiments, these tend to be run by volunteers or by staff paid by foundation grants. Business models are possible for Time Dollars, but not yet tested. For example, county governments in the NEO region might provide local tax credits for

[102] Bernard Lietaer. *The Future of Money* (London: Random House, 2001).

Time Dollars spent and deploy municipal staff to run the system. The rationale would be that, say, a 10% tax credit unleashes social assistance in the community at a 90% discount, saving the community tens or hundreds of thousands of dollars—more than enough to justify the municipal staff expense.

- *B2G Midwife* – About one of every four dollars in the NEO region is spent by a procurement agent (federal, state, county, or local). Because these purchasing agents favor bulk purchasing, they gravitate toward bigger corporate suppliers. Why mess around with hundreds of local farmers to provide foodstuffs for a school lunch program when you can enter a single contract with Sysco? But there's no reason why a community could not create its own "middle person" who would consolidate local businesses into a collective bid, facilitate aggregation of delivery, and take responsibility for all the paperwork—in exchange for a finder's fee. Farm-to-school programs suggest the viability of these programs, though few have been run professionally or profitably yet.

(2) Local Business Competitiveness

A second challenge is to ensure that local food businesses are competitive with non-local food businesses. As noted earlier, the presence of some competitive NEO businesses are present in almost every one of the 57 food sectors in IMPLAN. But for local food businesses to succeed, the best models must be spread.

A compelling example of where this kind of peer learning and support is occurring is in the networks of the Business Alliance for Local Living Economies (BALLE), now operating in 80 communities in North America. For several years, for example, the Sustainable Business Network of Greater Philadelphia has been organizing "building block" groups, including one around food, that regularly bring together small business people. The meta-business model for a small-business alliance is simple: Modest dues by several hundred members pays for staff to facilitate networking.

But beyond just creating miniature—and more effective—Chambers of Commerce, local food businesses in the NEO region could undertake more ambitious meta-businesses that could increase their competitiveness. Consider three models where valuable services could be covered by participating businesses through an annual fee or per-use charge:

- *Procurement Cooperative* – Because bulk purchasing brings down costs, a local business network engaged in collective purchasing improves the competitiveness of its members. Tucson Originals, for example, supports its member food businesses by purchasing in bulk foodstuffs, kitchen equipment, and dishes. The DC-based BALLE network, run by the Latino

Economic Development Corporation, collectively buys cheap "green power" for its members. Collective purchase of health insurance on the emerging national exchanges is another possibility. A procurement network representing local food businesses in the NEO region could substantially lower members' costs and improve their bottom lines.

- *Local Business Mall* – A local business network could take the lead in creating a small-business mall like Pike's Place in Seattle which has served as a tremendous magnet for tourists and regional consumers. The network would essentially become a commercial developer. Alternatively, it could hire a commercial developer with expertise in local-business malls. The West Side Market in Ohio City has this potential, and the NEO region is large enough to accommodate a number of public markets like it.

- *Direct Delivery* – To compete with the convenience of shopping malls or mail-order services, a local business alliance could set up a direct delivery service, as is being done right now in Edmonton, Canada. Amazon says they can get consumers a book in 24 hours—a local delivery service should be able to do so in 24 minutes. This would be especially welcome by consumers who are single parents, elderly, or sick, all of whom have a very limited ability to leave their homes and shop. Local Crop and Fresh Fork Market provide some of these services in the NEO region, but these models could be substantially expanded.

(3) Local Land

A third challenge is to provide enough land for thousands of new farms. One meta-business idea worth exploring here is to transform land banks into commercial land trusts. The existing land banks in the region have focused on identifying vacant properties, clearing titles, and leasing it to urban farming. A commercial land trust, incorporating some of the innovations of the Burlington (Vermont) Community Land Trust, would make it easier to provide urban farmers with long-term leases, and also create a better framework for attracting capital (perhaps attracting the endowments of community foundations through program-related investments). As a commercial entity, the land trust would have an incentive to buy adjacent parcels of land to create appropriately scaled-farms and urban food districts. Additionally, a well-endowed land trust would be in a better position to negotiate easements onto urban and suburban properties. It could, for example, buy and lease "gardening rights" on the lawns of interested subdivisions. These income-generation opportunities also could be integrated with rural land conservancies.

(4) Local Investment

A fourth challenge is to provide the capital needed to expand existing local food businesses and to grow new ones. The following four services could be offered for a fee (based on performance or success) or for small equity stakes in the beneficiary businesses. Many of these investments could qualify for low-cost capital through, for example, New Markets Tax Credits.

- *Community Loan Funds* – Since banks are reluctant to extend credit now, even to well-established clients with excellent credit records, there is a need for the community to help. Many communities have dedicated revolving loan funds for small business, but these tend to be tiny and many are fully tapped. A way of expanding lent funds might be to create and sell small debt notes to members of the community (essentially non-tradable bonds) and place the collected capital either in an existing revolving loan fund or in a bank that agrees to set one up. The latter might translate into an understanding that the community provides the risk capital and the bank simply services the loan. One company, Blue Dot Investments, is now offering communities this service by providing CDs that they in turn place in collaborating banks. The E.F. Schumacher Society has done this directly, intermediating between community lenders and a small number of high-profile local borrowers (e.g., Deli Dollars). Our proposal for a NEO Food Authority builds on this idea.

- *Angel Recruiters* – A company could be set up to help organize the region's angel investors and showcase, perhaps through monthly dinners, the most promising new business opportunities.

- *Small Stock Creation* – Cutting Edge Capital, based in Oakland, is one of several companies that can issue small, intrastate, direct public offerings at a much lower fee than what's charged by law firms. The NEO region might work with these companies to create dedicated offices that could help many local companies go public every year. Each public company could then buy and sell shares on its own web site.

- *Local Stock Exchange* – A better way to facilitate the trading of direct public offerings is through an exchange. Mission Markets, based in New York City, now provides communities the ability to set up a local portal to its virtual exchange platform. This platform is essentially a sophisticated electronic bulletin board, where sellers and buyers post their offers and shop around for great deals. Because transactions can take days or weeks, it looks more like E-Bay than E-Trade, which is actually a plus since it encourages longer-term investment and discourages speculation. The exchange covers its costs through listing and trading fees.

(5) Local Entrepreneurship

A fifth challenge is to create a new generation of food entrepreneurs. There are three promising meta-business approaches here:

- *Mentorships* – A system can be set up to link new or struggling entrepreneurs with established businesspeople who are asked, via charitable contributions, to underwrite the program. The biggest facilitator of these kinds of relationships with retired businesspeople in the United States, with no particular focus on local businesses, is SCORE. In Kerala, India, there is an extensive statewide program linking older and younger businesspeople called "Life Begins at 55." The NEO region might set up a large mentorship network around each sector of the food economy.

- *Entrepreneurship University* – The University of Phoenix has demonstrated the commercial viability of teaching classes online. Either alone or in partnership with existing programs (such as cooperative extension programs or community colleges), the NEO region could set up entrepreneurship courses appropriate for local-businesses and recruit participants throughout Ohio.

- *Incubators* – While nearly all of the 1,000 incubators in North America depend on outside support, models exist—in Australia, for example—of well-run, financially self-supporting incubators. These could be focused on food, like the community kitchens pioneered by ACEnet of Athens, Ohio, and elaborated below. To become self-financing and expand, a food incubator could work with each incubated company, issue local stock, and then upon graduation claim 5-10 percent of the shares as payment for its services. This also could be done for virtually incubated companies (with the incubator claiming a smaller percentage of the stock).

B. Local Food Infrastructure

Customer demand for local food is expanding, but urban and rural farmers in the NEO region are unable to meet that demand due to inadequate regional infrastructure for processing, storage, aggregation, and distribution. Energetic entrepreneurs are trying to bridge this gap, but they need help.

In recent years the kitchen incubator or shared-use licensed kitchen has resurfaced in Northeast Ohio as a promising economic development tool for both urban neighborhoods and agriculturally based rural communities. This renewed interest reflects a growing concern by economic development professionals that the region's agricultural base needs to be stabilized and its manufacturing base expanded. Plus, local food production, marketing, and distribution strategies are recession-proof.

To understand possible arrangements that could be created throughout the region, we review below three different models (and several variations on each) for nurturing food-infrastructure businesses. Some of these have been pioneered in Ohio, some elsewhere. All of them are possible in the NEO region.

(1) Kitchen Incubators

Over the past 20 years kitchen incubators have become a key tool for expanding food and agricultural businesses. The kitchen incubator usually provides shared equipment, offices or work spaces, and storage, along with access to technical assistance. They have the most impact when, in addition to low-cost access to equipment, they provide three other services: a needs assessment for entrepreneurs in the community, a collaborative network among entrepreneurs so they can collaborate and gain economies of scale, and tools of market access so that entrepreneurs generate substantial sales and profits.

The Central Kitchen at ACEnet's Food Ventures Center.

Many kitchen incubators have had only limited success, but their shortcomings suggest important lessons for NEO food incubators. For example, successful incubators should target start-up underserved food and farm entrepreneurs who are transitioning from home-based operations. They should expand opportunities for both farmers and entrepreneurs to process or value-add to raw

product. Their facilities should be situated in low-wealth urban neighborhoods or rural communities to provide jobs to residents who most need them. Their equipment should be put to productive use over all four seasons.

Here are some specific types of kitchen incubators:

- ***Community kitchens*** cater to farmers interested in value-adding periodically to their specialty crops, and to new food entrepreneurs who are experimenting with local food markets. They offer specialty food processors, farmers, and caterers a relatively inexpensive place to access licensed food processing equipment. Kitchen clients are charged only for the time they use the facility. They benefit from the technical knowledge of other tenants using the kitchen, particularly those with extensive food processing, marketing, and business experience. Facilities can range in size from 3,000 to 15,000 square feet, depending on prospective tenants' operations, on the proximity to market partners, and on other revenue generation opportunities. The incubators can also provide a more cost-effective way for farmers or small entrepreneurs to comply with current and future regulations guiding safe food handling and processing techniques.

- ***Community food enterprise incubators*** embrace a comprehensive approach to preparing entrepreneurs for the marketplace. These facilities should be licensed to allow food manufacturing, food service, food handling, and aggregation, with enough dedicated space for processing, packaging, mixed-use operations, and warehousing. When selecting the location, attention should be paid to highway access, ingress/egress turn radius for trucks, ample parking, and several docks for shipping and receiving. Because the food-service and the food-manufacturing industries are highly regulated and intimately affected by strict food safety requirements, local food entrepreneurs in an incubator setting need comprehensive technical assistance on the alphabet soup of FDA regulations: GAP (Good Agricultural Practices), GMP (Good Manufacturing Practices), and HACCP (Hazardous Analysis and Critical Control Points). Entrepreneurs also need to be trained to operate commercial equipment and follow safe food handling practices. This kind of facility might add retail or dining space to create the diversified income streams needed to operate and manage these facilities year-round.

- ***University food innovation centers***, as the name implies, are usually housed at a land-grant university, which provides business and technology expertise to the start-up of food companies that are, it is hoped, linked permanently to the state. They harness state-wide research and industry resources to assist food processors in business development, market research, product and process innovation, food science, workforce

development and training, regulations and compliance support, and quality assurance and food safety systems.

- ***For-profit shared-use kitchens*** operate in urban settings, are privately operated, and rent out space for caterers, bakers, food-cart vendors, and prepared-food entrepreneurs. Many of these facilities are run by food service professionals. The kitchens target start-up entrepreneurs needing licensed commercial kitchens, and offer them areas for preparing, packaging, catering, and baking. Some of these facilities also offer cooking classes, nutrition training programs, and pop-up restaurants to attract other aspiring food entrepreneurs.

(2) Local Food Value Chain Hubs

A new model in local food incubation has recently emerged to assist agricultural producers who wish to recruit wholesale buyers into "buy fresh, buy local" programs. "Food hubs" enable farmers to aggregate, pack, store, and distribute fresh produce, often under a common brand name. Community-based food hubs address the distribution gaps within low-wealth communities and provide small- and mid-size farmers the ability to aggregate for direct, restaurant, and wholesale markets. Prospective anchor tenants and users of these facilities tend to be underserved rural farmers, urban farmers, urban market growers, farmer and producer cooperatives, value chain market-producer partnerships, and marketing cooperatives. Two variations on this theme have become common:

- ***Healthy food hubs*** consist of businesses, social services, and safe public spaces that mutually support each other. The anchor is usually a major food business, perhaps a grocery store or public market (whatever is appropriate for the surrounding community). The hub allows for ambitious public-private partnerships.

- ***Regional food hubs*** typically need more facility space, between 20,000 and 100,000 square feet depending on the wholesale markets being targeted. They should be licensed for processing, packaging, fresh cut preparation, vacuum packing, and flash freezing. Depending on operational uses, the facilities should have ample capacity for walk-in coolers and freezers, temperature controlled warehousing, highway access, accessible ingress/egress with good turn radius for semis and tractor trailers, ample parking for tenant employees, and four-to-six docks for dedicated shipping and receiving.

(3) Shared-Use Facility Collaborations

In every community major commercial kitchens exist, both public and privately owned, but local food entrepreneurs are typically unable to access them. These might be in central warehouses, food terminals, emergency food relief facilities, or public markets. To meet their start-up needs, entrepreneurs might develop mutually beneficial collaborations with the operators of these facilities, and thereby eliminate barriers to processing, aggregation, and distribution facing even the smallest enterprises. The model might involve entrepreneurs unable to meet co-pack minimum runs, local food brand marketing associations, or producer cooperatives in need of centralized warehousing. There is a need to explore the legal and governance structures necessary for this access. Mixing private and nonprofit uses with school property, for example, can be difficult.

The legal, insurance, and financial structures surrounding publicly owned facilities need to be adapted to meet the needs of food and farm entrepreneurs. Users, for example, may need extensive training, orientation, and management. Neighborhood-based facilities such as churches and public food programs might vary in size from 5,000 to 10,000 square feet. Larger public or private facilities including terminal markets, private central warehouses, and food banks might range in size from 10,000 to 50,000 square feet. Licensing and regulatory requirements of the facilities need to match the operational uses of the prospective shared-use tenants or leases.

Food banks are an especially promising institution for this kind of arrangement. Across the country food banks are looking for new ways to meet the growing demands placed upon them. Food Lifeline is one of the largest nonprofit food distributors in King County, Washington, and is now opening up its own food-processing plant to handle contributions from area farmers. The food-bank community knows that the food is out there—the USDA estimates that a quarter of all the food grown goes to waste. New partnerships like these could expand the capacity of the NEO food-bank system.

C. Leadership

A critical part the NEO region implementing the 25% shift is mobilizing leadership in the area. As we have noted throughout this report, there are many significant local food leaders already in the region—in business, academia, public policy, and the nonprofit sector. But they, too, require coordination. In putting together this report, we have been impressed with two groups that are most likely to lead the shift: the Cleveland-Cuyahoga County Food Policy Coalition, and the Ag-Bio Industry Cluster. We provide a brief sketch of each below:

(1) The Cleveland-Cuyahoga County Food Policy Coalition

The CCC-FPC was formed in 2007, as an unincorporated association of community partners, to bring about public and private initiatives that foster a healthier food system for Cleveland, Cuyahoga County, and the broader Northeast Ohio region. It has facilitated policy based change by building collaborative coalitions, conducting research, and convening quarterly forums and special events. It has addressed key issues through working groups, which presently include: Community Food Assessment, Food Waste Recovery, Health and Nutrition, Land-Use and Planning, and Local Purchasing.

Some of the recent accomplishments of the CCC-FPC include:

- Landmark urban land-use legislation, including urban garden/farm zoning, bee and chicken legislation, and economic development incentives for market gardens;
- An assessment of food access and nutrition conditions of neighborhoods across Cleveland and Cuyahoga County;
- Expansion of availability and accessibility of EBT programs at farmers markets;
- A local purchasing initiative with the City of Cleveland that provides incentives and preferences for local food; and,
- A food waste audit and composting program pilot implemented at the West Side Market.

The CCC-FPC could play two important roles in implementing the 25% shift. First, it offers a strong regional model for developing urban policies around local food systems development. Other local food policy initiatives have since followed in Mahoning County, Lorain, and Summit counties. The CCC-FPC provides model legislation that can be replicated by other policy councils. By taking the lead in implementing many of the ideas presented here in Cleveland and Cuyahoga County, the Coalition can help spread them to other communities across the NEO region. Second, the CCC-FPC easily can put together new working groups, community partnerships, and research projects to support our recommendations, provided it secures adequate funding for needed staff.

(2) The Ag-Bio Industry Cluster

The Ag-Bio Industry Cluster (ABIC) is a collaborative regional initiative facilitated by the Ohio State University Ohio Agricultural Research and Development Center (OARDC) in partnership with the Northeast Ohio Fund for Our Economic

Future. ABIC aims to accelerate the development of new business opportunities in the region built around food, energy, and distributed manufacturing. Three objectives loom large on its agenda: to enhance the region's agricultural resources and production capabilities; to transform the agricultural production clusters from low-value commodity production to higher-value specialty crop and bio-product production; and to accelerate the local food sourcing movement. The goal is to organize Ag-Bio industry clusters that expand inter-linked local businesses and farms.

The ABIC's work products thus far, informed by sessions involving 500 stakeholders across the region, include the following:

- a comprehensive inventory of agricultural resources in the region;
- a portfolio of 250 "business cases," some theoretical but many in progress, that can serve as examples to others;[103]
- an online infrastructure to enable networking across the region;
- a region-wide leadership council; and
- a framework for conducting strategic planning around industry clusters.

The ABIC is now moving into its next phase, which is to develop 25 of its best business cases and two industrial-ecology models of business clusters. The latter, which it calls "business ecosystem development," will include mapping, network development, and an assessment of complementary businesses. To support these clusters financially, the ABIC is putting forward the concept of community investment portfolios. Individual communities within the NEO region would manage their own investment portfolios of local businesses, both food and non-food, to ensure rapid and long-term growth of the targeted sectors.

While ABIC has a broader mission than promoting local food, its leaders have indicated that the recommendations here will be fully incorporated into its work. They recognize, for example, that there is substantial overlap between the community investment portfolios they envision and the Food Authority we envision in the next section. The experts within the ABIC network, moreover, are among the best in the region—and exactly the people who should be central in implementing the 25% shift.

[103] The ABIC's business cases include: Apiary (3), Composting (10), Construction (5), Food Preparation (11), Dairy (2), Education Services (14), Floriculture/Nursery (6), Food Processing (15), Food Production (69), Governance/Administration (26), Landscaping (4), Livestock (9), Non-governmental Organizations (9), Poultry (14), Renewable Energy/Bio-Fuel (11), and Services/Farm Support/Distribution (48).

D. Next Step: A NEO Food Authority

No one entity can carry out the myriad initiatives laid out here. Many entities—private businesses, nonprofit groups, and public agencies—will have to work creatively side by side. Yet there remains a need for ongoing leadership and coordination. The Cleveland-Cuyahoga County Food Policy Coalition is a tremendous asset, yet also has limitations. As a city-based entity, it cannot fully take into account the interests of the 15 other counties in the NEO region. And as a non-profit initiative, it cannot undertake lobbying or major business initiatives.

To remedy these limitations, we propose the creation of the NEO Food Authority (NFA), an entity that would provide loans to and mobilize in-kind support for those local enterprises with the greatest catalytic potential in helping the region realize the 25% shift. Specifically, we envision the NEO Food Authority prioritizing assistance for:

- Meta-businesses that support local food businesses in the region;
- Infrastructure businesses described above, including incubators, food hubs, and shared-use facilities;
- Clusters of businesses involving one or more food businesses, such as industrial ecology operations where the waste of one business serves as the input to another;
- Clusters of food businesses from multiple counties that span the supply chain; and,
- Any other local food business that, if it succeeds, can strengthen the value-chains and bottom lines of many food businesses in the region.

We use the word “Authority” to indicate that the proposed entity should have some kind of official support from Cleveland and Cuyahoga County governments. Like the Cleveland-Cuyahoga County Port Authority, the NFA would be charged to lead initiatives that can better account for the public and private benefits of local food initiatives, such as increased tax collections, improved public health, greater tourism, and lower welfare and unemployment expenses. But official support of the NFA could range from oversight and financing to just loose endorsement. We are reluctant, without further public discussion, to recommend one specific structure. We suggest that there’s value in exploring the relative merits of making the entity a nonprofit, a private for-profit, a cooperative, a business development corporation, a public body, or a hybrid of all of these.

The ultimate choices about structure will influence, among other things, what kinds of funds are sought for initial capitalization. Among the most promising funding streams available are:

- grants and program-related investments from local foundations;
- grants, loans, and loan guarantees from federal, state, and local economic development programs;
- proceeds from bond sales, the interest of which might be tax exempt;
- regional funds that administer New Markets Tax Credit monies;
- capital from banks seeking to improve their Community Reinvestment Act performance; and
- individual and institutional investors in the region.

While the NFA could make loans directly to promising entities, we suggest it would be easier to work with existing banks, credit unions, and revolving loan funds to administer each loan. The NFA could provide loan guarantees or even place funds on deposit to serve as collateral, and then pay each lending institution a fee for servicing the loan. Loans therefore would only be issued to food businesses that received two approvals—one from the NFA and another from the administering institution.

Consider just one of many plausible scenarios for launching the NFA. Start-up funding of $1 million, for example, might come from a combination of state and local economic-development funds and program-related investments from foundations in the region. Another $5 million might come from a direct public offering (DPO), in part to raise public awareness of the viability of this kind of emerging financing option for other local food businesses. Just the selling of the shares in the region would provide enormous opportunities for raising consciousness in the region about the potential benefits of the 25% shift. Shares could be bought for $100, and the aim would be to sell these to 50,000 purchasers in the NEO region. The $5 million obtained from shareholders would provide the first tranche of capital for lending. The NEO Food Authority might then seek to leverage its equity capital of $6 million by a factor of five—to $30 million—through additional sources described earlier, such as municipal food bonds. As a publically traded company, its board would need to comport with Ohio business laws. Board meetings would be open to shareholders and the books and quarterly performance would be open to public review.

With a healthy cash flow from interest payments on its loans, the NFA could begin to undertake some of the other activities envisioned in this report. It could support new farmers and food entrepreneurs with technical assistance, market

studies, product evaluations, managerial mentors, and financial analysis. It could steadily grow the financial assets available to entrepreneurs by continually recruiting private and public sector support and bringing to the region more angel, venture, and hedge fund investors interested in food business. It could help expand the land bank capacity of the region. And it could inform policymakers about the most urgent areas for reform.

While there is no one entity in the country that serves as a precise model for the NFA, many are at least partially analogous. For example, there are thousands of public or quasi-public authorities around the country overseeing ports, airports, highways, water systems, electricity, waste management—anything with a significant public purpose. In the Pacific Northwest, EcoTrust operates a loan fund for sustainable businesses including community food enterprises, which in turn finances many other initiatives, including policy reforms.

There are other proposals around the country being seriously discussed that resemble the NFA. The Food Commons, proposed by Jim Cochran and Larry Yee in California, envisions regional land banks, food-finance funds, incubators, and food hubs. The Ag-Bio Industry Cluster in the NEO region also has proposed “community investment portfolios” that enable consumers throughout the region to invest diversified funds linked to food, energy, and bioengineering businesses.

The one recommendation we wish to underscore for immediate action is to catalyze a broad discussion of the NFA and commission a business plan around it. With public support and a detailed business plan, leadership in the region should be able to obtain seed funding. As this report lays out, the case for the 25% shift is a powerful one, and a critical mass of talented business people, social entrepreneurs, and policymakers in the region are eager to implement it. While capital is not the only challenge standing in the way of the shift, it probably is the biggest. Providing loans to the most promising business ideas could unleash the creative potential of hundreds, perhaps even thousands, of new entrepreneurs.

Appendices

APPENDIX I
COMMON REFERENCES FOR REGIONAL FOOD SYSTEMS WORK IN NORTHEAST OHIO

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- Nanette Yannuzi-Macias, Oberlin College Art Department, 27 May 2010.

APPENDIX II
INDEX OF REFERENCED ORGANIZATIONS IN THE NEO REGION

APPENDIX III
2010 Food Congress Recommendations

Held at Cleveland State University, the 2010 Food Congress involved participants reviewing over 60 recommendations from the Northeast Ohio Local Food Assessment and Plan, and setting their own priorities for programs, policies, and investments.

OVERALL RESULTS:
The top three clusters, based on voting, were:

1) Urban policies;
2) Education and training; and
3) Local food infrastructure.

The top 5 recommendations based on voting were:

1) Form a local food authority;
2) Shift economic development priorities to emphasize local foods;
3) Develop “slow muni” bonds;
4) Create for-profit kitchen incubators; and
5) Design K-12 school gardens and curricula.

PROGRAMMING RECOMMENDATIONS:
Programming refers to initiatives that could be implemented by non-profit organizations or educational institutions. Based on voting, the following overall program clusters were identified, from highest to lowest priority:

1) Education and training;
2) Urban agriculture;
3) Urban-rural interface; and
4) Public health.

The top specific recommendations for programming were:

1) K-12 school gardens and curricula;
2) Vocational training and workforce development programs;
3) Tools for regional collaboration;
4) Learning farms and gardens for research and training;
5) Healthy food in schools; and
6) Market development for medium-scale farms.

POLICIES:
Policies are government-based initiatives to support local food systems development. The following policy clusters were voted top priorities:

1) Urban policies;
2) Policies at all levels; and
3) State policies for Ohio.

The top specific recommendations for policies were:

1) Shift economic development funds from non-local retention to local food business development;
2) Develop support for “slow muni” bonds from a variety of funding sources (public at large, foundations, investors);
3) Reform local procurement policies to create purchasing preferences for local businesses;
4) Create urban food districts to provide urban farm incubators and infrastructure for consolidation or processing;
5) Develop processing infrastructure; and
6) Promote farmland preservation and agricultural viability.

INVESTMENTS:

Investments include efforts to draw public, foundation, or private capital into the local food economy. The following priorities were identified as key investment clusters:

1) Strengthening local food infrastructure;
2) Developing alternative financing mechanisms;
3) Supporting businesses for local foods systems;
4) Mobilizing consumer demand; and
5) Improving the competitive advantage of local food.

The top specific recommendations for investments were:

1) Formation of a local food authority;
2) Development of for-profit kitchen incubators;
3) Utilization of existing and/or under-utilized processing facilities in the region;
4) Expansion of waste recovery businesses;
5) Organization of food distribution hubs in low-income communities; and
6) Development of local business malls.

APPENDIX IV
Additional Appendices and Project Details

To learn more about the Northeast Ohio Local Food Assessment and Plan, visit our website at www.NEOFoodWeb.org. We established this website to serve as an information clearing house for the assessment.

You can find an electronic version of this report, along with extended appendices, at http://www.neofoodweb.org/resources/92, including:

- **Appendix V**: Affinity Group Clustering and Network Analysis,
- **Appendix VI**: Assets and Gaps Assessment of the Northeast Ohio Regional Food System,
- **Appendix VII:** Analysis of Agricultural Statistics and Trends in Northeast Ohio from 1987 to 2007, and
- **Appendix VIII**: History of Northeast Ohio Regional Food Congress Recommendations.

OTHER RESOURCES:

Also available at www.NEOFoodWeb.org are extensive media libraries rich in information on regional food efforts in Northeast Ohio:

- **Resources**: http://www.neofoodweb.org/resources
  This includes an archive of prior assessments, studies, and background information about regional food work in Northeast Ohio. Organized by tag words, these documents are sorted into 23 different topics of interest.
- **Video**: http://www.neofoodweb.org/videos
  This includes an archive of video sketches that highlight some of the innovative local food projects happening in the Northeast Ohio region. It also includes more detailed information about the four cities featured in our case studies: Cleveland, Youngstown, Oberlin, and Wooster.
- **Reports**: http://www.neofoodweb.org/reports
  This includes an archive of short reports, summaries, and survey results from the actual assessment itself, including materials generated through the assessment process from April through December of 2010.