

COMMUNITY GARDENS IN GEORGIA FROM THE PERSPECTIVE OF CTAE

DIRECTORS

by

JECI CRANE-BOHANNON

(Under the Direction of Diana King)

ABSTRACT

Fresh picked vegetables give many people the feeling of summer. Community gardens provide the opportunity to grow those vegetables as well as herbs, fruit and ornamental plants. Although community gardens are generally thought of as being an urban trend, Georgia proves that smaller cities can also be home to this growing movement. Georgia CTAE directors in 27 counties are aware of and have reported having a community garden(s). Community gardens are a tool that can be used to build relationships, relieve stress, lower grocery food costs, lower food miles and reduce pesticide and insecticide use.

INDEX WORDS: Community garden, Food miles, Urban gardening, Allotment gardens, Food security, Greenspace, Sustainable agriculture

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CHAPTER 1

INTRODUCTION

There is nothing like the taste of a vine ripened tomato, but for many people, fresh produce isn't always available at an affordable price. In urban and suburban areas, where farm land is not readily available, people are finding a way to grow their own food through rooftop, patio and community gardens. Rising food prices “provide people with an incentive to grow food in home and community gardens and allotments to feed themselves, their families and neighbors” (Bell & Cerulli, 2012, p. 31). According to Turner, Henryks & Pearson (2011), the public's awareness about “the use of insecticides and pesticides, food miles and rising food costs have increasingly politici[z]ed what we eat and how it is grown” (p. 489). When people can feel the dirt between their fingers, there is no doubt where the food comes from or whether or not the food is healthy.

Community gardens, also known as allotment gardens, are not a new idea. These plots have been showing up around the world since the late 1700's. According to Henderson and Hartsfield (2009), in the United States alone, these gardens have been given several names including Liberty Gardens (World War I), Relief Gardens (The Great Depression), and Victory Gardens (World War II). Community gardens have been called on to help produce food during times of war or crisis not only in the United States, but in Denmark, Cuba, England, Germany, etc. These small gardens are effective in lifting spirits and producing a much needed resource, fresh food. In the early 19th century, England's allotment gardens were “providing agricultural land for city dwellers, migrants from the countryside who had been displaced from their rural

homes through the double movements of enclosure and industrialization” (Irvine, Johnson & Peters, 1999, p.36). Firth, Maye and Pearson (2011) explain that people want to reconnect with their communities, food and nature. Community gardens are the ideal way to accomplish that goal.

Statement of the Problem

As food prices continue to rise, food miles gain publicity, and the organic movement grows in popularity, steps should be taken in cities to help alleviate public concerns. Community gardens can help create a fresh supply of affordable fruits and vegetables for community members. Community gardens can also help form neighborly bonds and a sense of pride in the community. The demand for land is high, especially in urban areas, making community gardening even more difficult to get started. What are the characteristics of community gardens in the state of Georgia?

Research Objectives

The purpose of this study was to better understand community gardens in Georgia as perceived by CTAE directors. In order to accomplish that purpose, the following objectives were created.

1. List and describe the locations of community gardens in Georgia as reported by CTAE directors.
2. Describe the requirements for membership in community gardens in Georgia.
3. Describe the features of community gardens in Georgia.

Definition of Terms

Community Garden – a piece of land, within a community, that is gardened by a group of people who live in that community. The size of the plot is not a factor, nor is the cost of the space.

Food Miles – the distance that food travels to reach the consumer’s plate. This can be measured in kilometers or miles (Ballingall & Winchester, 2010).

Food Security – having affordable food readily available as well as having access to that food

Greenspace – productive green areas that are able to deliver useful products as a result of urban green maintenance or construction (van Leeuwen, Njkamp, & De Noronha Vas, 2010)

Sustainable – being able to maintain without deterioration of natural resources, keeping an ecological balance

Urban Agriculture – an industry located within or on the fringes of a town, a city or a metropolis which grows and raises, processes and distributes a diversity of food and non-food products, (re)using largely human and material resources, products and services found in and around that urban area, and in turn supplying human and materials resources, products and services largely to that urban area (Broadway, 2009)

Assumptions

1. The CTAE directors participating in this study answered the questionnaire honestly.
2. The CTAE directors participating in this study knew the answers to the questions asked in the survey.
3. The CTAE directors participating in this survey are actively involved in their communities.
4. The CTAE directors participating in this survey are aware of local activities and programs.

Limitations

The limitations to this study include that the results are totally dependent on the Career, Technical and Agriculture Education (CTAE) directors' perceptions of community gardens in their area. Without any written documentation to support any of the answers on the questionnaires, the validity of this study is dependent on those answers being accurate. The CTAE directors participating in this study may not be aware of local activities and programs in their communities.

CHAPTER 2
COMMUNITY GARDENS IN GEORGIA
CRITIQUE OF THE LITERATURE

Community Gardens

Evers and Hodgson (2011) explain that community gardens are emerging in response to issues of food security and the publicity of greenhouse gases, organic agriculture, food miles and rising food costs. Conventional food production methods are being heavily critiqued by the media, resulting in even more interest in home and community gardening. Using a community garden case study in London, Bell and Cerulli (2012) explain how urban areas need to and are moving towards food sustainability. Currently, the increased interest in urban food production is linked with times of economic, political and ecological crisis. Bell and Cerulli describe how small community gardens can be the transition to a sustainable urban food environment, but also mention that unless further planning comes along with the gardens, they will not be able to sustain an entire city. Twiss, Dickinson, Duma, Kleinman, Paulsen, and Rilveria (2003) used California's healthy cities and communities' initiative to help explain the need for continuous training and mentoring for gardeners and staff involved with community gardens, building partnerships within the communities as well as planning events such as cooking or gardening classes to build interest in the gardens. Without community interest and proper planning, community gardens have a diminutive chance of success.

According to Turner, Henryks and Pearson (2011), in the last two decades, food based social movements and grass-roots initiatives around the world have been on the rise, encouraging multiple points of reconnection with the food system. According to Broadway (2009), both Montréal and Seattle began their community gardens in the 1970's. Seattle now grows between 7-10 tons of food on its plots and Montréal has grown to have more than 10,000 participants in its program. Montréal and Seattle are setting the tone for large cities considering large scale community gardening programs.

In addition to relieving concerns about food quality, “gardening is a tool to abate life’s stress, enhance the environment, develop individuals, and build communities” (Colorado Master Gardener Program, n.d.). Gardening can provide an opportunity to exercise, stress reduction, and relaxation for individuals, which can prove especially beneficial for youth and office workers. The Colorado Master Gardener Program explains that “in contrast to popular video games, gardening teaches that life does not always give instantaneously rewards”. Gardening is a tool that can act as a universal language, spurring conversation within community members and making racial and cultural differences seem insignificant (Colorado Master Gardener Program). The American Community Gardening Association:

recognizes that community gardening improves people’s quality of life by providing a catalyst for neighborhood and community development, stimulating social interaction, encouraging self-reliance, beautifying neighborhoods, producing nutritious food, reducing family food budgets, conserving resources and creating opportunities for recreation, exercise, therapy and education (Growing community across the U.S. and Canada, n.d.).

Food Miles and Food Costs

“Urban agriculture makes a positive contribution to food security, food safety and energy savings by shortening the circuits that distribute food products” (van Leeuwen, Nijkamp, & De Noronha Vas, 2010, p. 21). Ballingall and Winchester (2010) provide vivid details about food miles and their recent publicity. Europe has been the home of the majority of propaganda in the fight against foods with “high mileage”. Commercials are encouraging consumers to purchase more locally grown products that are also in season. According to Ballingall and Winchester, greenhouse gas emissions are the reason for high publicity of food miles. Environmental impact should be the main focus, taking into account the energy used to produce the products as well as the energy used to transport the products to the sales points. “Historically, sites of production and sites of consumption were situated close together: food was largely produced locally for local consumption” (Evers and Hodgson, 2011, p.587). As urbanization continues and cities spread, farms move further away from the people they need to feed.

According to Harrison, Lee, Findlay, Nicholls, Leonard, and Martin (2010), there has been a significant increase in the price of basic healthy food since 2000. When food prices rise, troubling economic times seem even harder to bear. Liebman, Jonasson, and Wiese (2011) explain that rising oil prices, unreliable rainfall and natural disasters have all contributed to a rise in global food prices. Lo, Chang, Lee and Wahlqvist (2009) agree with Williams (2010) that food prices have a strong effect on food choices, especially among the economically disadvantaged. Many times, it seems more cost efficient to purchase food off of a value menu at a fast food restaurant than to purchase all of the ingredients to cook food at home. Community gardens open the doors to allow healthier food to be grown and consumed by members of the community (Williams, 2010).

Sustainability

Irvine, Johnson and Peters (1999) explain that as farm land is depleted in developing countries and wages are down for farm workers, populations begin to migrate to large cities. They continue by explaining what seems like the circle of doom, whereby rural land is depleted, natural resources diminish and more pressure is put on the remaining farms to provide for the growing number of people living in cities. Bell and Cerulli (2012) clarify that community gardens have the potential to create sustainability within cities, but without proper planning and implementation, community gardens will remain hobbies and never reach the level of production needed to make a large impact. Hobby gardeners are less concerned with mass production and more concerned with the art of gardening, allowing them to spend more time nurturing the land.

Urban Agriculture

The global population living in cities is consistently rising, but in developing countries, this geographic move increases poverty levels, higher employment, transportation issues, and a lack of food supply (de Bon, Parrot & Moustier, 2010). “The sheer volume of urban dwellers has tended to compromise the ability of the cities to meet basic needs resulting in an increase in urban poverty, hunger and malnutrition” (Phiri, C., 2008, p.113-114). When considering the sheer number of people living in urban areas today, bringing agriculture to the city makes perfect sense. Urban gardens and/or farms have the potential to supply fresh, but perishable food to local residents, instead of transporting those goods into the cities from rural farm areas, according to de Bon, Parrot and Moustier (2010). Not all urban gardens look the same, but they all serve a similar purpose. Broadway (2009) explains:

Urban farms come in a variety of forms: some may be no more than half a dozen raised beds on a vacant city lot, while others have several acres in vegetable production, and they may be owned by individuals, corporations, or land trusts (p.24).

In addition to providing fresh, local produce, urban gardens can also alleviate the problem of excess rainwater (Liebman, Jonasson and Wiese, 2011). The majority of rainwater that falls within cities or urban areas is considered “runoff”, because it is unable to be absorbed back in the ground through the concrete and asphalt in the cities. Community gardens would help to alleviate some of the rainwater runoff that cities spend thousands trying to control or redirect.

Turner, Henryks & Pearson (2011) describe types of urban green spaces as city farms, therapeutic gardens, school gardens and guerilla gardens. Green areas, water bodies, open space and attractive landscape architecture are all ingredients of an attractive urban setting (van Leeuwen, E., Njkamp, P., & De Noronha Vas, T., 2010, p. 20). In addition to green spaces, school gardens provide an opportunity for students to grow their own food. The technology age has taken over and left many children with idle hands and rounder bellies. School or community gardens can provide children with the opportunity to connect with the soil while being outdoors and learning valuable life lessons in the garden. Children's gardens are receiving increased attention because of their beauty, products and education (Waliczek, Bradley & Zajicek, 2001).

Runoff Rainwater and Green Roofs

Smit and Nasr (1992) describe urban agriculture as a steadily growing industry that uses excess rainwater and urban waste water as well as urban solid wastes (generally in the form of compost). The Liebman, Jonasson, and Wiese case study “has shown that it is possible to construct bioregional storm water harvesting schemes and to use that water to grow fresh fruit

and vegetables close to consumers” (p. 244). By securing and using valuable rainwater, urban farmers can produce more and still use less. According to van Leeuwen, Nijkamp, and De Noronha Vas (2010), urban green spaces help to offset the negative impact of humans by absorbing pollutants and releasing oxygen, while preserving the local, natural and cultural heritage of habitats for a diversity of urban wildlife and ecosystems.

Green roofs are capable of improving city air quality, conserving energy, lowering storm water runoff, and reducing the heat island effect in urban locations according to Broadway (2009). In addition to green roofs, patios and other green spaces benefit city dwellers by having the ability to provide both enjoyment and edible fruit.

CHAPTER 3
COMMUNITY GARDENS IN GEORGIA
COMMUNITY GARDENS IN GEORGIA SURVEY

Methodology

The study used survey research methodology to collect information on the community gardens in Georgia. The survey instrument was sent to all Georgia Career, Technical, and Agricultural Education (CTAE) directors through email via SurveyMonkey, a website that produces, collects, and analyzes surveys used for research purposes. An attempt was made to conduct a census of CTAE directors in Georgia. CTAE directors were selected as the population for this study because of their lack of overlap (usually one per county), their knowledge of agriculture and their general knowledge of their communities.

All CTAE directors in the state of Georgia were emailed a consent form and link to the survey through SurveyMonkey. After 10 business days from the initial contact, a second and email was sent to those counties who had not yet participated in the survey. After 20 days, the list was revised again and another email was sent to CTAE directors who had still not responded. After 30 business days had lapsed, all responses were recorded. Of the 179 CTAE directors in Georgia, this survey had a 57% response rate with 103 respondents to the survey. To test the reliability of responses, 5 respondents who reported having no community gardens in their area were randomly selected for fact checking. Using internet resources, a search was done to determine if those counties were home to any community gardens that the CTAE directors may

have been unaware of. The search revealed that of the 5 counties selected, only 1 has an active community garden that was not reported. The fact checking revealed a 20% inaccuracy in the checked responses.

Research Design

The research design of this study was descriptive explanatory. This study will attempt to describe the perceptions of Georgia’s community gardens by CTAE directors.

Population

The population for this study consisted of all Georgia CTAE Directors during the 2013-2014 school year. All CTAE Directors in the state of Georgia were considered suitable for this sample group (including part-time employees). The population of this study was selected because of the general lack of overlap among CTAE directors, their broad knowledge base in the field of agriculture and their community connections.

Instrumentation

The base instrument was developed by Gittleman, Librizzi and Stone for the Community Garden Survey: New York City for Grow NYC. The instrument was modified by the researcher to fit research on Georgia’s community gardens. The survey contains twenty questions, but if the participant answers “no” to question #3, the participants will not be required to answer any additional questions. The questions in the survey are as follows:

1. For what county are you answering the questions on this survey?
2. Are there any local school-based agriculture programs or county extension agents?
- Yes - No

3. Are there any community gardens in the area you are answering for? (Please note: A community garden is a piece of land gardened by local people.)
- Yes
 - No
4. In what city or town is the community garden located?
5. What type of community garden(s) is in your area?
- Neighborhood
 - Religious center
 - Public housing
 - School
 - Senior center/housing
 - Community center
 - Other
6. How do members join the community garden?
- Call the number posted
 - Attend garden meetings
 - Sign up on the website
 - Other
 - Unsure
7. Are there any dues required for joining the community garden?
- Yes
 - No
 - Unsure
8. Is there a waiting list to join?
- Yes
 - No
 - Unsure
9. What is each member responsible for?
- Only their own plot
 - Only communal space
 - Their own plot and communal space
 - Hosting open hours
 - Volunteering at events
 - Other
 - Unsure

10. What was the site before it became a community garden?
- Abandoned building - Unknown
 - Park - Other
 - Vacant lot - Unsure
 - Yard
11. Which entity owns the land?
- Land trust - Federal
 - Private - Parks Department
 - Department of - Religious Institution
 - Education - Other
 - State - Unsure
12. What happens to the food or plants that are grown?
- Used by growers - Sold at a market
 - Donated - Other
 - Sold - Unsure
13. What percent (approximate) of plants grown are food or edible?
- 0-25% - 76-100%
 - 26-50% - Unsure
 - 51-75%
14. What types of foods are grown in the community garden?
- Summer vegetables - Fruit Trees
 - Winter vegetables - Unsure
 - Herbs - Other

15. What types of ornamental plants are grown in the community garden?
- Shade trees
 - Shrubs
 - Native plants
 - Water plants
 - Ornamental plants and flowers
 - Other
 - Unsure
16. Does the community garden currently have a compost bin or pile?
- Yes
 - No
 - Unsure
17. Who is eligible to contribute to the compost pile?
- Garden members only
 - Garden members and neighborhood residents
 - Public (anyone)
 - Unsure
18. Are there any permanent structures available on the community garden site?
- Seating area(s)
 - Table(s)
 - Pathway(s)
 - Gazebo(s)
 - Tool shed(s)
 - Fountain(s)
 - Statue(s)
 - Grill(s)
 - Playground(s)
 - Chicken Coop(s)
 - Unsure
19. Does the community garden partner with any schools?
- Yes
 - No
 - Unsure

20. In what capacity does the garden work with the school(s), if any?

- | | |
|-----------------------------|--------------------------|
| - School garden/plot | - Nothing yet, but would |
| - Educational events | like to... |
| - Regular visits by classes | - Other |
| - In-school workshops | |

Data Collection

An email was sent to all Georgia CTAE Directors containing the consent agreement and a link to the survey instrument (via SurveyMonkey). A follow up email, also including the consent agreement and survey instrument link, was sent 10 and 20 business days after the original survey to give participants adequate time to complete the survey before the reminder emails. Due to the factual nature of the data, no additional efforts were made to contact nonrespondents. Once adequate time had been given (30 days from initial contact), survey responses were recorded and analyzed (using the tools provided by SurveyMonkey).

CHAPTER 4
 COMMUNITY GARDENS IN GEORGIA
 FINDINGS AND RESULTS

Research Objective 1: List and describe the locations of community gardens in Georgia as reported by CTAE directors.

Of the 179 Career, Technical and Agriculture Education (CTAE) directors in the state of Georgia, 103 completed the survey on community gardens. The surveys were completed by CTAE directors in the following counties (inner city locations are marked with a *):

Appling	Coffee	Gordon
Bacon	Colquitt	Grady
Banks	Columbia	Hancock
Barrow	Cook	Haralson
Ben Hill	Crawford	Heard
Berrien	Crisp	Henry
Bibb	Dade	Irwin
Bleckley	Dalton City System*	Jackson
Brantley	Dawson	Jasper
Bulloch	Decatur	Jeff Davis
Burke	DeKalb	Jones
Candler	Dodge	Lamar
Carroll	Dooly	Lanier
Cartersville	Dougherty	Laurens
Catoosa	Early	Liberty
Charlton	Effingham	Lincoln
Chatham	Evans	Long
Chattooga	Fannin	Lumpkin
City Schools of Decatur*	Franklin	Macon
Clayton	Fulton	Madison
Clinch	Gilmer	Marietta City*
Cobb	Glynn	Miller

Mitchell	Seminole	Treutlen
Montgomery	Sumter	Twiggs
Morgan	Talbot	Union
Murray	Taliaferro	Walton
Oconee	Tattnall	Ware
Oglethorpe	Telfair	Warren
Paulding	Terrell	Wayne
Pike	Thomas	Webster
Polk	Thomaston	Whitfield
Pulaski	Toombs	Wilkinson
Rabun	Towns	Worth

Of the locations represented in the survey, 90.3% have an agriculture program (either an extension agent or school agriculture program). Less than 10% of the systems represented in this survey are lacking any type of agriculture program. Twenty-seven counties in Georgia currently have a community garden, representing approximately 26% of the locations answered for. The counties highlighted in red on the map of Georgia, shown in Figure 1, currently have a community garden. As seen in Figure 2, neighborhood, school and community center gardens make up the majority of community gardens in Georgia. Other (specific) answers included Gibbs Garden and Park & Paradise Gardens (local memorial).

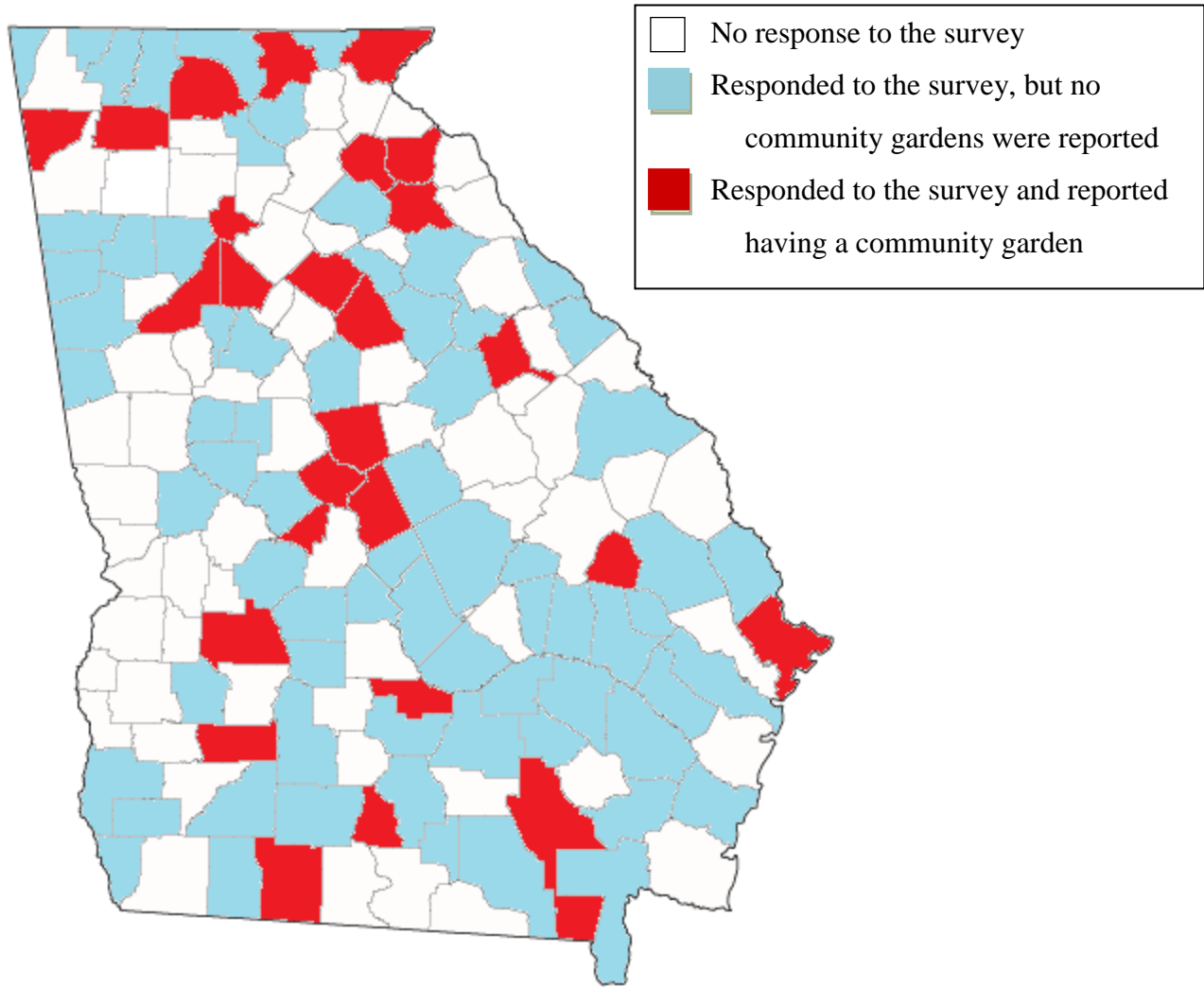


Figure 1: Map of community gardens in Georgia as reported by CTAE directors as reported by CTAE directors

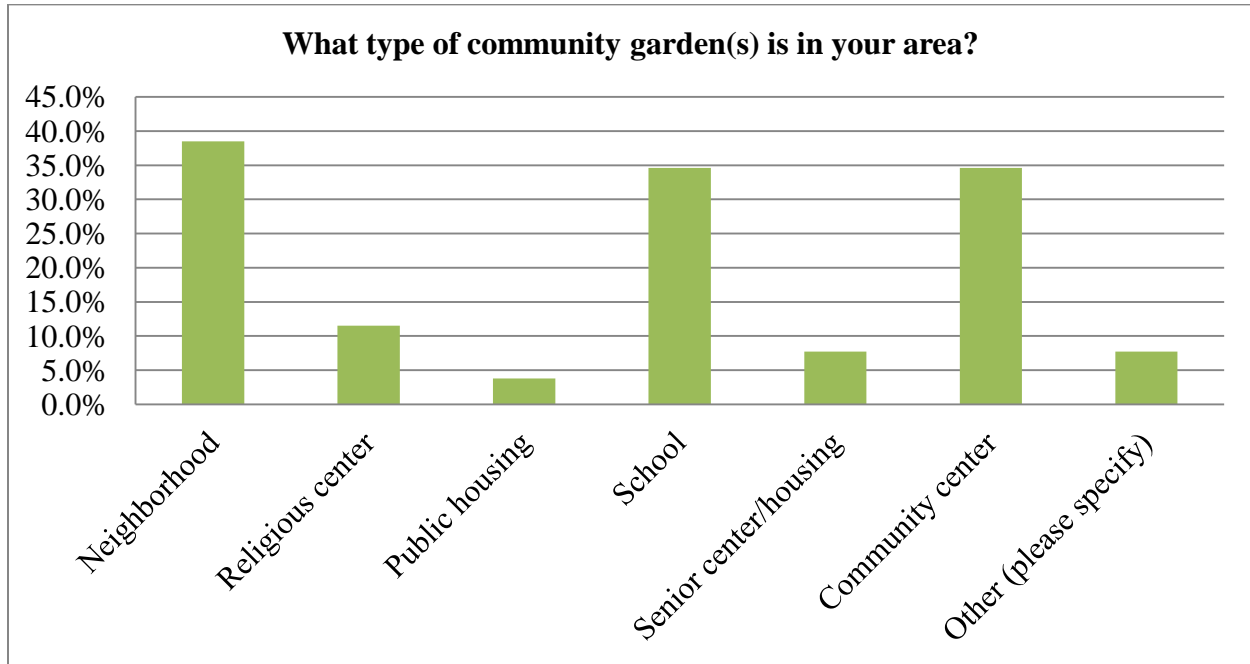


Figure 2: Locations of community gardens in Georgia as reported by CTAE directors ($n = 26$)

Research Objective 2: Describe the requirements for membership in community gardens in Georgia.

While many of the CTAE directors answering the questionnaire were unsure of how members could join the community gardens, as shown in Figure 3, calling the number posted and attending garden meetings were the most common. The four responses marked “other” were:

1. “Open to any participate - no sign up needed”
2. “It's a hands-on project for agriculture students at the high school”
3. “Become volunteer or student in the after school program”
4. “Director of Keep Jones Beautiful spearheads for the neighborhood”

While Table 1 shows that only 1 community garden represented in the survey requires members to pay dues, 44.4% do not require any. None of the community gardens represented in the survey currently has a waiting list.

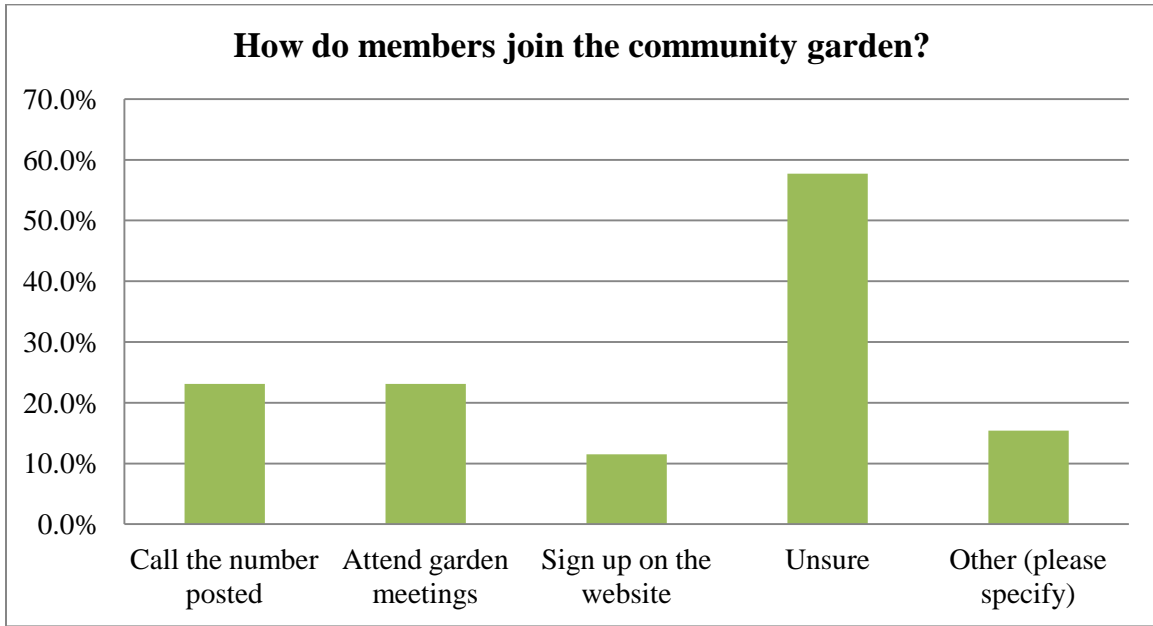


Figure 3: Registration system for joining community gardens in Georgia as reported by CTAE directors ($n = 26$)

Table 1: Community garden dues as reported by CTAE directors ($n = 27$)

Are there any dues required for joining the community garden?		
Answer Options	Response Percent	Response Count
Yes	3.7%	1
No	44.4%	12
Unsure	51.9%	14

Table 2: Community garden waiting lists as reported by CTAE directors ($n = 27$)

Is there a waiting list to join?		
Answer Options	Response Percent	Response Count
Yes	0.0%	0
No	44.4%	12
Unsure	55.6%	15

In Figure 4, membership responsibilities in the community gardens are displayed. While most of the survey completers were unsure of what the community garden member responsibilities were, of those who knew, the results varied greatly. The specific responses given for the “other” category were:

1. Not handled on a membership basis - open to the public
2. The Agriculture department is responsible for the entire project and supplies.

As shown in Figure 5, a large number of community gardens are formed on vacant lots. The specific responses given by the CTAE directors who selected “other” were business, part of school campus, football field, and a playground on a school-site. Corresponding with Figure 5, Figure 6 shows that a large amount of the land used for community gardens is owned by the state or department of education. Privately owned land represents a high percentage of the businesses that have community gardens.

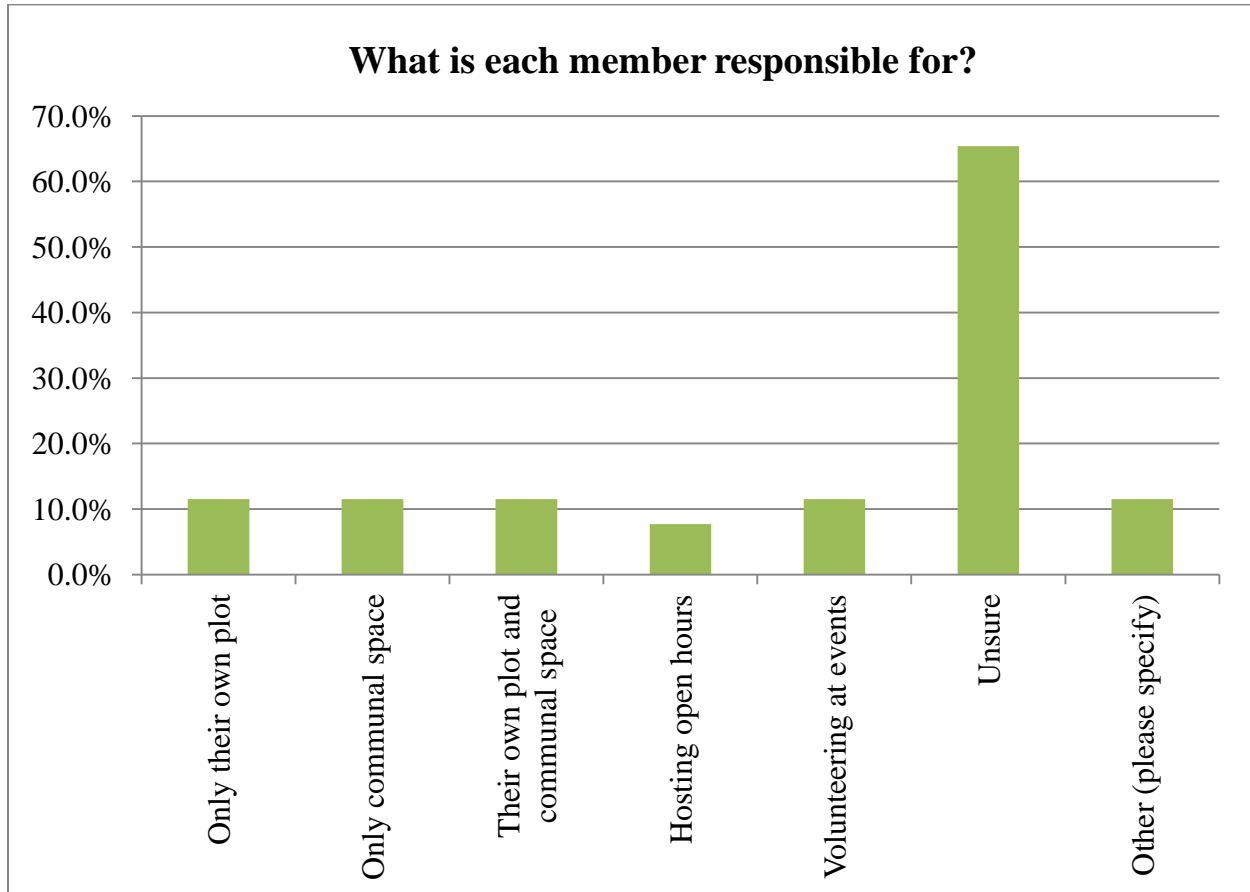


Figure 4: Community garden member responsibilities as reported by CTAE directors ($n = 26$)

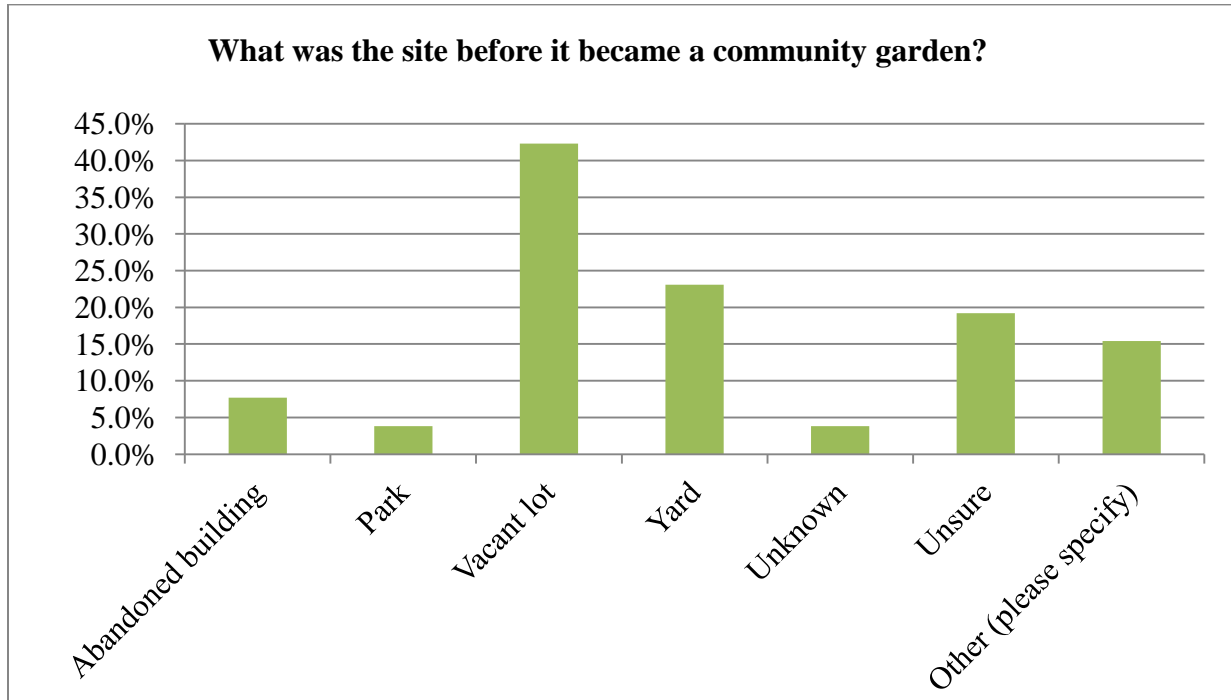


Figure 5: Community garden sites as reported by CTAE directors ($n = 26$)

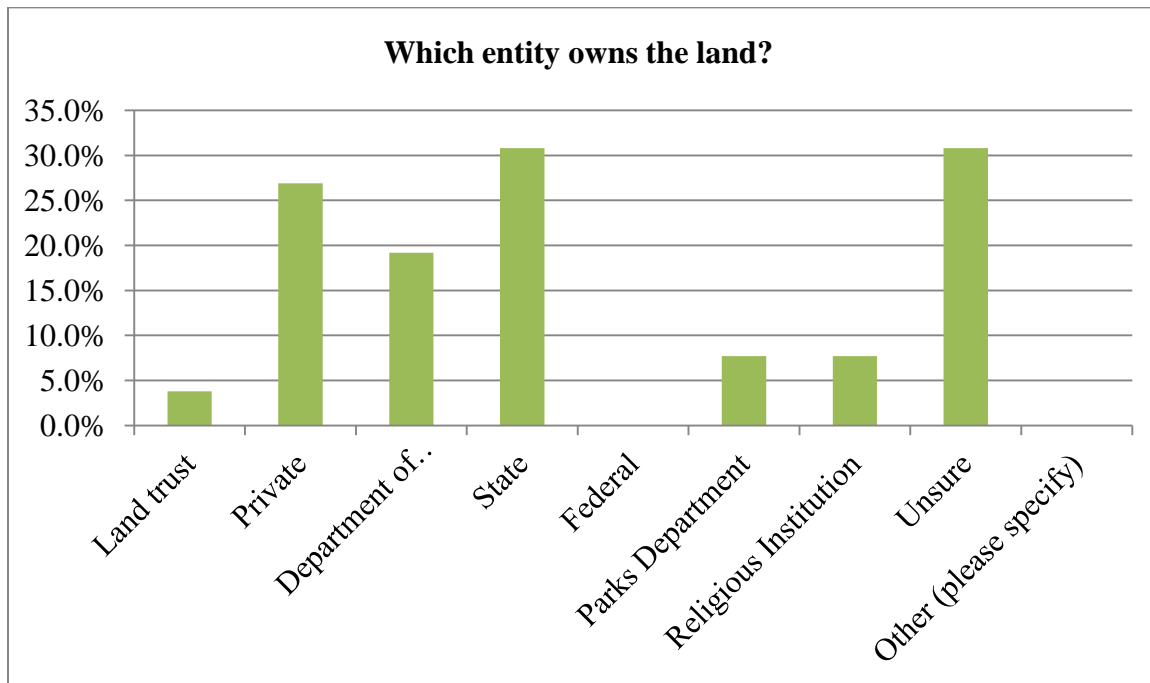


Figure 6: Community garden land ownership as reported by CTAE directors ($n = 26$)

Research Objective 3: Describe the features of community gardens in Georgia.

Once plants are grown and food has been produced, Figure 7 shows that the majority of those products are used by the growers or donated. Roughly 25% of the produce from community gardens is sold. Table 3 shows that more than 50% of the plants grown in community gardens are edible. As shown in Figure 8, the majority of the food grown in community gardens is summer vegetables. Herbs also ranked high in production being present in over 30% of the community gardens reported.

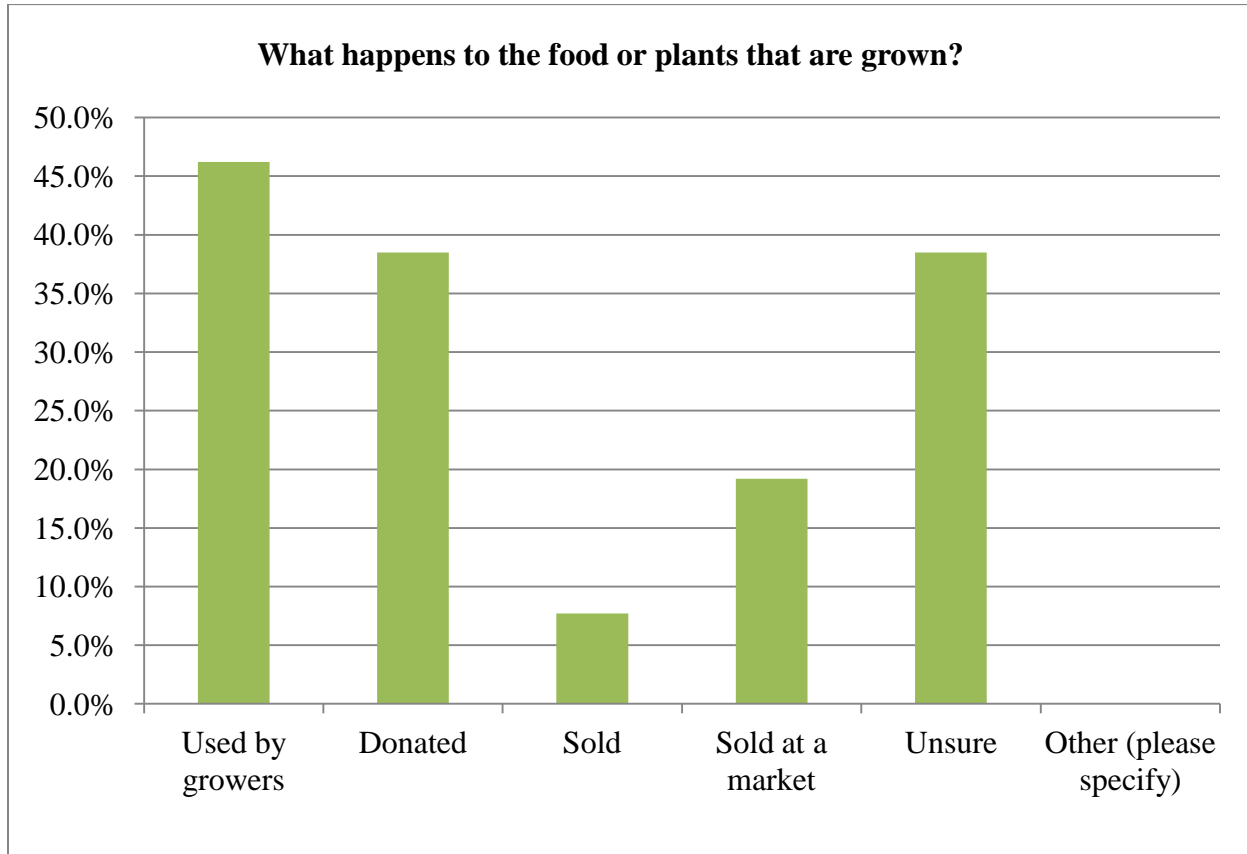


Figure 7: Community garden products as reported by CTAE directors ($n = 26$)

Table 3: Percentage of edible plants in community gardens as reported by CTAE directors ($n = 26$)

What percent of plants grown is food or edible?		
Answer Options	Response Percent	Response Count
0-25%	0.0%	0
26-50%	7.7%	2
51-75%	15.4%	4
76-100%	34.6%	9
Unsure	42.3%	11

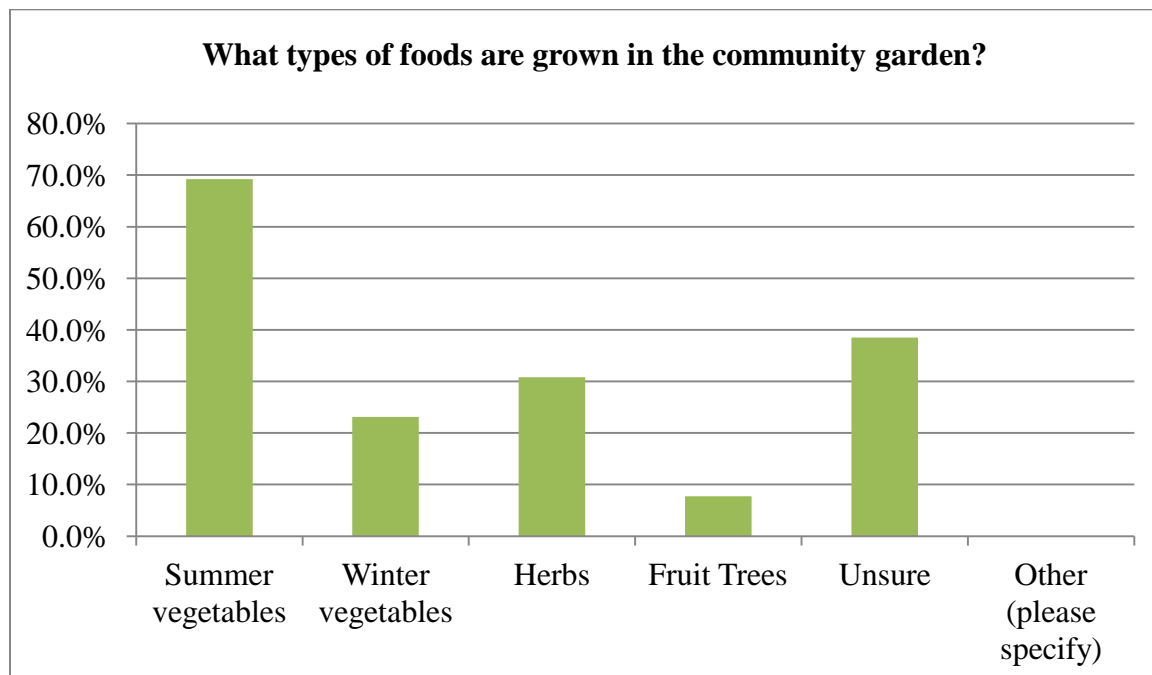


Figure 8: Community garden foods as reported by CTAE directors ($n = 26$)

In addition to the food products grown in community gardens, ornamental plants are also grown. Table 4 shows that native plants are the most common ornamental plants grown in community gardens. The majority of respondents said that they were unsure of what types, if any, of ornamental plants were grown in their local community gardens. Only 4 of the 24

community gardens represented in the results have compost bins, but that number may be higher because more than 66% of the respondents were unsure of the answer as seen in Table 5. Figure 9 shows that while most of the respondents were unsure of the rules in relation to compost bin use. Of those who knew the answer, garden and community members was the most common answer, followed by the public (anyone).

Table 4: Ornamental plants in community gardens as reported by CTAE directors ($n = 24$)

What types of ornamental plants are grown in the community garden?		
Answer Options	Response Percent	Response Count
Shade trees	4.2%	1
Shrubs	4.2%	1
Native plants	8.3%	2
Water plants	4.2%	1
Ornamental plants and flowers	4.2%	1
Unsure	79.2%	19
Other (please specify)	8.3%	2

Table 5: Compost bin presence in community gardens as reported by CTAE directors ($n = 24$)

Does the community garden currently have a compost bin or pile?		
Answer Options	Response Percent	Response Count
Yes	16.7%	4
No	16.7%	4
Unsure	66.7%	16

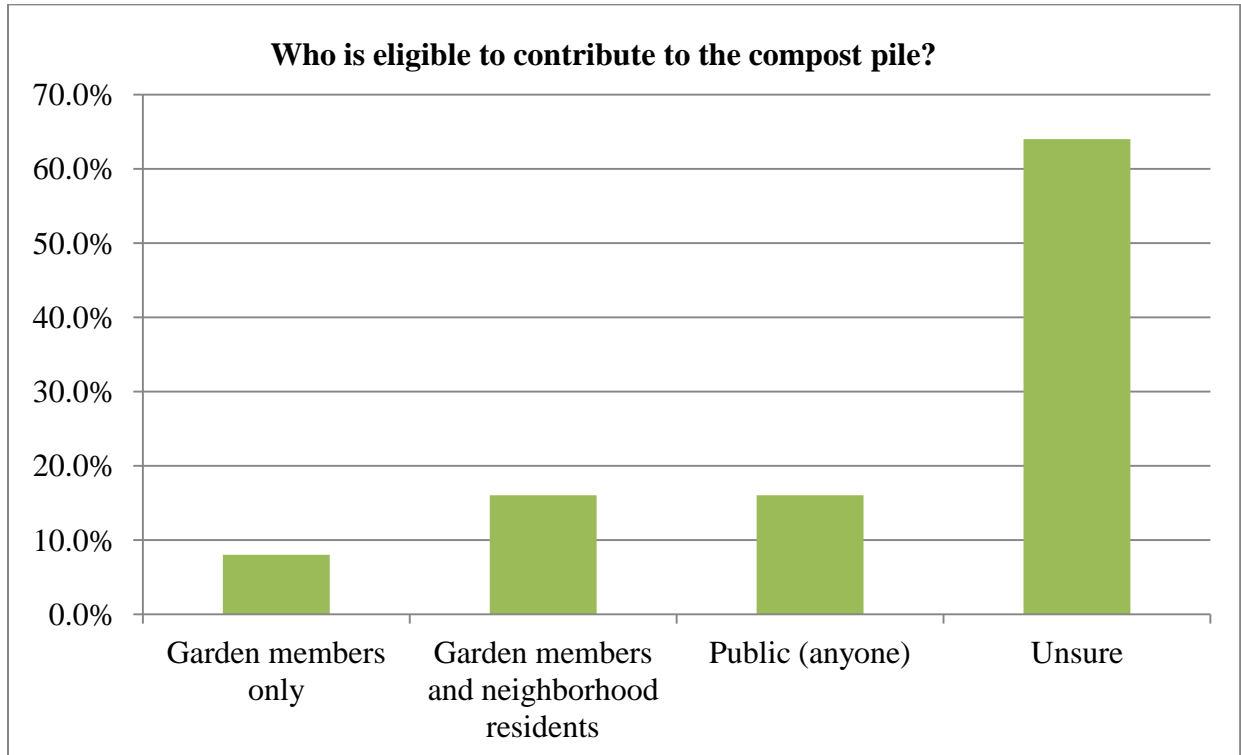


Figure 9: Compost bin use in community gardens as reported by CTAE directors ($n = 25$)

Growing food is the first thing that comes to mind when most people think of a community garden, but permanent structures are also important. Figure 10 shows that over 20% of the community gardens being reported in this survey have seating areas, more than 10% have sheds and roughly 8% have table(s) and pathways. The “other” responses when asked which permanent structures were in the community garden they were answering for included none and a pergola and stage. More than 50% of the community gardens represented in this survey partner with local schools as shown in Figure 11. While many of the respondents were unsure, only 12% of the community gardens do not partner with local schools. While many of the community gardens included in this survey have not yet established connections with local schools, shown in Figure 12, others are located on the school property or are regularly used by classes. The specific answer given for the “other” response collected was “unsure”.

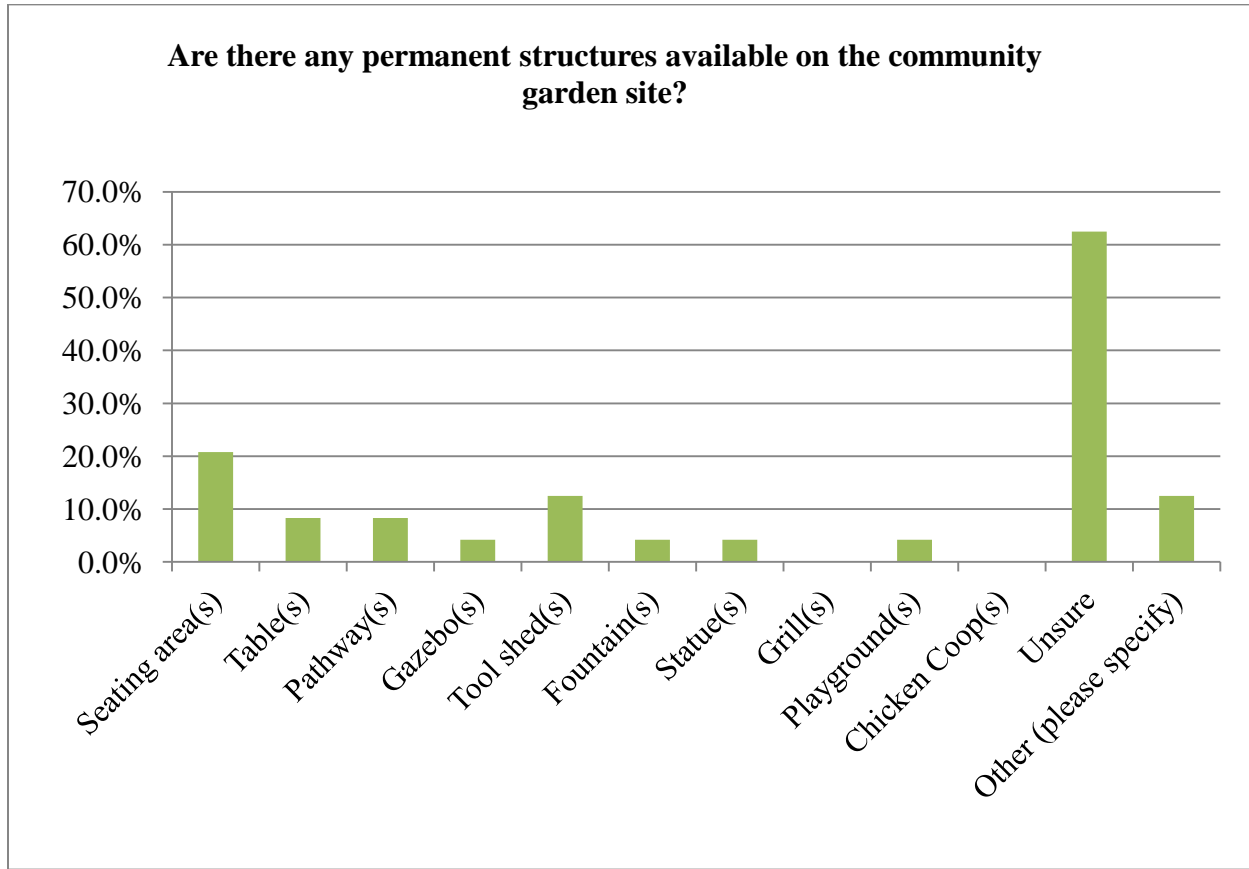


Figure 10: Permanent structures in community garden spaces as reported by CTAE directors ($n = 24$)

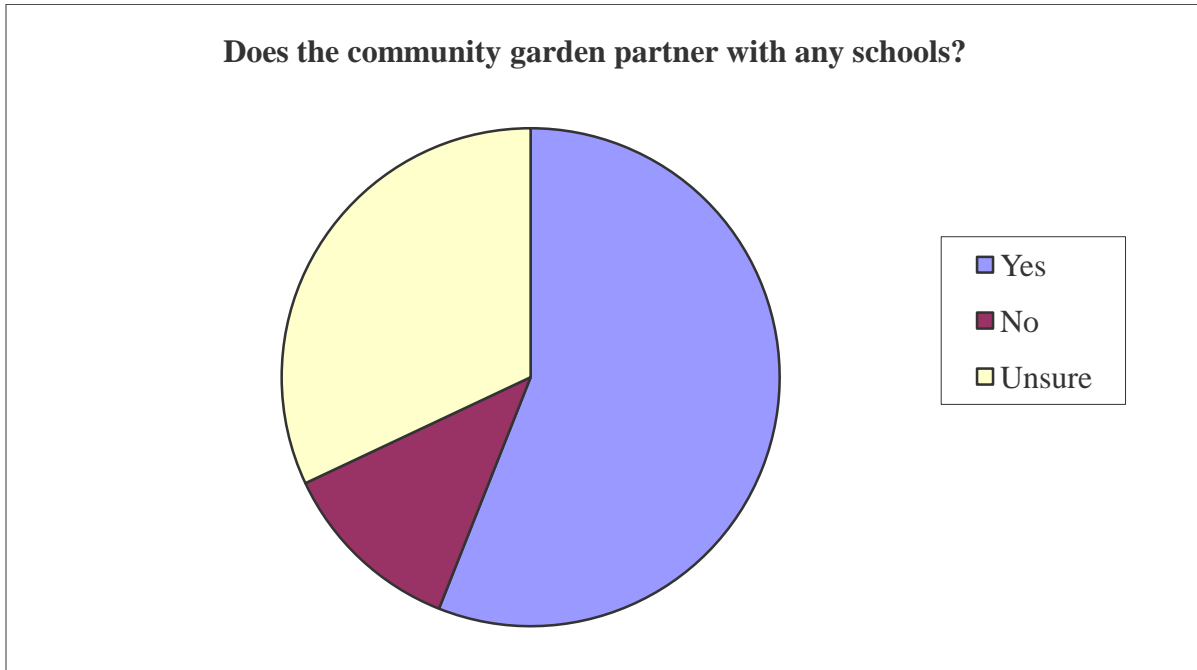


Figure 11: Community garden partnerships with schools as reported by CTAE directors ($n = 25$)

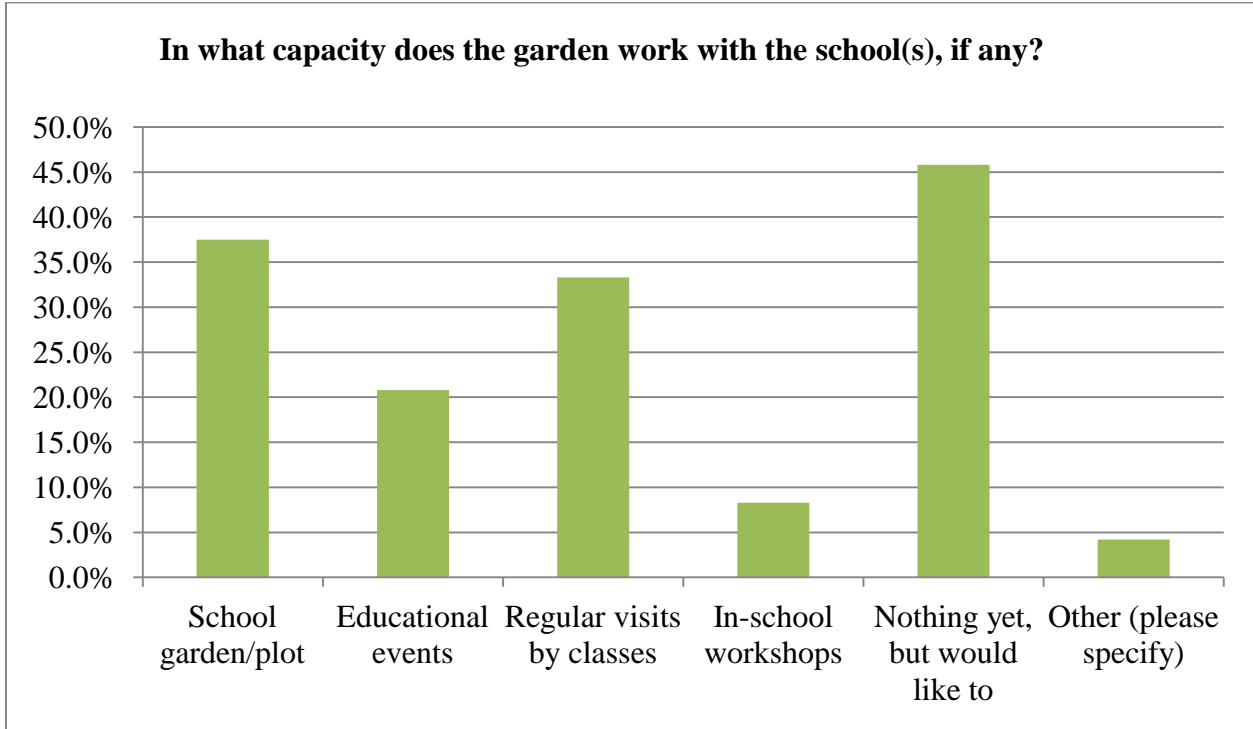


Figure 12: Community garden relationships with schools as reported by CTAE directors ($n = 24$)

CHAPTER 5
COMMUNITY GARDENS IN GEORGIA
SUMMARY AND RECOMMENDATIONS

Purpose of Study

The purpose of this study was to better understand community gardens in Georgia. The objectives were to determine the locations, requirements for membership and characteristics of community gardens in the state of Georgia as reported by CTAE directors.

Summary of Findings

Community gardens are gaining in popularity as organic and sustainable movements sweep across the nation. Turner, Henryks & Pearson (2011) with Evers and Hodgson (2011) agree that these community gardens are emerging in response to the heavy use of insecticides and pesticides, food miles and rising food costs. Community gardens can create an opportunity for socializing in communities, help to relieve stress, build relationships, beautify the neighborhood and develop skills for sustainability according to the American Community Gardening Association and the Colorado Master Gardeners Program. Community gardens have the most influence and seem to be the most useful in medium to large cities, where small and/or apartment style housing is plentiful. Community gardens allow residents a place to not only call their own, but to grow what they want, harvest and consume their products. Knowing the benefits of community gardens, work should be put into starting more community gardens in Georgia. With the resources available and step-by-step guides to starting a community garden,

the only limitation seems to be securing the space or lot(s). Lo, Chang, Lee and Wahlqvist (2009) agree with Williams (2010) that food prices have a strong effect on food choices, but community gardens open the doors to allow healthier food to be grown and consumed by members of the community. The majority of plants grown in community gardens in Georgia are summer vegetables, which can be harvested quickly, stored for later use or consumed immediately. Fresh herbs are very expensive in grocery stores, but by having herbs growing in the community garden, they are readily available and are constantly replenishing themselves.

This study could provide valuable information about community gardens to CTAE directors, extension agents and teachers (especially science and agriculture) of all ages. CTAE directors could use this information to kick start a school or community gardening initiative in their community. Teachers could use this information to encourage administrators and city officials to allow them to create a community garden where one has not yet been established. For teachers who already have access to a school or community garden, this study could serve as a reminder of the possibilities within those gardens. Extension agents should use this information as a spring board to allow them to build, teach and/or replenish community gardens in their areas with 4-H members as well as adult members of the community.

Implications and Recommendations for Further Research

In addition to the research obtained from this survey, case studies could be done to determine the differences in specific community gardens in Georgia. More information would be beneficial about the size differences in the gardens as well as the publicity techniques for the community gardens. A study could be done that would emphasize the ordinances in cities that need to be lifted or revised to make it easier to begin and keep community gardens. It would also

be ideal to give this survey again in 3, 5 and 10 years to determine if community gardens are growing in popularity in Georgia. Other states could be surveyed to compile more accurate and generalized results as well.

REFERENCES

1. Ballingall, J., & Winchester, N. (2010). Food Miles: Starving the Poor?. *World Economy*, 33(10), 1201. doi:10.1111/j.1467-9701.2010.01270.x
2. Bell, S., & Cerulli, C. (2012). Emerging Community Food Production And Pathways For Urban Landscape Transitions. *Emergence: Complexity & Organization*, 14(1), 31-44.
3. Broadway, M. (2009). Growing Urban Agriculture in North American Cities: The Example of Milwaukee. *American Geographical Society's Focus On Geography*, 52(3/4), 23-30.
4. Colorado Master Gardener Program, Colorado State University Cooperative Extension (n.d.). *Benefits of gardening*. Retrieved, March 31, 2014, from the Bord Bia Irish Food Board Website:
http://www.bordbia.ie/aboutgardening/GardeningArticles/ScientificArticles/Benefits_Of_Gardening.pdf.
5. de Bon, H., Parrot, L., & Moustier, P. (2010). Sustainable urban agriculture in developing countries. A review. *Agronomy For Sustainable Development (EDP Sciences)*, 30(1), 21-32. doi:10.1051/agro:2008062
6. Evers, A., & Hodgson, N. (2011). Food choices and local food access among Perth's community gardeners. *Local Environment*, 16(6), 585-602.
doi:10.1080/13549839.2011.575354
7. Firth, C., Maye, D., & Pearson, D. (2011). Developing 'community' in community gardens. *Local Environment*, 16(6), 555-568. doi:10.1080/13549839.2011.586025

8. Gittleman, M., Librizzi, L., & Stone, E. (n.d.). Community Garden Survey New York City. Grow NYC. Retrieved November 12, 2013, from http://www.greenthumbnyc.org/pdf/GrowNYC_community_garden_report.
9. Growing community across the U.S. and Canada | American Community Garden Association. (n.d.). *American Community Garden Association*. Retrieved from <https://communitygarden.org/mission/>
10. Harrison, M., Lee, A., Findlay, M., Nicholls, R., Leonard, D., & Martin, C. (2010). The increasing cost of healthy food. *Australian & New Zealand Journal Of Public Health*, 34(2), 179-186. doi:10.1111/j.1753-6405.2010.00504.x
11. Henderson, B., & Hartsfield, K. (2009). Is getting into the community garden business a good way to engage citizens in local government?. *National Civic Review*, 98(4), 12-17.
12. Irvine, S., Johnson, L., & Peters, K. (1999). Community gardens and sustainable land use planning: A case-study of the Alex Wilson Community Garden. *Local Environment*, 4(1), 33.
13. Liebman, M. B., Jonasson, O. J., & Wiese, R. N. (2011). The urban stormwater farm. *Water Science & Technology*, 64(1), 239-246. doi:10.2166/wst.2011.182
14. Lo, Y., Chang, Y., Lee, M., & Wahlqvist, M. L. (2009). Health and nutrition economics: diet costs are associated with diet quality. *Asia Pacific Journal of Clinical Nutrition*, 18(4), 598-604. Retrieved March 30, 2014, from <http://apjcn.nhri.org.tw/server/APJCN/18/4/598.pdf>
15. Phiri, C. (2008). Urban agriculture as a strategy for poverty alleviation: the case of Buffalo city, South Africa. *Journal of Social Development in Africa*, 23(1), 111-138. Print.

16. Smit, J., & Nasr, J. (1992). Urban Agriculture For Sustainable Cities: Using Wastes And Idle Land And Water Bodies As Resources. *Environment and Urbanization*, 4(2), 141-152. Retrieved from <http://dx.doi.org/10.1177/095624789200400214>
17. Turner, B., Henryks, J., & Pearson, D. (2011). Community gardens: sustainability, health and inclusion in the city. *Local Environment*, 16(6), 489-492.
doi:10.1080/13549839.2011.595901
18. Twiss, J., Dickinson, J., Duma, S., Kleinman, T., Paulsen, H., & Rilveria, L. (2003). Community gardens: Lessons learned from California healthy cities and communities. *American Journal of Public Health*, 93(9), 1435-1438.
19. van Leeuwen, E., Nijkamp, P., & De Noronha Vas, T. (2010). The multifunctional use of urban greenspace. *International Journal of Agricultural Sustainability*, 8(1/2), 20-25.
doi:10.3763/ijas.2009.0466
20. Waliczek, T., Bradley, J., & Zajicek, J. (2001). The effect of school gardens on children's interpersonal relationships and attitudes toward school. *HortTechnology*, 11(3), 466-468.
21. Williams, P. (2010). Monitoring the Affordability of Healthy Eating: A Case Study of 10 Years of the Illawarra Healthy Food Basket. *Nutrients*, 2(11), 1132-1140.
doi:10.3390/nu2111132

APPENDICES A
COMMUNITY GARDENS IN GEORGIA
CONSENT LETTER

January 1, 2014

Dear Georgia CTAE Directors:

I am a graduate student under the direction of Dr. Diana King in the Department of Agricultural Leadership at The University of Georgia. I invite you to participate in a research study entitled Georgia's Community Gardens that is being conducted. The purpose of this study is to determine the scope and reach of Georgia's community gardens.

Your participation will involve taking a brief web-based survey and should only take about 10 minutes. Your involvement in the study is voluntary, and you may choose not to participate or to stop at any time without penalty or loss of benefits to which you are otherwise entitled. If you decide to stop or withdraw from the study, the information/data collected from you up to the point of your withdrawal will be kept as part of the study and may continue to be analyzed.

The results of the research study may be published, but your name or any identifying information will not be used. In fact, the published results will be presented in summary form only.

The findings from this project may provide information on community gardens in Georgia. There are no known risks or discomforts associated with this research.

If you have any questions about this research project, please feel free to call me at (912)977-4344 or send an e-mail to jcranel@uga.edu. Questions or concerns about your rights as a research participant should be directed to The Chairperson, University of Georgia Institutional Review Board, 629 Boyd GSRC, Athens, Georgia 30602; telephone (706) 542-3199; email address irb@uga.edu.

By completing and submitting the web-based survey provided, you are agreeing to participate in the above described research project.

Thank you for your consideration! Please keep this letter for your records.

Sincerely,

Jeci Crane-Bohannon