

## Assisting Small and Mid-Size Farmers to Increase Their Access to Markets: A Case Study of an Extension Program to Facilitate Food Hubs in Georgia

### Abstract

This article provides a case study on how Extension can facilitate the creation of food hubs and connect farmers and suppliers with these hubs. To accomplish this, we conducted two surveys: a baseline survey of food hubs in Georgia and a needs assessment survey of farmers. Survey results were then translated into a web-based resource consisting of an interactive map, regional resources, and contact information for personalized assistance in order to facilitate stakeholder communication and connect growers to food hubs. Extension personnel can use this model in other locations where connections between food hubs and farmers are not readily apparent.

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### Introduction

Local food distribution and sales have grown and evolved rapidly over the past few years (Low & Vogel, 2011). New local food businesses are emerging as a result of both the need to solve system limitations and fill market gaps. One of the more recent opportunities are food hubs. A food hub is a value-based business model that manages the marketing, aggregation, and distribution of locally produced meat and produce, which offers small and mid-sized farms a means of economic diversification by linking growers to wholesale markets (Lerman, Feenstra, & Visher, 2012). Growers are viewed as valuable partners, who work together or under the direction of a food hub manager to ensure that they meet buyer requirements while still obtaining a fair price for their products (Barham et al., 2012; Blay-Palmer, Landman, Knezevic, Hayhurst, 2013). Food hubs can target specific institutional markets such as schools or grocery stores, focus on direct consumer sales through buying clubs or multi-farm CSAs, or use a hybrid model (Barham, et al., 2012; Horst et al., 2013; Lerman, et al., 2012; Matson & Thayer, 2013; Cleaveland, Muller, Tranovich, Mazaroli, & Hinson, 2014).

### Purpose and Objectives

In Georgia, demand for local, sustainable food far exceeds its supply (Kane, Wolf, Jones, & McKissick, 2010). Farmers markets have increased from nine in 2003 to 163 in 2013, and Community Supported Agriculture programs (CSAs) have grown from eight to over 50 during the past 6 years. The number of Farm to School programs and institutions and universities wanting to purchase more locally produced, sustainable food is increasing in Georgia (Wolfe, Kane, & Stubbs, 2013). However, limited technical and policy support, as well as lack of infrastructure, have hampered the development of food hubs. Extension can play a vital role in providing unbiased information to growers interested in food hubs and to those interested in developing food hubs. Previous studies have pointed to the success of Extension personnel in connecting growers with buyers as well as facilitating networking between farmers and markets (Gregoire, Arendt, & Stohbehn, 2005; Knight & Chopra 2013; Oberholtzer, Hanson, Brust, Dimitri, & Richman, 2012).

## Goals of the Project

The purpose of the research reported here was to develop Extension resources on food hubs for Georgia. This necessitated completing the following steps:

1. Determine the number of currently operating food hubs in Georgia;
2. Identify growers interested in participating in food hubs and their production; and
3. Develop an online resource that connects growers and managers while providing valuable information to those interested in starting these businesses.

This article describes the process behind obtaining the data needed to develop an interactive website consisting of a food hub map and resource database. We also describe how website use patterns were tracked and how that website has been used by Extension to help potential food hub participants. We conclude with programmatic lessons learned that aim to assist others interested in building a similar resource.

## Research Context and Methodologies

The Georgia Sustainable Agricultural Consortium (GSAC) formed in 2011, uniting land-grant universities and associated governmental and non-governmental stakeholders in order to pursue science-based information to aid in the development of a more sustainable food system in Georgia. We conducted a baseline survey to assess the current state of food hubs in Georgia, followed by a needs assessment to identify the types of resources needed to help facilitate the growth of these businesses. In addition, data has been gathered through participant observations at meetings and workshops, which have informed programmatic lessons learned.

The baseline survey was conducted in 2012 to understand the current level of food hub development in Georgia in order to measure success through time and identify barriers. We identified interviewees through our personal knowledge as well as online research and administered the semi-structured interview to 28 food hub managers and potential food hub managers by email and phone. There were nine interview questions:

1. Do you think your operation or project meets this definition of a food hub? Why?
2. What is the name of your food hub operation?
3. What food product does your operation or project primarily focus on? Are the ingredients primarily from Georgia?
4. Would you characterize your operation or project as an (please list all that apply):
  - Options included: Aggregation facility, Packing house, Re-packing facility, etc.
5. How many farmers do you work with or do you anticipate working with?
6. What is the primary geographic radius of participating farmers?
7. What is the primary geographic radius of participating buyers?
8. Is your operation or project a: Non-profit, Private business, Cooperative, or Other?
9. Who is your primary buyer?

A further discussion of this baseline survey can be found online at [SustainAgGA.org/GSAC](http://SustainAgGA.org/GSAC).

A needs assessment survey was then conducted in the summer of 2012 throughout the state to determine the level of grower interest, compile farm characteristics, and identify the types of services and facilities needed for the purpose of developing an on-line resource (Gaskin, Munden-Dixon, Furman, & Beechuck, 2013). The survey contained 15 questions and was administered online and by mail (216 total unique responses). It was advertised through GSAC partners email lists and websites that reach growers in the state (UGA Extension, Fort Valley Extension, Georgia Department of Agriculture, Georgia Organics, Georgia Farm Bureau, Georgia Fruit and Vegetable Growers Association, etc.).

Questions included:

1. Your major cash crops are (please check all that apply):
  - Options included: Small Fruits and Vegetables; Eggs; Poultry; Sheep/Goats; Pigs; Cattle; Other
2. If small fruits and vegetables are your major crops, how many acres do you have in small fruits or vegetable production?
3. Please select the answer that best describes your growing practices for growing small fruits and vegetables:
  - Options included: Conventional; Transitional; Certified Organic, etc.

4. If you raise poultry, how many birds do you harvest per year?
5. If you produce eggs, how many dozen eggs do you produce weekly?
6. If you produce sheep or goats, how many do you harvest per year?
7. If you produce pigs, how many do you harvest a year?
8. If you produce cattle, how many head do you harvest per year?
9. Where do you currently market your crops? Please estimate the percentage marketed through each of the following options. The percentages should total 100%.
10. Are you interested in increasing your access to retail markets such as consumer coops, restaurants, specialty groceries, or regional grocery chains?
11. Are you interested in increasing your access to institutional markets such as schools, universities, and hospitals?
12. Check the following services that you would be interested in obtaining from the proposed food hub if it was established.
  - Options included: Marketing/Sales Services, Transportation, etc.
13. Check the following types of facilities and equipment that you would be interested in obtaining access to from the proposed food hub if it were established.
  - Options included: Coolers/refrigerated storage; Packing containers, etc.
14. Many food hubs help match supply with customer demand. Would you be willing to work with other farmers participating in the proposed food hub to develop and follow recommendations on varieties to produce and the acres of a particular crop to be grown to help match supply and demand?

A more detailed discussion of survey design is outlined in a previously published article about the needs assessment (Gaskin et al., 2013).

Data from the survey were then used to develop an online resource housed on the existing UGA sustainable agriculture website (SustainAgGA.org/GSAC). Created on March 10, 2012, the GSAC/Food hub webpage provides interested groups and individuals with a one-stop shop for information related to food hubs in Georgia. This included the reports GSAC published, the interactive map, national resources, grant opportunities, and contact information if groups wanted more in-depth assistance. As a centrally located resource, these web pages aim to grow regional food hubs where supply *and* demand is high, by facilitating stakeholder communication and connecting interested growers to food hubs. While many direct-to-consumer local food systems rely on word of mouth, Extension personnel knowledge and resources can assist in facilitating new connections when farmers "scale-up"

(Dougherty & Green, 2011).

We partnered with UGA's Natural Resources Spatial Analysis Lab (NARSAL) to translate the data into an interactive map. While access to the map originates from the GSAC food hub webpage, the map needed to be housed at NARSAL so that the user data could be analyzed. As such, the expanded interactive map, when clicked, opens on a separate NARSAL webpage. The user however does not notice this shift because the new page template has been designed to look the same as the GSAC food hub webpage. In order to track the users of the interactive map, the webserver logs were examined with analysis software as well as manual analysis. The website analytics cover the period from the launch of the interactive map on April 4th, 2013, to October 19, 2014. An optional survey question was also posted on the map to determine the profile of map visitors (Table 1). This allowed us to monitor usage statistics, geographic location, and other demographics of the visitors to our webpage.

**Table 1.**

Characteristics of Interactive Map Users

Identify as a	Number	Percent
Farmer	11	38%
Food Hub Operator	1	3%
Interested in Starting a Food Hub	12	41%
Non-Profit	6	21%
Involved in Policy Work	2	7%
Government Official	1	3%
Academic	7	24%
Ag educator/Extension Agent	2	24%
Other	6	21%

## Findings

### Food Hub Baseline Survey

Survey results showed that there were eight food hubs and 11 food hub projects in Georgia. The potential food hubs reported two main obstacles to food hub development during the interviews. First, currently operating food hubs are finding it difficult to source enough Georgia-grown products year round. Second, those interested in food hub development, such as growers, potential food hub managers, and buyers, are constrained in their ability to identify and contact one another (Beechuk, Gaskin, & Munden-Dixon, 2012). Survey participants requested the development of a multifaceted resource where they could easily find the growers who were specifically interested in being part of a food hub, where they could identify food hubs already in existence and have access to experts for

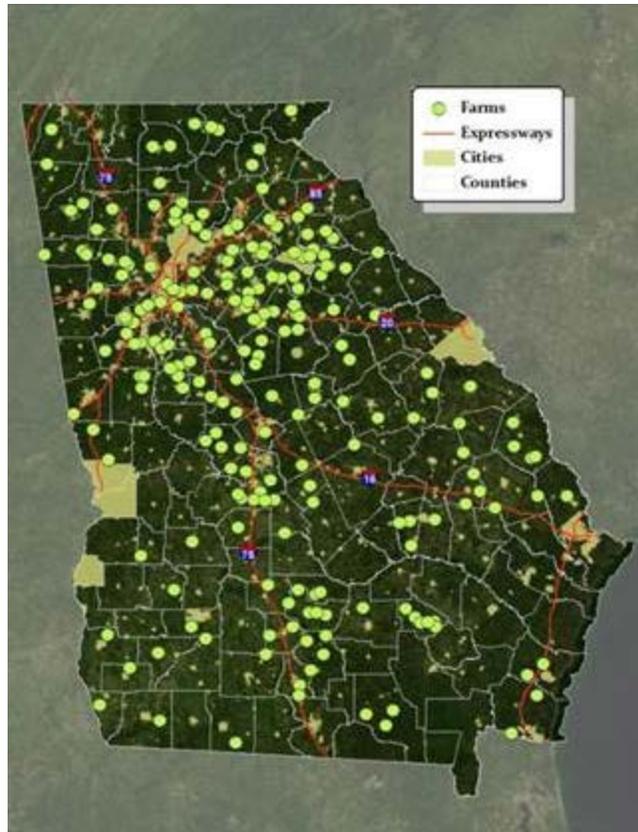
technical assistance (Beechuk, Gaskin, & Munden-Dixon, 2012).

## Farmers Needs Assessment

Survey responses were received from growers across the state (n=216). The greatest numbers of respondents were located in a crescent running between northeast Georgia, Athens and Atlanta and also a cluster of growers that have farms near the I-75 corridor (Figure 1).

**Figure 1.**

Locations of Respondents to the Farmers Needs Assessment



Close proximity to urban centers and major highways is a benefit to farmers interested in connecting to one another and more lucrative markets. The greatest response rate (n=169, 72%) came from those who listed small fruit and vegetables as their major crop. Categories such as eggs, cattle, and other are the next most common crops reported. Based on the location and number of farmers that responded to the survey, results indicate that there is significant interest in food hubs among farmers in the state and that the greatest need was for facilities located near these clusters that could aggregate fruits and vegetables. Data from the survey became the basis for the interactive map designed to help potential food hubs and growers to find each other.

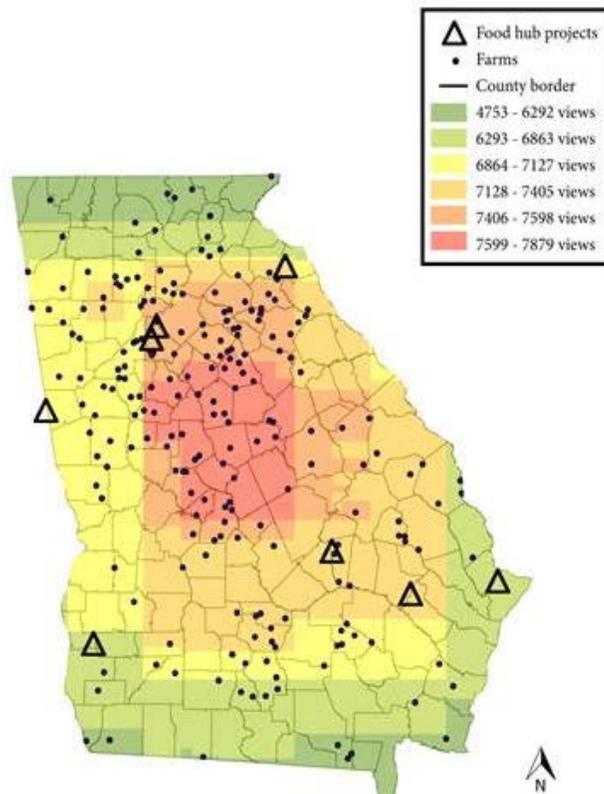
## Map Users Characteristics

Since the interactive map was posted on the GSAC website, there have been 1,249 visits, mainly from residents of Georgia. The total number of people who viewed the interactive map and their specific

interests (through panning and zooming) were from 4,753 to 7,879 panning or zooming views. These are not unique views by unique visitors, but an aggregate count of all panning and zooming views by all visitors. Because these counts do not represent unique visitors, they far exceed the number we tracked using our GSAC webpage analytics. The geographic area with the most interest was middle Georgia, focused around Macon, Georgia, which is shaded red below (Figure 2). Knowing where visitors are looking on the map helps inform our outreach by allowing us to track interest in specific areas of the state.

**Figure 2.**

Interactive Map View Count and Food Hub Projects Location



Users who accessed the interactive map through our GSAC website resource were given the choice to complete an optional one-question survey aimed to quantify user interest and indicate the type of viewer interested in the map (Table 1). Respondents were able to check more than one option, i.e., a grower may check they are both a farmer and interested in starting a food hub, and, because of this, final numbers do not equal 100%. Out of the 29 respondents, most reported an interest in starting a food hub (41%). This helped us understand which type of user was interested in the map and what type of resources may be useful to post on the website.

## Use of the Resource in Outreach

Since the webpages went live, a number of groups and individuals have reached out through phone and email for technical support, ranging from economic development entities, food policy councils, local governments, farmers, and nonprofits. As a result, we have met with seven groups to provide individualized consultations. Prior to our meetings, many of these groups had not considered issues on

the supply side, i.e., the farmer side, of a food hub business, focusing only on supplying product demand. The interactive map proved useful in this case as it allowed them to "see" the farmer interest in their area. It also pointed to regions where growers were limited; therefore, before a business is considered, a more intensive feasibility study is needed. Having this intense level of communication also allowed us to tailor outreach and refer groups to other people, conferences, and organizations who we felt could give specific assistance.

Based on user feedback and experience of managing the website for over a year, we conclude that this project was successful in meeting its primary goal: establishing an easily accessed resource that provides useful information and helps stakeholders identify the location and products of interested growers. The construction of this resource in Georgia can be duplicated across the country to help encourage the growth of food hubs in regions similar to Georgia, where grower-food hub relationships have yet to fully develop. While California and North Carolina have established grower-buyer relationships for even the small-scale grower, most states are similar to Georgia, where it is difficult for these networks to develop. The following section outlines a number of lessons learned that could be considered before the construction of similar resources in other parts of the country.

## **Lessons Learned**

### **Map Design**

- Include contact information for both growers and food hub operators as part of the map
  - Allow growers and food hub operators to add themselves online to the map (with notification to map administrator to verify information).
- Multiple layers
  - Indicate locations of existing food hubs from food hub projects,
    - The type of facility (i.e. aggregation, processing), products (vegetables, meat, value-added) and list of markets.
    - Which hubs have trucks available for shared use or which ones are open to "backhauling," which refers to empty or semi-empty trucks that can be contracted to transport other products after the initial load has been delivered.
  - Highlight growers selling to hubs/interested in joining hubs.
  - Include growers by product type.

### **Administration**

- The website works best when coordinators and website designers are housed in the same department or institution to ensure that the map stays current and that information generated is

easily accessible.

## Resources for Stakeholders

- Include both a breadth and depth of resources in order to provide valuable best practices and findings at the national level as well as local information for stakeholders
  - Provide general information on food hubs geared for multiple audiences (growers, food hubs, policy) with additional links
  - Incorporate a curated compilation of national, state-wide and local resources including,
    - Case studies
    - Feasibility reports
    - Consultants
    - Food hub related grants and loans as well as business planning tools.
- This resource can also serve as a platform for social learning, if stakeholders agree, by directly connecting food hubs with other food hubs for the purpose of sharing experiences and advice.

## Funding

- Ensure long-term, dedicated funding so that the appropriate personnel are available to manage the site, respond to questions, and direct stakeholders to requested information.

## Stakeholder Engagement

- Build and maintain strong connections with both growers and food hubs in order to facilitate connections.
- Maintaining a dynamic resource requires periodic check-ins with these stakeholders to ensure the data remains valid.
- Use existing organizations in the state or region (e.g., Extension, NGOs, government agencies) to reach diverse stakeholders

## Concluding Remarks and Future Directions

The project reported here is a part of a larger effort in Georgia that will continue to explore ways to promote more resilient food hubs in particular and sustainable food systems in general. Future research directions include furthering outreach efforts like workshops, meetings, and conferences. We are also in the process of a longitudinal research project that follows food hub growth and

development across the state, analyzes different food hub organizational structures, and assesses the role of institutions in food hub sustainability.

The structure, functionality, and organization of food hubs at the regional and national scale are changing rapidly based on buyer and grower needs. Users reported that this type of resource aids in the growth of successful food hubs because it connects interested individuals and peer food hubs to each other, is flexible and adaptable to the changing needs of food hub stakeholders, and facilitates the sharing of information and best practices. The creation of this resource also strengthens the larger food hub network, provides support to conduct independent feasibility studies and helps individuals think critically about the structure, organization and type of food hub needed in their region. The United States is at a critical moment in the growth of local, sustainably produced food nationwide. The upward trend in production and consumption remains fragile and fostering future growth requires a reformulation of what it means to support sustainable agricultural systems. It requires thinking beyond production and including economic and social aspects of sustainability into outreach projects.

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