

COMMUNITY ECONOMIC DEVELOPMENT IMPACTS OF THE RUTGERS FOOD INNOVATION CENTER

COMMUNITY FOOD SECURITY AND ECONOMIC DEVELOPMENT

EDWARD J. BLOUSTEIN SCHOOL OF PLANNING AND PUBLIC POLICY
RUTGERS UNIVERSITY
MAY 2012



PREPARED for ELIJAH'S PROMISE, THE RUTGERS FOOD INNOVATION CENTER, and NEW JERSEY COMMUNITY CAPITAL

MANY THANKS TO

Alena D'Auria, Rutgers Undergraduate
Margaret Brennan-Tonetta, Rutgers FIC
Lou Cooperhouse, FIC and F&S Produce Co., Inc.
Michael duBois, Rutgers FIC
Lisanne Finston, Elijah's Promise
Douglas H. Fisher, NJ Secretary of Agriculture
Lorena Gaibor, Unity Square Partnership
Kristina Guttadora, Farmers Against Hunger
Paul Helms, Elijah's Promise
Diane Holtaway, Rutgers FIC
Shoufiul Islam, Rutgers FIC
Albert Kelly, Mayor of Bridgeton
Wes Kline, NJ Agricultural Experiment Station
Stephanos Koullias, Western Queens Compost Initiative
Richard Ludescher, Rutgers SEBS
Tom Manning, NJ Agricultural Experiment Station

Jean Mahoney, Rutgers FIC
Bruce Master, Rutgers FIC
New Brunswick Community Gardening Coalition
New Brunswick Food Alliance
Christina Palassio, The Stop
Glen Patterson, City of New Brunswick Planning
Jack Rabin, NJ Agriculture Experiment Station
Mark Robson, Rutgers SEBS
Jaymie Santiago, New Brunswick Community Farmers Market
Skylar, Rutgers FIC
Tyler & Scott Thompson, XS Smith
Terry & Patrick Viggiano, First Fields
Frank Wong, Rutgers Facilities and Capital Planning

PREPARED BY

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

Max Azzarello
Anthony Capece
Michael Cassidy
Laura Chamberlain
Benjamin Faust

Sarah Franklin
Joshua Jensen
Emily Joiner
Benjamin Logue
Jacklyn McFarlane

Brandon McKoy
Matthew Sarsycki
Darius Scott
Charlene Sharpe
Carolyn Worstell

FACULTY

Kathe Newman
Associate Professor
Director of the Ralph W. Voorhees Center for Civic Engagement

May 2012

For more information, contact knewman@rutgers.edu

TABLE OF CONTENTS

Introduction	5
The Rise and Fall of New Jersey’s Food Economy	6
Rutgers Responds	7
A Food Incubator in Bridgeton, NJ	8
Why Bridgeton?	8
A University Entity	9
Emphasis on Patience and Networking	10
Getting Started	10
FIC Core Services	11
Rebuilding the New Jersey Food Economy	12
Expanding Markets	12
Workforce Development	15
Local Economic Development	16
Sowing Seeds for the Future	17
Definitions	19
Acronyms	21
Works Cited	22
Image Credits	24

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REVITALIZING SOUTH JERSEY'S FOOD ECONOMY: RUTGERS UNIVERSITY FOOD INNOVATION CENTER

Benjamin Faust, Joshua Jensen, Brandon McKoy, Charlene Sharpe

Introduction

The Spring 2012 Community Development Studio conducted a community economic development impact study of the Rutgers University Food Innovation Center (FIC) in Bridgeton, New Jersey. The FIC is a full service food incubator, the only food-related business incubator in the state. The Center provides core food-processing business services including business development, market testing, product development, networking services, regulatory assistance, quality control and food safety assistance (Margaret Brennan, February 17, 2012). As a food incubator, the FIC is part of a growing effort to enhance food-related economic development. The organization's mission is to "stimulate and support sustainable economic growth and prosperity to the food and agricultural industries in the mid-Atlantic region" (Rutgers Food Innovation Center, 2010). Since its inception in 2000, the FIC has provided support to more than 1,200 entrepreneurs and businesses, from individual farmers and start-up food companies to small and mid-sized food companies and retail food establishments, and has helped companies to develop approximately 40 new products (Rutgers Food Innovation Center, 2010). Food incubation however, is only a small part of FIC efforts. The FIC is at the center of a campaign to revitalize the food industry in New Jersey.



FIC Steam Kettle

The FIC has well-quantified and documented impacts from the core business and technical services it offers to farmers and food businesses. However, identifying the community economic development impacts of the Center's programs in areas such as community engagement and network building has

COMMUNITY FOOD SECURITY AND ECONOMIC DEVELOPMENT

been more elusive. Thus, this report will chronicle the impacts of FIC's broader social mission and catalogue the FIC's efforts to achieve these goals. To document these less tangible impacts, it is important to understand the FIC from conceptualization, through implementation and its future plans. We begin with the history of agriculture in New Jersey. Next we highlight the events under which the FIC was conceived and implemented. Then we document the FIC's core services and, finally, its efforts to rebuild New Jersey's food economy infrastructure. We pay special attention throughout, to its efforts to enhance community economic development and food security outcomes. In conclusion, we consider the FIC's future in its role as a driver for building the food economy in the state.

The Rise and Fall of New Jersey's Food Economy



FIC Ritter Catsup

New Jersey, "The Garden State," was an agricultural powerhouse that grew and processed food at rates higher than the national average during the first half of the twentieth century (Adelaja et al, 1996). The state's food innovators created a food-based economy infrastructure that brought food growers, processors, manufacturers, food scientists and engineers together. Campbell's Soup Company, headquartered in Camden, New Jersey, produced its iconic Campbell's tomato soup using the Jersey tomato. Seabrook Farms, located near Bridgeton, pioneered vegetable refrigeration techniques, making it one of the largest frozen food processing companies until 1976 (Cumberland.nj.us, 2011). In nearby Vineland, Welch's Grape Juice, developed in 1869, used a technique to preserve grape juice without fermenting it, which led to a

booming business during Prohibition (City of Vineland, 2008). In the late 1950s, Cumberland Dairy was established and eventually grew to become a refrigerated products distributor and dairy processor for McDonald's in the Delaware Valley (Cumberland Dairy, 2012).

New Jersey's accomplishments in agriculture and food processing are all the more impressive given the state's relatively small land area. New Jersey ranks 47th of US states in land area, but 4th in the market value of agricultural products sold per acre. New Jersey agricultural production rankings are also quite impressive. For instance, the state ranks 2nd in blueberry production, 3rd in bell pepper and cranberry production, 4th in head lettuce production and 5th in peach production.

However, in recent decades, food manufacturing in New Jersey has declined relative to the rest of the nation, while new housing subdivisions and other real estate development compete for land (Adelaja et al, 1996). New Jersey food manufacturers had delayed the search for cheaper land because of their need to stay rooted to their agricultural sources, but in the 1970's eventually followed the rest of the manufacturing industry out of state. An example is the Campbell's Soup Company. While Campbell's maintains its headquarters in Camden, advances in technology, the expansion of the Interstate Highway System, and deregulation of the agricultural industry in the second half of the 20th Century made it feasible for the company to move its production facilities to cheaper, rural land in Pennsylvania and

elsewhere outside of New Jersey (Sidorick, 2009). Since the 1970's, New Jersey's agricultural industry has also been under severe pressure as more and more farmland is lost to development each year. In addition, a significant challenge for farmers and food processors in an urbanizing state such as New Jersey is the rising cost of doing business. These factors have made it hard for farmers and processors to compete and, like the rest of the manufacturing sector, New Jersey's food and agricultural industry has been in decline.

New Jersey agriculture is comprised primarily of small and medium sized farms that have a hard time competing with very large growers in other states. Perhaps the most significant threat to the short and long-term viability of the produce industry in New Jersey are the dramatic changes taking place in the global produce marketing system over the last decade. Some of these changes include supplier/retailer consolidation, demand for 52-week supply, demand for consistent quality and packaging, and expansion of global markets. These changes have transformed the way produce marketing is done nationally and internationally. The system of marketing produce that currently exists in New Jersey imposes significant constraints for growers competing in the new global system (Brennan, et. al. 2002). The market for agricultural products is therefore highly competitive. The buyers require nearly perfect produce, which results in a significant share of "imperfect" produce that, while fit for eating, cannot be sold.

Increasing processing capacity in New Jersey would enable farmers to sell more of those products. Tomatoes, peaches or apples that don't meet the exact size requirements for individual sale could still become a wonderful tomato sauce, applesauce, or, as one Jersey farmer learned, peach cider (Circle M Farms, 2009). Farmers can also benefit by selling produce directly to in-state processors that may pay a higher price. Often food is processed by a third party in order to be re-processed for another purpose. The farmer gets little of the final dollar in this scenario. To improve this, farmers can turn their raw produce into their own processed products, allowing them to make better use of their crop yield, extend the economic benefits of the growing season, and capture a better price for their raw produce.

Rutgers Responds

Concerned about food industry trends, in 1996, Adesoji Adelaja, chair of the Department of Agricultural, Food and Resource Economics at Rutgers University, conducted a comprehensive study of New Jersey's agricultural and food industry. The study covered food manufacturing, wholesale distribution, retail sales, and food services. The authors found that small- and medium-sized food companies, as well as growers, needed to make changes to become more profitable. Both groups had similar barriers to growth such as lack of access to skilled labor pools, lack of access to information on technology innovations and business development, and not being able to quickly identify new markets, such as those created by an influx of immigrants to New Jersey (Interview with Margaret Brennan, 2012).

Adelaja convened the 1998 New Jersey Food Industry Summit to discuss how the food and agricultural communities, with Rutgers as a partner, might respond to the study's findings. The summit identified two complimentary directions and Rutgers created two entities in response. The Rutgers Food Policy Institute was created to work on food policy issues such as food and agriculture regulation, land use, tax assessment, minimum wage, food contamination recalls, and food processing issues. The Rutgers Food Innovation Center (FIC) was created to provide business and technical services to farmers and food companies.

Margaret Brennan, an agricultural economist at Rutgers, was identified to lead the FIC in 1999 (Interview with Margaret Brennan, 2012). Dr. Brennan conducted a literature review and identified national trends

COMMUNITY FOOD SECURITY AND ECONOMIC DEVELOPMENT

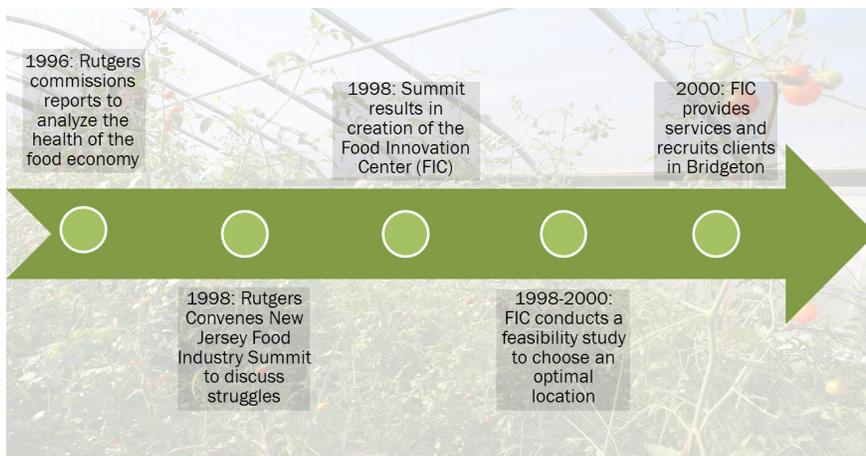


Figure 1: FIC Timeline, Spring 2012 CD Studio

the traditional community kitchen model (Interview with Margaret Brennan, 2012). Dr. Brennan then hired a team of national experts to conduct a feasibility study to determine the need for this type of program and the most effective structure for a food-related business incubator in New Jersey. Through interviews, focus groups and surveys, the experts engaged stakeholders from communities across the state and discovered an incredible need for a food business incubator in southern New Jersey (Rutgers Food Innovation Center, 2003).

A Food Incubator in Bridgeton, NJ

Bridgeton was an attractive location to site the Food Innovation Center because of its central location among South Jersey agriculture and food companies (Interview with Margaret Brennan, 2012). Bridgeton and the surrounding region have a storied history of agriculture and food processing. As the food industry declined, the region became poorer and families, who for generations were intricately intertwined with food and agriculture, moved on to new industries. The FIC sought to tie food incubation services into a broader local revitalization plan, which would help revive the lack of economic activity in and around Bridgeton (Interview with Margaret Brennan, 2012).

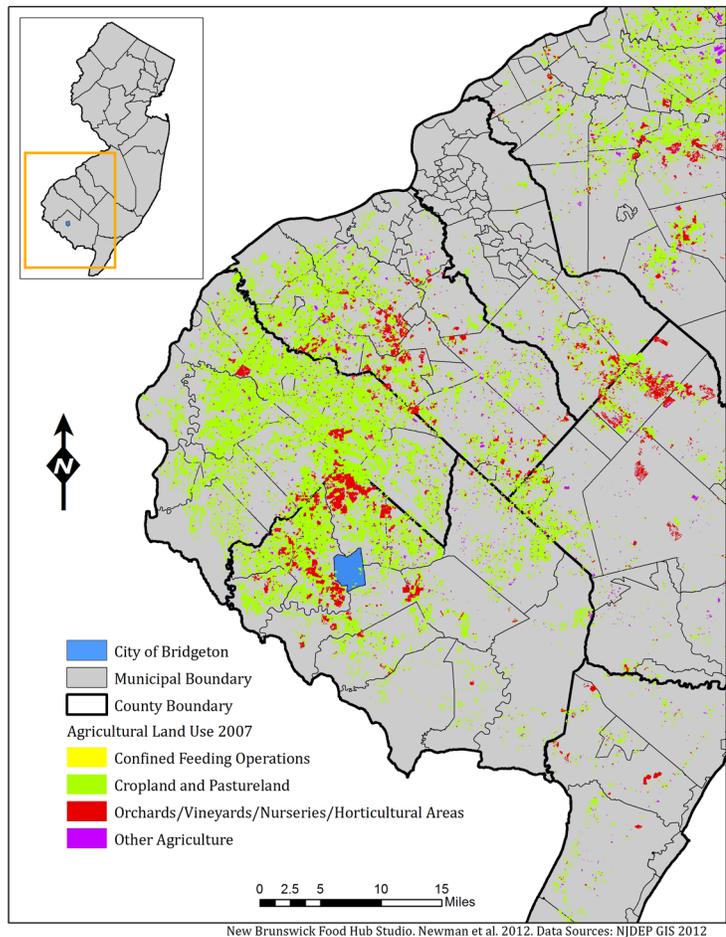
Why Bridgeton?

Bridgeton was appealing for a variety of reasons. A diverse group of Bridgeton constituents and stakeholders including the Bridgeton City School District, Tri-County Community Action Agency, Cumberland County Community College, the Cumberland County Agricultural community, and local banks were committed to the concept of the Food Innovation Center and provided resources and networking support. In anticipation of visits from FIC planners, these partners organized events to bring Bridgeton residents together to celebrate the region's agricultural history and talk about the potential to recapture it. The local paper highlighted each new FIC event, commenting on the fact that Rutgers University had taken an interest in Bridgeton. Regional food entrepreneurs also expressed excitement over the opportunities that the FIC's creation would bring (Rutgers Food Innovations Center, 2003).

The Cumberland County Federal Empowerment Zone (CEZ) supported the FIC's development by subsidizing staff salaries and organizational expenses. Empowerment Zones are federal initiatives designed to improve severely economic depressed neighborhoods and revitalize economies. The CEZ is comprised of certain census tracts in the Vineland-Bridgeton-Millville area. Empowerment Zone

designation provides tax breaks and millions of dollars in grants and subsidies to businesses and programs in the zone. The CEZ leadership engaged in new employment and training opportunities, increased investment within the targeted communities, economic development initiatives, educational programs, and community development (CEZ website). The CEZ was an initial and key partner in the development of the FIC and provided significant funding for FIC operations, equipment and construction (Rutgers Food Innovations Center, 2003).

The city of Bridgeton was also a major FIC supporter. The city government believed that the FIC would add momentum to the region's food industry resurgence. In the late 1990's, Bridgeton city government developed a food-based economic development strategy. A Food Innovation Park project was a major part of the plan. The Food Innovation Park is a technology/ industrial park dedicated to food industry companies. Planning and financing was the result of collaboration between the CEZ and the city. The idea of a Food Innovation Park was attractive to Dr. Brennan because she believed it would enable businesses that graduated from the FIC business incubator to locate nearby and continue to take advantage of FIC services (Rutgers Food Innovations Center, date unknown).



Agricultural Land Use near City of Bridgeton

A University Entity

Having Rutgers University behind the project added credibility to the FIC, but being a part of the university bureaucracy also introduced barriers to implementation. The university initially denied the FIC's request to rent office space in downtown Bridgeton. Rutgers University owns large amounts of real estate and it was not common at the time for the university to rent space. In addition, the administration was not convinced that locating the program in Bridgeton was necessary for its success. Fortunately Dr. Brennan secured grant money for office rental space and a small staff in Bridgeton. Dr. Brennan first tried to use the academic expertise on the main campus to provide FIC services to food and ag businesses, but this did not work well due to the economic development focus of the center rather than research. Dr. Brennan solved this problem by hiring staff with extensive food industry experience and securing funding through grants to cover the salaries. But there were other challenges. Rutgers had never run a business incubator and needed to create rules related to the functions of giving business advice. After many internal staff discussions and meetings with university administration, the decision was made. Helping farmers and small businesses fulfilled the state charter that directed much of the university's work, which was to make New Jersey a better place for New Jersey residents (Interview with Margaret Brennan, 2012).

Emphasis on Patience and Networking

As the Center defined new community needs, the organization added staff and services to meet those needs. The FIC hired Lou Cooperhouse, a food consultant with extensive network connections in the food industry. In February 2002, they hired Diane Holtaway, a business development specialist from the Campbell's Soup Company, and Julie Elmer, a food technologist from McNeil Labs. The feasibility study had highlighted these positions as fundamental to the success of the business incubator (Rutgers Food Innovation Center, date unknown). While roots and experience in the food industry was important for FIC staff, Dr. Brennan emphasized the importance of the staff's people skills (Interview with Margaret Brennan, 2012) which were essential in providing excellent customer service and in building partnerships within the community and the food economy. The Center currently employs twelve full time staff, including a quality assurance and training specialist, a facility manager, a maintenance mechanic and a food production specialist (NLC Presentation 2012).

The Center's position within the University's framework means that FIC staff must rely heavily on grants to supplement University funding. The organization has been quite successful at grant writing, with more than 12 million dollars in grant funding secured to date. The search for grants increases the center's need to network, which, according to Dr. Brennan, continues to be the most integral part of the FIC's success. Not only do these diverse networks attract funders seeking organizations with strong collaboration ties, but they also validate the relevancy of the FIC's strategy and mission (Interview with Margaret Brennan, 2012). Throughout this report there will be examples of the various networks and relationships the FIC has developed. We will also document the impetus behind creating them, and how they are helping rebuild the infrastructure for New Jersey's food economy.

Getting Started

The Center operated out of a rented office in downtown Bridgeton for eight years before designing and building a full-scale facility. This time allowed the center to vet programs and services to better meet client needs. Ample demand for FIC services assured staff and funders that the organization was creating programs that consumers desired and in turn guaranteed revenue streams. This approach also provided the opportunity to generate the capital necessary to make financing and operating the facility feasible (Rutgers Food Innovations Center, 2010).

In the eight years between establishing the small storefront operation and the large full service facility, lines of services were carefully researched and then added to the center's programmatic portfolio. In 2001, the Center hired a director and focused on services related to market research and focus groups. In addition to adding business and technical staff in 2002 and 2003, the Center staff developed a strategy around the construction, capacities and financing of a facility. In 2004, the Center established an advisory board comprised of officials and experts from a variety of fields, which guided policy and funding opportunities (Rutgers Food Innovations Center, 2012). In 2007, the carefully crafted planning strategy produced the funds, space and plans to build a facility to meet the needs of food entrepreneurs and community members. The \$8 million dollar incubation facility was funded entirely through grants from community, state and federal sources (Rutgers Food Innovations Center, 2010). Through the facility, the Center offers ever expanding opportunities and services to food entrepreneurs and community members.

FIC Core Services

The FIC provides a wide range of business services and flexible processing facilities to help companies and individuals develop food products. The 23,000 square foot facility in Bridgeton consists of two main service areas: a client services area, which provides product development, business, marketing, and food science analysis services, and a processing area that houses four processing areas dedicated to a wide range of food processing and packaging needs, and is designed to be shared-use. The FIC's two areas are designed to address the simplest to the most complex food processing and business development needs. They are available to clients through all stages of the development process, "from concept to commercialization" (Interview with Sho Islam, 2012).

To assist in the development and marketing of client concepts, individuals and companies have access to a research library, microbiology and chemistry laboratories, sensory evaluation, quality control, a product development research kitchen, and an area for consumer research and focus groups. The FIC also provides the equipment and space to process food products in a number of ways, including an area for cooking, roasting, blanching and steaming (hot processing); an area to create baked goods and dried products like dehydrated fruit (dry processing); the processing of raw produce (cold processing); and the packaging of frozen, refrigerated, or other products requiring controlled environments (cold assembly). These facilities ensure a safe and healthy food product, and improve the chances that a product will be commercially successful (Rutgers Food Innovations Center, 2010). There are fourteen other business incubators in New Jersey, but the FIC is the only one that deals with agriculture and food production. The unique nature of the FIC has contributed to ever-increasing demand, but Center staff must maintain efficiency and reliability as they grow.



FIC Products

The process of working with farmers and food entrepreneurs "from concept to commercialization" requires more than making sure farmers know how to cook, freeze, wash and package their produce. As part of making sure that interested parties are serious about becoming a food business, the FIC requires all potential clients to take their "Food Business Basics" course which is held quarterly and costs one hundred and forty-nine dollars. Attendees also receive one hour of free consultation time with the FIC staff as part of the fee. This process allows the FIC staff to provide broad support to many potential clients and enables them to clearly explain what taking a product to market entails. The course has proven quite successful in determining which clients are serious about going through the rigorous process of creating food products and those who are not, ultimately saving clients and the FIC resources. Approximately three quarters of clients who take the course do not return (Interview with Margaret Brennan, 2012).

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When dealing with food, the FIC views sound preparation and handling processes as imperative and central to its mission. Food safety is paramount in creating reliable products that will be successful in the

COMMUNITY FOOD SECURITY AND ECONOMIC DEVELOPMENT

marketplace and appealing to consumers. Many states have “Cottage Foods” laws that allow residents to conduct commercial food processing in their homes. New Jersey has a restricted “Cottage Foods” law that prohibits citizens from processing food for commercial purposes in home-based facilities. Due to this regulation, the FIC is providing a place where commercial businesses and individuals can legally and safely produce food.

To ensure that food products are safe and ready for production, the FIC requires that businesses have their food supplies arrive several days before production. FIC staff inspects and checks the food materials to insure that everything the client needs arrives, is of the necessary quality, and is safe. Once the product is crafted and the recipe is perfected in the test kitchen, the FIC works with the client to develop a business and marketing plan. This includes assessing where the product will fit within the market, determining distribution processes, and conducting research to determine the proper price-point for the product. Once all of this is completed, actual production of the product for commercial consumption begins, and the product is shipped out to supermarkets and vendors.

Rebuilding the New Jersey Food Economy

Many of the FIC’s economic developments impacts, such as those described in the previous section, can be simply quantified and evaluated. The Center routinely tracks and reports on these tangible outcomes such as the popularity of services offered, the number of jobs created and the number of products developed at the FIC facility. The impacts surrounding the Center’s larger effort to rebuild New Jersey’s food economy are more difficult to conceptualize and measure. In this section, we provide an overview of FIC efforts to revive New Jersey’s food industry and Bridgeton’s local economy. FIC strategies and initiatives have been divided into three sections: expanding consumer markets for locally produced value-added products; developing and using the skills of local residents; and creating local economic development impacts. The FIC is attempting to rebuild the food industry in New Jersey, but they recognize the particular importance of that industry in Bridgeton and South Jersey. While the following categories cover the diversity in scale and impact of FIC ventures, it is vital that their efforts are recognized as one component of interconnected steps that connect consumers to good food through relationships that empower and enrich regions, cities, farmers and food entrepreneurs.

Expanding Markets

The FIC engages in a variety of activities to expand the market for food products in New Jersey. An expansion of the market for food generates a larger pool of profits for farmers and food entrepreneurs. To do this the FIC works with food producers to improve quality and traceability. Additionally the FIC facilitates relationships between buyers and producers to increase the population of consumers for local products.

As part of ensuring food security, the FIC is a liaison to state and federal food regulation agencies. There is a USDA office within the FIC facility. The USDA official inspects foods that are coming in to the FIC as well as food that is outgoing. This ensures food product safety and quality, and it assures consumers of the reliability of FIC produced products. As a small scale possessor, the presence of the USDA expands the consumer base for FIC products.

The New Jersey Department of Agriculture (NJDA) created the “Jersey Fresh” label in 1974 to encourage people to purchase Jersey grown produce. As local farmers began investing in value-added production and consumers sought local goods, a demand grew for labeling processed foods made with New Jersey

agricultural products. The “Made with Jersey Fresh” labeling program was started by the NJDA in 2009, and the FIC worked with several farmers to create products that qualified for this label (Conaboy, 2010). Circle M Farms, a peach grower that uses the “Made with Jersey Fresh” label on its value added products, included it on the peach cider they developed at the FIC in 2003 (Circle M Farms, 2009). Kevin and Bob Flaim, of the Flaim family farm in Vineland, partnered with the FIC and their Farm-to-School initiative to create a frozen eggplant cutlet dish for school lunches in the Vineland School District and for sale in supermarkets. These products also use the “Made with Jersey Fresh” label (Conaboy, 2010).



FIC product labels

Attaching this label to products allows producers to meet the increasing demand for local products. Besides helping to develop these and other products, the FIC works with NJDA to support the “Jersey Fresh” label at the National Association of Specialty Food Trade Show (Personal communication with Diane Holtaway, April 3, 2012).

In addition to improving food quality and traceability, the FIC develops business networks, which enable farmers to sell their products to large institutions. These institutions, such as prisons, hospitals, universities, and schools, have historically relied on manufactured food from national companies. The Center seeks to re-route institutional demand for food to the local level, and in the process, get locally grown food to schools to improve food security. Creating these connections is an example of the FIC’s emphasis on networking. The Center has built fruitful relationships with farmers and institutions and the logical next step is to connect the two groups. The institutions receive locally produced food and the farmers expand their consumer base. The FIC recognizes that reviving local and regional food economies requires rebuilding business networks, reconnecting firms, and identifying opportunities for business products and services. Institutional consumers like schools and prisons can ensure demand for locally grown food.

The FIC works with the New Jersey Farm-to-School program to provide fresh, locally grown foods to school lunch programs throughout New Jersey (Rutgers New Jersey Agricultural Experiment Station, 2012). The Farm-to-School program is a national initiative that links schools to farmers to improve access to healthy nutrition in schools and improve the outcomes for local farmers (The National Farm to School Network, 2012). In 2011, the Rutgers Food Innovation Center received a \$51,215 grant to “develop and launch New Jersey grown and processed value-added products that meet the nutritional and cost requirements of the National School Lunch Program” (Rutgers Food Innovation Center, 2012). The breadth of services provided by the FIC allows them to develop, manufacture, and test lunch products for school children. The Center helps farmers and food entrepreneurs develop value-added products that appeal to school children. The FIC has helped to create soups, salads, pastas, chicken dishes, granola cups, and an eggplant meal. Children taste-test the food during the development phase to improve the chances they will eat it. (NJToday, 2012) The FIC is piloting the farm-to-school program in the nearby Vineland School District¹.

1 Learn more about the FIC’s Farm-to-School Efforts here: <http://www.youtube.com/watch?v=1vGC06CzMyA>

COMMUNITY FOOD SECURITY AND ECONOMIC DEVELOPMENT

The Farm-to-School program is seizing upon the growing movement that demands access to nutritional foods. Through this program, the FIC is helping to build a stronger food economy by providing a reliable supplier for school lunch programs and a reliable consumer base for New Jersey farmers. The Farm-to-School program allows farmers to increase their profits by selling more of their crop later into the season. Department of Agriculture Secretary Douglas Fisher explained: “We have this (produce) glut in the summer when the kids aren’t in school. As we move into the school year, (schools) start looking for other sources of food. Anything we can grow in our state that can be turned into something kid friendly and nutritionally appealing is good” (The Associated Press, 2012).

The FIC’s Business Association Mentor Program (BAM) helps individuals and organizations learn about programs that serve rural farmers. The BAM is a regional association that operates throughout New Jersey and surrounding states with the express purpose of equipping communities with the knowledge to support their local food economies. Support operations include activities such as marketing and advertising, product research, sponsor acquisition, public relations campaigns, creating organizational literature, and inserting products into the marketplace. Through these activities, members of the association support each others’ business interests and collaborate to achieve mutual goals.

In 2002, the FIC built a national network for food incubators called the Food Business Incubation Network (FoodBIN). FoodBIN is “a virtual association of business incubators and innovation centers, with the primary purpose of sharing information and best practices” (Rutgers New Jersey Agricultural Experiment Station, 2012). It is a source for sharing services, funding sources, relationships, and programs that can positively impact food and agricultural businesses, and their effect on their local economies. The FoodBIN has held conferences throughout the country and is a leading organization in advancing the needs and initiatives of food innovation entities. The FIC hosted the first FoodBIN conference in 2002 and again in 2008. FoodBIN Conferences offer a number of workshops pertaining to different aspects of food business incubation. Attendees come from all over the country and the world, representing governments, universities, and community non-profits.

The Food Entrepreneurs Network (FEN) is a networking organization that allows farmers, food entrepreneurs, and food manufacturers to communicate and discuss their ideas and needs. The FIC created the FEN so that its clients who are entrepreneurs would “have the opportunity to exchange ideas on how to solve similar problems or find opportunities,” according to associate director of business

development Diane Holtaway (Rutgers Food Innovation Center). Since the FIC has a limited number of staff, it is important for it to be able to create opportunities for clients to receive assistance and help from other businesses who are experiencing the same problems. Discussions revolve around marketing, financing, product development, industry regulations, and all aspects of business planning. Membership in the network is free and open to all. The FEN’s primary purpose is to facilitate communication between farmers, manufacturers, and sellers. The ability for these parties to collaborate and discuss needed improvements is a central facet to improving conditions and operations throughout the industry. What emerged out of a necessity is contributing to the efforts to rebuild the state’s food economy.

On a state level, the FIC participates in the New Jersey Food Processors Association (NJFPA), a national organization of food related suppliers and manufacturers who share information related to best practices in the food industry in New Jersey. Just like other business organizations, members take advantage of their organizational relationships to improve efficiency and share ideas. Participation expands the FIC’s network and ensures that it stays abreast of the latest innovations and business trends.

Finally, the FIC has become a central meeting point to work on food production issues. Groups frequently meet there to network, develop plans to grow the state's food economy and improve food security and public health, and come up with creative efforts that connect farmers to consumers. Locally, the FIC allows non-profit groups to use the space for free, and the space has become the de facto meeting space for Bridgeton residents and other community groups.

Workforce Development

The FIC recognizes that any attempt to rebuild New Jersey's food economy would be incomplete without a workforce with the skills to make it grow. The FIC is actively trying to recreate a South Jersey population with the skills to foster a re-emerging food industry. To accomplish this, the Center brings newly skilled employees into the industry, and recaptures the talents of local industry professionals. Because of the history of food manufacturing in South Jersey, there is a wealth of human capital waiting to be tapped. The FIC offers a variety of workforce development opportunities that attract existing food economy workers, train new workers, and create pathways to encourage students to consider food economy jobs.



FIC hot processing line

One of the reasons that the FIC staff chose Bridgeton was to provide much needed employment opportunities to the city. Bridgeton residents work in a variety of positions at the Center, but mainly they staff the production lines. During its brief four year history, the Center has employed more than forty local residents (NLC Presentation 2012). As a food incubator, the FIC often serves as a temporary stop for these workers. Companies who graduate from FIC services, and move on to new production facilities, often take these employees with them (Interview with Sho Islam, 2012).

In addition to directly employing local residents, the FIC encourages residents to become involved in the food industry. The FIC offers training to local unemployed residents. The residents are trained in a variety of food industry skills. The FIC has provided training for 106 unemployed residents between 2009 and 2011. The FIC further enhances human capital through continuing education opportunities for those already employed in the food industry, but seeking to further their skills. From 2009 to 2011 the Center certified 1,000 food industry workers in food safety and other capacities (Rutgers Food Innovations Center, 2012).

The FIC is also developing the next generation of food industry workers. The Center works closely with local schools and colleges to encourage students to learn about the diverse and interesting jobs within the food industry. The Center highlights the range of jobs the industry needs and offers internships to high school and college students. The FIC has provided over 1000 hours of mentoring and interning to eleven individuals. Additionally the FIC attends and hosts career fairs, which attract food industry employers from across the state (Interview with Diane Holtaway, 2012).

COMMUNITY FOOD SECURITY AND ECONOMIC DEVELOPMENT

The FIC is at the center of an attempt to capture the talent accrued from the state's rich food history. The Center hopes to redirect these experiences to benefit local farmers and food entrepreneurs. New Jersey food industry talent has historically resided in big businesses. Farmers would sell their products to big businesses where experts develop the technology and process to turn that raw product into a more profitable one. Take for instance Tom Fung. For over thirty years Mr. Fung worked at Campbell's Soup Company developing systems and methods for turning tomatoes into secondary products. Mr. Fung brought these experiences in food manufacturing to the FIC where he uses his skills to directly benefit farmers and food entrepreneurs (Interview with Diane Holtaway, 2012). Many processors have left New Jersey, leaving farmers without buyers and experts without jobs. The FIC has developed systems that take advantage of this existing intellectual infrastructure to enhance the state's food economy.

Local Economic Development

As previously stated, the FIC chose Bridgeton for a variety of reasons. Among the many positives Bridgeton represented, the FIC was also aware of the value that the FIC's presence could provide for local economic development. Companies who use FIC services and FIC graduates are often compelled to locate close to the FIC to most effectively use FIC services. The FIC also attracts talented professionals to Bridgeton. The FIC is well recognized for its contributions to the state's economy and as a national model for food incubation.

The FIC's potential to keep clients local provides a vital infusion into the local economy. One of FIC's strongest international clients is Schar, a company that produces naturally gluten-free foods. Schar's products include bread-based products such as crackers, cookies, pizza, wafers, and more. When Schar was ready to graduate from the FIC facility into a larger facility, the company's interest in retaining its connection to the FIC helped to keep the company close. Finding local facilities to serve FIC graduates and encouraging them to locate in New Jersey, is among the FIC's greatest priorities (Interview with Margaret Brennan, 2012).

The FIC employs industry leaders, food scientists, marketing specialists, food economists, food techs, instructors, business specialists, and engineers (Interview with Sho Islam, 2012). The presence of a group of talented individuals presents dual benefits for the city and region. First, experts staffing a local organization dedicated to improving the regional economy are beneficial. Obviously the FIC employs top level food industry talent, but the FIC also attracts politicians, academics, funders and press. FIC staff generate the feeling that something good is happening in Bridgeton, which leads to new economic development. FIC employees also volunteer on local boards and participate in various civic activities, which increases local intellectual capital (Interview with Margaret Brennan, 2012).



Albert Kelly; Mayor of Bridgeton, Margaret Brennan; NJAES, and Lianne Finston; Elijah's Promise, discussing NJ's food economy.

The FIC has brought a resurgence of pride to Bridgeton through the communal space its conference room affords, its focus group food tasting activities, and its third party contracts with community members. The Food Innovation Center includes a state-of-the-art conference room which is not replicated anywhere

else in the community. Allowing various community groups access to FIC space is a unique method of marketing the kitchen, its food product producers, and its catering companies (Wold et al, 2002). Using the facility as a communal space also meets the Center's networking mission. The Center cites various examples of connections made between staff, producers, city government, and local community groups through the use of the space (Interview with Diane Holtaway, 2012).

Sowing Seeds for the Future

The FIC is engaged in many different initiatives throughout the state and nationally, all of which serve to strengthen its position in the food industry, and to increase the efficiency of the industry while increasing food security. Currently the FIC is operating at near maximum capacity. To increase its activity and have the greater future impact it desires, expansion of facilities, staffing and networking is necessary.

The FIC has been working with the local government of Bridgeton to build another facility on the lot behind the center that will begin to effectively transition the area into a food-focused industrial park. Construction of this facility will increase the FIC's capacity to operate, raise the food-economy reputation of Bridgeton and the region, and ensure retention of economic activity in Bridgeton. Construction of the additional facility will help keep food-related businesses within the region, if not the state. At least one company using FIC services sought a local facility to better accommodate their expanding production demand, but could not find a suitable location. By building another facility, the FIC will be able to further cement its presence in the Bridgeton community and the New Jersey food industry (Interview with First Fields, 2012).

Networking and building business relationships has been a central practice to the FIC's ability to operate and work toward the goal of improving practices within the food industry. The center has created several business networks on its own, including the Business Association Mentor Program, Food Business Incubation Network, and the Food Entrepreneurs Network. The FIC is also part of other organizations, such as the New Jersey Food Processors Association, where members collaborate on shared issues. Nurturing the relationships that already exist and consistently creating greater networking opportunities on a local, national, and international scale will continue to be of central importance to the FIC's ability to fulfill its mission of creating better business practices in the food industry and increasing food security in the state.

Further research might consider interviewing the companies that have worked with the FIC to learn what works, what can be improved, and to identify barriers to expanding NJ's food economy.



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APPENDICES

DEFINITIONS

Aggregation – the movement and organization of moving the produce from the farms to a central location

Active coordination – a full time management position which organizes all activities between value chain participants (these are the producers, processors, distributors, and buyers) to ensure that everything is completed in a timely, efficient manner (USDA: Regional Food Hubs, 2011).

Auction market – a method of food distribution by which individuals or organizations can buy from hundreds of farmers through a bidding process

Co-packer - the client will provide the recipe for a product and the co-packer will provide the resources, most importantly a facility and labor

Cold line processing – post-harvest processing, including washing, grading and packaging of produce

Cold storage - post-harvest handling of produce and its packaging

Community food hub – provide the same core activities as food hubs but they also seek to develop community economic development and community food security outcomes

Community Supported Agriculture (CSA) – a group of individuals who pledge support to a farm operation. Members or "share-holders" of the farm or garden pledge in advance to cover the anticipated costs of the farm operation and farmer's salary and are paid in return with shares of the farm's produce throughout the growing season (National Agricultural Library: CSA, 2012)

Consumer food hubs – online buying clubs that connect consumers with producers. Also called a "virtual hub", groups of consumers operate as the aggregator and distributor

Distribution – the process of moving goods and services from one location to another using some form of transportation

Food economy – The entire food industry including the economic effects of growing food, processing food, distributing food, food sales, either wholesale or retail, and food service.

Food hub – A business or organization that actively manages the aggregation, distribution, and marketing of source-identified local and regional food products primarily from small to mid-sized producers to wholesalers, retailers, and/or institutional buyers (USDA: Overcoming Barriers, 2012).

Gleaning –the collection of crops from farmers' fields that have already been harvested or on fields where it is not economically profitable to harvest

Greenmarkets – an open-air market that sells farm fresh produce and products to consumers

Mid-sized farmer – a farmer with a gross income of up to \$750,000 yearly (USDA: Value Added Grant, 2011)

COMMUNITY FOOD SECURITY AND ECONOMIC DEVELOPMENT

Non-profit food hub – organized by a nonprofit organization. Non-profit food hubs assist small and medium-scale producers by providing them with distribution and marketing services and opportunities to create new wholesale market

Permanent facilities – a permanent structure that houses the different services, processes, and storage of the produce before it is sold

Processing facilities - a facility that allows access to certified equipment and possible storage for processing of raw produce. Many different models exist from shared kitchen use to business incubation

Producer food hubs – either individual or group of producers, that carry out their own aggregation and distribution functions instead of relying on a third party

Restaurant Supported Agriculture (RSA) – works the same way as a CSA except that restaurants pre-pay their share of the produce, bringing an immediate revenue to the farmers (Klemperer, 2009)

Retail-driven food hubs – retailers work with networks of farmers to supply seasonal produce and other food products to local grocery stores, restaurants, buying clubs or cooperatives

Small-sized farmer – A farmer with less than \$250,000 gross receipts, annually (National Agriculture Library: Small Farms, 2012)

Value-added product – transforming raw produce into another product, which is sold for higher than the commodity price. An example is tomatoes used for salsa, sauces or ketchup

Virtual food hubs – see consumer food hubs

ACRONYMS

CEZ – Cumberland County Federal Empowerment Zone

CFH - Community Food Hub

CRDA – Casino Redevelopment Authority

CSA - Community Supported Agriculture

CSB - Community Supported Bread program

CSM - Community Supported Meal program

EMC - Eastern Market Corporation

FAH - Farmers Against Hunger

FFS - Fresh Food Share

FIC – Rutgers Food Innovation Center

LSA - Locally Supported Agriculture

NB - New Brunswick

NBCFM - New Brunswick Community Farmers Market

NBCGC - New Brunswick Community Gardening Coalition

NBIA – National Business Incubation Association

NJAES – New Jersey Agricultural Experiment Station

NJDA - New Jersey Department of Agriculture

NJBIN – New Jersey Business Incubation Network

OFC - Oklahoma Food Cooperative

RAH - Rutgers Against Hunger

RSA - Restaurant Supported Agriculture

USDA - United States Department of Agriculture

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