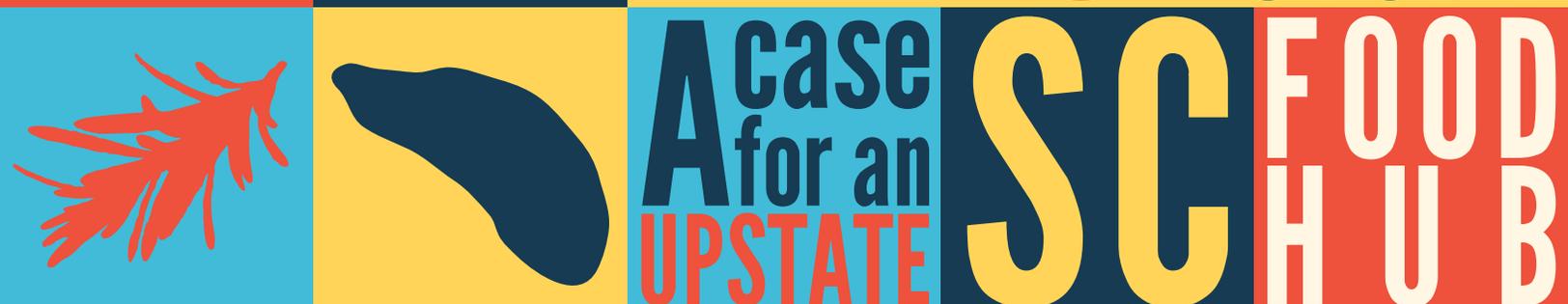


FEASIBILITY STUDY



A case for an UPSTATE SC FOOD HUB



DEC 2014 GREENVILLE COUNTY

Feasibility Study – a case for an Upstate (SC) Food Hub

December 2014

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Executive Summary

Current volumes of products from Upstate farms are not meeting local demand. After visiting a sample of farms within the 100-mile driving radius, it was discovered that product volumes were significantly lower than anticipated. However, broad support (86%) exists among farmers to increase on-farm production to sell into wholesale markets.

Currently, available local product volume is less than required to supply institutional clients. However, with minimal input, existing farms are appropriately positioned to supply a larger number of restaurants, grocers, and other retail venues. Further work is necessary to create a working relationship with farmers that will coordinate increased local production and associated processing, facilitate product certifications, and limit farm liability by availing products to existing and maturing markets. The challenges encountered during these visits were consistent with a previous study (Greenville Area Food System Assessment, 2012): land costs, labor costs, mechanization, lack of transport to market, lack of nearby processing, and high product liability.

What was determined on the farm was the desire and potential to grow operations. Many farms could be characterized as small, averaging 10-15 acres; but with more intensive specialty crops, production could be increased by up to 40% on the majority of farms visited.

Translating this level of farmers' interest to the over 300 active farms identified and communicated with in the area has the potential to provide significant volumes of diverse products in a relatively short period of time (as little as within three years). Accordingly, the scale of an Upstate food hub would need to service existing capacity while being able to complement the anticipated upward trending volumes.



Figure 1. Bryant Harrison looking over fields at H & G Produce, Pelzer, SC.

Preface: What is a Food Hub?

A 'food hub' references a particular place that facilitates product and information for a specific purpose. The U.S. Department of Agriculture and the National Good Food Network (NGFN) has a working definition:

A business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand.

In the case for local food, the food hub equates to a central marketplace where local products are bought, sold, aggregated, washed, packed, processed, marketed, and shipped. Particularly for the Upstate SC, the food hub would include the services outlined in Appendix A. Within the food system organization, it would be characterized as an aggregator as shown in the following graphic.



Throughout the country, food hubs are increasing in number and taking on various shapes and sizes in order to best service their local strengths. According to a 2012 U.S. Department of Agriculture – Agricultural Marketing Service (USDA-AMS) publication, food hub formation can be characterized by who is driving its creation: retail organizations, non-profits, consumers, or producers (Diamond and Barham 2012). According to a 2014 Food Hub Benchmarking Study by NGFN, the average revenue of food hubs from a national sample of 48 hubs was \$2.83MM (NGFN 2014). The same study found that 38% of the hubs were operated by non-profit organizations and 11 people were on the payroll on average (NGFN 2014). In 2013, the South Carolina Coastal Conservation League (SCCCL) completed an initial study focusing on an Upstate Food Hub. This Upstate Region Local Food Hub Feasibility Study found a “pathway forward to an Upstate local food hub...” with one of the follow-up steps to survey producers in other states as well as survey other stakeholders such as distributors and wholesale buyers in the food chain (SCCCL 2013).

“The food hub equates to a central marketplace where local products are bought, sold, aggregated, washed, processed, marketed, and shipped.”

Figure 2. Food Value Chain, Source: USDA-AMS, Winrock International, (Diamond & Barham 2012)

This document looks at current conditions within the region to determine if the environment would support the needs of a food hub; the financial viability for such a venture, however, would need to be vetted based on the business plan for the organization regardless of how that organization is established. Resources including those cited above are great tools to help establish such an opportunity.

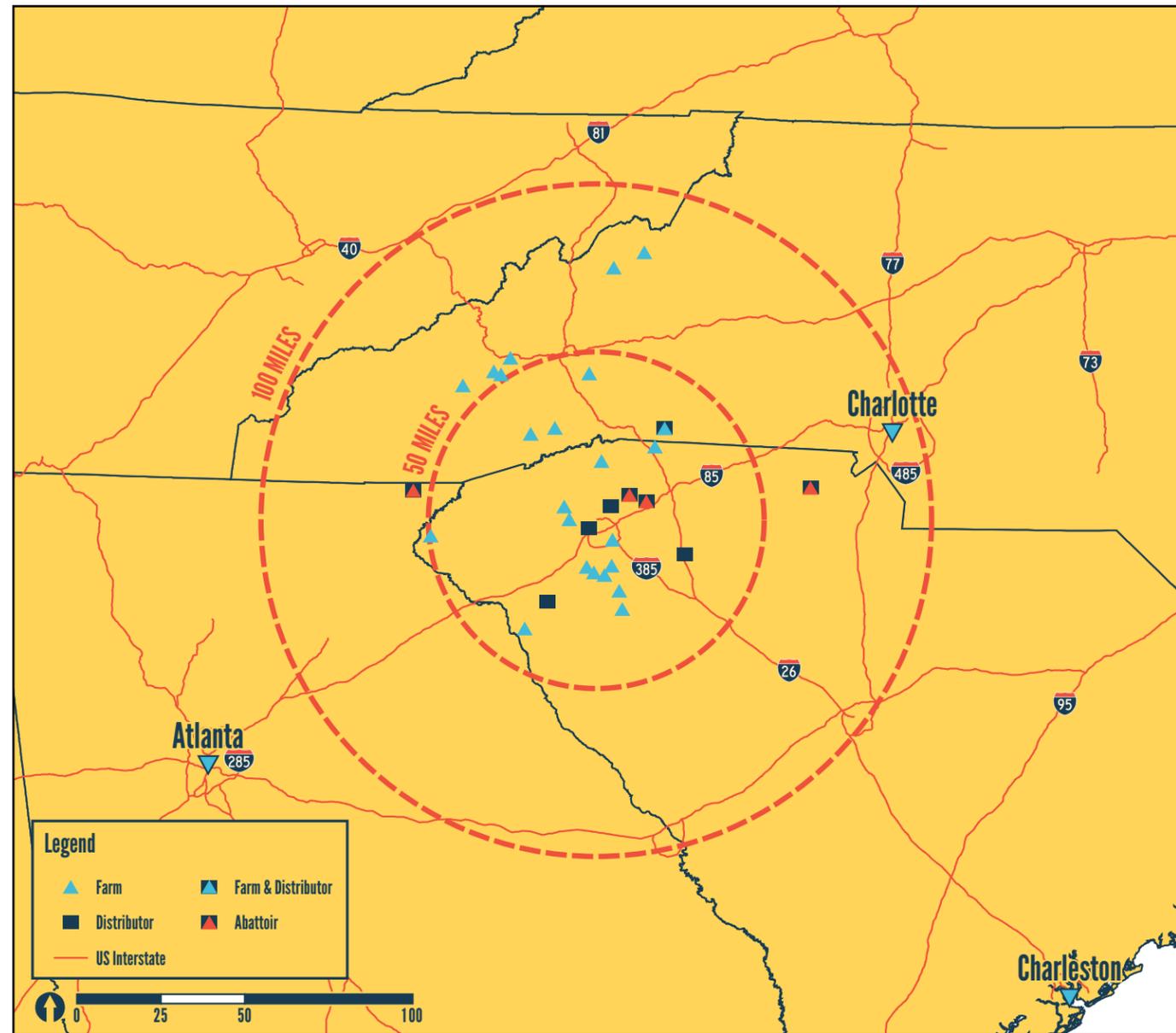
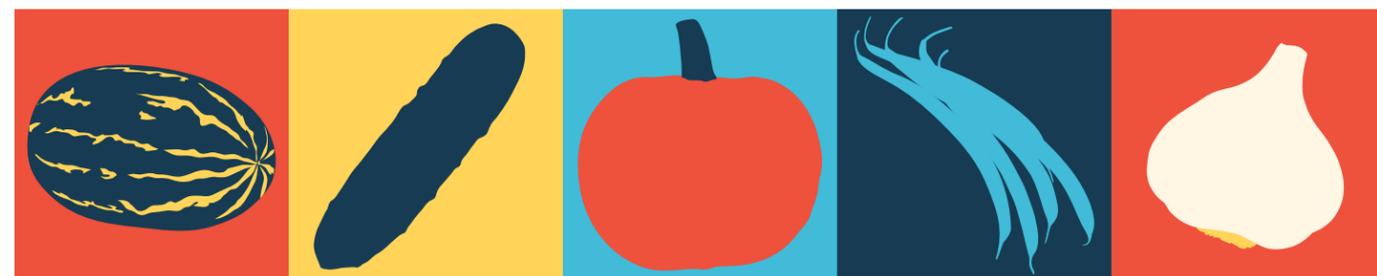


Figure 3. Food system infrastructure within straight line radii of 50- and 100-miles.



Introduction

The initial scope of this study was to determine farmer interest and farm product quantity within a 100-mile driving radius of the center of the City of Greenville, South Carolina (SC), defined as the center market of the Upstate. Farm products destined for a wholesale market would be filtered through a central market or food hub which would ideally provide the services outlined in Appendix A. The initial assumption was for a local distributor to act as a ‘food hub’, aggregating local produce for distribution to large institutions such as schools, hospitals, jails, and university campuses. That distributor would in turn serve both as a physical and communications center for growing the local farm capacity and number, while improving farm resilience. This initial approach considered existing assets including interest by a local distributor that also has contracts to distribute produce to local schools.

In addition to investigating the Upstate region, other activities throughout the State and in neighboring areas in North Carolina (NC) and Georgia have also been part of discussions and considerations. For example, Western North Carolina (WNC) has a matured local food infrastructure including county-centric hubs, a responsibility of NC State University’s Cooperative Extension programming. In some NC counties, vegetable and fruit produce is handled at these facilities, while others handle specialty crops such as Christmas trees. The AdvantageWest Economic Development Group (a state supported 501(c)(3) non-profit organization in North Carolina) holds regular meetings centered on strengthening the NC hubs.

In Georgia, local food and tourism has been steadily gaining momentum, although mostly unknown is its scale and complexity. The North Georgia local food system has similar potential to gain significant market share in the Atlanta and Charlotte markets especially with specialty products like cheeses, pastured meats, tree fruits and nuts, and other value-added products. One of the most recent significant developments in this area is the new Food Bank of Northeast Georgia in Rabun County, an expansion to its 14-county donation based operation. Together with North Georgia’s apple crop and value added products, this area will be a significant complement to developing the SC system.



Figure 4. The first regional food meeting attracts stakeholders from across Upstate SC and North Carolina.

Developing the infrastructure in South Carolina continues with reports, planning activities for specific regional representation, and an established warehouse in Charleston dedicated to local food. The recent report from Ken Meter, “Making Small Farms into Big Business,” in 2013 created the baseline understanding of needs for the SC food system infrastructure. Other reports specifically focus on the Upstate region including the 2012 Greenville Area Food System Assessment and this document, both completed by Greenville County. Another ongoing study focuses on challenges to food system stakeholders in the Upstate region. This locally funded Upstate SC Regional Food System Strategic Plan is anticipated to be completed by 2015.



Local distribution companies play a significant role in local food systems, although likely not as a food hub as initially considered. Instead, this study proposes a purpose-built non-profit business to incubate Upstate SC food system commerce. In Upstate SC, distributors span distances from farm to hub and between hubs to form a needed logistics function. At least four local distribution companies of various scales (local to regional and national distribution) operate within the 100-mile project scope. As part of the solution, these entities play a crucial role in connecting farm products to the marketplace. The fact that this many logistics companies exist in the Upstate area is a significant asset that will benefit the developing system.

Procedure

Overall, the procedure consisted of populating a database of farms, verifying the geographic distance from Greenville, SC, choosing a random sample of farms, grouping farms into potential day trip appointments, and contacting the chosen farms directly for appointments. To improve travel efficiencies, if chosen farmers were unavailable, we supplemented with additional farmers referenced by participating farmers to fill a particular day's schedule.

There are numerous sources of the farm contact information, and for the basis of this study, the farm list originated from the Appalachian Sustainable Agriculture Project's Local Food Guide and the Certified South Carolina Grown website. Produce (fruits and vegetables) and protein (animals) farms were both included. Once these farms were included into an ArcGIS geographic database, they were assigned to the nearest town to generalize their location. Random numbers were generated by Microsoft Excel and assigned to choose the first wave of farms. Then, to provide a full day of farm visits, those farms located nearby the randomly chosen farm were added to the schedule until a full day itinerary was verified.

Google Maps was employed to provide specific distances. The 100-mile scope of this project was inclusive of roadway miles as opposed to straight-line radius from Greenville, SC. The furthest farm of any particular day would not exceed 100 miles in one direction.

Farm visits were scheduled roughly twice a month on Fridays between October 2013 and March 2014 as permitted by the evaluation member's scheduling and weather. In general, three people evaluated the majority of the farms: Danny Howard, Clemson Extension; Scott Park, Greenville County; and Mike McGirr, private chef and local foods marketer.

Does Farm Size Matter?

The evaluators quickly determined that the existing productivity of farms would not be able to immediately service institutional sized clients, which was one of the original assumptions to this study. Instead, as more farmers were visited, it was determined the hub needed to meet existing farm production and afford the ability to grow their potential capacity.

Produce and protein farms have specific space requirements depending on their intensity, or product volume, of their operations. Full-time produce farmers making a living on less than five acres is not uncommon. Likewise, successful protein farmers in the area have utilized less than 20 acres. The size of the farm is a significant attribute that determines the extent of the product list. Intensive cropping and proteins (raised on supplemented feed)



Figure 5. Brassica at King Harvest Farm, Brevard, NC.

The liability of increasing product volume was a significant concern among farmers not maximizing their land area.

both characterize a potential to minimize land footprint while maximizing productivity. Oftentimes, in areas of limited land resources, either by fertility issues or limited space like urban settings, specialty products can be profitable with the appropriate culture (ex. soil building prescription or aquaculture) and the market's demand-based crop considerations.

The liability of increasing product volume was a significant concern among farmers who were not maximizing their land area. Many farmers recognize that the volume of their production is dependent on their current market connections (farmers' markets, direct to restaurants and grocers, or via other sales like roadside stands). If a farmer was unaware of other markets, they would not grow on a 'wait and see' speculation due to the significant addition of resources. Every additional row or generation of a crop equates to labor and resources to maintain, harvest, process, pack, and transport to market.

The proposed food hub will help farmers welcome the next growth stage. Partner organizations associated with the food hub will be mobilized to help at these critical stages. Furthermore, the hub will employ apprentices from local education and rehabilitation partners that will ultimately be a source of skilled labor that have a working relationship with Upstate SC stakeholders. These apprentices will have practical knowledge of how farm operations integrate into the Upstate food system. Together with financial and government support classified through the hub as described in a later section, the food hub will incubate a stronger food system by building a more resilient farmer base.

Farm Certifications

All of the farmers visited either never acquired certifications or have allowed certifications to lapse from year to year. Many farmers were aware of Good Agricultural Practices (GAP) and Hazard Analysis and Critical Control Points (HACCP) certifications which are required by larger clients like schools and hospitals. Other certifications like "USDA organic" and "humanely treated" were also familiar. When farmers did acquire certifications, it was in preparation for and reaction to secured contracts and not for the benefit of their direct sales markets. In essence, for the smaller farmers, the time and resources dedicated to attain and maintain the certifications did not translate to greater profits without ties to these larger clients.

Through this study, we found that 15% of the farmers were not interested in an additional marketplace, but gladly, were interested in mentoring others. We speculate that these farmers were successful in attaining significant market share (they were all still in business at the time of the visit) as they operated over the past 20-30 years. Many farmers we visited had already matured their business plan to maximize direct sales, thereby maximizing the monetary return on the products while making stronger connections with more numerous, albeit smaller volume clients. The next steps for the Upstate food hub, with the help of these mentors, will be to develop and grow the connections to the wholesale marketplace. However, since the wholesale marketplace is separated from direct interaction with the farm, certifications will become more

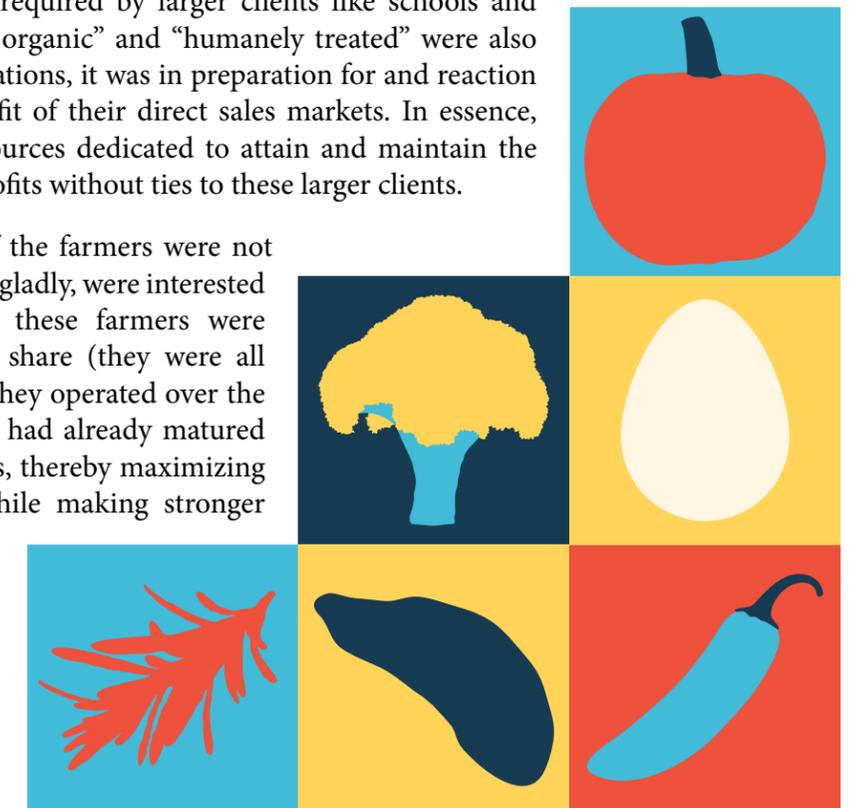




Figure 6. Bill Welch of Broken Wing Farm, Honea Path, looking over his Tanworth heritage breed pigs.

important as a measure of quality.

Various certifications can be attained by farmers with an on-farm audit. Coursework to prepare farmers are offered by universities and non-profit organizations. Clemson University, North Carolina State University, and SCDA and other entities all participate in providing classes for farmers that seek a variety of certifications. The on-farm organic certifications are completed by Clemson University and NC State, but third party auditors complete the GAP certification. Any of these named organizations can help farmers with certifications and the conversation can start at the local food hub, based on its market expertise.

With wholesale aggregation located in Upstate SC, it is anticipated that a wider range of clients will quickly become active purchasers in the local food system. As the local food system establishes an efficient infrastructure, farmers will increase production to meet demand. Oftentimes, the consumers of these products, especially those willing to buy at premium prices, will require one or more certifications. These certifications will begin with required actions on the farm, but will also follow the product through the entire pathway, including processing and handling, to market.

The food hub and nodes are among ideal places to identify and communicate market-relevant certifications, facilitate support organizations' processes (bringing farmer & certifier together via the market) with the goal being an increasing yield of high quality products. The hub will work with farmers to prescribe a direction and coordinate goals with appropriate experts at Clemson University, NC State University, and other certifying organizations.

If the Hub Fits

The original scheme for the Upstate Food Hub was to serve large clients including schools, hospitals, jails and other large institutions. At the start of this study's scoping, the 'ideal' food hub (summarized in Appendix A) manifest in a facility capable of communicating product as well as information, from the farmer to the consumer.

The ultimate goal of the hub is to build a stronger food system focusing on cohorts of farmers and apprentices over periods of time. The hub will serve new and existing farmers as they produce goods and gain access to the existing and future market. Each farm is unique, with varying forms of production determining their potential volume. That variability characterizes the diversity among Upstate farmers and defines much of the role that an appropriately organized and scaled hub must serve. Creating the hub with designed capacity to service the current diverse landscape of farm production is key to growing efficiently in the future.

Re-examining the scale of the hub was the next step: changing the original consideration of an institutional sized hub to one that's more nimble to serve the smaller, expanding farmer. Since the anticipated product volumes



Figure 7. Chef Patrick Wagner directs a class of Greenville County Schools cafeteria teams, teaching scratch cooking with whole foods.

would not be immediately realized, the original thought morphed into a smaller, more dynamic food hub that would be able to grow capacity and the number of farmers in the area. The hub would be ideally sized to maximize one-on-one attention between farmer and services to maximize production increases. The ideal hub size would be able to accept any quantity of product in a wide range of grades with the hopes of creating a baseline and to work up a coordinated effort to improve product quantity and quality in the area.

From the market perspective, a hub capable of addressing a diverse farmscape matches the goal among stakeholders to create an even more diverse local food marketplace. The hub must be effective at the following tasks: access existing markets, explore the reaches of low- and high-margin market sectors, create and expand into niche markets, encourage for-profit, private investment in agribusinesses serving these markets, and then study opportunities for the export market.

The Hub as a Builder

One of the major directions for a food hub is to create a porous, evenly accessible place to work regardless of socioeconomic status, race, culture, gender, education, or disability. This Upstate food hub will interact with a myriad of entities around the area and region. The purpose of the food hub is to strengthen the local food system, not to displace existing and growing assets. This study is describing a food hub that will incubate existing and new businesses to grow, thus reestablishing investment where critical faults in the food system infrastructure have eroded due to decades of reliance on imported and industrialized food production.

The following paragraphs highlight only a small list of partners that will interact with the hub. These partners will have business interests across the state boundaries to North Carolina and Georgia; consist of hubs and kitchens, educational institutions, national brands like Amy's Kitchen, restaurants, urban gardens/farms, and processing locations.

Significant work has already been dedicated to establishing the Feed & Seed Co., food hub structure. Its mission is to strengthen the local (100-150 miles) food system with special emphases on farms and future food system employees such as chefs, store managers, farmers, logistics managers, entrepreneurs, and retailers.

Ken Meter's 2013 statewide report, Making Small Farms into Big Business created a plan to build the local food infrastructure for South Carolina. The report prescribes a network of these structures throughout



Figure 8. Mac Arnold, blues singer and restaurateur, with Samantha Wallace, publisher of Edible Upcountry, talk among participants at the 2014 Upstate Food Hub event at the Northwest campus of Greenville Technical College.

the state from the market-facing 'hubs' to the more farm-centric 'nodes.' The purpose of this infrastructure is to bring more local product to the local market while maintaining high quality.

One example of a successful food hub in the Upstate is located in Tryon, North Carolina, less than 50 miles from downtown Greenville. Sunny Creek Farms is a producer, processor, and a distributor with logistical coverage in the Southeastern United States. Their products include various sprouts (bean, alfalfa, broccoli, etc.) and they distribute using straight trucks and less-than truckload 53' tractor trailers (i.e. local and regional). The business is in the process of upscaling their operations and will include post harvesting consulting, food safety, marketing, shipping, branding, GAP training, and when in their new facility, expanded services providing space that would bring much needed social services to the Upstate. In essence, Sunny Creek is the ideal connection of locally produced product and support processes to local food producers in the Southeastern U.S. Likewise, additional local distribution companies exist including Francis Produce, Marvin's Produce, Carolina Produce Company, and Taylor Boys' Produce, each serving a unique scope of the marketplace.

In addition to bringing farm products to the marketplace, hubs will bridge the gaps among local food sector education opportunities and research. Examples of these partners include Clemson University, Furman University, Wofford College, Greenville Technical College, Tri-County Technical College in addition to local high schools. Other educational organizations like Project Host and Butterfly Foundation are also interested in partnering with the hub and will afford better access for more 'at risk' communities.

In addition to bringing farm products to the marketplace, hubs will bridge the gaps among and help the local food sector access education opportunities and facilitate research.



Figure 9. General Manager Sara Clow (center) tours personal chef Mike McGirr (left), and Rance Bryant of Small Business Development Center, around the GrowFood Carolina local food facility in Charleston, SC.

As additional infrastructure like hubs, nodes and processing locations become operational in South Carolina, each has the potential to create its own market; and, farmers in the Upstate will be ready to grow for those markets. As noted above, the consumer demand for local products exists and is currently outstripping supply. This chase for product culminates at the limitation of the system to handle high volumes of local product efficiently. The food hub is a critical piece of infrastructure that begins to address limitations in the market pathway from the farm to the consumer.

As a conduit for educational institutions, addressing challenges faced by local private businesses translates into research opportunities and subject matter for apprenticeship programs. These partners will be able to access real-world issues within the food system: distribution/ logistics, processing, restaurants and other eating establishments, retail establishments such as convenience stores and grocery stores, farm stores, farmers' markets, and CSA programs to name a few.



Figure 10. Danny Howard, Distinguished County Extension Agent, overlooking the fertile valley of Greenville County from Table Rock.

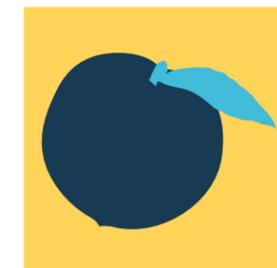
Each of these places represents a potential interaction within the food system that must become more efficient while maintaining quality product and communication.

Furthermore, connections at the hub to non-profit and government organizations that directly aid the local food system includes a significant partner list: Slow Food Upstate, Gardening for Good, Greenville Organic Food Organization, LiveWell Greenville, Ten At The Top, Farm Bureau, and Clemson Extension. These partners provide direction in growing a better quality product and increase the niche markets available to local products.

Together with the following financial organizations and foundations, funding new and expanding businesses at different scales will help realize their business goals: local banking institutions, AgSouth Farm Credit, Carolina Foothills Federal Credit Union, Community Works Carolina, SC Community Loan Fund, SC Coastal Conservation League, United Way, Duke Foundation, Graham Foundation, Daniel-Mickel Foundation, Hollingsworth Fund, Mary Black Foundation. These examples have different missions with the potential to positively affect local business and health.

And finally, government programming can play a crucial role in rural and urban farm growth. The following organizations have numerous financing programs, grants and technical information: USDA Rural Development, USDA Agricultural Marketing Service, USDA Farm Services Agency, U.S. Small Business Administration, Small Business Development Center at Clemson, SC Department of Agriculture, and SC Department of Commerce: each of which is fully briefed in this endeavor.

The food hub, through the various partnerships will establish solutions to bring more farm products to market. The hub will inherently be a part of professional organizations that can spur the client/farm connection for direct and wholesale sales. The hub will be tasked with deriving the ideal combination of both types of sales to maximize farm production based on available farm assets (land area, location, labor availability, education potential, etc.) Some farms may be good candidates to grow large quantities of vegetables with a focus of season extension and mechanization. This approach, possibly with grant support from various federal and state grants or low interest loans, could build these farms to improved net income while making more products available to the local market, especially to large volume clients such as schools and hospitals.



Further Studies

The challenges to growing the local food system have been verified from farm visits during this study. However, more detail is required to estimate the expected growth in the number and acreage of local farms as well as the size and expected growth in market demand. Determining starting values for each measure, and subsequently tracking trends in each category, begins to shape the understanding of the market's growth potential, as it is to be served by local farmers.

- Continue and complete the Upstate Regional Food System Strategic Plan, create appropriately scaled food policy councils in the area: regional, county specific, sector specific.
- Conduct an economic study to determine the current and potential capacity of the local market to absorb local farm products over the next ten years. The capacity of the local food market should be quantified in order to maintain adequate infrastructure to support this growing economic sector.
- Survey general characteristics of the potential farmland in the Upstate that could supply product to the local market, and the potential costs associated with criteria: distance to center (hub) or station (node), soils, slope, parcel size.

Acknowledgements

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Appendix A – Food Hub Prescription

Overall, the objective of the food hub is making a better connection of ‘farmers’ and ‘consumers.’ The need for a local food hub has been the focus on many studies and conversations as a missing link to a more robust local food system. The following is a brief list of the customers, benefits, effects and strategies establishing a local food hub.

