

A Food Hub in New Brunswick II

Presentation Text

**Fall 2012 Community Development Studio
Edward J. Bloustein School of Planning and Public Policy
Rutgers University**

Studio Members

Shana Attas

Pritpal Bamhrah

Alison Blazey

Medha Dixit

Margaret Dobbs

Sujee Jung

Kathryn McKelvey

Ghulam Hassan Mir

Nolan Patel, Voorhees Fellow

Tyler Seville, Voorhees Fellow

Jeanifer Uwaechie, Voorhees Fellow

Joshua Wilcox

Cynthia Willems, Voorhees Fellow

Sarah Yeung, Voorhees Fellow

Joseph Zagari

December 2012

Instructor: Kathe Newman, Associate Professor and Director, Ralph W. Voorhees Center for Civic Engagement

Many Thanks

Margaret Brennan, NJAES
Chickadee Creek Farm
Davidson Exotic Mushrooms
E&R & Son Farm
Beth Feehan, Farm to School
Fruitwood Farm
Fruitwood Orchards Honey Farm
Kristina Guttadora, Farmers Against Hunger
Alison Hastings, Delaware Valley Regional Planning Commission
Hoboken Farms
Debbie Kaufman, Tri-County Cooperative and Produce Auction
Wansoo Im, Vertices LLC / Rutgers University
Lima Family Farms
Rebecca Frimmer, Greensgrow
Helene Meissner, North West New Jersey Community Action Partnership
Melick's Town Farm
Hannah Mellion, Farm Fresh Rhode Island
Walter Mulyk, St Vincent De Paul
Martin Murphy, Rutgers Business School
Nathan, Greensgrow Farmer
NOFA-NJ
Randy Peck, "the sampler" Farmer, Member of Tri-County Cooperative
R&K Farms
Jack Rabin, NJAES
Judith Robinson
Alison Romano, NOFA NJ
Brian Schilling, Rutgers Department of Agricultural Food and Resource Economics
Phyllis Stoolmacher, Mercer Street Friends
Tassot Apiaries
Tindall's Greenhouses
Rick Van Vranken, Cooperative Extension Atlantic County

Welcome and Introduction

The Fall 2012 Community Development Studio worked with Elijah's Promise, the New Brunswick Food Alliance and New Jersey Community Capital to think about how they might build on New Jersey's existing farming and community development infrastructure to create a community food hub. To do this, we sought to 1) explore how community food hubs work in other contexts, 2) better understand and map the NJ's farming landscape and how farmers get their food to consumers, especially the direct market paths, and 3) identify which community food hub elements are already in place in NJ and think about how the Food Alliance might built on these elements to develop a food hub that builds on our existing infrastructure, talents, and resources. This effort complements other efforts to improve community food security and strengthen New Jersey's farmers.

Food Hubs in Context

Slide: Definition of a Food Hub

The USDA defines a food hub as "a centrally located facility with a business management structure that facilitates the aggregation, storage, processing, distribution and/or marketing of locally or regionally produced food products" (USDA, SOURCE).

Slide: What is a Community Food Hub?

Although the terms "food hub" and "community food hub" are often used interchangeably, a food hub focuses on aggregating and distributing food. "Community Food Hubs" take these activities and incorporate community development objectives to meet the needs of low-income populations. Most seek to improve community food security. Some also promote food and culinary education, small business development, and job training. Although all of this depends on the capacity and community groups involved, a community food hub could also do food processing and develop value-added products (Spring Studio, 2012).

Slide: How?

While food hubs, in general, work the same way - they aggregate produce - how they do this depends on their local contexts. We looked at 11 food hubs to see how these relationships are organized in different places. We were especially interested to learn how producers work with the hubs, how food gets from the growers to the consumers, and what other activities food hubs do besides aggregation. We also wanted to learn how these hubs meet the needs of local

low-income populations.

Using a variety of sources, we compiled information about the hubs including how they get produce from farms to hub, the number of farmers, demographics, storage space, and how they work with the community. To quantify and organize the data, we created an Excel spreadsheet which compares details such as warehouse size and the number of trucks in a fleet. We interviewed some food hubs to gather additional information and chose four to look at further.

Slide: Food Hubs: A closer Look

We chose to go more in-depth into four hubs: Appalachian Harvest, Greensgrow Farms, Farm Fresh Rhode Island, and Oneida. We're going to walk through each of these to illustrate how food hubs work on the ground. For each of the four hubs, we created a graphic to illustrate the unique structure and relationships with consumers and buyers.

Slide: Appalachians Harvest (Quote)

EXPLANATION: This quote imparts the vision behind the hub's founding. The parent non-profit saw a local need for economic development and anticipated the market trend for local food.

Slide: Appalachian Harvest

This is the graphic we developed to illustrate the Appalachian Harvest model. Appalachian Harvest is based in southwest Virginia. Appalachian Sustainable Development, a non-profit organization, created the food hub in 2000 as a social enterprise. Appalachian Harvest works with 70 farmers from southwest Virginia and North East Tennessee. It started as a way to ease the local farming economy out of tobacco production and into organic produce. It offers educational workshops and mentoring services for farmers to learn about how to transition into organic farming. In terms of aggregation and distribution, it organized the farmers into an informal co-op. Appalachian Harvest acts as a broker and makes buying and selling agreements between suppliers and buyers. Every week, they collect a list of needs from buyers and distribute it to suppliers. The process stabilizes prices and creates long-lasting partnerships. Appalachian Harvest also created an alternative market channel for seconds to make fresh, organic foods accessible to low-income people. They distribute the seconds to a regional food bank, local universities and supermarket delis. They also focus on economic development strategies to help farmers and rural low-income residents. They have overcome cultural suspicions about organic farming through education. Their flexible aggregation and distribution structure has enabled local farmers to access markets while remaining independent. The next farm we chose to look at is Farm Fresh Rhode Island.

Slide: Farm Fresh Rhode Island Graphic

A variety of local food supporters created Farm Fresh Rhode Island in 2004 to get healthy food to low-income areas and preserve RI farmland by creating a sustainable food distribution network. They facilitate aggregation to wholesale and direct markets through their virtual hub and distribution through the Market Mobile. Consumers, chefs, restaurants, and small grocery stores create an account and place orders for delivery and pick-up. Farmers bring their produce to the hub where employees package and organize deliveries. They coordinate price lists and delivery dates using an online database. They have refrigerated and non-refrigerated storage space and their cross docking system allows for continuing movement of produce. They deliver produce straight to workplaces, community centers, daycares, and schools through their Veggie Box CSA.

Slide: Farm Fresh Rhode Island (Photos)

The pictures show some examples of Market Mobile clients, which include the Rhode Island School of Design, Boston's Blue Glass Cafe, and the Marriott Downtown Providence.

Slide: Farm Fresh Rhode Island (Fresh Bucks)

The Fresh Bucks Program converts credit and debit card payments into local currency coins called "Fresh Bucks" for use at the farmers markets. Recipients get 5 Fresh Bucks for every \$2. Local community groups distribute these coins, which help offset food costs for low-income families. The Veggie RX program also works with low-income consumers. Consumers receive a "prescription" for one serving of vegetables per day that can be redeemed at Farm Fresh-sponsored farmers markets. This gets healthy food to low-income consumers and guarantees sales for farmers.

Slide: Oneida Nation Farm (Orchard)

The Oneida Tribe of Indians of Wisconsin operates two food-related entities: a for-profit farm called Oneida Nation Farm and a non-profit entity called the Tsyunhewa (jun-ik-wa) Project.

Slide: Graphic

Oneida Nation Farm is a diversified agriculture-based enterprise which includes beef and buffalo, field crops, including corn and winter wheat, produce such as sweet corn, and an apple orchard. The Tsyunhewa (jun-ik-wa) Project acts as the community food hub. It has an 83-acre organic farm and a cannery where it processes and then distributes their products. Tsyunhewa (jun-ik-wa) reaches out to the local community and provides them opportunities to experience food firsthand through school field trips and pick-your-own-fruit from the orchard.

Products from both the Oneida Nation Farm and Tsyunhehwa (jun-ik-wa) are sold to wholesale and direct markets, at retail stores, through their own retail store and their self-owned Radisson Hotel. Oneida is unique in how they have leveraged the tribe's existing commercial ownership interests to create their own wholesale markets. They have also retained the cultural distinctions in their food and food products while encouraging more sustainable forms of food production like local and organic foods.

Slide: Oneida Nation Farm Processing Photo

Here is an employee sorting through organic apples from the orchard.

Slide: Oneida Nation Farm Cannery

This is a screen shot of their online retail store. The picture shows corn soup, one of the value added products they make at the cannery.

Slide: Greensgrow Introduction

Greensgrow is the fourth food hub that we chose to focus on. Greensgrow farm is located in Philadelphia's Kensington neighborhood. Most of their revenue comes from their summer and winter CSAs. They also have a mobile produce market, which is a food truck that provides reduced price food to low-income residents in West Philadelphia and Camden. Finally, they run a farm stand on their main farm.

Slide: Greensgrow Graphic

Greensgrow grows produce at three farms. But their yield is small, compared to the number of residents they serve, so they combine their harvest with food from about 50 farms within a 150-mile radius. Greensgrow packages the produce and distributes it through the CSA. Their Life Credits program enables low-income residents to use food stamp credits to purchase CSA shares during the summer.

Slide: Greensgrow Processing (Photo)

To learn more about Greensgrow, I volunteered there for a day. This slide shows the processing side of the farm. This is a photo of the lettuce that we harvested—we first washed it in a big basin and then spun it (like a salad spinner) in a drier to get the water out before packaging.

Slide: Greensgrow Farm (photo)

This slide shows a photo of one of the high tunnels at the farm site in Kensington as well as other images from the farm.

Slide: Key Points - main take aways

What food hubs do and how they do it depends on their local context. How producers work, where they are, what organizations launch the effort, and what communities need, all shapes the food hub form. Even though each food hub was unique, we found some common issues and characteristics that might inform the central NJ food hub effort.

The hubs we featured were attuned to the unique characteristics of their local farming culture. They used this knowledge to structure the separation of responsibilities between farmers and the management team. Informal brokerage relationships such as Appalachian Harvest's pseudo co-op enables a more hesitant farming community to retain ownership of their product. In this way, the hub can slowly build trust and rapport. An interactive website makes the "business" of a food hub highly dynamic. It also encourages efficiency, minimizes entry barriers for small farms and consumers and helps target customer demands.

Hubs were flexible and creative in transportation arrangements. With an interactive website, highly sophisticated cross-docking services can be arranged, as seen in the Farm Fresh Rhode Island model. In some cases, warehousing facilities and supplier/buyer sites were not optimally located. To address this issue, hubs worked to get the most of deliveries and make sure trucks were full in both the coming and going legs. Extra space was also filled with hauls for community groups and food pantries. Appalachian Harvest used extra truck space to deliver produce seconds to a regional food pantry. Greensgrow used the truck in its mobile market.

Hubs leveraged their reputation and community trust to approach local buyers. For example, Farm Fresh Rhode Island approached buyers like the Rhode Island School of Design. Hubs were also ambitious in establishing connections with wholesale markets which aligned with their mission. Appalachian Harvest, for example, successfully connected to grocery chains like Whole Foods. Finally, hubs created alternative market channels for seconds and extra produce. Appalachian Harvest created a program which raises funding from local community groups like churches to purchase seconds at a discounted rate. And, the seconds are donated to a regional food pantry. Greensgrow Farms created their own processed food brand using their extra produce.

These hubs weave their missions to increase access to fresh food for low-income people into all their programs. They extend programs for the general community to include low-income people and create specific programs to reach low-income residents. For example, Farm Fresh Rhode Island's Fresh Bucks doubles the purchasing ability of low-income people at their farmers markets, and Greensgrow's Life Credits program works in tandem with their normal CSA to serve low-income people.

In summary, we want to emphasize the relationship-based nature of a community food hub. The hubs we looked at changed their food systems. They did this, not only through creating infrastructure and establishing markets, but through establishing farmer trust, wooing wholesale outlets, and educating communities to create markets for healthy foods. In light of these conclusions, we believe that Elijah's Promise's reputation, networks, and history of service is a great foundation for the creation of a community food hub in New Brunswick.

We turn next to a brief overview of the landscape of farming in NJ.

Landscape of Farming In NJ

The Landscape of Farming in NJ

Slide: Farm locations

While New Jersey is the most urbanized state in the country, it is still home to a productive farming industry. Most farms are located in the southern and northwestern portions of the state, far from the dense population centers surrounding the New York City and Philadelphia metropolitan areas. This creates distribution challenges for farmers, which we will discuss.

Slide: NJ Farm Size and Map

New Jersey farms are generally much smaller than farms in the big agricultural states; however, they are very productive. This graph shows the number of farms by acreage in 1997, 2002, and 2007. The majority of New Jersey farms are between 10 and 49 acres. Farms of this size have increased in number while larger farms that are between 50-499 acres have decreased.

Slide: Farm Profit

Since 1987, the number of New Jersey Farms reporting a profit has decreased with a significant drop occurring between 1997 and 2002. NJ has the smallest percentage of farms reporting net gains with only 38% compared to 47% nationally (Schilling, 2006).

Slide: Ag in the Middle

Food hubs emerged to address the problems of a particular group of farmers, often described as "Ag in the Middle." The USDA defines Ag in the Middle as farms taking in between \$250,000 and \$1 million per year. Applying this definition to NJ, we quickly learned that NJ has no farms in that category. In other words, our problem looks a bit different because our farms look a bit different. We looked around to see how others define it and the Agriculture of the Middle Initiative considers the farms as in this category if they are between \$50,000 and \$500,000

in gross sales (*Characterizing Ag of the Middle*, 2012). This didn't help us much either. After thinking about this a lot, we realized that we're really looking for farmers who face a unique set of market challenges. This group uses markets that fall between the vertically integrated markets of larger farms and the direct markets of smaller farms. Although these tend to be mid-sized farms, and can be described by income, farms of any size can fall into this category making it challenging to identify just which farms are Ag in the Middle (Kirschenmann, 2008).

Slide: Farmer Challenges

"Ag in the Middle" farmers may struggle with a variety of problems. Some farmers produce too much to sell through direct markets and too little for wholesale markets which makes it difficult to find an appropriately scaled market (Barham et al., 2012). Most of these farmers lack storage and/or processing facilities which would enable them to preserve food and create value added products, thereby missing out on a secondary source of income and a means to use grade 2 produce. These farmers could expand by selling to institutional consumers like schools, universities, restaurants, hospitals, and business, but they face many challenges in doing so. They may not produce enough of a particular product to meet institutional buyer needs. They may lack the relationships and time to work out arrangements with many institutional purchasers and their often stringent documentation requirements. In addition, transportation to get their produce there may be limited or unaffordable.

On the other end, institutions might want to buy local fresh produce, but they face many challenges. For institutions like Elijah's Promise, it may be cheaper and more convenient to place an order a thousand miles away. Some co-ops deliver while others require pick-up, which presents transportation problems. Existing distribution systems make it more economically viable to ship produce between states than within states. As Lisanne has pointed out, the local food is there, but it requires massive amounts of time and energy to get it (Finston, 2012).

Slide: Ag in the Middle Income

We decided to look at the landscape of Ag in the Middle farmers in NJ to better understand what challenges they were up against. Identifying this subset of farmers by income is challenging as it's not the income but rather the problems that place a farm in that category. As we couldn't interview every farm in NJ to find out what problems they faced, we opted to get to know the NJ farming landscape a bit better. How do smaller farmers get their food to market? While we acknowledge the larger markets like auctions, we focus on the growth of smaller direct market routes which is where we would expect to find NJ's Ag-in-the-Middle farmers. We turn to this now.

Farm to Consumer Paths

Slide - Aggregation and Distribution Networks: Framework

NJ farmers move their food to consumers along a variety of paths. In this section, we're going to explain how this works. We classify the existing distribution network into direct and indirect distribution routes. The indirect networks flow through wholesale distributors, auctions, and produce co-ops, and the direct flow through farmers, on-farm, roadside, and tailgate markets, CSAs, and pick-your-own farms. Running alongside this system are a variety of actors that move food into the emergency food system through gleaning, donations, and sales.

Slide - Farmers Market

The farmers market is the most popular direct-to-consumer model. Farmers markets give flexibility to the farmers to decide their own prices. Over the last decade, NJ has seen a dramatic increase in the number of farmers markets, from 12 in 1980 to 156 today. Markets are located in the population centers which suggests that farmers travel to reach their consumers.

Slide – Direct Markets – Farmers' markets, agritourism

For many small farmers, direct markets are the primary point of sale. These markets have many advantages, especially if they are well-managed. In addition to produce, many offer value-added goods like honey, candles, jams, jellies, and crafts. Most farmers only sell what they produce and preparing for each market involves picking, washing, packing, driving, and selling, all within 12-24 hours and then -- repeat the next day. Many farmers also sell direct from their own farms.

Slide - Direct to Consumer Distribution models: Pick-Your-Own farm and Roadside stands

Roadside stands and pick-your-own farms are highly popular. NJ has at least 520 farm and roadside stands which are often part of a farmer's larger retail distribution network. Over 168 farms now participate in pick-your-own. This growth has been supported by an increasing awareness of locally grown fresh produce and a trend towards agritourism. Many farms with pick-your-own programs also host country market farm stands.

Slide- CSA's

CSAs, or community supported agriculture, is a partnership between consumers and farmers. It allows consumers to buy a share of farm produce and farmers to have a dependable income. While there were only a handful of CSAs in New Jersey a few years ago, there are 46 now. The Rutgers student farm runs its own CSA and Elijah's Promise already receives food from them.

Slide - Cooperatives

We just walked through the direct farm outlets but many farmers still participate in the state's historic cooperatives and auctions. Cooperatives offer growers an array of services including storage, refrigeration, post-harvest handling, transportation, value addition, product promotion and financing options. There are 10 cooperatives in NJ (Jersey Fresh).

Slide - Auctions

NJ has 4 auction sites. Three out of the 4 are located in the southern part of the state where most producers/growers are located. Each auction has a different focus depending on how it is organized and who sells and buys. The Vineland Auction, a high-grossing co-op, is the oldest in the country (point at the map).

Slide – Tri-County Produce Auction

But we really want to highlight the Tri-County Cooperative and Produce Auction in Hightstown (point to map), which is a farmer cooperative that enables farmers to participate in larger market networks and to purchase produce they don't grow themselves. Tri-County runs a weekly direct market and an auction. For the direct market, orders are placed in advance and arranged for easy pick-up. The auction was discontinued for some time but was revived last year. The Co-op has two on-site cold storage units and is applying for a grant to install a tomato room. It sells standard-issue produce boxes and pallets, and offers member discounts at an agricultural resource store.

To learn more, we visited Tri-County and watched an auction. The farmers are a close-knit group with well-established relationships and multi-generational participation. Reputation plays a large role in a farmer's success at the auction, as these farmers sell to each other all season long. This support system, encouraged by a little friendly competition, ensures high-quality produce. ■

SLIDE: FARM TO INSTITUTION

There is a national movement to increase the share of locally sourced produce purchased by state institutions; however, this process includes its share of challenges. While there are beginning relationships, there are many opportunities to grow relationships between producers and institutions such as schools, universities, hospitals, and prisons.

While demand for fresh food on public school menus has increased, there is very little overlap between the academic calendar and New Jersey's growing season. Also, most schools contract with large food providers as they lack adequate kitchen facilities and staff. Even so, some NJ school districts are offering local produce on their menus, including Flame Farm eggplant and

local blueberry parfait (Spring 2012 Community Development Studio; Feehan, 2012).

Hospitals and healthcare facilities also recognize and promote the connection between healthy eating and improved health outcomes. In 2010, Valley Hospital of Ridgewood, NJ pledged to offer their patients locally sourced foods and partnered with Catalpa Ridge Farm of Wantage, which provides them with salad greens, onions and herbs (Smith, 2010). In 2011, Newark Beth Israel Medical Center, Children's Hospital of New Jersey, and Garden State Urban Farms opened The Beth community garden, Newark's first hospital-based garden. Newark's Maple Avenue School uses the garden to teach their students about fresh produce and healthy lifestyles (Mumford, 2011).

New Jersey is also facilitating innovative connections between farms and prisons. It has two major State Prison Farms: The Bayside State Prison Farm and the Jones State Prison Farm, which are home to more than 1,000 inmates. The Jones State Prison Farm is a minimum security work camp located on 250 acres outside of Trenton. Bayside State Prison is a medium security facility in Leesburg in Cumberland County that contains a Regional Bakery and provides training programs for its population of male adult offenders (Lanigan, 2012). Most prisons don't grow their own food and prisons serve many meals each day. A food hub could facilitate links between farmers and prison food buyers.

Slide: Informal Networks

In addition to these larger markets, at each market sale point, some part of NJ's emergency food infrastructure moves excess food to low income people. For example, the Community Food Bank of New Jersey picks up excess food from produce auctions and donates it to Mercer Street Friends. Many farmers donate excess produce at farmers markets to local food pantries, food banks, and soup kitchens. Farmers Against Hunger and other gleaning organizations, organize volunteers to pick and quickly move leftover produce to people who need it. This map shows the farmers that participate with Farmers Against Hunger. Many NJ farmers grow extra food specifically for this network and/or allow volunteer pickers on to their farms to pick food that they will not sell through their regular markets. Grow-A-Row and Backyard Harvest support these efforts. Farmers Against Hunger also keeps a refrigerated truck at the Tri-County Produce Auction to transport donated and leftover food from auction sales to food banks.

Food Distribution: Emergency Food System

There is a considerable amount of leftover produce in NJ's farm fields but picking and transporting it quickly enough to benefit low-income consumers is trickier than it sounds. Volunteers are not necessarily available when farmers need food picked and they tire quickly. Picking is hard work. Volunteers, while helpful, can be a hassle for farmers and damage fields.

It is also difficult to move fresh produce, especially in warm weather, quickly enough to the consumers who need it. Increasingly, New Jersey's regional food banks are playing important roles in preserving fresh produce. Many have installed refrigeration systems which increases produce life. But few small community food pantries have cold storage systems. Despite these challenges, clearly organizations successfully move lots of NJ produce to the people who need it and there is the potential to do much more.

Considering a Food Hub

From the Farmers' Perspective

Slide: What Farmers Need

As we mentioned earlier, figuring out just which farmers fit this Ag-in-the Middle definition was challenging. Thinking that these farmers might turn up at local farmers markets, we spoke with some farmers in Highland Park and in Princeton earlier in the Fall. We found they were happy with the direct retail market option but it was difficult to ask them about what they would want in a hub because we weren't quite sure what the hub would look like. So we turn to a few relatively recent studies that did a much more expansive job of reaching out to farmers to see what we can learn from to inform New Brunswick's efforts.

The 2007 Market Ventures report asked farmers in the tri-state area about their interest in a wholesale produce market in NYC. Some of the findings are instructive to our study. Many farmers showed interest in a year-round market, while most indicated that their participation depended on the weather, access from major transit routes, availability of post harvest processing, up-front commitment, and the hours and days they would be required to attend. Farmers showed more interest in places that offer post-harvest processing, are easily accessible from major transit routes, offer flexibility in the number of days they can participate, and suggested a minimum three-month commitment to prevent farmers from dumping their produce which would drive down prices. Many farmers indicated that they would like access to cold storage. Finally, farmers felt that to maximize their profits, there should be separate times to sell to wholesalers and the public. (Market Ventures, 2007).

Slide – DVRPC

The Delaware Valley Regional Planning Commission conducted a survey of the Greater Philadelphia Food System in 2010 to understand how food moves around the region, where it is grown, and how we can manage this system into the future. Like the Market Ventures study, the DVRPC study offers some insights into farmer preferences and concerns and included a stakeholder analysis. Stakeholders wanted access to larger markets, equipment rentals, assistance with labor acquisition and retention, education and training programs, and financing for future farming endeavors for new, small, or minority farmers. The stakeholders recommended an online inventory of shipping and warehouse facilities to minimize the amount of time produce is stored before arriving at its destination. Processing facilities and value-added production were also of interest.

Slide: Ways to add value

There are multiple ways to add value to a product through identity preservation, product attributes, production practices, and group branding. These techniques do not modify the produce in a physical way; they shape consumer demand. Identity preservation maintains provenance of the produce which educates consumers about where their food is grown. Product attributes refers to how produce is distinguished, such as heirloom produce over standard produce. Organic and certified organic labels also distinguish produce. Specializing in produce that is in high demand gives farmers a competitive edge by increasing the value of their crop. Group branding is another technique that will benefit the producers and the food hub. If quality produce is associated with the food hub itself, then more buyers will buy produce with the food hub's label, creating a higher demand for produce and products from that food hub (Barham, 2012). The creation of a local label to better facilitate the demand for local produce could be incorporated as a subset of Jersey Fresh. This would give the buyers the confidence of traceability and the pride in supporting local agriculture and community development.

Value-added processing can add value to raw farm products and occurs post-harvest, including sorting, cleaning, packaging, light washing, chopping, and blanching, with washing and cooling the most important for resale. Cooling is especially important, since it reduces the chances that the product will spoil and extends life. Produce is then graded, packed, and sometimes stored which may happen at a packing house, which is a facility designed to handle raw produce directly after the harvest to prepare it for delivery (*Building Successful Food Hubs*, 2012).

Slide: Value-added production: seconds

Value added production can also add value by processing seconds in two ways. The first is light processing which includes trimming, cutting, and freezing. The second is to create products such as cider, pickled fruits and vegetables, salsa, and jam (Barham, 2012). Farmers can process

themselves if they have certified equipment and space but startup and maintenance costs are high (*Building Successful Food Hubs, 2012*). Larger farmers are probably more likely to benefit from directly owning these facilities. Fruitwood Farms and Melick's Town Farm have their own production facilities, for example. Fruitwood Farms has several value-added products including jams, honeys (these vary by type of flower), molasses, nuts and honey, chunk honey, cider and pure bee pollen (this is used as an immune booster!); Melick's Town Farm is well known for their cider, which is sold at farmers' markets and also at Tri-County Produce Auction (Interview with Melick Farms, October 19, and Interview with Fruitwood Farms, November 15).

Slide: value-added production: seconds, cont.

Food hubs elsewhere have used three different approaches to value added production - a contract processor, a shared-use kitchen, or a food business incubator. With the contract processor, growers hire the contractor, who then processes the produce. The food hub tailors the value-added produce to what the buyers want, like chopped and frozen carrots. This requires the food hub to hire and train staff as well as to maintain a fully equipped kitchen. The shared-use kitchen is a rent-by-the-hour or membership-based operation where farmers can do their own value-added processing or hire chefs to do it for them. The third option is the food business incubator which provides certified kitchen space and technical support such as recipe development, label development, taste testing and ingredient sourcing to the farmers and other members (*Building Successful Food Hubs, 2012*; CD Studio FIC Report, 2012).

Existing Infrastructure for a Community Food Hub

Building for a Future Food Hub

New Brunswick is known as the HUB city given its location in the middle between the greater New York City region and the greater Philadelphia region. Based on our readings of what stakeholders are looking for, the landscape of agriculture in NJ, and the current infrastructure in place, there are a number of ways in which a food hub can service the New Brunswick area. Using existing infrastructure for aggregation, distribution, storage, and processing, we can either expand or incorporate these components into a central operating physical or virtual hub .

SLIDE: Existing Infrastructure for a Community Food Hub

New Brunswick is home to many non-profit community organizations, coalitions, universities, and others who are working to improve food security, expand food-based economic development, and provide farming education. New Brunswick already has elements of post

harvest handling, value added processes, elements of education, kitchens, catering, and financial support (Spring Studio, 2012). In this section, we will highlight some of the key things community food hubs do and walk through the existing NB/NJ infrastructure.

New Brunswick Community Food Alliance

- Some community food hubs emerge as the product of collaborative community efforts.

Through the New Brunswick Community Food Alliance, community, government, university, and business are building their capacity to engage in food-related economic development. This collaboration is a major asset as the city moves forward in its thinking about developing a community food hub.

Community Education

- Many community food hubs provide job training to teach people professional cooking skills and offer courses to improve their ability to make healthy food for themselves.

Elijah's Promise runs Promise Culinary School, a state approved vocational program, which provides job training and builds skills so people live happier and healthier lives. Using their commercial kitchen, Elijah's Promise's "Let's Cook," program teaches people how to cook healthy meals at home with seasonal produce (Elijah's Promise 2012). New Brunswick High School, which has two commercial kitchens, hosts the New Brunswick High School Culinary Arts Program where students learn about cooking and healthy eating and the business of cooking such as preparing for banquets and catering (Bradshaw, 2012).

Farmer Education

- Many community food hubs provide farmer education.

The Northeast Organic Farming Association of New Jersey (NOFA-NJ) launched a Beginning Farmer Program at Duke Farms to foster sustainable, financially viable farming enterprises in New Jersey through education, mentorship and land linkage. They have developed a program to bridge the gap between local demand, preserved farmland and the desire to farm (Northeast Organic Farming Association of New Jersey, 2012).

Small Business Development

- Some community food hubs provide small business development courses and other support to grow food related businesses.

The Rutgers University Food Innovation Center is an award winning small business food incubator located in South Jersey that has developed a network of food related actors, provides small food business training and development and seeks to build New Jersey's food economy. The Rutgers New Jersey Agricultural Experiment Station (NJAES) staff does research on farming, food economy, and food systems (Rutgers New Jersey Agricultural Experiment Station, 2012). And, the New Brunswick based Intersect Fund offers several courses for low-income local entrepreneurs to develop ideas, start businesses, generate income, build assets, and spark dramatic social change (Spring Studio, 2012).

Processing and Food Saving

- Some community food hubs provide opportunities to process food to save or turn into value-added products.

Elijah's Promise gleans, lightly processes, and freezes food for use in their soup kitchen and culinary training programs during the winter. They lack sufficient freezer space to store what they process (Spring Studio, 2012). The Rutgers Food Innovation Center and the Rutgers Center for Advanced Food Technology (CAFT), an FDA-licensed processing center in Piscataway, supports product development and food economy business support and networking and provide laboratories and manufacturing equipment as does the Bridgeton based Rutgers Food Innovation Center (Center for Advanced Food Technology, 2012) .

Food Related Community Economic Development

- Some community food hubs run their own food-related enterprises to create jobs, job training and education opportunities, and to expand the reach of fresh healthy food in low-income communities.

Elijah's Promise takes in healthy food from the community, trains the community to cook, and employs them within their catering business Promise Catering which provides freshly cooked meals for charter school students and low-income adults (Promise Catering, 2012). The SouperVan, a healthy food truck, also employs Elijah's Promise trainees, sells healthy food in the New Brunswick college town, and provides a portion of money from each meal for the emergency food system. Finally, A Better World Cafe in Highland Park employs Elijah's Promise's graduates, cooks healthy food while creating minimal waste in a model that ensures that everyone eats.

Aggregation

- Aggregation is the main function of a food hub and Central NJ is already home to Tri-County Cooperative (Tri-County Cooperative Auction Market, 2012).

Financing

- Getting a community food hub off the ground will require financing.

New Jersey and the Federal government have several opportunities to borrow capital to develop physical infrastructure and facilities, including food processing, marketing, and distribution business ventures for locally-grown products. Some federal grants incorporate educational opportunities (Lindsey, 2012). The Intersect Fund, a NB community group, provides business technical support and micro-loans between \$500 and \$10,000 for local residents. Often it is for them to start a business selling products made using a family's secret recipe or taking an existing product and making it more marketable; the Fund provides the capital to get off the ground. (The Intersect Fund, 2012). On a larger scale, New Jersey Community Capital, a NB based community development financial intermediary, provides financing and technical assistance to support community development (Jersey Community Capital, 2012).

Using mapping software

A major task for the studio team was to determine which elements of the New Jersey food network would be beneficial to map. Through class discussion and meetings with key informants, we chose to focus on the farming landscape and the existing distribution points within an hour of New Brunswick. This allows for a deeper spatial awareness of the types of farms that exist in the area and the challenges these farmers encounter in interfacing with their New Brunswick customers. Advances in mapping technology, the increasing availability of geospatial data, and the ubiquitous use of social media have also created exciting new possibilities regarding the use of interactive mapping technology in real time. The GIS team has created a prototype interactive map using land use and distribution data and researched its possible connection to a social media technology like Twitter. However, there are still many key limitations.

Interactive mapping and social media

The GIS team also developed a prototype of an interactive map to demonstrate its possible uses as a crowd-sourcing technology. The map uses the open source mapping software Mappler. Users can select various layers to display including aggregation and distribution points. This technology could be combined with social media like Twitter to allow for multiple users including farmers, wholesalers, and consumers to provide time-sensitive data in real time. This can be useful in determining when specific crops are being harvested and where aggregators and/or consumers can access those crops. As the NB Community Food Alliance moves forward, we hope that the interactive mapping will make this data available for collaborative decision making.

A New Brunswick Food Hub Future

Where to go from here? As we showed initially, community food hubs emerge from local community needs. How the local farming infrastructure is organized and what community assets are in place largely shapes what a hub will look like. New Jersey has amazing assets on farms and in the community. These assets are just waiting for someone to weave them together which could produce benefits for farmers and for NJ Consumers especially low-income residents.

Launch a “Better Know a Farmer” Initiative

- The Food Alliance members could invite some farmers to tea to better understand farmer concerns and find potential collaborative spaces to move the food hub forward. Which farmers would benefit from a food hub? What would they want in a food hub? How can we support and grow these businesses while improving public health, getting good food to low-income communities and increase job training and job opportunities for people who need them? Is there potential for value-added production and support infrastructures?

Explore a Virtual Food Hub

- *Consider a Virtual Hub and Associated Infrastructure Supports.* The DVRPC study suggests that farmers want transportation infrastructure and virtual data sharing operations.
- *Build Large Institutional Connections.* There are many large institutional buyers in NJ. Creating a connection between them and farmers to facilitate purchasing could expand markets for local produce and facilitate access to local produce for universities, hospitals, and medical schools. The Hub could build its own infrastructure or it could work with existing farming cooperatives such as Tri-County Cooperative.
- *Build Community Small Seller Connections.* The hub could also facilitate relationships with smaller buyers like bodegas and small stores.
- *Expand demand for locally grown “ethnic” produce.* And, the hub could help growers to understand the demand for “ethnic produce.”

Expand gleaning capacity

- Integrate farmer gleaning operations to increase capacity to move surplus farm produce to people who need it. This gleaners need more refrigerated low emission trucks, a place in central NJ to produce from SJ to points north, an online system to contact,

certify, and keep track of volunteer pickers, and a digital tracking system to facilitate produce movement and take advantage of empty trucks driving around NJ that could carry some of this produce. This could be a project for a graduate course or a wonderful volunteer opportunity for someone who knows how to use this technology and develop these integrated infrastructures.

- Create a low-cost market for unwanted produce to make it affordable to consumers and provide enough resources to pick and move it from farm to hub and from hub to consumers

Create a Small Post Harvest Processing Business

- Wash, cut, and prep produce for larger scale institutions like universities and schools. This might involve lightly processing Jersey summer crops like corn by cleaning, blanching, and freezing in large bags for use during the off season (Feehan, 2012).

Expand small business food-related development opportunities

- Support the Intersect Fund's small business development efforts.
- Organize unused commercial kitchen space to maximize its use. We understand the New Brunswick Food Alliance is already working on this.
- Create a local label (like Made with Jersey Fresh) for NB made food to market the NB brands.

Food Alliance Moving Forward

Most regional food hubs act as aggregation and distribution centers. A Community Food Hub can do that and more. Our examples inspired us to think about how we can use our local context to build the food hub that is right for us. We saw that New Brunswick and NJ have many of the core community food hub elements already in place. What's missing is an entity to weave them together. The Food Alliance can move these ideas forward. How about inviting some farmers over for tea to discuss?

Sources

About Us: At the Crossroads of Campus and Community. 2012. The Intersect Fund. <http://intersectfund.org/section/for/8>. December 6, 2012

A study on the development of a New York City wholesale farmers' market. 2007. Market Ventures Inc. <http://www.ams.usda.gov/AMSV1.0/getfile?dDocName=STELPRDC5065734>.

Auctions are back at TriCounty Coop! 2012 Tri-County Cooperative Auction Market. <http://www.tricountycoop.net/about/>. December 6, 2012

Barham, James. 2012. Clarifying the regional food hub concept. *Rural Connections*. http://wrdc.usu.edu/files/publications/publication/pub__4203234.pdf.

Barham, James, Debra Tropp, Kathleen Enterline, Jeff Farbman, John Fisk, and Stacia Kiraly. *Regional Food Hub Resource Guide*. U.S. Dept. of Agriculture, Agricultural Marketing Service. Washington, DC. April 2012

Beginning Farmer Program. 2012. Northeast Organic Farming Association of New Jersey. <http://www.nofanj.org/about-bfp.html>. December 6, 2012

Bill Stagg turning up his beans. <http://www.everystockphoto.com/photo.php?imageId=2381800&searchId=97f974881b3726d9a77014b5f3b4d795&npos=11>

Bradshaw, J. 2012. NBHS Culinary Arts Program Teaches Students Work and Home Skills. New Brunswick Patch. <http://newbrunswick.patch.com/articles/culinary-arts-program-teaches-students-work-and-home-skills>. December 6, 2012

Building successful food hubs: a business planning guide for aggregating and processing local food in Illinois. 2012. <http://www.familyfarmed.org/wp-content/uploads/2012/01/IllinoisFoodHubGuide-final.pdf>.

Characterizing Ag of the Middle and Values-Based Food Supply Chain. *Agriculture of the Middle Initiative*, Jan. 2012. <http://www.Agricultureofthemiddle.org>.

Central Indiana food hub would benefit farmers, consumers. 2012. *Purdue University News Service*. <http://www.purdue.edu/newsroom/events/2012/120529BallardHub.html>.

Center for Advanced Food Technology. Rutgers University. 2012. <http://caft.rutgers.edu/>.
December 12, 2012

Education & Jobs. 2012. Elijah's Promise. <http://www.elijahspromise.org/educationandjobs/>.
December 6, 2012

Farm Fresh Rhode Island. (n.d.). Market Mobile: Farm-Biz Delivery in Rhode Island and Massachusetts.
Retrieved October 2012, from Farm Fresh Rhode Island: <http://www.farmfresh.org/hub/>

Farm Fresh Rhode Island. (n.d.). RI Harvest Kitchen Project. Retrieved October 2012, from Farm Fresh
Rhode Island: <http://www.farmfreshri.org/about/harvestkitchen.php>

Farm Fresh Rhode Island. (n.d.). Local Food Guide. Retrieved October 2012, from Farm Fresh Rhode
Island: <http://www.farmfreshri.org/>

Farm Fresh Rhode Island. (n.d.). Veggie Box. Retrieved October 2012, from Farm Fresh Rhode Island: .
<http://www.farmfreshri.org/about/veggiebox.php>

Farm Fresh Rhode Island. (n.d.). Fruit and Vegetable Prescriptions. Retrieved October 2012, from Farm
Fresh Rhode Island: <http://www.farmfresh.org/markets/fruitveggierx.php>

Field Guide to the New American Foodshed. (2012) New North Florida Cooperative. Retrieved
September 2012, from Field Guide to the New American Foodsheed: [http://foodshedguide.org/cases/
new-north-florida-cooperative](http://foodshedguide.org/cases/new-north-florida-cooperative)

Feehan, Beth. 2012. Our Network. New Jersey Farm to School Food Network. [http://
www.njfarmtoschool.org/about-us/the-network/](http://www.njfarmtoschool.org/about-us/the-network/) December 6, 2012

Finston, Lisanne. 2012. Interview by Cynthia Willems Bloustein School. 29 Nov.

Field Guide to the New American Foodshed. (2012) New North Florida Cooperative. Retrieved
September 2012, from Field Guide to the New American Foodsheed: [http://foodshedguide.org/cases/
new-north-florida-cooperative](http://foodshedguide.org/cases/new-north-florida-cooperative)

Fruitwood Farms. 2012. Interview by Kate McKelvey Bloustein School with Maggie Dobbs
Bloustein School. November 8.

Joshi, Anupama. 2012. National Farm to School Network: *Nourishing Kids and Community*.
National Farm to School Network. <http://www.farmtoschool.org/aboutus.php>. December 6,
2012

Kirschenmann, Fred, Steve Stevenson, Fred Buttel, Tom Lyson and Mike Duffy. 2008. " Why Worry About the Agriculture of the Middle?" published in *Food and the Mid-Level Farm: Renewing an Agriculture of the Middle*, edited by Thomas A. Lyson, G. W. Stevenson and Rick Welsh, Cambridge, MA:MIT Press.

Lanigan, Gary. 2012. OVERVIEW. DEPARTMENT OF CORRECTIONS of New Jersey. <http://www.state.nj.us/treasury/omb/publications/12budget/pdf/26.pdf> December 6, 2012

Lindsey, Timothy C. Building a Successful Food Hub. 2012. Illinois Department of Commerce and Economic Opportunity. <http://www.familyfarmed.org/wp-content/uploads/2012/01/IllinoisFoodHubGuide-final.pdf>. December 6, 2012.

Mappler
<http://mapplerx.com/map/agriculture>

Melick Farms. 2012. Interview by Kate McKelvey Bloustein School with Maggie Dobbs Bloustein School. October 27.

Munford, Tracy. 2011. Hospital News: Press Release. *Newark Beth Israel Medical Center*. http://www.barnabashealth.org/hospitals/newark_beth_israel/press/2011/urban-gardening.html. December 6, 2012

Organizational History. 2012. Jersey Community Capital. <http://www.newjerseycommunitycapital.org/about/organization-history/>

Promise Catering. 2012. Elijah's Promise. <http://www.elijahspromise.org/socialenterprise/catering/>. December 6, 2012

Research. 2012. Rutgers New Jersey Agricultural Experiment Station. <http://njaes.rutgers.edu/research/>. December 6, 2012

Rutgers Food Innovation Center Overview and Clients Served. 2012 Rutgers University: New Jersey Agriculture Experiment Station. <http://www.foodinnovation.rutgers.edu/CaseHistory2010.pdf>. December 6, 2012

Schilling, Brian J., Lucas J. Marxen, Helen H. Heinrich, and Fran J. A. Brooks. *The Opportunity for Agritourism Development in New Jersey*. Rep. New Brunswick: Food Policy Institute, Rutgers, the State University of New Jersey, 2006. Print.

Smith, Don Jr. 2010. 'Farm-to-Hospital' Food Movement Hits Valley. Ridgewood-GlenPatch. . <http://ridgewood.patch.com/articles/farm-to-hospital-food-movement-hits-valley>. December 6, 2012

Spring 2012 Community Development Studio. 2012. COMMUNITY FOOD HUBS. Edward J. Bloustein School of Planning and Public Policy, Rutgers University. <http://policy.rutgers.edu/rwv/food/FoodHubFinalReport.pdf>. December 6, 2012