

Exploring the food hub network of Philadelphia

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This research locates multi-scalar practices within Philadelphia-based alternative food initiatives (AFIs) to show how the functions of a food hub appear in a variety of AFIs. AFIs have the potential to influence the industrialized food system. Food hubs are institutions that coordinate food distribution patterns by fostering relationships between producers and consumers. They also have the potential to participate in community revitalization and policy reform efforts. This essay expands upon current food hub definitions to create a new list of criteria for food hub operations, which I use to assess three Philadelphia-based AFIs. Each organization's ability to satisfy these criteria is determined by reviewing organizational documents and interviewing executive directors. The findings reveal that even though each organization satisfies all criteria to some degree, they are not yet fully achieving large-scale change within the Southeastern Pennsylvania food system. Increased collaboration and movement building can further advance their efforts.

Keywords: food hub; alternative food initiative; Philadelphia; networks

Intro

This paper asks how alternative food initiatives can become more effective in opposing the industrialized food system and shifting toward a more sustainable one. Alternative food initiatives are new initiatives and civic organizations that challenge and “oppose the structures that coordinate and globalize the current food system” and seek to build “alternative systems of food production [and distribution] that are environmentally sustainable, economically viable, and socially just” (Allen, FitzSimmons, Goodman, & Warner, 2003, p. 61). Examples of alternative food initiatives include community supported agriculture, community gardens, farmers' markets, and food policy councils (Allen et al., 2003).

One type of alternative food initiative that has been gaining popularity is the food hub (Horst, Ringstrom, Tyman, Ward, Werner, & Born, 2011). On the most basic

level, food hubs seek to foster regional food systems by connecting small- to mid-scale producers to a consistent consumer base by offering aggregation, distribution, and marketing services (Barham, Tropp, Enterline, Farbman, Fisk, & Kiraly, 2012).

Expanding upon the food hub concept as a framework for achieving success in food systems organizing, I seek to refocus the current discussion on food hubs from a reductionist perspective to a holistic perspective. The literature contains many attempts at clarifying what a food hub is rather than asking how effective it can be on a structural level. Many existing definitions are limiting to the term “food hub.” Rather than attempting to strictly define food hubs as one of the many existing types of alternative food initiatives, this paper sets forth a list of criteria for a food hub framework, which can be adopted by any AFI as a set of principles that guides their operations toward influencing structural change within food systems.

This paper consists of two parts: a literature review that informs a new set of food hub criteria by building upon existing food hub definitions, and a case study of Philadelphia alternative food initiatives. This case study serves two purposes: first, to show how the food hub framework applies to organizations as they evolve; second, to determine if the selected AFIs are effectively opposing industrialized food systems.

The problem with the current food system

Within the past century, the mass industrialization of our agricultural system has presented environmental, social, and economic threats to many populations in the United States and around the world (Patel, 2012). The power structures established in the industrialized, globalized food system allow social and environmental injustices to occur on a daily basis. Poor agricultural practices such as monocropping and the use of chemical pesticides, herbicides, and fertilizers, endorsed by private corporations, are

threatening the health of land, water, and air (Howe & White, 2003). The mass-industrial production of food has led to environmental crises such as soil degradation, water pollution, and the loss of biodiversity (Howe et al., 2003; Vanderplank, Escurra, Delgadillo, Felger, & McDade 2014). Maintaining the health of the environment is necessary in order to continue farming the land, and Altieri argues that maintaining biodiversity is central to healthy agricultural systems (1999). Industrialized agricultural practices ultimately pose threats to public health, especially through use of chemical pesticides and antibiotics to increase crop and livestock yields (World Health Organization, 1990; Gilchrist, Greko, Wallinga, Beran, Riley, & Thorne, 2007). Campaigns from organizations such as the Coalition of Immokalee Workers have revealed the social injustices such as human labor trafficking, low wages, and poor working conditions that are embedded into the industrialized food system (Coalition of Immokalee Workers, 2014). As a result, alternative practices to the globalized system are gaining popularity, and scholars see a need to restructure the food system (Allen et al., 2003; Koc & Dahlberg, 1999).

Alternative food initiative benefits & their ability to change the system

As outlined by Allen et al., popular types of alternative food initiatives include community supported agriculture, community gardens, farmers' markets, and food policy councils (2003, p. 64). Scholars have thoroughly explored the benefits of such AFIs. Armstrong (2000) and Teig et al. (2009) discuss the social benefits of community gardens, identifying them as spaces that improve personal health and encourage community organizing. Brown and Miller (2008) review the potential for farmers markets and CSAs to positively affect local economies and communities. Much of the scholarly work being done focuses on how specific types of AFIs are influencing particular sectors of the food system.

With the variety of alternative food initiatives in existence today, it is important to explore their potential to change the ways in which our food system functions and dictates our eating habits overall. While the aforementioned alternative food initiatives have demonstrated impacts on a small scale, it is worth asking how they are transforming larger patterns of consumption and health. Allen et al. (2003) ask how effective AFIs are and offer the categories of “alternative” and “oppositional” to assess an AFI’s effectiveness. They distinguish between oppositional movements and alternative movements in the following way: alternatives occur on a practical scale, and opposition happens on a structural level. Alternative food initiatives practice alternative methods that exist separately from the industrialized food system, yet they allow it to continue being the dominant method of food production and distribution. Oppositional food initiatives challenge the very structures that allow the industrialized food system to prevail by challenging and changing policies around food production and distribution. This is not to say that alternative and oppositional approaches cannot work in tandem; rather, this discussion works to recognize the difference between the two. Once communities begin offering alternatives, they must consider how they can be translated within oppositional frameworks. Alternative food initiatives make alternatives possible based on inter-personal partnerships on a grassroots scale, while oppositional initiatives achieve change through the practice of engaging multi-scalar stakeholders. Multi-scalar stakeholders can include people and groups from the governmental, private, and non-profit sectors such as policy makers, producers, consumers, communities within which food operations are situated, laborers, food entrepreneurs, and food advocacy networks (Campbell & MacRae, 2013). Stroink and Nelson (2013) see food system elements as parts of a complex adaptive system that makes use of multiple stakeholders when possible in order to change the overall system. These works express the notion that

change can occur when AFIs operate in opposition to the system by engaging a diverse range of stakeholders within the food system. Few of the aforementioned AFIs have expanded beyond their current narrowly focused initiatives to begin influencing the industrialized food system.

Local Food Debates

Local food rhetoric is prevalent in the alternative food systems field of study. Some argue that sourcing food locally attaches fewer food miles to products, it allows consumers to get to know their producers and the source of their food, and it keeps money and jobs within the local economy (Born & Purcell, 2006). Barham et al (2012) and Blay-Palmer et al (2013) point to the benefits in job creation and economic and community development. Diamond and Barham (2012) discuss that value chains bring benefits to a localized economy. Value chains are “business networks that rely on coordination between food producers, distributors, and sellers to achieve common financial and social goals” (Diamond et al., 2012, p1). There is also a body of literature that seriously questions the notion that local food is the cure-all for our food system’s imperfections (Born et al, 2006; DeLind, 2011) because injustices like poor wages and environmental degradation are not simply solved by purchasing local food. A completely localized diet is not always feasible depending on the region a person lives in and his or her income level (McEntee, 2011). Mares & Peña (2011) discuss how the varying types and degrees of a local diet can cause more harm than good. They say that striving for a completely local diet can result in the destruction of culturally significant and environmentally valuable land in favor of farm land.

In the essay “Avoiding the Local Trap,” Born and Purcell (2006) suggest that local methods of production “easily can be as unsustainable as those in conventional agribusiness,” citing Iowa-grown corn and Washington-grown wheat as examples (p.

200). These two types of crops can be found “locally” within Iowa and Washington, respectively, but these regions are well known for growing these crops by using genetically modified seeds and chemical pesticides, herbicides, and fertilizers. Born et al. (2006) encourage eaters and scholars to carefully discern the nature of production methods from the geography in which a food is grown, as these two traits are often conflated. Born et al. (2006) propose that a more comprehensive approach to mending our food systems involves attention to both how a local economy is influenced by broader systems and how agriculture intersects with other local networks.

Considering the argument that local food value chains are not the catch all cure for the industrialized food system frames a new way of thinking about regional agriculture. Planners, policy makers, and participants in regionalized food systems must evaluate the success of a local foodshed in more complex terms. The selected AFIs that are analyzed in this paper will exemplify a multi-scalar approach to regional food systems development by considering the intricacies of food distribution, regional limitations, and good agricultural practices.

Food Hubs

The food hub is one type of alternative food initiative that does engage multi-scalar stakeholders, and it has been gaining popularity in recent years. Barham et al. (2012) explain that some food hubs begin by recognizing producers’ limited market options and revenue opportunities within direct-to-consumer outlets such as farmers markets. They seek to connect producers to a more consistent and reliable consumer base. Others consider producers’ limited capacity for distribution and marketing and seek to offer services that fill this void. Food hubs serve to foster partnerships among regional producers and consumers, while improving communities via food sovereignty-oriented education and influencing food system policies. The following sections will discuss the

varying definitions for food hubs that are offered by scholars and how food hub operations can address community based issues.

Varying Definitions

Scholars define “food hubs” in two different ways. In the USDA’s *Regional Food Hub Resource Guide*, Barham et al. (2012) define a food hub as “a business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand” (p. 4). This definition positions the food hub as an institution which primarily serves to benefit producers and functions to satisfy demand within an economic framework. This report states that the role of a food hub is to add value to the food distribution system by increasing market access for local and regional producers. It states that regional food hubs have a “significant economic, social, and environmental impacts” which are fueled by “entrepreneurial thinking and sound business practices coupled with a desire for social impact” (Barham, 2012, p.1-2). While the *Regional Food Hub Resource Guide* does discuss social and ecological impacts of a food hub on pages 18-23, the remaining seventy pages of the report focuses on economic and logistic aspects of a food hub. The “desire for social impact” presents itself neither in the definition offered nor in the distribution of content in the report.

Pirog (2013), Matson, Shaw, and Thayer (2014) claim that that Barham et al.’s definition is made to be flexible and non-limiting to allow for innovation and a variety of programming by food hubs. It is true that “demand” can encompass the demand for socially- and environmentally-oriented programming, but the use of demand in this definition points to an economic orientation. The economic, logistic, and producer-oriented focus of Barham et al.’s definition is confirmed when the authors specifically differentiate a regional food hub from “healthy food hubs,” which are “community

spaces anchored by a food store where other social and financial services are co-located” (p.4). It goes on to specify that “the regional food hub concept has a quite different focus and function” from the consumer-oriented healthy food hubs (p.4). Barham et al. attempt to clarify the scope of the resource guide by making this distinction, but in doing so, they entirely exclude the structural and social issues within the food system that can be addressed by food hubs. This exemplifies how the USDA’s language encourages a reductionist perspective in thinking about food systems solutions.

While the USDA uses a producer-centric definition, other scholars are increasingly using the term “food hub” almost synonymously with “healthy food hub.” Blay-Palmer et al. (2013) define food hubs as “networks and intersections of grassroots, community-based organisations and individuals that work together to build increasingly socially just, economically robust and ecologically sound food systems that connect farmers with consumers as directly as possible” (p.524). Fridman and Lenters (2013) simply define food hubs as institutions or initiatives that are “organizing around food in a myriad of ways” in inner-city settings (p.551). Levkoe and Wakefield (2011) discuss a Community Food Center that diversified its services beyond emergency food distribution to meet the needs of its community. Ballamingie and Walker (2013) write about a proposed Community Food and Sustainable Agriculture Hub that will function as a hub where ideas, values, and information about innovative food systems and alternative economies are exchanged. Blay-Palmer et al.’s definition speaks to the ways in which a food hub can influence the workings of food systems at large, without excluding the economic piece that drives the USDA’s preferred definition; however, it relies too heavily on grassroots organizations and individuals to singlehandedly change the food system. It does not acknowledge the need to involve multiple stakeholders and

policymakers in order to achieve structural change. Fridman and Lenters' definition entirely excludes rural areas from the food hub discussion, while barely identifying measurable characteristics of a food hub. A definition that does not discuss functional parameters and limits operations to urban settings does not encompass the complexity of a food hub's functions. Loosely defined terms such as this render the term "food hub" nearly meaningless, which could be the reason for the USDA's desire to steer clear of the "healthy food hub" framework. Ballamingie and Walker's concept of a food hub does not directly discuss the aggregation and distribution services of a food hub, which is central to the definition. Scholars defining food hubs in a broader manner point out the work that food hubs are doing within their communities; however, they expand the definition to a fault, including almost anywhere that local food appears as a food hub (Horst et al, 2011). Horst et al. (2011), Fridman et al. (2013) and Blay Palmer et al (2013) consider community kitchens, community gardens, community supported agriculture, artisanal food courts, and community food centers as examples of food hubs. Classifying food hubs in this way can lead to labeling an organization a "food hub" when its efforts only focus on single-scale issues.

While there are differences between the two definitions of food hubs, one geared more toward orchestrating the logistics of food distribution and the other geared more toward community participation in a local food system - these two functions do not easily separate into two different organizations. Many times, a business or non-profit organization functions both as an aggregation center and as a community food center. A certain degree of flexibility is designed into the USDA's definition of a food hub, yet its dismissal of the "healthy food hub" concept can be severely limiting. This specification is evidence of the USDA's attempt to divert attention from the holistic nature of food systems and continue approaching the broken system in a piecemeal manner that only

addresses isolated topics in a reductionist manner. Only an approach that addresses both the distribution and consumption patterns of food will provide us with a holistic approach for solving the ecological, environmental, and social problems within our food system.

In order to mediate the varying definitions, some scholars have offered frameworks for food hub typologies, distinguishing aggregation oriented-hubs from access- or consumer-oriented hubs (Horst, 2011). This first attempt at focusing the term is important, but there is still more work to be done in the field. While all of the initiatives and organizations in the cited articles are working to improve food systems, use of current competing definitions and typologies can complicate the understanding of food hubs within the realm of alternative food initiatives.

Addressing Community Based issues

Forming alternative food initiatives on the local scale and linking the movement to place is important because it engages participants on the grassroots level. Hoxie, Berkebile, and Todd (2012) advocate community dialogue in planning and development processes. Rather than having planners impose old models and theories onto new projects, the authors promote community involvement as a way to gain a sense of the “natural and cultural systems in the place where the project is located, to identify values and goals that motivate participants to live sustainably, and to empower participants to sustain continuing evolution” (p. 67). Encouraging community dialogue will engage the community more, causing them to care more about the project being developed. Slocum (2006) emphasizes the importance of incorporating the varying community viewpoints into a project in order to increase support for change. Her call for anti-racist practices in community food organizations exemplifies how community involvement can foster an inclusive food system that evolves according to its participants (Slocum, 2006).

Matson and Thayer (2013) acknowledge that more food hubs are directing their efforts toward community revitalization by addressing food deserts and valuing locally sourced and finished foods, but they call for more evidence of a food hub's "demonstrated impacts on community" (pg. 43). Ballamingie et al. (2013) and Levkoe et al. (2011) demonstrate the community impact of food hubs; however, scholars like Matson and Thayer still seek ways to measure these community impacts. A portion of my research aims to identify instances of demonstrated community impacts ascribed to Philadelphia food hubs.

Identifying gaps

Based upon the discrepancies in defining the term "food hub" observed in the literature, there is a need for a less restrictive way to understand what a food hub is and how it functions. Rather than attempting to strictly define food hubs as one of the many existing types of alternative food initiatives, this paper sets forth a list of criteria for a food hub framework, which can be adopted by any AFI as a set of principles that guides their operations toward influencing structural change within food systems. Food hub practitioners, funders, planners, and researchers can use this framework to discuss food system innovations and revisions.

Thilmany, Conner, Curtis, Liang, Mulik, O'Hara, Sullins, and Woods (2013) call for more case studies on food hubs in order to gain a better understanding of how alternative supply chains work most effectively in a variety of regions. The majority of case studies for food hubs focus on Canadian regions (Ballamingie et al, 2013; Campbell et al, 2013; Levkoe et al, 2011; Mount & Andree, 2013; Stroink et al, 2013). Horst et al (2011) provide a case study of Seattle food hubs, and Purcell (2014) explores the potential benefits of using food hubs in the Pee Dee region of South Carolina. Barham et al (2012), Diamond et al (2012), and Pressman (2013) briefly profile

numerous food hubs throughout the United States, but none explore these food hubs at length. This paper will provide the literature with a case study of a Mid-Atlantic city's food hub network.

Matson et al (2013) identify the need for "investigation into the primary impetus for the formation of food hubs and local food chains" as well as assessing the "long-term viability of such entities" (p. 43). Examining the evolution of food hubs is important because understanding the ways in which they evolve over time can provide insight for developing new food hub operations and further impacting regional food systems. Through the examination of organizational documents and by interviewing executive directors, this case study will reveal the primary impetus for the formation of each selected organization, identify the point at which it became a food hub, and explore its plans for long-term viability.

The food hub is an example of an institution where stakeholders from a variety of sectors can interact, which some scholars view as a potentially effective avenue for making change (Mount et al, 2013). To understand how food hubs are working on multiple scales of the food system, the nature of partnerships and stakeholders that exist must be analyzed. Research is just beginning in the area of identifying and understanding the nature of partnerships and stakeholders (Thilmany et al, 2013), so there is a need for more research on this topic. Matson et al (2013) also point out the lack of research exploring food hubs' coexistence with current food supply chains. Examining the structures of partnerships, the type of stakeholders, and the scales of efforts can reveal a great deal about how the food hub network of Philadelphia interacts with the regional food system of Southeastern Pennsylvania and how it is influencing food systems at large. Interviews with executive directors will inform a diagram that explains a food hub's various stakeholders and functions. Understanding the nature of

partnerships with multiple stakeholders can help us better assess the roles that stakeholders play in transforming regional food systems and lead to a better understanding of an alternative food initiative's ability to influence change.

Methodology

This study makes use of a literature review and expert interviews as its primary methods to help understand the functions, services, and impacts of Philadelphia-based food hub operations. The literature review of scholarly and peer reviewed works informed a working list of criteria for a food hub framework since a holistic definition for food hubs is unavailable. Three organizations that meet the criteria were selected for the case study to detail the formation and evolution of their operations. Background information on each of the selected organizations was obtained by review of organizational documents such as websites, press releases, and news stories, interviews with executive directors, and participant observation. The interview questions can be found in Appendix A. Information gathered from all of these resources was used to create a visual map of food hub impacts, which can help in further identifying and forming food hub networks that work to develop alternatives to the industrialized agriculture system.

Identifying criteria for a food hubs framework

Because there is not a holistic definition available in the literature, a list of food hub criteria must be created in order to help select which of the food organizations in Philadelphia will be considered as food hub operations for this case study. Due to the time constraints for this research, the case study is limited to using three organizations as examples. While more Philadelphia organizations could potentially qualify as food hub operations, the top three have been selected based on the following criteria:

1. Aggregates from small- to mid-sized farmers
2. Actively moves food through the supply chain
3. Offers source identified products
4. Typically maintains a variety of partnerships
5. Functions on multiple scales
6. Often operates as a multi-functional space
7. Provides educational programming

Of the seven criteria, the first three draw upon elements from Barham et al's (2012) definition of a food hub because retaining the practical services and functions is fundamental in an organization's ability to fulfill the rest of the criteria. Purcell (2014) references the Regional Food Hub Advisory Council, which says that "food aggregation and distribution to a wholesale market are the two most important elements" (p. 9) of a food hub, so criteria 1 and 2 must be included. Criterion 2 specifies that the organization must *actively* move food through the supply chain. Some organizations simply act as virtual networks that never touch food but act as informational connectors (Blay-Palmer et al, 2013). Campbell et al (2013) state that physical hubs might create better places for channeling goods through multiple markets and facilitating aggregation that needs to create scale efficiencies (p 565). Operating a physical hub also enables the organization to meet criterion 6. Finally, offering source identified products is the primary way in which food hub operations can combat the anonymous nature of the industrialized food system. Even if some foods cannot be sourced locally, transparency of food sources is essential.

Criteria 4 and 5 imply the flexibility and versatility necessary in a food hub operation, referencing the variety of partnerships held and multiple scales on which a hub functions. Barham et al (2012), Campbell et al (2013), Levkoe et al (2011), and Mount et al (2013) write about organizations that successfully maintain a variety of partnerships while Ballamingie et al (2013), Born et al (2006), Campbell et al (2013),

and Stroink et al (2013) each emphasize the need for alternative food initiatives to operate on multiple scales.

Criteria 6 and 7 specify the types of services a food hub offers, including physical space that, again, must be flexible and accommodating of a variety of activities, as well as some sort of educational programming. Levkoe et al (2011) writes about the success of The Stop Community Food Center, and a central element to its success is its multi-functional space that offers emergency food relief as well as cooking and gardening workshops and space to practice lessons learned from these workshops. Barham et al (2012) highlight the food hub's role in educating producers about Good Agricultural Practices and informing producers of demand. Operating a multi-functional space, along with the variety of partnerships, is essential to the food hub's ability to influence change. By educating its partners who come from a variety of backgrounds and areas, a food hub can increase the purchasing power of their operation and generate more interest in policy change.

Selecting food hub operations

These food hub criteria were used to narrow down the list of potential food hubs among over fifteen alternative food initiatives in Philadelphia known to the author. Table 1 shows how the organizations considered meet each of the criteria. Websites for organizations can be found in Appendix B. The three selected food hubs are Common Market, Weavers Way Co-op, and Greensgrow. Descriptions of each of these food hubs are provided below, including examples from each organization that show how they met the criteria. These hubs provide a sampling of potential organizational structures and histories that can make use of a food hub framework. Common Market began using the food hub model, but Weavers Way Co-op and Greensgrow Farms adopted food hub operations over time. These descriptions will show how food hubs with a variety of

models and histories can meet the qualifications set forth, while falling into different categories based on the primary audience who benefits from their services.

Table 1- Selecting Organizations by Food Hub Operations Criteria

← Criteria	↓ Organizations	Bartram's Garden / Agaston Urban Nutrition Initiative	Common Market	Fair Food Philly	Greensgrow	Kensington Community Food Coop	Mill Creek Farm	Norris Square Neighborhood Project	Philadelphia Urban Farm Network	Philly Cow Share	Philly Food Works	Pennsylvania Horticultural Society	SHARE Food Program	South Philly Food Coop	Teens 4 Good	The Food Trust	Urban Tree Connection	Weavers Way	Wild Foodies of Philly
Aggregates from small to mid-sized producers			x	x	x						x		~			x		~	
Actively moves food through supply chain		x	x	x	x		x			x	x		x			x		x	
Source Identified Products		x	x	x	x		x			x	x		~			x	x	~	
Maintains variety of partnerships		x	x		x		x	x			x	x	x			x	x	x	
Functions on multiple scales			x		x							x				x	x	x	
Multi-functional space		x	x		x			x					x					x	
Educational programming		x	x	x	x		x	x	x		x	x	x		x	x	x	x	x

x = satisfies characteristic; ~ = satisfies characteristic sometimes but not always; = does not satisfy characteristic

Common Market

Located in North Philadelphia, Common Market operates a distribution warehouse that aggregates food from 75 small- to mid-sized producers within 200 miles of Philadelphia and markets it to institutions in the city. Common Market’s vision includes four elements: community, food safety, local investment, and stewardship. It strives “to provide nutritious, affordable, locally grown food to all, including our most vulnerable communities” by distributing food to large institutions like schools and hospitals (Common Market, n. d. a.). Partnering with over 50 schools and 12 grocers, as well as hospitals and workplaces, Common Market reaches many students, patients, clients, and workers within these institutions who often come from underserved communities. In addition to providing fresh food to consumers, Common Market aims to serve producers, too, by paying a fair price for the food they source so that the producers can improve and preserve farmland in our region. Common Market benefits small producers and institutions by acting as an intermediary that consolidates the number of interactions required to move food from the producer to consumer.



Figure 1- Common Market Supply Chain

Common Market's delivery routes collect food directly from farmers or from one of its two aggregation centers in Lancaster County and bring it to the aggregation center in Philadelphia, where it is then distributed throughout the city (M. Riordan, personal communication, April 22, 2014). Schools, hospitals, grocers, community groups, and workplaces can become customers of Common Market and purchase a variety of produce, eggs, dairy, meat, beans, grains, and value added products such as yogurt, baked goods, and preserved produce, year round.

Common Market offers source identified products and practices transparency at all levels of operation. Farmer information is provided along with the invoice at each delivery to ensure traceability of all products. Common Market does not form partnerships with new producers unless they have thoroughly conducted background checks and site visits (M. Riordan, personal communication, April 22, 2014). They ensure the safety of their food by conducting annual safety audits, implementing Hazard Analysis Critical Control Point plan, and operating from a certified food safe distribution facility (Common Market, n.d.b.). Common Market is transporting goods as well as information about that food through the value chain.

Common Market holds a variety of partnerships that extend beyond their producers and consumers. It holds ties to the Strawberry Mansion neighborhood, in which Common Market was originally founded, by partnering with the East Park Revitalization Alliance. They also have a partnership with the Kellogg Foundation, one of their top funders and an important partner in movement building and knowledge sharing among alternative food initiatives like Common Market nation-wide (H. Johnston, personal communication, October 9, 2014).

As Common Market has expanded, they have continually scaled up in size and operations. As mentioned before, its origins are located within the grassroots realm of

Strawberry Mansion, striving to positively impact that community and other communities like it in Philadelphia. The majority of its operations take place on the practical scale by forming partnerships with producers and consumers and bringing food from one to the other. Recently Common Market has been working on a national scale by having representatives attend conferences and meetings that facilitate the sharing of knowledge. They are currently conducting a national food systems innovation scan, which is a research project that aims to discover the most innovative community driven food initiatives and provide them with opportunities to replicate and promote their services (H. Johnston, personal communication, October 9, 2014).

The Common Market's distribution warehouse functions as a multi-purpose space. Not only does it provide an area for food to be aggregated and stored, it also houses the Philly Good Food Lab, a program that provides space to incubate businesses for food entrepreneurs (Common Market, n.d.c.). Current occupants include Mycopolitan Mushroom Company, a mushroom farmer and enthusiast, and Soom Foods, a women-owned tahini business (H. Johnston, personal communication, October 9, 2014).

Educational programming provided by Common Market consists of opportunities for farmers to improve their operations. They are offered Good Agricultural Practice trainings and help in creating food safety plans. They are also given support and consulting opportunities for crop planning, packing, logistics, marketing, food safety and certification (Common Market, n.d.d.).

Common Market satisfies all seven of the food hub criteria. It can be classified as producer-oriented, since the majority of its services are geared toward producers. However, it still does work on a variety of scales. It was originally modelled on a food hub framework, though it does not label itself as a food hub. Since it has gained

popularity, Common Market now works as a consultant for other organizations that carry out food hub operations.

Weavers Way Co-op

Weavers Way Co-op began as a bulk buying club, and over the years, it has expanded into a multi-faceted organization. Founded in 1972, Weavers Way Co-op cooperatively owns and runs four retail stores. In 2007 it established its non-profit branch called Weavers Way Community Programs, which hosts programs at three different urban farm and garden locations throughout Northwest Philadelphia (Weavers Way, n.d.a.). While Weavers Way is primarily a grocery store that sources its products from corporations and other aggregators in addition to farmers, its values and multiple programs qualify Weavers Way as a food hub.

Purchasing locally and regionally, cooperatively or collectively produced products from small businesses and independent suppliers and producers are some aspects of the Weavers Way Product Philosophy, though it does not quantify a geographic boundary for what it considers local (Weavers Way, n.d.b).

Weavers Way moves food through the supply chain in a number of ways. It sells groceries and coordinates the Community Supported Agriculture program from the Henry Got Crops farm on Henry Avenue, not far from its grocery store. Products in the grocery store are sourced from other aggregators and corporations, but produce from the Henry Got Crops farm is also sold at the retail locations.

While Weavers Way does not source exclusively from local producers, a list of its 225 local vendors appears on the Weavers Way website (Weavers Way, n.d.c.). They are open to sourcing from new vendors, as long as it complies with their Product Philosophy. The Product Philosophy sets forth a list of nine guiding principles used by

Weavers Way when sourcing food. Offering source identified products is not explicitly stated on this list (Weavers Way, n.d.b.).

Weavers Way maintains a variety of partnerships that span from members to vendors to policymakers. On the grassroots scale, Weavers Way's primary type of partnership is with its members, who set the values that drive every action of Weavers Way. Partners participating in the Weavers Way Community Programs include Henry Got Crops Farm, Saul Agricultural High School, Awbury Arboretum, and the Stenton Family Manor. These different partners aid in operating the satellite farms and gardens coordinated by Weavers Way. On the practical scale, partners include vendors and producers from the region and throughout the country. On the systemic scale, Weavers Way encourages cooperation among cooperatives world-wide. This is in accordance with the seven international cooperative principles (National Rural Electric Cooperative Association, n.d.). In doing so, their operations are connected to the actions of other cooperatives, helping in building a movement toward a more just economy.

While its various programs do not take place on one centralized campus, Weavers Way's operations are multi-functional. On the most basic level, it functions as a grocery store- a way for people to get food. Through its educational opportunities it provides an opportunity for people to acquire food utility skills and knowledge of the workings of our food system.

Weavers Way offers educational programming for all ages. A variety of farm education lessons are catered to students aged K-12 (Weavers Way, n.d.d.). The partnership with Saul Agricultural High School offers students the opportunity to learn about horticulture and livestock in a production-oriented farm setting. Henry Got Crops farm also offers apprenticeships each year for people looking to gain a better understanding of farming. Weavers Way Community Programs offer workshop series

such as Homesteading and Eating with Body in Mind that give demonstration lessons on how to preserve a harvest or how to wild-craft homemade remedies.

Weavers Way meets all seven of the food hub operations criteria. Even though it does not source exclusively from regional producers, Weavers Way's grocery stores are spaces where food is aggregated and sold with as much source identification as possible. Weavers Way's strength as a food hub operation lays in its ability to foster a sense of community within so many programs.

Greensgrow Philadelphia

Greensgrow Philadelphia Project was originally founded in 1997 as Greensgrow Farm, which was a hydroponic farm built on an EPA brownfield site in Kensington, Philadelphia with the mission to “revitalize liveable communities through the practice of sustainable entrepreneurial urban agriculture” (Greensgrow, n.d.a.). It is now a non-profit organization. On their website, the Greensgrow Philadelphia Project is described as follows: “our idea farm, is a nursery, an incubator for initiatives, programs, ideas, and trials that are still growing” (Greensgrow, n.d.b.). The primary focus of Greensgrow is urban agriculture advocacy, and it works to act as “a model for creating liveable, sustainable, connected communities” (Greensgrow, n.d.a.). Since its inception, Greensgrow has diversified its operations to include a nursery, a farmstand and CSA program, and a community kitchen. It continually experiments with new initiatives.

Greensgrow aggregates from small- to mid-sized producers, actively moves food through the supply chain, and offers source identified products through its farmstand, CSA & SNAP Box programs, and mobile markets. The farmstand is located at the Greensgrow Farms location in Kensington; the CSA offers seven drop off points throughout Philadelphia (Greensgrow, n.d.c; n.d.d.), and the mobile markets sell vegetables in both West Philadelphia and Camden New Jersey (Greensgrow, n.d.e).

Greensgrow sources from farmers and producers within 150 miles of Philadelphia. The website offers twelve farmer profiles and sixty-one vendor and producer profiles (Greensgrow, n.d.f.; Greensgrow n.d.g.). Each week of the CSA program, an email is sent out to participants informing them of the items and sources of the produce offered.

Greensgrow partners with over seventy producers, and they partner with community organizations like Green Mountain Energy for a solar project on site and St Michael's Lutheran Church for the Greensgrow Community Kitchen (Greensgrow, n.d.h.). Greensgrow is sponsored by Subaru. As it grows it accumulates new partners to work on its variety of initiatives.

Greensgrow works on multiple scales by facilitating the movement of locally produced food through the region, influencing urban agriculture zoning codes, and offering green space to its neighborhood.

Greensgrow offers a multifunctional space by co-locating an urban farm, a nursery, a farmstand, CSA pick up and drop off point, educational farming spaces, and a community kitchen, which acts as a space to incubate small food entrepreneurs (M. Seton Corboy, personal communication, October 2, 2014).

Greensgrow's educational opportunities consist of workshops covering topics from gardening, cooking, and homesteading.

Even though it did not begin as a food hub, it has evolved over time into an organization that satisfies the seven criteria of a food hub operation. As Greensgrow continues to grow and expand into new neighborhoods, it will continue growing its programs and their reach.

Interviews:

The primary purpose of interviewing executive directors from each of the selected AFIs was to gain a better understanding of the organizations. Some organizational procedures and perspectives cannot be interpreted from organizational documents. Interviews with the executive directors aimed to gain insight about the inception and evolution of each organization as well as an understanding of stakeholder dynamics. The final purpose of the interviews served to gauge the executive directors' measures of their strengths, weaknesses, and levels of success in opposing the industrialized food system.

The author interviewed Haile Johnston, Co-Director and Co-Founder of Common Market; Glenn Bergman, Executive Director of Weavers Way; and Mary Seton-Corboy, Founder and Chief Farm Hand of Greensgrow Philadelphia Project. The interviews lasted about forty-five minutes each. Two were conducted in person, and one over the telephone. A list of possible questions asked appears in Appendix A. These questions were formulated within the following categories: History/ Development/ Evolution of Organization, Food Hub Functions, and Food Systems/ Network related questions. Questions were asked to gain additional information about the organization, an understanding of the interviewee's perspective and knowledge of food hubs, and insight about stakeholder dynamics and their role within the regional and national food system.

Common Market is the only organization that started out using a food hub framework. As mentioned before, Weavers Way began as a cooperative market, and Greensgrow began as an urban farm. While each organization maintains the core structure of their original frameworks, each has expanded beyond its original model. When asked how and when they choose to adopt new initiatives, each director stated

that decisions are mainly based upon the interests of staff and the board of directors. They focus on what is important to them. One director said that finances were an important factor, but even this director admitted that the organization holds on to programs that lose money because they are so meaningful to the community. This same director mentioned that the growing interest in food justice within communities sparked interest in expanding their operations.

Interestingly, none of the directors identify their organizations as food hubs. Johnston said that Common Market used the food hub model to get off the ground, but that it currently identifies as an aggregator/ distributor. Due to the overuse and lack of clarity of the term, some funders are expressing concerns about “food hub fatigue” (H. Johnston, personal communication, October 9, 2014). As evidenced by the literature review, the term food hub is being widely misapplied and misunderstood. Johnston said that the term food hub is still being used by scholars, funders, and planners, and it is not going away any time soon. He believes it would benefit all of these stakeholders and the organizations themselves if we worked to define the term a bit more.

When asked about influencing the larger food system, the directors said that it is not their job to force everyone to care about the food system- it is their duty to present the options. To paraphrase one director: “Maybe I can’t get my neighbors to eat farm fresh kale, but if my work encourages them to eat a can of green beans instead of a bag of potato chips, then I have accomplished something” (M. Seton Corboy, personal communication, October 2, 2014). When discussing the larger food system of Philadelphia, every interviewee revered the Philadelphia Wholesale Produce Market, and the massive scale on which it operates. The Philadelphia Wholesale Produce Market is “the world's largest fully-enclosed, fully-refrigerated wholesale produce terminal” (Philadelphia Wholesale Produce Market, n.d.). According to the PWPM

website, the facility “receives and sells hundreds of truckloads of fresh produce on a weekly basis, leading to cumulative annual sales of one billion dollars” (Philadelphia Wholesale Produce Market, n.d.). Bergman stated that the capacity of all three AFIs in this case study “is not even a drop in the bucket” compared to that of PWPM, showing how he might consider the success of food hub operations based on market volumes (G. Bergman, personal communication, October 3, 2014). Some even entertained the idea of the PWPM as a food hub, which indicates that they associate the term food hub with aggregation and distribution but not necessarily of regional and source identified products.

Since the literature and the organizational websites provide ample information about producers and consumers, the discussion about stakeholder dynamics focused on community stakeholders, national partners, and policymaking. Each website touts the benefits the organization offers to “the community,” so one question asked exactly who the community is. Is it the people who live directly in the vicinity of the organization? Is this the same as those who are eating the food you provide? Each organization had a different answer: Greensgrow’s neighbors value their operations as green space, not necessarily for the healthy and eco-friendly practices they promote. The community who appreciates Greensgrow’s values is not confined to one geographic location within Philadelphia, and no other signifying demographics were mentioned. Weavers Way’s community is its membership; the members are owners and many live nearby. Common Market serves communities within institutions and aims to benefit both rural and urban communities through their work.

Two of the three selected organizations maintain national partnerships. Mary explained that having Subaru as a partner gives Greensgrow a “lift in legitimacy” (M. Seton Corboy, personal communication, October 2, 2014). When a national corporation

like Subaru is investing money in a small organization like Greensgrow, it serves as proof that Greensgrow's efforts are worthwhile pursuits. Johnston had quite a different response about Common Market's partnership with the Kellogg Foundation, which, he clarified, is unrelated to Kellogg's Cereal. For Common Market, this national partnership offers opportunities for collaboration and "movement building" with other innovative food initiatives throughout the country (H. Johnston, personal communication, October 9, 2014).

Each organization has been involved with policymaking to some degree, as well. Greensgrow provided significant input when the Philadelphia Zoning Codes were being revised to include urban agriculture regulations. Along with Weavers Way, Greensgrow is also advocating the legalization of raising backyard chickens in Philadelphia. When Johnston discussed policy change, he explained how the work that Common Market does every day is working to influence policy change. "You don't just get the system to change on its own. You have to demonstrate how alternative models are successful and convince the government that the current system is not meeting community needs" (H. Johnston, personal communication, October 9, 2014). Johnston's philosophy on policy change focuses on the non-profit sector's responsibility to operate outside of the current system to demonstrate successes that will move the system forward. If what these organizations are doing is successful and their methods gain enough attention, it could force the government and the market to shift accordingly.

Each organization is expanding while remaining within its growth capacity, and every director acknowledged that they are operating as a model for other organizations. They believe that they are setting standards and offering exemplary models that could be used in other cities, in other regions, and even in other neighborhoods within Philadelphia. One director was even surprised that more people

have not used the model her organization sets forth (M. Seton Corboy, personal communication, October 2, 2014). Fostering new food hubs can help to increase the capacity of our region both economically and logistically, and it can help to increase the proportion of regionally and responsibly sourced food to industrial, agribusiness-sourced food.

Interpreting the Findings

Influenced by information from the literature review and expert interviews, Figure 2 aids in visualizing the distribution of food hub services and impacts. This diagram expands upon Common Market's supply chain visual in Figure 1 by mapping a food hub's services in terms of grassroots, practical, and systemic scales to show how they impact communities, the food value chain, and the structure of our established food system, respectively. The supply chain visual remains at the center of the diagram, which also shows how food hubs deliver benefits to four areas: communities, producers, consumers, and the food system at large.

Communities can include but are not limited to producers and consumers. For example, Common Market strives to serve farming communities and underserved communities, which happen to be their producers and consumers, however, they continue to support food and health oriented community programming in Strawberry Mansion, via the East Park Revitalization Alliance. Additionally, they provide space for food entrepreneurs to incubate start-up businesses. The Strawberry Mansion community and small food entrepreneurs are not part of Common Market's consumer base, but they still benefit from its work. Typically, producers are representative of rural communities and consumers are representative of urban communities. This diagram shows how a food hub operation's services connect the urban and rural communities that rarely

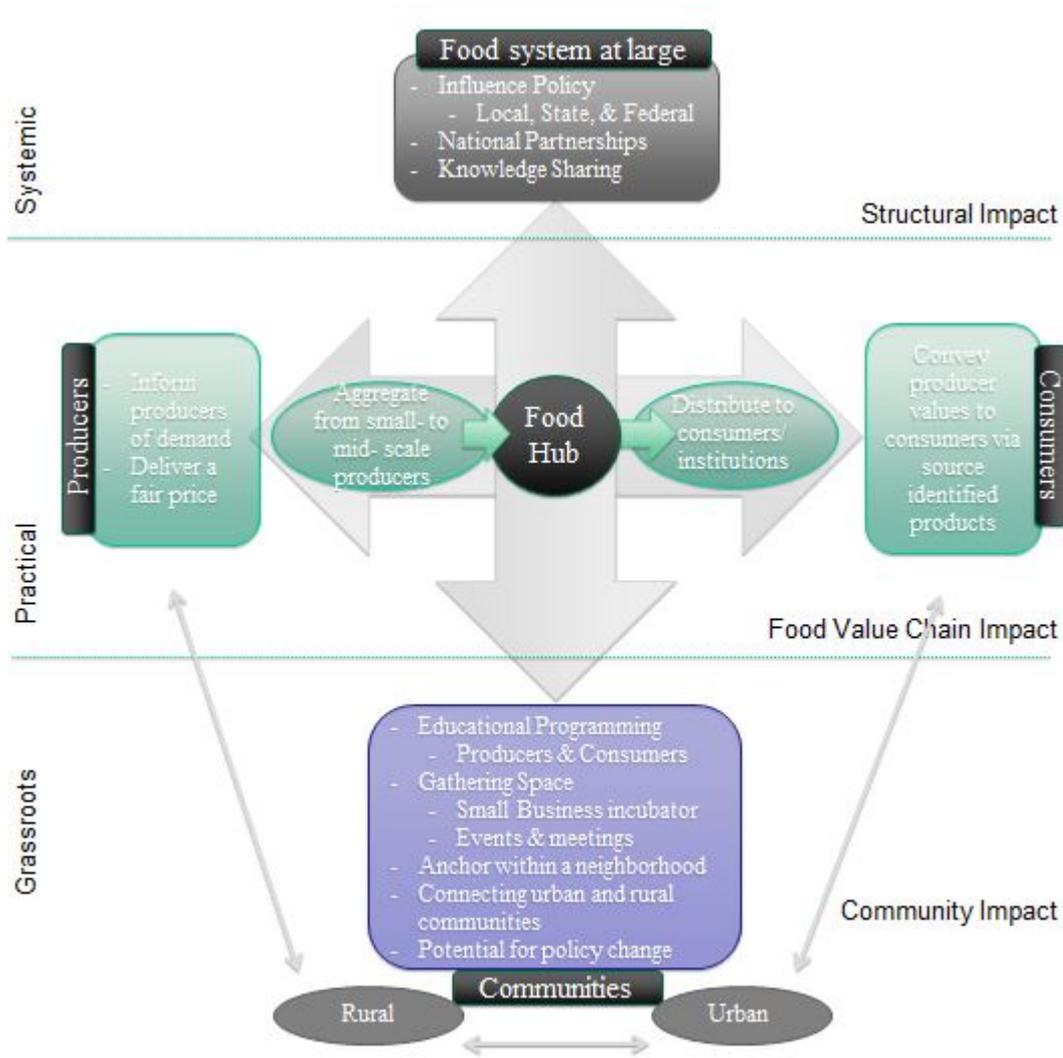


Figure 2- Food Hub Operations Services and Scales

realize their interdependence. A food hub also educates and inspires members of these communities to take political action when food policy issues arise. Not only does the food hub itself have the ability to influence policy, but so do the communities it serves.

Table 2 outlines specific services of the selected food hub operations based upon the scales outlined in Figure 2. Categorizing the services of each food hub can help in understanding its effectiveness in influencing the various scales of the food system and identifying areas of operation that are in need of attention at each food hub. Using the information from Table 2, one can look at the strengths and weaknesses of each organization and place them onto Figure 2 as if it were a graph. Common Market’s

Table 2- Philadelphia Food Hub Services by Scale

	Common Market	Weavers Way	Greensgrow
Local	<ul style="list-style-type: none"> - Strawberry Mansion nutrition initiatives - Good Agricultural Practice trainings for Farmers - Philly Good Food Lab 	<ul style="list-style-type: none"> - Cooperatively Owned - Weavers Way Community Programs - Partnerships with Saul Agricultural High School & the Stenton Family Manor - Extensive community programming 	<ul style="list-style-type: none"> - Valued as green space within neighborhood - Community Kitchen serves as small business incubator and Farm serves as gathering/ educational space - Offers educational programming regularly
Practical	<ul style="list-style-type: none"> - Operates an aggregation and distribution center - Works with small- to mid-scale farmers to deliver a fair price - Distributes source identified products to institutions 	<ul style="list-style-type: none"> - Operates based on Weavers Way Ends, which encompass values of fair social, economic, and environmental practices - Offers some source identified products - Sources from Henry Got Crops Farm 	<ul style="list-style-type: none"> - Aggregates from small- to mid-scale producers and distributes source identified products directly to consumers via CSA program
Systemic	<ul style="list-style-type: none"> - Partnership with Kellogg Foundation - National movement building and the dissemination of knowledge 	<ul style="list-style-type: none"> - Part of national network of cooperatives 	<ul style="list-style-type: none"> - Influencing Philadelphia’s urban agriculture zoning code - Acting as a model for others; transferrable to other neighborhoods in Philadelphia and other cities in the U.S.

strengths lay in aggregation and movement building, so it would be placed in the upper portion of the graph within the systemic scale, while Weavers Way and Greensgrow's work is concentrated in the Grassroots scale and oriented toward consumers and communities. They would be placed closer to the lower right portion of the diagram.

Placing these organizations as coordinates onto Figure 2 can help us understand how a food hub network forms. As discussed during a panel discussion at the 2014 National Good Food Network’s Food Hub Collaboration Conference, one organization is not capable of fulfilling every single service perfectly (Saltzman, Kronick, Serrano, Suokko, and Johnston, 2014). Some food hubs may be stronger in certain areas than others, yet these strengths can be used to one another’s advantage. Forming networks based upon mutually beneficial strength is important for a number of reasons. First, food hub operations can focus on improving the quality of their specialized services.

Emphasizing collaboration will ensure that no single entity controls the market, which makes for a more robust network and a more stable economy. Also, the growing network of food hubs receives more community feedback, which enables them to better translate the needs of communities in order to implement beneficial policies, making real change more possible.

Conclusion

This essay offered a new set of criteria for determining a framework for food hub operations that can be adopted by any type of alternative food initiative. The purpose of the criteria is to provide non-restrictive frameworks that can aid AFIs in opposing the industrial food system. The review of three Philadelphia-based AFIs shows how each one operates within a food hub framework.

Further research on food hubs will continue to clarify the term and more closely examine the impacts by attempting to quantify them. While this research project identified qualitative aspects of food hub operations, but a quantitative approach could determine the percentage of food that is moved through the Philadelphia area's food supply chain with the help of food hubs in comparison to the industrial food supply chain. Further qualitative research could make use of consumer interviews to better understand the impacts of food hub operations.

While each of the observed AFIs demonstrates small scale successes, directors acknowledge that there is still a long way to go before the industrial food system of Philadelphia is significantly impacted. In order to become more influential within the area, the observed food hubs could increase collaboration with one another and encourage more AFIs to operate within a food hub framework. This research project can be periodically revisited to provide additional case studies of any organizations that may

meet the food hub criteria set forth here as Philadelphia's alternative food system evolves.

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APPENDIX A- INTERVIEW QUESTIONS

The following questions are examples of the types of questions asked in the interviews with executive directors. Not every question was addressed in each interview.

History/Development/Evolution

How and when did your organization begin?

What are the core values of your organization?

What issues/concerns did the founders of (food hub) seek to address?

How has the mission/vision evolved since then?

In what ways has Philadelphia influenced the development/ creation of your hub? In other words, do you think your organization could have been established in any city? Is it specific to Philadelphia?

Food Hub Questions/ Function

How do you define the term 'food hub'? How can we differentiate the term food hub from any of the other alternative food initiatives?

At what point, if at all, did your organization begin to view itself as a food hub? Did this change the way it views its role within the community?

What type of food hub would you categorize your organization? Producer-oriented, community oriented, or hybrid?

On what scale does this food hub work? How does one organization balance the scales on which it is working? Does each food hub in the region work on different scales or is there some overlap? Primarily local initiatives? How are you influencing the regional food system & changing it?

What services does your food hub offer? To whom do these services cater?

What types of opportunities are provided for community members? Does your hub create jobs? Offer workforce skills training?

Website talks about the community. Who makes up the community? Any specific demographics? How is that defined? Those living nearby? Those who shop there? Who is left out from "the community"? Were the founders invested/ a part of the community which is served by the hub?

Network

Who/what are your main partnerships?

What other food hubs do you work with in the Philadelphia area?

How does your food hub support/complement these other hubs?

What is the benefit of having a corporate partner in localized food system efforts? The idea that a larger entity is behind this- can you expand more?

How do specific partnerships come to fruition? What is the most common type of partnership for your organization? Who approaches whom?

Is there someone orchestrating our regional food system? Should there be?

APPENDIX B- WEBSITES FOR AFIs CONSIDERED

Bartram's Garden Community Farm and Food Resource Center/ Agatson Urban

Nutrition Initiative: <http://www.bartramsgarden.org/learn-through-nature/community-partners/>

Common Market: <http://commonmarketphila.org/>

Fair Food Philly: <http://www.fairfoodphilly.org/>

Greensgrow Farms: <http://www.greengrow.org>

Kensington Community Food Coop: <http://www.kcfc.coop/>

Mill Creek Farm: <http://www.millcreekurbanfarm.org/>

Norris Square Neighborhood Association:

<http://www.myneighborhoodproject.org/site/>

Philadelphia Urban Farm Network: <https://groups.google.com/forum/#!forum/pufn>

Philly Cow Share: <https://www.phillycowshare.com/>

Philly Food Works: <http://phillyfoodworks.com/>

Pennsylvania Horticultural Society: <http://phsonline.org/>

SHARE Food Program: <http://sharefoodprogram.org/>

South Philly Food Coop: <http://www.southphillyfoodcoop.org/>

Teens 4 Good: <http://teens4good.orbius.com/>

The Food Trust: <http://thefoodtrust.org/>

Urban Tree Connection: <http://urbantreeconnection.org/programs.html>

Weavers Way: <http://weaversway.coop/>

Wild Foodies of Philadelphia: <http://www.wildfoodies.org/>