An Examination of the Feasibility of a Food Hub for the Pee Dee Region

Emily Purcell
Clemson University, emilypurcell2690@gmail.com

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AN EXAMINATION OF THE FEASIBILITY OF A FOOD HUB FOR THE PEE DEE REGION

A Thesis
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
Applied Economics and Statistics

by
Emily Ann Purcell
May 2014

Accepted by:
Dr. David W. Hughes, Committee Chair
Dr. Yuliya Bolotova
Blake Lanford
ABSTRACT

Horry County, the home of Myrtle Beach, South Carolina, attracts a large level of spending by visitors who are helping to fuel growing demand for locally produced food. Regional growers are interested in meeting this demand but are limited by retail requirements with respect to lot size, timing, and quality (including food safety aspects such as Good Agricultural Practices (GAP) certification). A number of communities have turned to food hubs as a means of aggregating production by local growers and providing appropriate marketing functions, such as storage and meeting standards. Hence, food hubs can fill a gap between producers and consumers. This study evaluates the feasibility of a proposed food hub for the Pee Dee Region. This analysis includes evaluating interest by regional growers and buyers, and determining organizational and infrastructure needs. Based on survey responses from 20 fruit and vegetable producers and seven produce buyers in the region, the study confirmed that a food hub in or near Horry County would be feasible. The findings of this study suggest that food hubs, through the increase in sales of locally produced fruit and vegetables to larger markets, can increase economic development for rural economies.

Key Words: Food hub, Local foods, Economic development, Rural economies
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CHAPTER ONE
INTRODUCTION

Myrtle Beach, South Carolina, by far the largest city in Horry County, is one of the top tourism destinations on the East Coast. With over 14 million visitors each year (Myrtle Beach, SC, 2014), this area has a high demand for sales in restaurants and grocery stores relative to the local population. An analysis of annual sales by food and beverage stores, as well as food service and drinking place vendors indicated that tourists purchase $469.8 million worth of product from these sectors annually (ESRI). This implies that 42.3% of a typical food dollar in the area comes from tourists. Arguably, tourists are a strong potential market for local and regional producers to increase sales. However, despite the potential market, both fruit and vegetable production are underdeveloped both locally (Horry County) and regionally (the Pee Dee region of South Carolina). In both cases, the contribution of local and regional fruit and vegetable producers to their respective economies is well below the national average.

Due to the fact that Horry County attracts a large level of spending by visitors and because of the growing consumer demand for locally produced food, the region is in a position to grow the local food system, increase the incomes of local farmers, and facilitate rural development. In support of a previous study (Hughes et al., 2013), local farmers and produce distributors were informally surveyed to determine their interest in producing and selling more local produce. The results are all too familiar. Farmers are eager to produce more fruits and vegetables if there is a market available; distributors indicate a strong and growing demand by food service establishments for locally grown
fruits and vegetables. However, there is a market gap between producers and distributors. Most fruit and vegetable producers are typically small in size and grow limited amounts of produce that is often inconsistent in timing and quality. Distributors demand relatively large amounts of produce delivered in a consistent and timely manner while also meeting food safety and quality standards.

To address the market gap between producers and distributors, food hubs have been developed to aggregate, process, and distribute local produce. The critical role a food hub plays is shown in Figure 1.1. In the food value chain, farmers typically sell their product to aggregators and/or processors who then distribute the product (or sell to distributors) to restaurants, food service, and retail outlets. Typically small to mid-sized producers sell to the food hub. By sharing the cost of the packing house, as well as distribution services, which are normally too high for most producers to carry out on their own, reasonable economies of scale are obtained and the lot size, timing, safety, and quality demands of distributors are met. Apart from simply sharing the cost, a food hub allows producers of differing sizes to depend on the food hub manager for marketing, selling, and distribution tasks, which are often very costly and time consuming for the producer to focus on alone. Participation in a food hub allows the producer to devote all of their time and efforts to simply growing their produce, and leaves the rest of the tedious processing and distribution tasks up to the hub. In addition to benefiting producers, food hubs are advantageous to produce buyers. Buyers seeking locally and regionally grown produce can purchase these items from the food hub instead of having to go to many individual farmers to collect the same items. Purchasing from a food hub
provides buyers with a single, convenient location to source their produce, thus saving time and costs associated with sourcing the same produce items from many locations (Cheng and Seely, 2011).

Figure 1.1. The Food Value Chain

Source: USDA Agricultural Marketing Services
In recent years, the benefits of food hubs to local and regional economies have been realized, and food hubs have gained popularity throughout the United States. From 2000 to 2011, the number of food hubs in the United States has grown from 45 to 162, with 45 of those food hubs being established in the past three years (Lund and Barham, 2012). Many food hubs have increased the amounts of specialty crops sold locally to over $1 million within the first three years of operation, thereby increasing farmer income and employment opportunities for rural economies (Hughes et al., 2013).

Horry County in particular and the Pee Dee region of South Carolina in general do not currently have a food hub in operation. The only current aggregators in the food value chain are the various state farmers markets and a new food hub in Charleston. However, with the exception of the Charleston food hub, these markets are not focused on small to medium sized farmers. Farmers who opt to not sell direct to consumer or who cannot directly supply wholesale distributors (because of size and/or quality concerns) could greatly benefit from a food hub that fills this void. Many people have also found that the greatest limitation for further growth is on the supply side rather than the demand side. Ultimately, if operated properly, a food hub can drive income and employment for rural economies through the increase in sales of locally produced fruit and vegetables (Hughes et al., 2013).

The purpose of this study is to examine the feasibility and economic impact of a potential food hub in Horry County and the greater Pee Dee region. Because the Pee Dee region has no set or official definition, we use the North Eastern Strategic Alliance region as a proxy. The Northeastern Strategic Alliance (NESA) is a regional economic
development organization that serves a nine county region in the northeastern corner of South Carolina (North Eastern Strategic Alliance, 2014). The counties comprising the NESA region are Chesterfield, Darlington, Dillon, Florence, Georgetown, Horry, Marion, Marlboro, and Williamsburg (Figure 1.2). These counties comprise what is typically considered as the Pee Dee region.

Both Horry County and the Pee Dee region are currently underdeveloped in terms of fruit and vegetable production needed to capitalize on the larger local foods market created by high levels of tourism in the region. Creation of a food hub in either Horry County or the Pee Dee region could potentially solve this problem and provide producers
access to the larger markets. This study works to gather information on producer and buyer interest, locational, infrastructure, and quality needs as well as preferred management structure of the food hub from potential stakeholders in Horry County and the Pee Dee region because their input is crucial to the success of the food hub moving forward. Based on the presence of a large market for locally and regionally produced fruits and vegetables, as well as the current lack of a facility available to aggregate and distribute produce to buyers, it is predicted that a food hub located in either Horry County or the Pee Dee region would be feasible.
CHAPTER TWO
LITERATURE REVIEW

To better understand the feasibility of a food hub in Horry County, it is important to define a food hub, as well as identify why food hubs are needed in regional economies. Information on challenges to food hubs, food hub operations, and impacts of food hubs is also important to take into account. This chapter provides evidence from the literature on all of the above-listed topics of interest to consider when developing a food hub such as the one that this study proposes for Horry County or the greater Pee Dee region.

Defining Local Foods

While no universally accepted definition of local foods exists, defining something as local can be done in terms of geographic distance traveled from producer to consumer, and/or in terms of social and supply chain properties. From a geographical perspective, local foods are often defined as being grown and consumed within a 100 mile radius (Martinez et al., 2010). The official United States Department of Agriculture designation for local is any product being grown and consumed within up to a 400 mile radius or the state boundary (Martinez et al., 2010). From a social and supply chain perspective, defining local varies by consumer, with many different traits characterizing something as local. As the interest in the origins of food has risen, the demand for local foods has increased, leading to new efforts to expand the access to these foods.
The locavore trend, which concerns consumer interest in local foods (typically consumed within 100 miles of where the food is grown) has led to a focus on promoting “healthy and sustainable local communities” through agriculture in recent years (Matson and Thayer, 2013). As a result of the increased interest in locally produced foods, attention has been focused on finding ways for small to mid-sized producers to access larger markets that they otherwise could not without assistance. Food hubs provide marketing functions along with other services for these small to mid-sized producers to access larger markets and ultimately help meet the rising demand for locally produced foods.

**Defining Food Hubs**

Foods hubs are most often described according to the United States Department of Agriculture’s definition, i.e. a food hub “is 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” (Matson et al., 2013, p. 5). The United States Department of Agriculture identifies the aggregation and distribution of products for wholesale markets, coordination of food supply chain activities, and the supplying of permanent facilities for processing, packaging, and other food-related activities as the primary components of a food hub (Horst et al., 2011). The definition developed by the Regional Food Hub Advisory Council states that a food hub is “an integrated food distribution system that coordinates agricultural production and the aggregation, storage,
processing, distribution, and marketing of locally or regionally produced food products” (Regional Food Hub Advisory Council, 2010, p. 12). According to the Regional Food Hub Advisory Council (2010), food aggregation and distribution to a wholesale market are the two most important elements. Food hubs typically serve to support small to mid-sized producers, improve food security, spark regional food system growth, and educate the public on food systems (Melone et al., 2010). Food hubs capitalize on the merging of consumer demand and social values to increase consumers’ access to locally produced foods, while preserving the food characteristics that consumers desire to increase the profitability and value for local producers (Matson and Thayer, 2013).

There are a wide variety of different types of food hubs. Some emerging types of food hubs include boutique/ethnic/artisanal food hubs, the consumer-cooperative model, the destination food hub, the education and human service-focused food hub, the neighborhood-based food hub, the hybrid food hub, the rural town food hub, the online food hub, and the regional aggregation food hub (Horst et al., 2011). Not all food hubs operate in the same manner; the organizational structure, management, and operation of food hubs can be very different (Melone et al., 2010). The target audience, infrastructure, training and services offered, and logistics can also vary from food hub to food hub depending on the way that the food hub is designed and managed (Cheng and Seely, 2011).

The aggregation of products for distribution to wholesale markets is one of the most common food hub functions (Cheng and Seely, 2011; Day-Farnsworth et al., 2009; Schmidt et al., 2011). From an aggregation standpoint, food hubs can take on this role in
a number of ways. Food hubs can act as producer or consumer cooperatives, produce auctions, buying clubs, private or non-profit wholesale packers and distributors, retailers, or Community Supported Agriculture (CSA) programs (Day-Farnsworth et al., 2009). (Collaborative CSA programs are programs in which customers receive a package containing produce, meat, or value-added products from many different farms working to aggregate their goods regularly (usually weekly) (Bregendahl and Flora, 2006).) From a social standpoint, a major function of food hubs is to “provide easy access, opportunity, and viability for small producers and low-income consumers [and to] contribute to a healthier, more vibrant, and equitable system” (Horst et al., 2011, p. 212). Regardless of the structure or management of the food hub, food hubs were developed to serve one purpose, which is to connect producers with both mid and large scale wholesale purchasers, as well as individual customers in an efficient way (Matson and Thayer, 2013).

Numerous authorities have expanded on their view of the appropriate goals or outcomes of local food systems in general and food hubs in particular. A strong community system, such as a food hub, should be locally based, affordable to consumers, economically viable for producers, and ecologically sustainable (Garrett and Feenstra, 1999; Lappe and Collins, 1978; Schmidt et al., 2011, Matson and Thayer, 2013).

**The Need for Food Hubs**

The literature has identified a need for food hubs and improved aggregation and distribution infrastructure to better support local, small to mid-sized agricultural
producers. As demand increases, supply must in turn find a way to meet that demand. Consumer demand for convenient access to fresh and local foods year-round has been growing throughout the United States for many years (Berlin et al., 2009; Kolodinksy et al., 2009; USDA NASS, 2007; Schmidt et al., 2011). A report conducted by the United States Department of Agriculture states that local food sales through all channels grossed over $4.8 billion in 2008 nationally (Matson et al., 2013). The United States agricultural industry has seen dramatic increases in production efficiency over the past 100 years; however these gains in efficiency have led to fewer farms sustaining a growing population. Arguably, food hubs help spread the responsibility of supplying the nation’s demand for food.

A more important impetus for the development of foods hubs is a lack of marketing outlets to meet the growing consumer demand for locally grown, small-scale agricultural products (Hardy and Holz-Clause, 2008). The current system is dominated by a small number of large firms that purchase large amounts of product from a few growers to keep costs low (Hardy and Holz-Clause, 2008; Perrett, 2007). These large buyers often see sourcing from many small producers as costly, time consuming, challenging to product quality control, and tedious (Cheng and Seely, 2011). Without food hubs, moving local foods from small-scale producers to larger scale outlets, such as grocery stores and foodservice institutions can be costly and inefficient (Hand, 2010; Perrett, 2007).

From a producer standpoint, participation in food hubs ultimately benefits them by providing access to bigger markets that they would not be able to reach if they were
operating on their own. Clancy and Ruhf (2010) used a survey of northeastern value chains, and found that producers benefit from higher prices, more marketing options, and access to greater markets. Based on Shuman, Barron, and Wasserman (2009), it can be said that aggregating producers and their goods in systems like producer cooperatives can help to improve their competitiveness by combining marketing efforts. Stakeholder meetings for the Community Alliance with Family Farmers (CAFF, 2011) showed that small to mid-sized and beginning farmers benefit from participation in food hubs that provide them with support in packing, grading, sizing, storage, umbrella insurance coverage, and food safety assurances, thereby enabling them to reach larger markets.

From a consumer standpoint, food hubs may provide a benefit with a more convenient, one-stop-shop method of meeting their demands for local foods. According to Matson, Sullins, and Cook (2011), consumers should benefit from greater access to local food providers, who collectively offer greater delivery reliability than just purchasing from a single producer. Through a food hub, when one producer is unable to meet the order, often due to the unpredictability of nature, there is a group of producers to fall back on to ensure a reliable delivery to the consumer. This system allows consumers to purchase produce with confidence.

Food hubs improve access to local produce to a wide range of consumers. Arguably, the farm to restaurant supply chain operates in an inefficient manner. Specifically, the system could benefit from an aggregation and distribution center such as a food hub to help meet the demand that chefs have for locally grown food items (Chef’s Collaborative, 2008). In most situations, a small number of chefs go out of their way to
contact farms, thus signifying the need and willingness to buy local food inputs (Chef’s Collaborative, 2008). The development of a food hub could save time and money for restaurants looking to source local products.

Also without empirical support, Barham (2011) states that food hubs may be able to provide lower income consumers with more affordable access to local foods. The 2013 National Food Hub Survey found that about half of all food hubs are able to accept Supplemental Nutrition Assistance Program (SNAP, federal food assistance) benefits (Fischer et al., 2013). Erlbaum, McManus, and Nowak (2011), also found through their data collection in Colorado that food hubs have the ability to help farm to school programs function more efficiently by giving schools convenient places to obtain their local foods. Accordingly, the programs are enabling in educating students about local foods and also provide them with healthy food choices.

From an economic development standpoint, food hubs help to improve the economy in many different ways. Masi et al. (2010) argue that local food systems, such as food hubs, can benefit the local economy by decreasing unemployment, increasing local tax revenue, drawing more attention to the area, attracting businesses to the region, improving economic security, improving rural economies, improving public health, increasing environmental stewardship and giving people a connection to the land, and in general bringing a greater quality of life to the area.

Other studies have shown that the creation of food hubs and regional forms of distribution can lead to increased employment in the region (Fisk and Barham, 2011; Flaccavento, 2009; Fischer et al., 2013). Of the 107 food hubs that responded to the 2013
National Food Hub Survey, the average number of employees per food hub was 19 (Fischer et al., 2013). For a food hub more comparable to the one being proposed in this study, GrowFood Carolina, the only existing food hub in South Carolina employees five full-time and two part-time workers (GrowFood Carolina, 2014). These results show that a food hub can provide some direct employment opportunities.

In addition to creating jobs, food hubs can also help local and regional economies capture a greater share of the money being spent on produce. When analyzing foods in Northern Virginia, Slama et al. (2010) found that while $16.8 billion are spent on fruits and vegetables annually in Washington, D.C. and the surrounding tri-state area, only about seven percent of that amount is spent on locally produced fruits and vegetables. The average food hub’s 2012 sales exceeded $3.7 million (Fischer et al., 2013). The average sales for 2012 support the belief that the implementation of local food distribution, such as food hubs, could help local producers capture a larger share of the money spent on produce appears to be valid (Slama et al., 2010). From an economic development standpoint, the implementation of local food systems, such as food hubs, has the potential to increase employment and act as a form of import substitution to help keep more of the money spent in the local economy, local. As consumer demand for locally produced foods continues to grow, and proper aggregation and distribution infrastructure is lacking, the need for food hubs to serve local and regional economies becomes more evident.
**Challenges of Food Hubs**

There are currently a number of challenges facing the implementation of local food systems, such as food hubs. While the implementation of a food hub could supply the region with needed infrastructure, a major obstacle in opening a food hub is the cost of new infrastructure, as well as finding funding to cover the fixed cost of infrastructure and initial operating cost (Clancy and Ruhf, 2010; Day-Farnsworth et al., 2009; Fisk and Barham, 2011). Many food hubs depend on grants and donations to assist in acquiring necessary start-up items such as buildings, land, infrastructure, insurance, legal aid, and initial employment. The 2013 National Food Hub Survey found that 34% of food hubs surveyed rely on grant funding (Fischer et al., 2013). A study done of the Intervale Food Hub indicated that a range of $100,000 to $300,000 in start-up costs is common in the development of food hubs (Intervale Food Hub, 2014). Annual operating costs range from $500,000 to $700,000 depending on the size and activities of the food hub (Intervale Food Hub, 2014). So covering operating costs is also a challenge in the early years of establishment. It may be more difficult to maintain a food hub as total costs often exceed total sales revenue.

Clancy and Ruhf (2010) also listed several other challenges that food hub management may encounter in implementation. Food hub managers may face “overwhelming workload, lack of time to reflect on their work, working with producers who lack understanding of wholesale market needs, managing growth, dealing with conventional supply chain participants (such as processors and distributors), and lack of technical assistance (related to web and data management, organizational management
issues, product development, and food safety knowledge and [regulatory] compliance” (Lerman et al., 2012, p. 11). Other hurdles identified by Dreier and Taheri (2008, 2009) include growth management, product quality and consistency, a small number of suppliers, and hub coordination. Challenges that local food systems and food hubs may face also include lack of skilled management, poor organization and financial management, insufficient financial resources and risk management plans, and compliance with regulations (Matson and Cook, 2011). Coordinating supply and demand can also present a great challenge to food hub management (Clancy and Ruhf, 2010; Melone et al., 2010).

If demand is too great, producers may not be able to keep up, and if supply is too large, the prices that producers receive may decline (Hand, 2010). Organizers of a food hub may also run into issues with trying to get producers and consumers to commit to participating or using a relatively new food hub (Flaccavento, 2009; O’Sullivan, 2011). The strength of a food hub is directly related to “the extent that relationships within regional food networks are based upon trust and cooperation among food suppliers, producers, workers, brokers, and consumers” (Schmidt et al., 2011, p. 158). When creating a food hub, gaining the trust of the producers, consumers, and the rest of the community is very important to the success (O’Sullivan, 2011). If such challenges are identified and addressed early on in the food hub establishment process, the probability of success is greatly enhanced.
Food Hub Operations

Successful food hubs can be found under various legal statuses. While privately held entities (40%) are the nationally most popular, nonprofits (32%) and cooperatives (21%) are important (Table 2.1). Apparently, legal status is not correlated with the success of food hubs (i.e., the three major forms have an equally likely chance of thriving) (Lund and Barham, 2012). Many of the food hubs that focus on educational outreach for farmers and gathering supplies from small to medium local farms tend to be nonprofit or cooperatives (Lund and Barham, 2012).

Table 2.1. Food Hub Legal Structures

<table>
<thead>
<tr>
<th>Food Hub Legal Status</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
<td>67</td>
<td>40%</td>
</tr>
<tr>
<td>Nonprofit</td>
<td>54</td>
<td>32%</td>
</tr>
<tr>
<td>Cooperative</td>
<td>36</td>
<td>21%</td>
</tr>
<tr>
<td>Publicly Held</td>
<td>8</td>
<td>5%</td>
</tr>
<tr>
<td>Informal</td>
<td>3</td>
<td>2%</td>
</tr>
</tbody>
</table>

Source: Lund and Barham, 2012

Some smaller food hubs tend to sell directly to consumers as well as to restaurants, grocery stores, and institutions. For such food hubs, direct sales, which can provide greater profit margins, are necessary due to a lack of economies of scale that are needed to focus solely on wholesale markets (Hughes et al., 2013). As shown in Table 2.2, 42% of all food hubs sell only to businesses and institutions, 36% sell strictly direct
to consumer, and 22% sell to both. Some successful food hubs also create Community
Supported Agriculture (CSAs) to generate much needed cash for both own-operations
and supplying farmers during the start of the growing season.

Table 2.2. Food Hub Market Models

<table>
<thead>
<tr>
<th>Market Model</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm to Business/Institution</td>
<td>70</td>
<td>42%</td>
</tr>
<tr>
<td>Farm to Consumer</td>
<td>60</td>
<td>36%</td>
</tr>
<tr>
<td>Both</td>
<td>38</td>
<td>22%</td>
</tr>
</tbody>
</table>

Source: Lund and Barham, 2012

Across the various types of food hubs, the operational services and services
provided to the producers are generally quite similar (Lund and Barham, 2012). While
the primary operating roles of distribution, aggregation, and brokering are important,
food hub survey results indicate that strong relationships with suppliers are key (Table
2.3). In this regard, the manager of the food hub must consider and treat producers as
business partners. For a food hub to be a driver in the agribusiness economy, they must
be dedicated to working with small, local farmers and providing services to assist farmers
in becoming successful hub suppliers.
Table 2.3. Operational Services of Food Hubs

<table>
<thead>
<tr>
<th>Operational Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution</td>
</tr>
<tr>
<td>Aggregation</td>
</tr>
<tr>
<td>Brokering</td>
</tr>
<tr>
<td>Branding and market promotion</td>
</tr>
<tr>
<td>Packaging and repacking</td>
</tr>
<tr>
<td>Light processing (trimming, cutting, and freezing)</td>
</tr>
<tr>
<td>Product storage</td>
</tr>
</tbody>
</table>

Source: Barham et al., 2012

Many of the food hubs have on farm product pick up, which reduces the cost of transportation for the producer and may eliminate their fixed cost of purchasing a vehicle (Barham et al., 2012). Another key finding is the production and post-harvest handling training (Barham et al., 2012). Farmers may lack of necessary food safety information, technical information, and business knowledge (Day-Farnsworth et al., 2009; Hardy and Holz-Clause, 2008). Handling produce is much different from handling commodities and it was even mentioned in stakeholder surveys that some of the farmers our study area will need training prior to supplying the food hub (Hughes et al., 2013).

Another key element in the success of many food hubs is a revolving loan fund (self-supporting financial institutions that make small loans to small businesses (Barham et al., 2012)) to assist in farm transition (Table 2.4). These funds could be used to purchase equipment or assist in Good Agricultural Practices (GAP) certification. (Good Agricultural Practices are specific agriculture methods that when followed create safe and
wholesome food for consumers or further processing). Further, to build trust and to continue relationships, the food hub manager must ensure that producers receive adequate produce prices. Another must for the manager is to work closely with the producers through pre-season crop planning to create a growing plan that ensures the food hub will have an adequate quantity and variety of produce and that all produce is sold (Lund and Barham, 2012). Food hubs usually charge 20-25 percent of the sales price for their services and return the remaining revenues to the producer (Barham et al., 2012).

Table 2.4. Producer Services of Food Hubs

<table>
<thead>
<tr>
<th>Producer Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actively linking producers and buyers</td>
</tr>
<tr>
<td>Transportation, on-farm pick up</td>
</tr>
<tr>
<td>Production and post-harvest handling training</td>
</tr>
<tr>
<td>Business management services and guidance</td>
</tr>
<tr>
<td>Value-added product development</td>
</tr>
<tr>
<td>Food safety and good agricultural practices training</td>
</tr>
<tr>
<td>Liability insurance</td>
</tr>
</tbody>
</table>

Source: Barham et al., 2012

Economic Impacts of Food Hubs

For the average food hub, there are seven full time paid workers and five part time paid workers (Lund and Barham, 2012) (these results are probably more accurate than the average of 19 employees stated by the 2013 National Food Hub Survey (Fischer et al., 2013)). Though 60% (62% according to the 2013 National Food Hub Survey) of food
hubs are still within their first five years of operation, average annual food hub sales are near $1 million with many displaying double and triple digit sales growth (Barham et al., 2012).

Several successfully managed food hubs show early rapid growth. For example, a highly successful food hub in Oklahoma City started in 2003 with monthly sales of $3,500 but now has monthly sales of over $70,000 ($840,000 annually) and has nearly 200 producers providing products (Barham et al., 2012). There are recently established Southeastern United States food hubs such as the Local Food Hub in Charlottesville, Virginia, which started in 2009 and report monthly sales ranging from as low as $2,500 in 2009 to as high as $65,000 in 2010 (Figure 2.1) (Lund and Barham, 2012).

Figure 2.1. Monthly Food Hub Sales

![Graph showing monthly food hub sales totals from 2009 to 2011.](local_food_hub_monthly_sales_totals_2009-2011.png)

Source: Lund and Barham, 2012

GrowFood Carolina in Charleston, South Carolina began operating in 2011 with $21,435 in sales, and has $425,000 in sales in 2013 while supporting over 55 producers (Figure 2.2) (GrowFood Carolina, 2014). Thus, a properly managed food hub could play
a key role in increasing the production of vegetables in the Pee Dee region of South Carolina in general and Horry County in particular.

Figure 2.2. GrowFood Carolina Sales

![GrowFood Carolina Sales Graph](image)

Source: GrowFood Carolina, 2014

Many food hubs have been created successfully over the years and also report a stronger demand than what they are able to meet through available supply. In terms of the area of interest for this study, vegetable sales for Horry County were just slightly over $1 million and the Pee Dee region had vegetable sales of $7.8 million (Hughes et al., 2013). If Horry County developed a food hub and sold up to $1 million in output in three years, it would have a large impact on the local farmers’ income and employment (Hughes et al., 2013). The food hub would give the local farmers a distribution service to access the large amount of restaurant and grocery store sales in the region that stem from the high level of tourism.
Best Practices for Stakeholders Involved in Food Hubs

In moving forward, the literature identified best practices for successful food hubs. Most recommendations concerning best practices related to food distribution systems were general. The produce industry is highly regulated, so it is vital that food hub managers understand the guidelines and regulations surrounding storing, packing, and shipping of food products (Hardy and Holz-Clause, 2008). Producers and the food hub management also must understand appropriate post-harvest handling techniques (Day-Farnsworth et al., 2009). It is very important to produce and maintain a high level of quality (Dreier and Taheri, 2008; Greenberg, 2007) because as Painter (2007) stated, consumers still value taste, freshness, and quality more than anything else when purchasing local foods.

Another necessary practice for food hub management is to develop strong marketing skills and plans to attract customers from larger markets and increase sales. From a local foods marketing perspective, consumers need to be able to identify with the brand, and often making sure that there is a background story of the farm for the product enables consumers to make that connection (Chef's Collaborative, 2008; Greenberg, 2007; Hardy and Holz-Clause, 2008; Shuman et al., 2009). To better connect potential customers with the products, the food hub should host events that provide direct connection between the farmers and the consumers, so that the consumers have a face to put with the product, and in turn, they may feel more loyal to the local product (Day-Farnsworth et al., 2009). GrowFood Carolina often offers events such as these, and they have contributed to the food hub’s growth and success (GrowFood Carolina, 2014). Of
lesser importance is obtaining and emphasizing through marketing certifications that
display production practices or values, such as Certified Organic, or Certified South
Carolina Grown. (Organic Certification is verification that a farm or handling facility
complies with the USDA’s standards for organic food products (Greenberg, 2007), while
Certified South Carolina Grown is a marketing campaign conducted by the South
Carolina Department of Agriculture that labels produce as being locally grown in South
Carolina (S.C. Department of Agriculture, 2014)). Buyers may identify with these
certifications and it may make the product seem more special to the consumer
(Greenberg, 2007). Educating the consumers about what they are consuming and the
practices that go into producing the product can also help to improve the success of the
local food hub, while often enabling the product to sell at a superior price (Cantrell, 2009;
Dreier and Taheri, 2009).

Another recommendation is to structure the food hub in such a way that it fits the
“needs, conditions, growing capacity, market, existing infrastructure, financial resources,
and capacity of the stakeholders” (Lerman et al., 2012, p.13). This system tends to work
best when partnerships are formed amongst people and organizations with shared values,
but differing skill sets so that participants can focus their efforts where their greatest
strengths and interests lie (Day-Farnsworth et al., 2009; Stevenson, 2009; Greenberg,
2007). Several of the reports also suggest using existing infrastructure whenever possible
to decrease costs (Boule et al., 2011; Cheng and Seely, 2011; Day-Farnsworth et al.,
2009; Erlbaum et al., 2011; Flaccavento, 2009). In general, farms and business in local
food systems can be successful if they provide “unique product characteristics or
services, diversify their operations and have access to processing and distribution services” (King et al., 2010, p. iv).

Perhaps the most important recommendation is to build strong, trusting, lasting relationships between the food hub management and producers and buyers throughout the supply chain (Cantrell, 2009; Chef's Collaborative, 2008; Hand, 2010; Schmidt et al., 2011). To build trust and to maintain smooth and successful operations, constant communication and exchange of information amongst participants is necessary. By doing so, all participants understand each other’s needs and wants (Day-Farnsworth et al., 2009; Hand, 2010; Hardy and Holz-Clause, 2008). Gaining and maintaining the trust of participants in the food hub is vital to the success of the food hub. Without trusting relationships, producers will be hesitant to supply to and consumers will be reluctant to purchase from the food hub, thus decreasing the probability of long run success.

In conclusion, this chapter used information from the literature and other food hubs to identify that there is a significant need for the development of food hubs in the greater Pee Dee region. It also served to identify challenges that need to be accounted for in planning, as well as recommendations for ensuring the success of a food hub in or close to the Pee Dee region moving forward. Perhaps one of the key points to take away from the literature is that producer trust and “buy-in” are vital to food hub success. The information listed in this chapter will prove useful in the following food hub feasibility study, as gauging producer and buyer interest and conditions for participation will prove important in determining food hub feasibility.
CHAPTER THREE

METHODS AND RESULTS

This study was conducted to examine the feasibility of a food hub facility in or near Horry County, South Carolina. Feasibility is to a large extent determined by the level of interest of farm producers in selling to a food hub and the level of interest by potential buyers of food hub products. Regional (Horry County and the Pee Dee region) farmers and regional buyers of food hub products were both surveyed to ascertain their levels of interest. Farmers were also surveyed regarding the services they would like to see provided by a food hub, while buyers were surveyed regarding their produce safety and quality requirements for purchasing from a food hub. The literature was also accessed concerning the cost of operating a food hub and the level of revenues and product needed to maintain such an operation.

Methods

Surveys were the primary form of methodology used in collecting data from potential food hub producers and buyers. Upon reviewing previous studies, it was determined that surveys were the primary form of data collection in past food hub feasibility studies done across the United States (Southern Wisconsin Food Hub, 2011; Ryan and Mailler, 2011; Aubrey, 2012). Surveys were distributed to fruit and vegetable producers and produce buyers in Horry County and the surrounding region at meetings, in person, and electronically by the Clemson University Community Development Extension Agent in Horry County. In particular, surveys were distributed to
approximately 100 vegetable growers who attended a Clemson University sponsored training session on March 6, 2014 in Turbeville, South Carolina. Surveys were also distributed to all 50 members of the Waccamaw Market Cooperative, an organization formed to support the development of farmers markets in Horry County and neighboring counties. Link to a web-based version of the survey was provided to Clemson University Extension Agents in each of the nine Pee Dee counties. Because of the nature of the distribution of the survey, it was not possible to ascertain the actual number for the population that we surveyed. Surveys may not have been necessarily distributed by all regional Extension Agents for example and some individuals received surveys who either are not fruit and vegetable producers or are uninterested in becoming producers (such as certain members of the Waccamaw Market Cooperative). Undoubtedly, however, the number of both current and potential fruit and vegetable producers in the Pee Dee region who received a survey numbered in the hundreds. Those produce growers and produce buyers surveyed represent a sample of the greater Horry County and regional produce grower and buyer populations in the Pee Dee region of South Carolina, who could potentially benefit from a food hub.

Producer interest in and willingness to participate in the food hub project, production levels and practices, as well as their needs from a locational, functional, and infrastructure perspective were assessed in the survey. While response rates were low for producer surveys (representing a small portion of the fruit and vegetable producer population), the 20 surveys that were gathered provided an arguably adequate sample for assessing feasibility from a producer perspective.
Potential groups of food hub buyers, consisting of restaurants, retailers, brokers, and distributors selling local produce, were also surveyed to gauge their interest and needs in purchasing produce from a food hub. Written and electronic surveys, as well as in-person and telephone interviews were conducted to collect data from potential buyers. The produce buyer response rate was especially low (representing only seven buyer survey respondents in the Pee Dee region), making it hard to determine feasibility of a food hub in the region with so little of the potential buyer population being represented in the sample.

A major issue for this analysis is the low response rate to both the producer and buyer surveys, with response rates among buyers being especially problematic. The buyer response rate can be classified as low because although the Pee Dee region lacks numerous grocery store chains interested in selling local produce, there is an ample supply of restaurants in and around Myrtle Beach and the Pee Dee region that failed to respond to the survey. The exact response rate for the potential food hub buyers is also difficult to assess. According to Reference USA (2014), for example, Horry County has over 1,400 restaurants. This count may contain a number of duplicate records; more importantly, many if not most of the restaurants are major chains who are probably not interested in accessing local foods (such as a major fast food chain) and hence are not part of our target population. The fact that many of the surveys, both producer and buyer, were administered electronically is at least in part responsible for the low response rate and on-line surveys when the initial contact is an email link are easily ignored. Efforts to
increase survey responses included additional emails and conversations with potential suppliers and buyers.

**Producer Survey Results**

Data collected from surveys that producers completed is a major source of study results information. In total, we have received completed surveys from twenty fruit and vegetable agricultural producers in the Pee Dee region. These twenty surveys represent producers from ten South Carolina and five North Carolina zip codes (Table 3.1). The counties represented by respondents include Lee, Clarendon, Florence, Horry, Barnwell, and Marion Counties in South Carolina, and Columbus County in North Carolina.

<table>
<thead>
<tr>
<th>Zip Code</th>
<th>Number of Producers</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>29080</td>
<td>2</td>
<td>Lee</td>
</tr>
<tr>
<td>29148</td>
<td>1</td>
<td>Clarendon</td>
</tr>
<tr>
<td>29505</td>
<td>1</td>
<td>Florence</td>
</tr>
<tr>
<td>29102</td>
<td>2</td>
<td>Clarendon</td>
</tr>
<tr>
<td>29544</td>
<td>2</td>
<td>Horry</td>
</tr>
<tr>
<td>29853</td>
<td>1</td>
<td>Barnwell</td>
</tr>
<tr>
<td>28430</td>
<td>2</td>
<td>Columbus</td>
</tr>
<tr>
<td>29526</td>
<td>2</td>
<td>Horry</td>
</tr>
<tr>
<td>28463</td>
<td>1</td>
<td>Columbus</td>
</tr>
<tr>
<td>29545</td>
<td>1</td>
<td>Horry</td>
</tr>
<tr>
<td>29571</td>
<td>1</td>
<td>Marion</td>
</tr>
<tr>
<td>28431</td>
<td>1</td>
<td>Columbus</td>
</tr>
<tr>
<td>28472</td>
<td>1</td>
<td>Columbus</td>
</tr>
<tr>
<td>29569</td>
<td>1</td>
<td>Horry</td>
</tr>
<tr>
<td>28439</td>
<td>1</td>
<td>Columbus</td>
</tr>
</tbody>
</table>

Of the twenty farmers surveyed, 45% identified themselves as being very interested in selling to a food hub (assuming fair market price and demand) (Figure 3.1).
The next largest group of participants was extremely interested (40%) in selling to a food hub, while 15% were moderately interested in doing so. These results indicate that there is a significant interest in selling to the food from a producer perspective, especially since none of those surveyed indicated that they had little to no interest in the food hub. This result is important because producer interest, support, and “buy-in” are necessary for a food hub to succeed.

Figure 3.1. Interest in Selling to a Food Hub

To identify the crops primarily in production in the region, producers were asked to identify the crops that they have in production, as well as any available acreage on a per crop and total production basis. Of the twenty farmers surveyed, the crops that were most widely grown in the region included okra (80% of all respondents), summer squash (75%), cucumbers (70%), tomatoes (70%), peppers (60%), collards (60%), corn (55%), cabbage (55%), and watermelon (50%). These results indicate that there is a diverse supply of produce grown in the region, which could lead to a greater diversity in fruits and vegetables available for sale and distribution through the food hub.
Of the farms that recorded their specific acreage per crop, collards (60%) represented the largest total acreage with 511.3 acres, while watermelon (378 acres), corn (115 acres), tomatoes (109 acres), and broccoli (31.6%, 100 acres) rounded out the top five crops in terms of acreage in production. The rest of the acreage per crops that were reported was markedly less than 100 acres. Even with some of the participants not reporting acreage, 1,507.9 total acres of produce is being grown in the Pee Dee region of South Carolina, and 851 acres were reported as available for potential produce production expansion. Although the sample size is relatively small, the fact that the current fruit and vegetable production could expand by over half of the current reported acreage in production indicates that there is room for growth in the produce industry in the region, and a potential diverse supply of produce for the food hub.

The producers were then asked whether or not they currently grow produce under a contract to better gauge their flexibility concerning where they sell their crops. Contracts represent an agreement between the farmer and the buyer. Contracts are pre-product legally binding agreements between a farmer and a buyer that establish conditions and terms concerning quantity, product quality, prices, and delivery scheduling. It is important to identify the number of respondents currently producing under contract because this will determine their flexibility in terms of being able to supply the food hub. Of the nineteen responses collected, 94.7% of producers do not grow under contract, thus showing that there is the potential for those crops to be sold to the food hub on a non-contractual basis (Figure 3.2).
The surveyed producers were also asked if they knew their per unit production cost. Knowledge of production costs allows producers to receive levels of product prices that ensure profitability. Among nineteen responses, 47.4% were familiar with their production cost per unit, while 31.6% were not familiar, and 21.1% were unsure (Figure 3.3). While nearly half of the respondents indicated that they were familiar with their production cost per unit, over half of the respondents were not. The latter group of producers could benefit from training and information regarding how to calculate production cost to make better-informed decisions regarding production and sales. Here, the results indicate a specific training need that food hub management could meet.

Farmers were also asked about their current sales outlets. Among eighteen respondents, selling crops in farmer’s markets (61.1%), on-farm sales (55.6%), and roadside stands (33.3%) were the most popular outlets (Figure 3.4). In terms of other outlets, respondents indicated that 22.2% each sold to wholesale outlets and restaurants, while 16.7% (each) sold to U-pick operations and CSAs, and two (11.1%) sold to retail
outlets such as grocery stores. Although restaurants, wholesalers, and retailers are currently not major markets, our analysis and previous study (Hughes et al., 2013) indicates room for expansion into such outlets in the region. Participation in a food hub may be key to such expansion.

![Figure 3.3. Familiarity with Production Cost Per Unit](image)

Predominately commodity crop producers were asked if they would be interested in diversifying their production into growing specialty crops assuring fair and proven markets and prices. Among thirteen respondents, 53.9% were interested in diversifying into specialty crops, while 38.5% were not interested, and 7.7% stated that they would be interested only under a forward contract (a contract where terms are established before planting) (Figure 3.5). This response is important because it indicates a moderate degree of willingness by primarily commodity producers to diversify into specialty crops, which could then increase the potential supply to the food hub in the region.
Figure 3.4. Current Sales Outlets

What are your current sales outlets?

- Farmer's Markets: 65.00%
- On Farm Sales: 50.00%
- Restaurants: 20.00%
- Retailer: 15.00%
- Roadside Stand: 35.00%
- U-pick: 15.00%
- Wholesale: 20.00%
Location and transportation preferences also play a major role in determining the potential success of a regional food hub in or nearby Horry County. Currently, 57.9% of respondents indicated that they transport their products directly to consumers through CSA’s, farmer’s markets, or other venues. Producers also deliver to a distributor (42.1%), or sell their products retail on the farm (26.3%) (Figure 3.5). The fact that the majority of producers in the region surveyed either transport products directly to consumers or deliver to a distributor is favorable for food hub development. In particular, participation in a food hub could free producers of the valuable time currently committed to delivering directly to consumers or to a distributor. The fact that many respondents also deliver to a distributor could pose a challenge to the food hub because these distributors are already working directly with the producers. A food hub works to aggregate and distribute products to larger markets, thus freeing the producers of the
costly time and effort required to figure out the logistics of delivering their products to various outlets.

Surveyed fruit and vegetable producers were also asked what would be the maximum distance they would be willing to travel one way to deliver products to a food hub. Among nineteen respondents, 36.8% would be willing to travel 26-50 miles to deliver their products to the food hub for aggregation and distribution (Figure 3.7). Among respondents, 26.3% would be willing to drive 11-25 miles, 21.1% indicated they would drive more than 100 miles and 15.8% indicated they would drive 51-100 miles. Hence, the majority of respondents indicated they would be willing to drive at least 26-50 mile to the food hub and many respondents indicated they would be willing to drive even further. This information is very useful as it indicates a food hub located in the western part of Horry County or in the eastern part of a nearby county, which would be within a 26-50 mile driving radius of numerous producers, would probably be a feasible location.
Survey participants were also asked about the frequency that they could deliver their goods weekly at various distances from the hub. The eighteen respondents indicated that they could deliver 1-2 times per week at 11-25 miles (22.2%), at 26-50 miles (16.7%), and at 51-100 miles (16.7%). Another 11.1% each also indicated that they would be willing to deliver their goods to the food hub at 1-10 miles 1-2 times per week, 11-25 miles 3-5 times per week, 25-50 miles 3-5 times per week, and more than five times per week at over 100 miles distance (Figure 3.8). This information is useful in food hub planning because the majority of survey participants could deliver to the hub 1-2 times per week. The ability of producers to supply the food hub at least one if not two times per week indicates that there could be a constant weekly supply to fill orders needed at different times of the week by food hub buyers.
Figure 3.8. Frequency of Delivery by Distance

Frequency of Delivery by Distance

- 1-10 miles, Never
- 1-10 miles, 1-2 times/wk
- 11-25 miles, 3-5 times/wk
- 26-50 miles, 1-2 times/wk
- 51-100 miles, >5 times/wk
- >100 miles, Never
Seventeen producers responded when asked about their preferences concerning a formal contractual relationship for product delivery with a food hub. While a majority (58.8%) of producers would prefer a contract, they will still supply a food hub without such a document (Figure 3.9). The next largest group of respondents (35.3%) indicated that they would like to grow for a food hub but without a contract. Only 5.9% of respondents stated that they would sell to the food hub only on a contractual basis. These results are important because they indicate that there is some flexibility on the part of producers in terms of having a contractual relationship. While the majority of respondents preferred to grow under a contractual agreement, they did not rule out growing without one. A contract could be beneficial for the hub in that it would help ensure a consistent supply that meets specified quality requirements. A contractual relationship with producers could also not be in the best interest of the food hub because it would lock them in terms of quantity and purchase prices. Both elements could be problematic to food hub management under certain conditions such as shifts in the nature of demand. This set of survey results is important because it indicates that food hub management would probably have a degree of flexibility regarding contractual relationships with producers.

Organizing a reliable product to distribute from a food hub to buyers typically requires a good deal of planning to ensure consistent quantity and quality of available product. With this in mind, fruit and vegetable producers were asked if they would be willing to participate in pre-season crop planning with food hub management (ensuring a schedule regarding type, quantity, and timing of the produce). Among the twenty
respondents, 50% indicated that they would be willing to participate in pre-season crop planning with the food hub while 25% were unsure, 15% stated that it depends on additional specifics, and 10% were unwilling to participate (Figure 3.10).

Collaboration and planning are very important in the success of a food hub. If a food hub is going to be a driver of the local agribusiness economy, food hub management must be dedicated to working closely with producers and providing services to assist the producer in becoming a successful supplier (Barham et al., 2012). This includes participating in pre-season crop planning to help map out supply. The fact that the majority of respondents were willing or potentially willing to participate in pre-season crop planning may indicate at least some willingness by producers to collaborate with food hub management.

Figure 3.9. Preferences Regarding Contracts
Although there are several different legal structures of food hubs commonly used, other studies have shown that generally speaking, the structure of the food hub is not correlated with its success (Lund and Barham et al., 2012). Thus, apparently there is no relationship between the legal structure of a food hub and its success. However, it is still important to identify the preferences of potential food hub producers in terms of legal structures. In that such structures may influence producer “buy-in” with regards to project participation. Accordingly, growers were asked what legal or organizational structure would make them more likely to supply a food hub. The majority of respondents (58.8%) indicated that they would be more likely to supply a grower owned cooperative food hub (Figure 3.11). (A cooperative food hub is a structure in which the stakeholders, in this case producers, collectively own and democratically make decisions regarding the activities of the food hub (Rutgers University, 2013).)
popular condition was a grower owned food hub (29.4%). The least popular response was a food hub owned by regional residents or businesses (11.8%).

A potential strength in organizing the food hub as a cooperative is that the food hub management is able to draw upon the expertise and resources of its membership. Cooperatives also tend to promote collaboration and understanding of the skills that each member has in a way that may lead to more resilience of the food hub in the long run (Borst, 2010). Although there are six major types of cooperatives, based on the interest in a grower owned cooperative it appears that a producer cooperative food hub structure would be the best fit for the Pee Dee region. (A producer cooperative is owned by producers who produce similar types of crops, in this case produce farmers. By working together through the cooperative, producers have greater bargaining power with buyers while also combining efforts and resources to better market and brand their products).

Another potential issue is the form of cooperative. In particular, New Generation Cooperatives (NGC) are unlike traditional cooperatives in that farmer members are contractually required to deliver a stipulated amount and quality of the primary processed input. This requirement insures an adequate supply of input for the processing facility. In a traditional cooperative, member farmers can sell to other higher bidders thereby starving the facility of supply. As compared to a traditional cooperative, a higher level of equity investment by members is often required for NGC participants (Rutgers University, 2013).
Survey participants were then asked if they would be interested in being a cooperative member of the food hub. The majority of respondents were unsure (55.6%), while the remaining 44.4% were definitely interested, thus leaving this point up to further discussion (Figure 3.12).
Participants were also asked if they would be interested in making a financial investment in the hub. Around half of the respondents were unsure, while 38.9% were interested, and 16.7% were uninterested (Figure 3.13). Arguably producers in the region value a grower owned food hub, whether organized as a cooperative or not. A grower owned food hub could arguably lead to stronger financial investment and support for the success of the hub in the long run.

Figure 3.13. Interest in Investing

![Interest in Investing](image)

Food hubs are often valuable to producers, especially small producers, in that they are able to offer the infrastructure that these producers need but cannot always afford (CAFF, 2011). However the majority (69.2%) of surveyed producers owned key infrastructure including cold storage facilities (61.5%), packing facilities (46.2%), and a refrigerated truck (46.2%) (Figure 3.14). Despite this high rate of infrastructure ownership, many surveyed producers (a little under half for most listed items) still lacked infrastructure such as cold storage and a refrigerated truck. Hence, this set of results
imply that the food hub could still provide such infrastructure-based services to many producers in the region.

Survey respondents indicated interest in possibly using hub infrastructure-based services including cold storage (56.5%), packing facilities (50%), basic washing facilities (43.8%), and refrigerated trucks (37.5%) (Figure 3.15). This result is interesting given that many surveyed producers already have some if not all of these facilities. For items such as cold storage, however, on-farm levels could be limited. Hence, farmers with infrastructure like packing facilities could use still the same food hub infrastructure. For example, farmers with cold storage could use food hub storage as a way to augment their current facilities.

A key relationship of interest regarding possible use of food hub infrastructures is whether the producer in question already owns such infrastructure. For example, 61.5% of survey respondents have cold storage. But 38% of respondents who have cold storage expressed an interest in using food hub cold storage. In terms of packing and washing facilities, 33% of those respondents with such facilities expressed interest in using food hub packing and washing facilities. This result shows that although some respondents already have these forms of infrastructure, they could still potentially benefit from a food hub. While a refrigerated truck was of interest to parties who do not already own one, respondents who currently own a refrigerated truck conveyed little interest in using a food hub refrigerated truck. In summary, survey respondents expressed an interest in using food hub cold storage facilities, packing and washing facilities, and to a more
limited degree refrigerated trucks. Hence, planning efforts should include consideration of these infrastructure items as components of the food hub.

Training activities offered by the food hub are often very important and can vary between food hubs (Cheng and Seely, 2011). Survey respondents also showed interest in training activities that the food hub could provide. Among the ten survey respondents, the most popular food hub training activities were GAP certification training (50%), marketing assistance (50%), budget/financial management training (37.5%), liability insurance training (37.5%), season extension training (37.5%), specialty crop handling training (37.5%), and federal produce grading training (31.3%) (Figure 3.16). Training assistance could enable farmers to provide a superior product to the food hub (Cantrell, 2009). Given the increased emphasis on food safety regulations, we expect the importance of training activities conducted by food hub operators and others to increase.

Surveyed producers also expressed interest in accessing other forms of assistance including shared use of production equipment (37.5%) and short-term financing (12.5%) (Figure 3.17).
Figure 3.14. Infrastructure Owned

Do you currently have any of the following:

- Cold Storage: 60.00%
- GAP certification (on any crop): 40.00%
- Liability Insurance: 60.00%
- Packing facilities: 40.00%
- Refrigerated truck: 40.00%
- Washing Facilities: 20.00%
Figure 3.15. Food Hub Infrastructure of Interest

Food Hub Infrastructure of Interest

- Basic washing facilities
- Cold storage
- Packing facilities
- Refrigerated truck

% distribution
Figure 3.16. Food Hub Training Activities of Interest

Training Activities of Interest

- Budget/Financial management
- Federal produce grading
- GAP certification
- Liability insurance
- Season extension
- Specialty crop handling
Producers were also asked what concerns they have that would potentially prevent them from selling wholesale to a food hub. This question was asked so that potential challenges and barriers to participation could be identified and addressed in the creation of the food hub. It is important to structure a food hub (or any local food system) in such a way that it fits the concerns, “…needs, conditions, growing capacity, market, existing infrastructure, financial resources, and capacity of the stakeholders” (Lerman et al., 2012, p. 13). Accordingly, producers were asked to identify their greatest concerns spanning a variety of areas. The largest concerns to selling to a food hub included uncertainty regarding production costs and profitability from selling wholesale (42.9%), uncertainty about signing a contract (42.9%), uncertainty regarding meeting food hub quantity requirements (42.9%), lack of farm storage (35.7%), affordable GAP certification (35.7%), and uncertainty regarding liability insurance and producer responsibility for insurance (35.7%) (Figure 3.18). Other concerns listed by producers include lack of farm
labor to harvest (28.6%), lack of information about labor laws and farm labor management (28.6%), and uncertainty about when to harvest for a food hub (21.4%).

Familiarity with USDA grading standards was perhaps a lesser concern as 52.6% of respondents indicated familiarity with standards. Still educational programming concerning standards could be provided to producers who indicated a lack of knowledge (31.6%) or uncertainty (15.8%) (Figure 3.19) regarding their knowledge of standards. It is important to try to address these concerns when structuring and recruiting participants for the food hub. Many of these concerns can be alleviated through educational workshops for food hub participants and potential participants. Perhaps an informational and training session can be held prior to the development of a food hub to provide detailed information on the requirements for selling to the food hub as well as address producer questions and concerns.

A major factor in determining the success of the food hub is the flexibility, or willingness of the participants to grow different crops to meet a documented demand in the market. This issue does not appear to be a challenge to the possible development of the food hub studied here as 79% of respondents were willing to grow different crops to meet the documented demand in the market at a fair price (Figure 3.20).
Figure 3.18. Concerns that Would Prevent Food Hub Use

Concerns that Would Prevent Food Hub Use

- Cost of GAP certification
- Lack of farm labor
- Lack of farm storage
- Unsure about GAP certification
- Unsure about labor laws
- Lack of transportation
- Unsure about my costs, profits
- Unsure about liability insurance
- Unsure about contracts
- Unsure about harvest
- Unsure about quantity
- Other:
Overall, the results presented in this survey identified an interest and willingness for producers to participate in a food hub in the Pee Dee region. Survey results were also beneficial in identifying location, timing, and transportation requirements, as well as...
specific infrastructure and service needs and concerns. The survey identified a distance range of no more than 26 to 50 miles from the majority of respondents, which will be helpful in selecting the geographic location of the food hub. Respondents also indicated a willingness and ability to deliver their products to the food hub 1 to 2 times per week, which will be useful in accounting for supply needs at different points through each week. In general, there seems to be significant interest in the food hub providing cold storage, packing and washing facilities, and to a lesser extent, a refrigerated truck. In terms of training and other services, food safety and production practices like Good Agricultural Practices (GAP) and Hazard Analysis and Critical Control Points (HACCP) certification appear to be of priority to potential producers. Along with GAP and HACCP certification, financial and budget management training, also appear to be important training activities for the food hub to allocate resources and structure itself to cater to these needs. Respondents also indicated several concerns that need to be addressed, such as determining whether or not they produce enough to sell to the food hub, so an information session or packet could be useful in meeting such concerns.

Moving forward, it appears that there is significant producer interest in the region, (despite the small number of responses) and this result indicates that from a producer perspective a food hub in or near Horry County could be feasible.

**Buyer Survey Results**

Data collected from surveys of potential buyers of food hub products is also useful for drawing inferences regarding the feasibility of a food hub either in or near to
Horry County. Buyers constitute an important stakeholder group in determining the feasibility of a food hub, as they represent the demand for products (Matson & Thayer, 2013). Completed surveys were received from seven fruit and vegetable buyers in the Pee Dee region. These buyers represent restaurants, grocery stores, and brokers in the region. The seven survey responses are representative of buyers with businesses in six South Carolina zip codes, with seven buyers based in the Horry County (Table 3.2).

Table 3.2. Zipcodes Represented in Buyer Survey Responses

<table>
<thead>
<tr>
<th>Zip Code</th>
<th>Number of Buyers</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>29579</td>
<td>4</td>
<td>Horry</td>
</tr>
<tr>
<td>29576</td>
<td>3</td>
<td>Georgetown</td>
</tr>
<tr>
<td>29572</td>
<td>1</td>
<td>Horry</td>
</tr>
<tr>
<td>29585</td>
<td>1</td>
<td>Georgetown</td>
</tr>
<tr>
<td>29566</td>
<td>1</td>
<td>Horry</td>
</tr>
<tr>
<td>29577</td>
<td>1</td>
<td>Horry</td>
</tr>
</tbody>
</table>

When developing a food hub, it is important to know the types of outlets the food hub will supply. Food hubs typically supply retail outlets (such as grocery stores), food service outlets (such as restaurants), and institutions (such as schools) (Lund and Barham, 2012). When asked what type of businesses buyers are purchasing produce for, 57.1% of respondents indicated that they were buying produce for retail sales and food service outlets, while the next largest outlet was food service (28.6%) (Figure 3.21). This information could allow the food hub management to possibly narrow their focus to food service and retail sales outlets, as the majority of respondents indicated that they were buying for such outlets.
Of the seven respondents, 85.7% identified themselves as being extremely interested in buying produce from a food hub (Figure 3.22), while one respondent was very interested (14.3%) in buying from a food hub. These results indicate that there is a significant interest in buying produce from the food hub, since no survey respondents indicated that they had little to no interest in the food hub. This is important because a high level of buyer interest and participation is necessary to food hub feasibility.
To identify the produce in demand in the region, the buyers were asked to identify the crops that they typically purchase. Among respondents, the fruits and vegetables that were most widely purchased included onion (100%), peppers (100%), and tomatoes (100%). There was also a high demand for many other varieties of fruits and vegetables, as shown in Figure 3.23.

Respondents were also asked which produce items they would source locally if available year round. All respondents indicated that they would source cucumbers, peas, and tomatoes locally. Respondents also showed interest in sourcing each of the other produce items listed in their survey instrument (Figure 3.24). These results indicate that there is a diverse demand for local produce in the region. This demand could enable growers of many different types of produce to benefit from selling their products to the food hub for distribution.

Location can play an important role in determining the feasibility of a food hub, as the definitions of local foods vary from buyer to buyer (Martinez et al., 2010). Surveyed fruit and vegetable buyers were asked what would be the longest distance they would be willing to travel to access a food hub. Among seven respondents, 42.9% would be willing to travel 26-50 miles to purchase products from the food hub (Figure 3.25). While, 28.6% would be willing to drive 11-25 miles, and 28.6% would be willing to drive only 0-10 miles. The greatest percentage of respondents indicated that they would be willing to drive 26-50 miles at the most to access the food hub. However, many respondents indicating that they would not be willing to drive that far to access food hub produce. This information is very useful as it indicates a food hub located in the western
part of Horry County, or perhaps in the eastern part of neighboring counties, which would be within a 26-50, mile driving radius of numerous buyers would probably be a feasible location.

Respondents were also asked about the weekly frequency that they would expect deliveries of produce at various distances from the hub. Among six respondents, buyers stated that they expected deliveries from the food hub 1-2 times per week at a distance of 26-50 miles (66.7%), at 11-25 miles (33.3%), at 0-10 miles (33.3%), and at 51-100 miles (33.3%) (Figure 3.26). This information is useful in food hub planning because it identifies that buyers want to be able to access the food hub at least once a week, indicating a potentially steady weekly demand. The majority of survey participants expected deliveries from the food hub 1-2 times per week at varying distances, with the most popular distance being 26-50 miles, so food hub organizers can use this information to structure their delivery schedules.
Figure 3.23. Produce Demanded in a Typical Year
Figure 3.24. Local Produce Demanded in a Typical Year

Local produce demanded in a typical year

- Blueberries
- Cantaloupe
- Peaches
- Strawberries
- Watermelon
- Asparagus
- Beets
- Broccoli
- Cabbage
- Carrots
- Cauliflower
- Collards
- Corn
- Cucumber
- Kale
- Lettuce
- Okra
- Onion
- Peas
- Peppers
- Potatoes
- Pumpkins
- Spinach
- Squash (Summer)
- Squash (Winter)
- Sweet Potatoes
- Tomatoes
- Other
Figure 3.25. Distance Buyers Willing to Travel to Access Food Hub

**Distance buyers willing to travel**

- 43%: 0-10 miles
- 29%: 11-25 miles
- 28%: 26-50 miles

61
Figure 3.26. Frequency by Distance Buyers Willing to Travel

Frequency by distance buyers willing to travel
Buyers were also asked how much they would spend on local South Carolina produce within a given year if it were available from a food hub. Seeing as there is currently only one food hub, and that is far away from the proposed area, it stands to reason that this question will help to better determine the potential demand for local produce from the food hub. Three respondents (42.9% of all respondents) indicated that they would spend $50,000-$100,000 on local South Carolina produce if it were available from a food hub in a given year. Also of significant interest were the two respondents (28.6%) who identified that they would potentially spend $150,000-$200,000, and the one respondent who would spend $1,000,000-$2,000,000 per year on local produce from the food hub (Figure 3.28). The respondent identified as willing to spend between $1,000,000 and $2,000,000 stated that they could buy product for six to seven grocery stores. This buyer alone could keep the food hub successfully in business, as food hubs
that do over $1,000,000 dollars in sales annually tend to experience a high level of success (Barham, 2011). Although the sample size of respondents is relatively small, these results are important because they indicate that there is a willingness and demand for buyers to purchase local produce in the Horry County region. The results indicate that a substantial amount of money could be spent buying from the food hub assuming consistent supply and consistent quality.

Figure 3.28. Annual Potential Local Produce Purchases from Food Hub

To help the food hub better plan for peak season(s), and assist with timing of crop harvest, produce buyers were asked to identify the months that they would be interested in sourcing local produce from the food hub. The identification of peak season(s) will be useful to food hub managers in determining what quantities of various seasonal crops to ask farmers to scale up their production. While over half of respondents indicated that they would be interested in sourcing local produce in every month of the year, the most
The popular months for buying local produce were April (100%), May, June, July, August, September, October (85.7% each), and November (71.4%) (Figure 3.29). This information will prove useful in the implementation and timing of food hub services as planning is such a vital component of success (Lund and Barham et al., 2012). This information may also be important to the food hub management in that they can adjust their part-time employment base on the peak seasons when they would need the most help, and can thus save some money in the off-season when they do not need as many employees.

Figure 3.29. Months of Interest

Another component of a food hub that may prove useful to buyers and producers from a quantitative planning perspective is the use of an online ordering system. An online ordering system which allows buyers to view the quantity of each product available and purchase produce on the food hub’s website could prove useful to the food hub management. Among respondents, 57.1% indicated that they were extremely interested in an online ordering system, while 28.6% were very interested, and 14.29%
were only slightly interested (Figure 3.30). These results indicate that there is an interest in providing an online component to the food hub. This concept should be further taken into account if a food hub is developed.

Another aspect to consider when working with local food systems is identifying the importance of certified organic produce to buyers. Certified organic food can create a superior product that can also receive a premium price from buyers. But certified organic produce can be expensive and requires relatively highly regulated production standards. Accordingly, there may be fewer producers in the area with certified organic products to sell to the food hub (Kremen et al., 2004). Half of respondents indicated that certified organic produce was slightly important, while 16.7% each stated that it was extremely, moderately, or unimportant (Figure 3.31). Given that a majority of survey respondents were at least slightly interested in purchasing locally grown organic products from a food
hub, this topic needs further examination. Hence, further discussions concerning the importance of certified organic produce should be carried out with producers and buyers in the food hub planning process.

Figure 3.31. Importance of Certified Organic Produce

Potential food hub buyers were also asked to identify their sourcing requirements. Among respondents, 71.4% indicated that liability insurance was the most important, with traceability (57.1%) and HACCP certification (57.1%) both important, and a farm food safety plan (42.9%) also being important to respondents (Figure 3.32). This information is useful in the planning of the food hub in that it will allow the manager to inform and potentially provide training to producers. In addition to providing training, food hub management could explore providing an umbrella insurance policy or financial assistance for producers who wish to participate in the food hub so that they can meet the requirements of buyers in the region.
Figure 3.32. Sourcing Requirements

Sourcing requirements

- Traceability
- Liability insurance
- GAP certification
- HACCP certification
- Farm food safety plan
- Compliance with farm labor requirements
- None are relevant
- Other
- I have not thought about it
Buyers were also asked about their interest in purchasing contracts to secure local supply. The purchase contract would also be useful in specifying requirements such as product, price, timing, and delivery for both producers, consumers, and the food hub manager. A little under half of respondents (42.9%) indicated that they were moderately interested in contracts, while 28.6% had not thought about it, 14.3% indicating extremely interested and 14.3% were uninterested (Figure 3.33). Over 50% of respondents were at least moderately interested in purchasing contracts. These varying results indicate that further discussion surrounding purchasing contracts need to be held in the planning and structuring of the food hub.

Figure 3.33. Interest in Purchasing Contracts

Pre-season crop planning can also be beneficial to both producers and buyers so that they project their numbers in advance. In regards to their interest in pre-season crop planning, respondents indicated that 42.9% were moderately interested, 28.6% were
extremely interested, 14.3% were very interested, and 14.3% were slightly interested (Figure 3.34). These results indicate that buyers in the region are definitely interested in participating in pre-season crop planning. Pre-season crop planning can help make the supply to the food hub more accurate in meeting the demand of buyers, thus cutting unnecessary production and costs.

Figure 3.34. Interest in Pre-Season Crop Planning

Private labeling is the labeling of a product that represents the producer or, in this case, potentially, the food hub that sells the product to the buyers (Hughes et al., 2013). The private labeling of produce items can also be of importance to buyers because it helps to connect consumers with farmer who created the product, or characteristics of the food hub, which can potentially increase consumer loyalty (Shuman et al., 2009).

Potential food hub buyers were also asked about their interest in purchasing privately labeled produce items. This information will be useful to food hub managers in developing their marketing plan for sold products. Among respondents, 28.6% indicated
that they were extremely interested while 28.6% indicated they were uninterested in privately labeled produce. One respondent each (14.3%) also indicated that they were moderately interested, slightly interested, or had not thought about the concept (Figure 3.35). These results indicate levels of interest in that there is moderate varying interest amongst buyers, so further discussion in terms of private labeling of products should be planned.

Figure 3.35. Interest in Privately Labeled Produce

![Interest in privately labeled produce](image)

Buyers were asked if they were interested in ownership or management of the food hub. Such information also sheds light on future legal structures and interest by buyers. The results show that 42.9% of respondents have not thought about either topic, 28.6% were interested in ownership, 28.6% were interested in management, and 14.3% were not at all interested in either role (Figure 3.36). These results indicate that further
discussi on in the roles of various buyers need to take place to determine their involvement with the food hub beyond that of simply purchasing produce.

Figure 3.36. Interest in Other Opportunities

Overall, the results presented in this survey identified an interest and willingness for buyers to participate in a food hub in the Pee Dee region with a potential to reach over $1,000,000 in sales annually, which is an indication of feasibility. These survey results were also beneficial in identifying location, timing, and transportation requirements, as well as specific sourcing and service needs and concerns. Location and timing were consistent with the findings of the producer survey in that most buyers would be willing to access a food hub 1-2 times per week at a maximum distance of 26 to 50 miles, with many buyers preferring a closer location. Buyers were willing to participate in pre-season crop planning, and identified year round demand, with the peak season running from April to October. From a product requirement standpoint, buyers were less interested in sourcing certified organic and privately labeled produce. Overall, the
feedback from the respondents of the buyers survey support the results of the producer survey indicating that a food hub in or around Horry County is potentially feasible.
CHAPTER FOUR
SUMMARY AND CONCLUSION

The Pee Dee region was identified as an area in South Carolina having the potential for a successful food hub either in or near Horry County (Hughes et al., 2013; Meter and Goldenberg, 2013). Myrtle Beach, the hub of tourism in Horry County, receives well over 14 million visitors each year (Myrtle Beach, SC, 2014). Tourists have created a large potential market for locally produced food and beverage with an estimated $469.8 million in annual spending (ESRI). The tourism industry is so large in the Myrtle Beach area, that $0.42 of the typical food dollar in the area comes from tourists (Hughes et al., 2013).

However, fruit and vegetable production in Horry County is underdeveloped. Given the increase in the demand for local foods, there is a gap between local supply and demand. While probably eager to produce more fruits and vegetables given a growing demand, producers are usually small in size and grow limited amounts of produce that often lack consistency in timing and quality. On the other side, distributors demand a relatively large amount of produce delivered of consistent quality in a timely manner while also meeting strict food safety and quality standards. Arguably these producers could capture more of the money spent by tourists locally through the development of a food hub, thus leading to the need for this study to examine the feasibility of a food hub in or close to Horry County (Hughes et al., 2013; Meter & Goldenberg, 2013).
To assess the feasibility of a food hub in the Horry county region, information needed to be collected on the interest of farm producers in selling to a food hub and the interest in potential buyers of food hub products. Local produce farmers and potential buyers from the food hub were surveyed to identify their level of interest in the project, as well as specific needs and services they would like to see addressed through implementation of the food hub. While estimating the exact costs and revenues of this specific project could be challenging during the initial feasibility study, the literature was reviewed to provide estimates of such financial requirements.

The two groups (potential producers and potential buyers) of study were surveyed through written and electronic surveys, in-person, and by telephone. In particular, producer interest, willingness to participate in the food hub project, production levels and practices, as well as their needs from a locational, functional, and infrastructure perspective were assessed in the survey (Appendix A). In total, 20 respondents completed the producer survey, and these respondents were representative of six South Carolina and one neighboring North Carolina counties. The wide distribution of the producer survey respondents’ locations covers a significant amount of the region in question.

Potential groups of food hub buyers were also surveyed to gauge their interest and needs in purchasing produce from a food hub (Appendix B). This sample consisted primarily of restaurants and retailers selling local produce. In total, seven buyer survey responses were received from respondents representing six South Carolina zip codes with respondents representing seven businesses located in Horry County. The fact that the
majority of respondents to the buyers surveys have businesses based in Myrtle Beach is indicative of the potential for a food hub to locate either in or close to Horry County. The findings from these producer and buyer surveys are key in the determination of the feasibility of a food hub either in or close to Horry County.

There were several key findings of this study relating to the feasibility of a food hub in Horry County and the surrounding region. The most important component is the level of interest of potential stakeholders. In this regard, both producers (sellers to the food hub) and local food outlets (buyers of food hub products) were surveyed. Discussing the former first, survey results from respondents indicate fairly strong interest in participating in a food hub in Horry County in particular and the Pee Dee region in general. This interest is especially strong if the food hub is developed as a farmer-owned cooperative. Setting the food hub up as a farmer-owned cooperative would assist in ensuring success because individual members of the cooperative would be financially invested, which could serve as a driver in making sure that all measures are taken to encourage the growth of the food hub. Fortunately, a local marketing cooperative that is already in operation could serve as a means of developing a farmer-owned cooperative based food hub.

When discussing the interest level of respondents, the relationship between the size of the farmer and the level of interest in the food hub was of interest. Of the farms that reported their acreage in produce production, three reported over 25 acres in production while 11 reported production of under 25 acres, with nine respondents having less than 10 acres in fruits and vegetables. After analyzing their responses based on size,
there does not appear to be a direct relationship between the size of the farm and the level of interest as a variety of respondents in each group indicated that they were either extremely or very interested in a food hub.

Another key aspect to the feasibility of a food hub is the presence of an ample supply and demand for food hub products. There is a diverse selection of produce being grown in the area, and respondents expressed an ability and willingness to expand their acreage in production as well as a willingness to grow different crops to meet the supply needs of the food hub.

In addition to an ability to adequately supply a food hub, potential buyers in the region also indicated a diverse demand for products complimentary to those which producers are growing in the region. These respondents also indicated their peak seasons of demand for food hub products as running from April through October annually, with lesser demand for local products from November to March. In addition to identifying and meeting demand, food hub managers also rely on being able to plan ahead. Fortunately, both producers and buyers in the region indicated a willingness to work together in pre-season crop planning so that the food hub can plan out its supply well in advance to meet the produce demands of the region.

Identifying a location that meets the needs of both producers and buyers is also key to declaring a food hub as feasible. The location of a food hub can either encourage or deter potential stakeholders from participating, depending on the distance they would have to travel to access the food hub. From a locational perspective, respondents indicated a willingness to drive some distance to access the food hub on a regular basis.
Based on responses, a food hub located within a 26 to 50 mile radius of most producers and buyers would garner the greatest participation from stakeholders, who in general could access the food hub one to two times per week at this distance. As the food hub becomes better established, the distance that participants would travel would probably expand. This distance range appears to be on the conservative side as GrowFood Carolina in Charleston has producers who supply produce from as far away as 120 miles (GrowFood Carolina, 2014). Although location is important for both producers and buyers, buyers are less impacted by location because the food hub typically delivers to the buyer (GrowFood Carolina, 2014). By locating the food hub in or near Horry County, and with most respondents willing to travel around 26 to 50 miles to obtain access, it appears that at least initially the proposed food hub would not be in competition for suppliers with the Charleston food hub.

A primary function of successful food hubs is to provide services such as infrastructure and training for participants. Accordingly, we sought to identify the services that could be provided to participants. Survey respondents showed a high level of interest in the services that a food hub could provide. When determining feasibility and priority of infrastructure, respondents displayed the greatest interest in using food hub based infrastructure such as cold storage, washing and packing facilities, and refrigerated trucks.

It was also important to the potential feasibility of the food hub to identify a couple of key relationships concerning infrastructure. The relationship (if any) between the size of the farm and the infrastructure is an important relationship to examine. After
separating the responses into groups of over 25 acres and under 25 acres in production, it appeared that producers of over 25 acres showed relatively little interest in using food hub infrastructure as only two of the three farms with reported produce acreage over 25 acres indicated only some interest. One respondent was only interested in the refrigerated truck, while the other respondent conveyed interest in washing and packing facilities, in cold storage, and in the refrigerated truck.

Another key relationship regarding possibly use of food hub infrastructures is whether the producer in question already owns such infrastructures. In terms of cold storage, among survey respondents 61.5% already have cold storage. But even respondents who have cold storage expressed an interest in using food hub cold storage (38% of the 61.5% already owning cold storage conveyed an interest in using food hub cold storage). In terms of packing and washing facilities, 33% of those respondents with such facilities expressed interest in using food hub packing and washing facilities. This result shows that although some respondents already have these types of infrastructure, they could still potentially benefit from a food hub. On the other hand, a refrigerated truck was of interest to parties who do not already own one; respondents who currently own a refrigerated truck conveyed little interest in using a food hub refrigerated truck. In summary, survey respondents expressed an interest in using food hub cold storage facilities, packing and washing facilities, and to a more limited degree refrigerated trucks. Hence, providing such infrastructure should be a strong consideration in the food hub planning process.
Another potential function that food hub management could take on is providing training and other services to suppliers. Training activities of particular interest to survey responding farmers included specifically Good Agricultural Practices (GAP) certification, marketing assistance, budget and financial management training, Hazard Analysis and Critical Control Points (HACCP) certification, farm food safety planning training, and liability insurance training. From a buyer’s standpoint, there was significant interest in providing some form of an online ordering service with the food hub. When allocating resources, these are some training opportunities and services that need to be given priority so as to best serve the local food producers and consumers in the region.

The potential purchasing level of buyers was also an important factor to take into account in the development of this feasibility study. Typically, if a food hub can reach $1,000,000 in sales, it should be successful (Fischer et al., 2013; Barham, 2011). When gauging the demand for local food hub products in the region, the majority of buyers indicated that they would be willing to spend between $50,000 and $200,000 annually. One respondent also indicated that they would potentially purchase between $1,000,000 and $2,000,000 from the food hub to supply their six to seven retail stores in the region. A major retailer in the region with several high volume stores has also expressed interest in a similar project that will feed into the Horry County food hub, so there is already an established interest and potentially high volume of demand for food hub produce (Appendix C).

While this study has worked to identify factors that will determine feasibility of the food hub and increase its regional impact, another important aspect of determining
feasibility is the financial components. In terms of start-up costs, most food hubs rely on donations as well as grants to make the initial investment in infrastructure and help support operations for several years. The goal is to rely on such funding with the end goal of complete self-sufficiency. Start up costs tend to vary depending on initial donations to the food hub and the structure and size of the food hub, but such costs typically range from $100,000 to $300,000 (Intervale Food Hub, 2014). While initial assistance is typically necessary, the 2013 National Food Hub Survey indicated that 66% of food hubs operate without grant funding (Fischer et al., 2013). These are most likely food hubs that have been operating for almost five years on average.

Operating costs are perhaps the most important costs associated with running a food hub, as they help to determine the long run viability. Operating costs tend to vary depending on the number of employees, size of the food hub, cost of delivery, infrastructure maintenance, and marketing costs. According to the 2013 National Food Hub Survey, the average food hub provides 19 paid positions and its sales exceeded $3.7 million dollars (Fischer et al., 2013). While these numbers show the potential for growth with a food hub after it has become established, a more comparable food hub such as GrowFood Carolina grossed $425,000 in sales in its third year of operation, and employs 5 full-time and 2 part-time employees (GrowFood Carolina, 2014). After looking at studies of other food hubs, a general annual operating cost range of $500,000 to $700,000 can be used in this analysis (Intervale Food Hub, 2014). To account for their operating costs, GrowFood Carolina in Charleston takes 20% of each sale to cover operating costs of the food hub and returns the remaining 80% to the farmer (GrowFood Carolina, 2014).
This percentage is consistent with other findings of food hubs charging a fee between 20 and 25% of the sale price (Barham et al., 2012). Depending on additional specifics and with the identified costs ranges, the feasibility of the food hub depends upon the participation with and management of the food hub in the region. When creating this food hub, it is vital that all necessary costs be identified and as much as possible minimized so as to provide the greatest benefit to all participants.

Another possible concern is that the proposed food hub may tend to favor participants who can supply the hub with larger quantities of produce. These larger producers can more consistently produce the amount and quality of produce demanded at a more reliable rate. While this may be beneficial to the success of those producers and the food hub itself, it will also potentially detract from what should be the purpose of the food hub, namely to provide larger market access for small to mid-sized producers. If the decision is made to move forward with developing a food hub, protecting the interests of smaller growers should be an area of emphasis. Further, producer buy-in and trust are keys to the success of a food hub, so regardless of size grower interest must be taken into account in the formation of the food hub.

With regards to limitations of this analysis, a major concern was the relatively small sample size of received surveys from both producers and especially from buyers. Twenty responses were gathered from producers and only seven potential buyers responded to the survey. While these buyers’ responses represent varying outlets, such as restaurants, grocery stores, and brokers, there are many potential buyers in the region who did not respond to the survey, which could bias results. The lack of responses to
both surveys could indicate a lack of interest with only interested and enthusiastic parties tending to respond. While the busy schedule of the surveyed populations may explain our response issue, the low response rate could stem from a lack of knowledge about the project and food hubs in general. It could also indicate uncertainty of whether or not the food hub is viewed as a competitor to the way that producers and buyers currently conduct business. Greater effort could be put forth to educate the local and regional population on the project and its potential benefits in moving forward with this project to garner more feedback in the future. While the responses are useful in gauging the feasibility of the food hub in the region, ideally more responses and feedback would be needed to gain a sample that is arguably more representative of the regional population of producers and buyers.

Economic impact analysis regarding the food hub will also serve to provide useful information. Such analysis will show the distribution of the impacts in terms of the various sectors of the Horry County and Pee Dee regional economies. More interesting perhaps, a multi-regional input-output model would indicate which areas, Horry County, the rest of the Pee Dee region, or even outside the region, gather the lion share of impacts. Such information would be helpful in determining if the facility should be located in Horry County or in a nearby county.

In conclusion, it appears that there is great interest in the potential food hub from survey respondents. Coupling the level of interest with survey and other information regarding location, infrastructure, training, and cost of a properly established food hub indicates that a food hub either in or close to Horry County appears to be feasible.
However, further work needs to be done to gather a larger sample and perhaps more representative of potential producers and especially potential buyers of food hub products in Horry County and the Pee Dee region to better gauge statistical reliability of our analysis and resulting conclusions regarding feasibility.
Appendix A

Food Hub Producer Survey

Horry County Food Hub Producer Survey
1. Assuming a fair market price and demand, what is your overall interest in selling to a food hub?
   - Extremely interested
   - Very interested
   - Moderately interested
   - Slightly interested
   - Not at all interested
   - I have not thought about it

2. In what zip code(s) is your farm located: ______________

3. Please fill out the table below regarding your current cultivation. If you are unsure of your acreage for specific crops, please provide your total acreage and check the crops you produce.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Acres under cultivation</th>
<th>Crop</th>
<th>Acres under cultivation</th>
<th>Crop</th>
<th>Acres under cultivation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fruits</strong></td>
<td></td>
<td><strong>Vegetables</strong></td>
<td></td>
<td><strong>Vegetables</strong></td>
<td></td>
</tr>
<tr>
<td>Blueberries</td>
<td>Carrots</td>
<td>Potatoes</td>
<td>Cantaloupe</td>
<td>Cauliflower</td>
<td>Pumpkins</td>
</tr>
<tr>
<td>Peaches</td>
<td>Collards</td>
<td>Spinach</td>
<td>Strawberries</td>
<td>Corn</td>
<td>Squash (Summer)</td>
</tr>
<tr>
<td>Strawberries</td>
<td>Corn</td>
<td></td>
<td>Watermelon</td>
<td>Cucumber</td>
<td>Squash (Winter)</td>
</tr>
<tr>
<td>Watermelon</td>
<td>Lettuce</td>
<td></td>
<td>Other (list):</td>
<td>Kale</td>
<td>Sweet Potatoes</td>
</tr>
<tr>
<td>Other (list):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vegetables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asparagus</td>
<td>Okra</td>
<td>Other (list):</td>
<td>Beets</td>
<td>Onion</td>
<td>Other (list):</td>
</tr>
<tr>
<td>Beets</td>
<td></td>
<td></td>
<td>Broccoli</td>
<td>Peas</td>
<td>Other (list):</td>
</tr>
<tr>
<td>Broccoli</td>
<td></td>
<td></td>
<td>Cabbage</td>
<td>Peppers</td>
<td>TOTAL</td>
</tr>
</tbody>
</table>

4. How many additional acres are available for the expansion of your farm given appropriate demand and price (i.e. land that can be easily converted to farming)?
   __________ Acres
5. What are your current sales outlets and the percentage of sales through those outlets? (Check all that are appropriate and fill in the percentage of sales in dollars)

<table>
<thead>
<tr>
<th>Sales Outlet</th>
<th>Percentage of Sales Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ CSA</td>
<td></td>
</tr>
<tr>
<td>☐ Farmers’ markets</td>
<td></td>
</tr>
<tr>
<td>☐ On farm sales</td>
<td></td>
</tr>
<tr>
<td>☐ Restaurants</td>
<td></td>
</tr>
<tr>
<td>☐ Retailer</td>
<td></td>
</tr>
<tr>
<td>☐ Roadside stand</td>
<td></td>
</tr>
<tr>
<td>☐ U-pick</td>
<td></td>
</tr>
<tr>
<td>☐ Wholesale</td>
<td></td>
</tr>
</tbody>
</table>

6. Do you currently grow fruits and/or vegetables under a contract?
☐ Yes  ☐ No
☐ If so, what percentage of your total fruits/vegetable production is grown under those contracts? __________

7. Are you familiar with your specific production cost per unit?
☐ Yes  ☐ No  ☐ Not sure

8. If you primarily produce commodity type crops (for example: corn, soybeans, cotton, peanuts, or hay), would you be interested in diversifying into specialty crops if the market and price were available and proven?
☐ Yes  ☐ No  ☐ Only if contracted

9. How do you transport product to your customers? (Check all that apply)
☐ Directly (CSA, farmers markets, etc.)  ☐ Retail on farm
☐ Deliver to distributor  ☐ Other: __________________

10. Assuming a fair market price, what is the longest distance you would be willing to travel to deliver products to a food hub one way?
☐ 1-10 miles  ☐ 51-100 miles
☐ 11-25 miles  ☐ More than 100 miles
☐ 26-50 miles  ☐ I am not willing and/or able to travel to a food hub
11. How frequently would you be able to deliver to a food hub located the following distances from your farm (check all that are appropriate)?

<table>
<thead>
<tr>
<th>Distance</th>
<th>Never</th>
<th>1-2 times/wk</th>
<th>3-5 times/wk</th>
<th>&gt;5 times/wk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-10 miles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-25 miles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26-50 miles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51-100 miles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 100 miles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. Which of the following best describes you:
- I would prefer to grow for a food hub, but only on contract
- I would prefer having a contract, but I would grow for a food hub without one
- I would like to grow for the food hub but not on contract

13. Would you be willing to participate in preseason crop planning with the food hub to schedule the type, quantity, and approximate timing of the produce?
- Yes
- No
- Not sure
- It depends on additional specifics

14. What would make you more likely to provide supply to a food hub?
- Food hub is grower owned
- Food hub is a grower owned cooperative
- Food hub is owned by regional residents or businesses

15. Would you be interested in being a cooperative member of a food hub?
- Yes
- No
- Not sure

16. Would you be interested in investing in a food hub?
- Yes
- No
- Not sure

17. Do you currently have any of the following:
- Cold storage
- Good Agricultural Practices certification (on any crop)
- Liability insurance
- Packing facilities
- Refrigerated truck
- Washing facilities
18. A local food hub could also offer a variety of other services to help local growers improve their business, increase sales, and strengthen the local food system. Which of the following additional hub activities would you be most interested in using? Choose all that apply.

- Basic washing facilities
- Cold storage
- Packing facilities
- Refrigerated truck
- Shared use of production equipment
- Small, short term financing assistance for equipment, GAP, etc.
- Budget/financial management training
- Federal produce grading training
- GAP certification training
- Liability insurance training
- Marketing assistance
- Season extension training
- Specialty crop handling training
- Other: _________________________________

19. What concerns do you have that would prevent you from selling wholesale produce to the food hub?

- Cannot afford GAP certification
- Lack of farm labor to harvest
- Lack of farm storage
- Lack of knowledge about GAP certification
- Lack of information about labor laws and farm labor management
- Lack of transportation for delivery to food hub
- Unsure about my costs and if I would profit from selling wholesale
- Unsure about liability insurance and my responsibility for insurance
- Unsure about signing a contract
- Unsure about when to harvest for a food hub
- Unsure if I grow enough to sell into a food hub
- Other: ____________________________________________

20. Are you familiar with USDA grading standards?

- Yes
- No
- Not sure

21. Are you willing to grow different crops if there is a documented demand and fair price in the market?

- Yes
- No
- Not sure
22. If you would like to be contacted in the future regarding the development of a food hub in this region, please provide your contact information. This information will not be associated with your survey answers in any way.

Name___________________________________
E-mail___________________________________
Phone (if you prefer to be contacted by this method) ____________________
Appendix B

Food Hub Buyer Survey

Horry County Food Hub Buyer Survey
According to the USDA, “a regional food hub is 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.”

1. Do you buy produce for retail sales, foodservice, both retail sales and foodservice, a group of retailers, or none of the below?
   - Retail sales
   - Foodservice
   - Retail sales and foodservice
   - Group of retailers
   - None of the above
   - Other: _____________________

2. How interested would you be in buying from the Food Hub?
   - Extremely interested
   - Very interested
   - Moderately interested
   - Slightly interested
   - Not at all interested
   - I have not thought about it

3. In what zip code(s) is your business located: _____________________
4. Which types of local produce would you buy (either directly or through a distributor) in a typical year? (Please check all that apply)

<table>
<thead>
<tr>
<th>Crop</th>
<th>Crop</th>
<th>Crop</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fruits</strong></td>
<td><strong>Vegetables</strong></td>
<td><strong>Vegetables</strong></td>
</tr>
<tr>
<td>Blueberries</td>
<td>Carrots</td>
<td>Potatoes</td>
</tr>
<tr>
<td>Cantaloupe</td>
<td>Cauliflower</td>
<td>Pumpkins</td>
</tr>
<tr>
<td>Peaches</td>
<td>Collards</td>
<td>Spinach</td>
</tr>
<tr>
<td>Strawberries</td>
<td>Corn</td>
<td>Squash(Summer)</td>
</tr>
<tr>
<td>Watermelon</td>
<td>Cucumber</td>
<td>Squash(Winter)</td>
</tr>
<tr>
<td>Other (list):</td>
<td>Kale</td>
<td>Sweet Potatoes</td>
</tr>
<tr>
<td><strong>Vegetables</strong></td>
<td>Lettuce</td>
<td>Tomatoes</td>
</tr>
<tr>
<td>Asparagus</td>
<td>Okra</td>
<td>Other (list):</td>
</tr>
<tr>
<td>Beets</td>
<td>Onion</td>
<td>Other (list):</td>
</tr>
<tr>
<td>Broccoli</td>
<td>Peas</td>
<td>Other (list):</td>
</tr>
<tr>
<td>Cabbage</td>
<td>Peppers</td>
<td>Other (list):</td>
</tr>
</tbody>
</table>
5. Which of the following crops would you source locally if they were available off season/year round?

<table>
<thead>
<tr>
<th>Crop</th>
<th>Crop</th>
<th>Crop</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fruits</strong></td>
<td><strong>Vegetables</strong></td>
<td><strong>Vegetables</strong></td>
</tr>
<tr>
<td>Blueberries</td>
<td>Carrots</td>
<td>Potatoes</td>
</tr>
<tr>
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<td>Cauliflower</td>
<td>Pumpkins</td>
</tr>
<tr>
<td>Peaches</td>
<td>Collards</td>
<td>Spinach</td>
</tr>
<tr>
<td>Strawberries</td>
<td>Corn</td>
<td>Squash(Summer)</td>
</tr>
<tr>
<td>Watermelon</td>
<td>Cucumber</td>
<td>Squash(Winter)</td>
</tr>
<tr>
<td>Other (list):</td>
<td>Kale</td>
<td>Sweet Potatoes</td>
</tr>
<tr>
<td><strong>Vegetables</strong></td>
<td>Lettuce</td>
<td>Tomatoes</td>
</tr>
<tr>
<td>Asparagus</td>
<td>Okra</td>
<td>Other (list):</td>
</tr>
<tr>
<td>Beets</td>
<td>Onion</td>
<td>Other (list):</td>
</tr>
<tr>
<td>Broccoli</td>
<td>Peas</td>
<td>Other (list):</td>
</tr>
<tr>
<td>Cabbage</td>
<td>Peppers</td>
<td>Other (list):</td>
</tr>
</tbody>
</table>

6. Please estimate the average number of POUNDS PER WEEK of the following types of local produce you would buy from a food hub in a typical year.

<table>
<thead>
<tr>
<th>Crop</th>
<th>lbs/week</th>
<th>Crop</th>
<th>lbs/week</th>
<th>Crop</th>
<th>lbs/week</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fruits</strong></td>
<td></td>
<td><strong>Vegetables</strong></td>
<td></td>
<td><strong>Vegetables</strong></td>
<td></td>
</tr>
<tr>
<td>Blueberries</td>
<td></td>
<td>Carrots</td>
<td></td>
<td>Potatoes</td>
<td></td>
</tr>
<tr>
<td>Cantaloupe</td>
<td></td>
<td>Cauliflower</td>
<td></td>
<td>Pumpkins</td>
<td></td>
</tr>
<tr>
<td>Peaches</td>
<td></td>
<td>Collards</td>
<td></td>
<td>Spinach</td>
<td></td>
</tr>
<tr>
<td>Strawberries</td>
<td></td>
<td>Corn</td>
<td></td>
<td>Squash(Summer)</td>
<td></td>
</tr>
<tr>
<td>Watermelon</td>
<td></td>
<td>Cucumber</td>
<td></td>
<td>Squash(Winter)</td>
<td></td>
</tr>
</tbody>
</table>
### Vegetables

<table>
<thead>
<tr>
<th>Other (list):</th>
<th>Kale</th>
<th>Sweet Potatoes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vegetables</strong></td>
<td>Lettuce</td>
<td>Tomatoes</td>
</tr>
<tr>
<td>Asparagus</td>
<td>Okra</td>
<td>Other (list):</td>
</tr>
<tr>
<td>Beets</td>
<td>Onion</td>
<td>Other (list):</td>
</tr>
<tr>
<td>Broccoli</td>
<td>Peas</td>
<td>Other (list):</td>
</tr>
<tr>
<td>Cabbage</td>
<td>Peppers</td>
<td><strong>TOTAL:</strong></td>
</tr>
</tbody>
</table>

7. Please estimate the average number of POUNDS PER WEEK of the following types of processed local produce would you buy from a food hub in a typical year.

<table>
<thead>
<tr>
<th>Crop</th>
<th>lbs/week</th>
<th>Crop</th>
<th>lbs/week</th>
<th>Crop</th>
<th>lbs/week</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fruits</strong></td>
<td><strong>Vegetables</strong></td>
<td><strong>Vegetables</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blueberries</td>
<td>Carrots</td>
<td>Potatoes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cantaloupe</td>
<td>Cauliflower</td>
<td>Pumpkins</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peaches</td>
<td>Collards</td>
<td>Spinach</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strawberries</td>
<td>Corn</td>
<td>Squash(Summer)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watermelon</td>
<td>Cucumber</td>
<td>Squash(Winter)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (list):</td>
<td>Kale</td>
<td>Sweet Potatoes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vegetables</strong></td>
<td>Lettuce</td>
<td>Tomatoes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asparagus</td>
<td>Okra</td>
<td>Other (list):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beets</td>
<td>Onion</td>
<td>Other (list):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broccoli</td>
<td>Peas</td>
<td>Other (list):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cabbage</td>
<td>Peppers</td>
<td><strong>TOTAL:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8. Assuming a fair market price, what is the longest distance you would be willing to travel to access a food hub?

☐ 0 - 10 miles  ☐ 51 - 100 miles

☐ 11 - 15 miles  ☐ More than 100 miles

☐ 26 - 50 miles

☐ I am not willing and/or able to travel to a food hub

9. How frequently would you expect deliveries from the food hub based on various distances from your restaurant/retail outlet? (Please check all that apply)

<table>
<thead>
<tr>
<th>Distance</th>
<th>Never</th>
<th>1-2 times/week</th>
<th>3-5 times/week</th>
<th>&gt;5 times/week</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 10 miles</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>11 - 25 miles</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>26 - 50 miles</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>51 - 100 miles</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>More than 100 miles</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

10. Please estimate your total ANNUAL produce purchases by checking a range below:

☐ Less than $1,000  ☐ $300,000 - $350,000

☐ $1,000 - $5,000  ☐ $350,000 - $500,000

☐ $5,000 - $10,000 ☐ $500,000 - $1,000,000

☐ $10,000 - $50,000 ☐ $1,000,000 - $2,000,000

☐ $50,000 - $100,000 ☐ $2,000,000 - $3,000,000

☐ $100,000 - $150,000 ☐ $3,000,000 - $4,000,000

☐ $150,000 - $200,000 ☐ $4,000,000 - $5,000,000

☐ $200,000 - $250,000 ☐ $5,000,000 and above

☐ $250,000 - $300,000
11. How much would you spend on local South Carolina produce if these were available from a food hub in a typical year?

- Less than $1,000
- $1,000 - $5,000
- $5,000 - $10,000
- $10,000 - $50,000
- $50,000 - $100,000
- $100,000 - $150,000
- $150,000 - $200,000
- $200,000 - $250,000
- $250,000 - $300,000
- $300,000 - $350,000
- $350,000 - $500,000
- $500,000 - $1,000,000
- $1,000,000 - $2,000,000
- $2,000,000 - $3,000,000
- $3,000,000 - $4,000,000
- $4,000,000 - $5,000,000
- $5,000,000 and above

12. In which months are you interested in sourcing South Carolina produce? (Please check all that apply)

- January
- February
- March
- April
- May
- June
- July
- August
- September
- October
- November
- December

13. What is your overall interest in an online aspect of the food hub that allows buyers to view the quantity of each product available and purchase produce on the food hub’s website?

- Extremely interested
- Very interested
- Moderately interested
- Slightly interested
- Not at all interested

- I have not thought about it
14. How important is sourcing CERTIFIED ORGANIC produce to your operation?
   □ Extremely important
   □ Very important
   □ Moderately important
   □ Slightly important
   □ Not at all important
   □ I have not thought about it

15. Which of the following other sourcing requirements are relevant to you? (Please check all that apply)
   □ Traceability
   □ Liability insurance
   □ GAP certification
   □ HACCP certification
   □ Farm food safety plan
   □ Compliance with farm labor requirements
   □ None are relevant
   □ Other: _____________________
   □ I have not thought about it

16. As a means of securing local supply, how interested are you in purchase contracts that specify product, price, timing, and delivery requirements?
   □ Extremely interested
   □ Very interested
   □ Moderately interested
   □ Slightly interested
   □ Not at all interested
   □ I have not thought about it
17. As a means of securing local supply, how interested are you in participating in pre-season crop planning to formally arrange products, quantities, packing, and timing of deliveries?
   - Extremely interested
   - Very interested
   - Moderately interested
   - Slightly interested
   - Not at all interested
   - I have not thought about it

18. How interested are you in privately labeled produce items?
   - Extremely interested
   - Very interested
   - Moderately interested
   - Slightly interested
   - Not at all interested
   - I have not thought about it

19. If offered, in which other opportunities would you be interested:
   - Investment
   - Ownership
   - Management
   - Not at all interested
   - I have not thought about it

20. If you would like to be contacted in the future regarding the development of a food hub in this region, please provide your contact information. This information will not be associated with your survey answers in any way.
    Name___________________________________
    E-mail___________________________________
    Phone (if you prefer to be contacted by this method) ____________________
April 7, 2014

Ms. Kim Busse
The Local Table

Dear Kim Busse,

Lowes Foods, LLC would like to express our support of The Local Table to develop a grading, packaging and distribution facility in Conway, South Carolina. The facility you are developing will support area new and existing farmers to facilitate sales of their products into retail and distribution markets such as ours.

In May, Lowes Foods will ship branded boxes to The Local Table for private label packaging. The Local Table will pack produce boxes using our developed branding scheme.

The program will extend June 7, 2014 through September 7, 2014, with opportunity for renewal in the fall and in future years.

We look forward to staying involved in the development and we fully endorse The Local Table's new grading, packaging and distribution facility.

Sincerely,

[Signature]

Richard Mc Kellogg
Director of Produce / Floral
336.775.3235  Fax: 336.768.4702
1820 Center Grove Circle, Suite 300, Winston-Salem, NC 27105
REFERENCES


Community Alliance with Family Farmers (CAFF). (2011). Establishing an Aggregation & Marketing Center for California’s North Coast (pp. 1-51): Community Alliance with Family Farmers.


