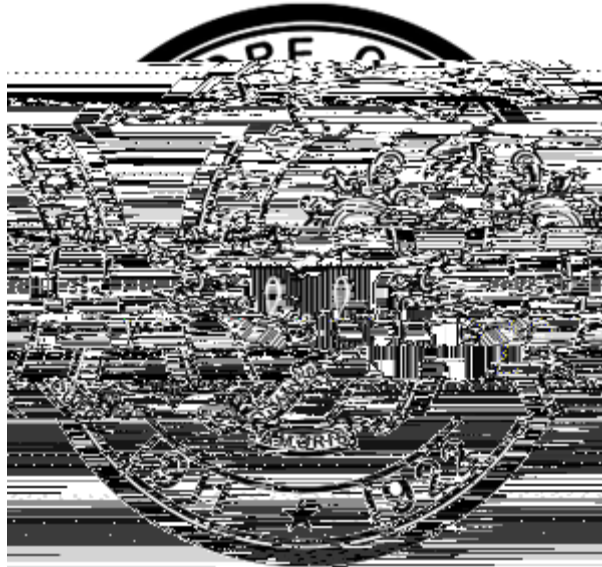


## **Growing, Growing, Gone:**

Identifying Alternative Markets for Surplus and Seconds Produce  
to Serve Low-Income Consumers in Saratoga County



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## **ABSTRACT**

Food waste and food rescue have gained considerable attention in recent years, alongside issues related to low food security. However, very little data currently exists on the issue of farm-level food waste or surplus crops. The purpose of this qualitative research is to find possibilities for increased economic resilience and equity among small-sized farms in the Capital Region and low-income consumers in Saratoga County by identifying new markets for surplus produce. To gather data related to farmers experience with surplus crops and interest in selling such crops, we conducted 11 semi-

## **INTRODUCTION**

In and around Saratoga County, New York, many farmers find themselves with a surplus of edible produce. At the same time, approximately 7.9% of Saratoga County residents experience low food security (Healthy Capital District Initiative, 2016). Farmers' surplus crops are often donated directly to emergency feeding programs - such as food pantries, soup kitchens, or shelters -

The purpose of this qualitative and quantitative research was to find possibilities for increased economic resilience and equity in the regional food system among small-sized farms in the Capital Region and low-income consumers in Saratoga County. This research worked to identify new markets for regional producers to sell their surplus produce to underserved neighborhoods, thereby increasing the purchasing of locally produced food and increasing rates of food security and feelings of personal agency in Saratoga County. We conclude this research

## LITERATURE REVIEW

### *Food Security*

International organizations define the state of low food security through four thematic elements: food availability, food access, food utilization, and stability (FAO, 2006). Food availability refers to an adequate quantity of food (by way of domestic production or international procurement) (FAO, 2006). Access is defined as the ability to retrieve food based on structural barriers such as community norms, food utilization is the ability to achieve the optimal nutritional output of the food as well as sanitation and clean water, and stability means that access and availability to food is secure and occurs at all times (FAO, 2006). At the World Food Summit in 1996, the World Food Program (WFP) synthesized these elements and defined the state of being food secure as existing “when all people, at all times, have physical and

*Food Security in United States*

dependent communities in rural and suburban areas, but also apply to poor urban communities, where personal vehicles are not as common, particularly in urban communities of color (Spitzig, Myers, & Pera, 2017). Compounding this issue, farms and other local food retailers also often lack the means to distribute their produce in order to meet market demand in low-income communities (Lennon et. al., 2018). The lack of financial resources in low-income communities is also a major barrier to accessing fresh food. This is not only an issue stemming from lack of income, but also from lack of affordability; healthy local food is often expensive and not affordable for many individuals (Lennon et. al., 2018). This stands in opposition to the widespread belief that poor choices and lack of knowledge are to blame for the poor diets of low-income people. Instead, this research points to the intersectionality of these issues, and how addressing low food security and access involves the consideration of many other social issues and inequities.

### ***Food Security in Saratoga County, New York***

Saratoga County, New York is no exception for people struggling to find access to affordable and healthy food. Saratoga County is home to an estimated 229,869 people, nearly 8% of whom experience low food security and 6.6% in poverty (United States Census Bureau, 2017). According to the USDA's 2017 Food Research Atlas previously mentioned, these pockets of poverty are primarily located in rural areas that are both low income and have limited access to healthy food sources. Figure 1 shows a map of census tracts within Saratoga County that have low access to healthy food sources. These primarily rural areas are all on the outskirts of Saratoga Springs and include West Milton, Corinth, South Glens Falls, Stillwater, and Mechanicville. Given that low access is defined differently than food insecurity, it is possible





### *Small Farms*

The USDA defines a small farm as having gross sales of less than \$250,000 in annual income. In 2017, out of the approximately 36,000 farms in New York State, 32,700 of them were classified as small farms. New York State's average farm is smaller than 200 acres, or about half the national average. New York's Capital District is home to a large amount of agricultural land, with \$351.2 million in sales and a total of about 4,133 farms, equivalent to about 698,680 acres in 2007 (see Appendix A for map of agricultural land in the Capital District). Washington County is the region's number one agricultural producer (DiNapoli, Bleiwas, 2010).

Despite the large number of farms in the US, farming is difficult work and many farmers are struggling financially. Less than 20% of farms generate more than \$100,000 in farm income

on farms, the forces behind it and methods for managing it. Based on the countrywide estimate, however, it is clear that an unknown but considerable amount of New York farmers' edible produce is lost at the farm level.

Surplus produce represents a lost income opportunity for food producers, waste of growing inputs, and loss of healthy food for consumers when not donated. Even when farmers simply turn under or compost excess crops to nourish the soil, the process that went into producing that compost involved unnecessarily high amounts of inputs of natural resources, energy, and money and time. Compost can be produced with lower-input methods and inedible organic material instead.

According to a 2016 survey of 58 vegetable and berry farmers representing 13 counties in Vermont conducted by Salvation Farms, an average 14.3 million pounds (based on farmer estimates) of wholesome vegetables and berries are lost on the state's farms each year. "Lost food" refers to edible food that is either picked, or picked and goes unsold or isn't donated. Of these 14.3 million pounds identified, the average vegetable farmer considers 32% of what is left unpicked edible, while 68% is picked but neither sold nor donated (Neff, R. et al, 2018).



profit (New York State Department of Taxation and Finance, 2018). While this program provides an extra source of income to farmers, thus incentivizing food donations, it might not match the economic potential of market-based solutions to addressing food insecurity and farmer surplus - solutions which are also more likely to build resiliency among those experiencing low food security.

### ***Market-Based Initiatives***

A number of initiatives and programs led by organizations in the Capital Region work to help connect farmers to local markets in communities with low access to healthy produce. Such initiatives offer an alternative to the traditional food assistance programs discussed above, and are often aimed at alleviating hunger in a way that also supports farmers financially, as well as work to address social inequalities that are at the root of the issue.

operates a non-profit-modeled food hub to supply its fresh-food-access programming, like the Veggie Mobile<sup>®</sup> produce market and their Healthy Stores<sup>®</sup> program, which distributes produce to small retail stores, including convenience stores and bodegas. The Veggie Mobile<sup>®</sup> and the Produce Market at Capital Roots' headquarters - which is a part of the Healthy Stores program - accept food assistance benefits (SNAP/EBT, FMNP Checks, and WIC Fruit & Vegetable Checks), so customers not only have increased access to affordable produce in their neighborhoods, but they also have the ability to use their federal food assistance dollars on local, affordable produce. This in turn creates a new market for local farmers and captures dollars for the local economy from a new source. The produce sold by Capital Roots is sourced locally when possible from small farms in the Greater Capital Region. Capital Roots' programs aim to address healthy food access by making produce accessible for purchase to those most in need.

Another way in which farmers are being connected to local markets is through Community Supported Agriculture (CSA); a food production and distribution system that provides a direct connection between farmers and consumers. Members buy a share of the farm's production before each growing season and in return, they receive regular distributions of the farm's harvest throughout the season (United States Department of Agriculture, 2018). However, CSAs are generally used by more economically-resilient individuals, as they are often expensive, and one must pay for the service upfront.

Some farms, however, make their CSAs available to a variety of income levels. Soul Fire Farm is one of many farms in the area which offers a CSA program, and stands out in its commitment to putting an end to racism and social injustice in the food system. In addition to centralized group pick-up locations, Soul Fire's 4-month (June-November) CSA offers doorstep delivery for most neighborhoods in downtown Troy and for Albany's Mansion, South End, and Arbor Hill neighborhoods. Each share contains the choice of eggs or sprouts, plus 8-15 varieties of seasonal vegetables. Soul Fire accepts SNAP/EBT and offers monthly payments instead of requiring customers to pay full cost of the share up-front. It also offers sliding scale payment, ranging from \$25-\$50 per week depending on customers' self-reported financial resources. At both ends of the scale, the price is below that which one would find at a local natural foods store for the same items (Lennon et. al., 2018). In addition, Soul Fire Farm recently published a guide, titled "Guide for Farmers Who Want to Supply Low-Income Communities While

## METHODS

The following section details the methods of data collection employed for this study.

### *Population and Setting*

This mixed-methods study focuses on several groups of stakeholders who are located within or serve Saratoga County, New York. Our research involved direct observation of various phenomena, including specific site visits. Data on farmers was gathered throughout the Capital Region, which includes the following counties: Albany, Greene, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Columbia, Montgomery, Fulton and Washington. Our research on consumers and potential market channels was collected directly within Saratoga County.

### *Research Questions*

Our research was guided by the following questions:

1. To what extent could redirecting surplus produce from farmers in Saratoga County to retail outlets improve economic resiliency for farmers, while simultaneously improving food security for residents of Saratoga County?
  - a. Which farmers have excess, and why?





purchasing outlets for obtaining good food. \$5 gift cards to Stewart's Shops were given as an incentive for individuals to complete the survey.

### ***Interview Instrumentation and Analysis***

A cellular device was used to record all interviews conducted with our three groups of stakeholders, using the QuickVoicePro app. Once finished, interviews were personally transcribed. After transcriptions were completed, we used color-coding to track the patterns and themes that emerged from interviews, compiling quotes and responses into various categories to be quantified for graphs.

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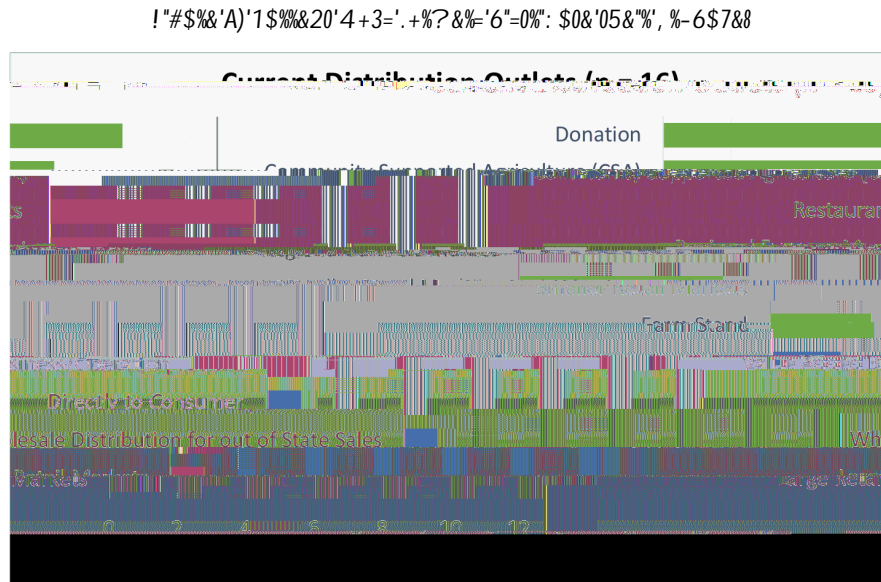
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<b>Farm</b>	<b>Address</b>	<b>Land used for Production</b>	<b>Date Interviewed</b>





stores), and through donation (Figure 2). Therefore, it is evident that donations represent a large proportion of where farmers sell and/or distribute their produce.

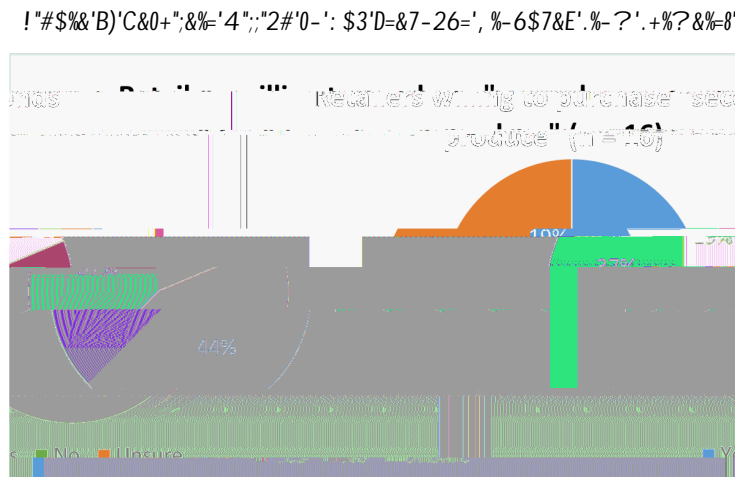


In our analysis of Capital Roots’ Farmer Roundtable data, we found that on-farm sales (farm stands, farm stores, pick your own farms) and farmers markets were the two most common market channels among those surveyed. Many farms also expressed interest in expanding their market channels to include more wholesale channels. This includes selling to distributors, directly to retail stores, food hubs, online markets, and/or restaurants. This finding is important in terms of measuring farmers openness to selling their produce to new markets that better serve low-income communities.

***Markets for Seconds Produce***

Additionally, several farmers responded that of these locations they sell to, “ugly”/seconds produce is not accepted, indicating that there is a need for a market for this produce. Many farmers also responded that they are “unsure” if these markets accept this produce, which means they likely do not distribute ugly/seconds produce to these locations

(Figure 3). Of the farmers that sell ugly/seconds produce, restaurants and direct sales to consumers represent the largest portion of sales, with only one response that indicated this produce is sold to wholesalers (Figure 4). Therefore, we can deduce that there is a need for a more mainstream market to sell this produce.



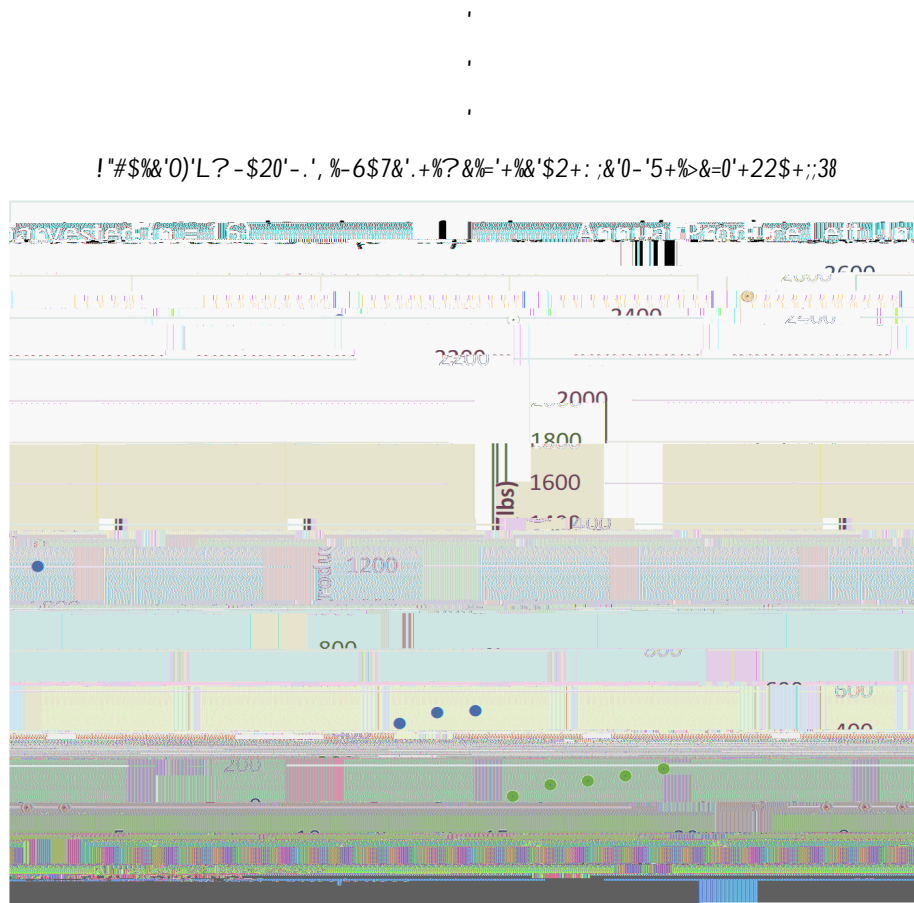
**Surplus Produce: Sources and Volume**

In order to better understand the extent of farmer surplus among regional farmers from a quantitative perspective, as well as determine where surplus occurs along the supply chain, we analyzed data collected in 2018 by Capital Roots as a part of their Squash Hunger initiative. This

effort collected surplus at various locations, including from farmer's markets, farms, CSAs, donation bins in grocery stores, wholesalers, and through gleaning efforts. Total surplus collected through this program amounted to 88,802 pounds. We analyzed a few sources of surplus most relevant to our data (Table 2).

responses account for 8,161 lbs of produce left unharvested on farms: a massive source of surplus (Figure 5).

As previously indicated by the Squash Hunger data - which found 9,241 lbs of produce left over after farmers markets - 6 of the 7 farmers that responded that they sell at farmers markets mentioned having unsold produce afterwards. 5 farmers indicated the poundage of this leftover produce - ranging from 10 to 401 lbs - amounting to 842 lbs from only five farmers (Figure 6). These high numbers of food left unsold at farmers markets indicate that programs that collect surplus at farmers markets are an important resource.





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***Surplus: Current Management Practices***

Most farmers responded to our survey that they either donate their surplus, give it to

Our analysis of data from the Capital Roots farmer roundtable discussion on how farmers deal with their surplus produced similar findings on the most common ways in which farmers deal with their surplus. Nearly half (47%) of farms with surplus responded that they got rid of it through donations, frequently with the help of gleaners. Only one farm responded that they sold their surplus produce.

***Reasons for Surplus***

In semi-structured interviews, farmers discussed the reasons they have surplus (Table 3). Most farmers cite a shortage of time, labor and money as a reason for surplus, as well as elements of their business strategy, and the unpredictability of weather and other factors.

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Shortage of time, labor, money	Business strategy	Unpredictability of weather
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We also asked farmers in interviews how they currently deal with surplus. Most farmers mentioned selling it at a discount, composting, donating, or utilizing it somehow as their current management strategies (Table 4).

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Sell at a discount	Compost	Donate	Utilize
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produce they will have at what time. Volume of produce was also mentioned several times, as many of these farms are as small as 2 acres.

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**Economics**

<p><b>Other outlets that use it</b></p>	<p>TU&amp;2"=-2'!+%?'</p>
<p><b>Timeframe (short shelf life)</b></p>	<p>TW"02&amp;3'* &amp;+6-4='</p>
<p><b>Consumer lack of awareness about food</b></p>	<p>_202-42'</p>

Surveyed farmers were asked to explain any difficulties they've had identifying new markets for selling surplus produce. Many cited time to find such markets, the inconsistency and

In anonymous survey responses, farmers also discussed difficulties they have had expanding their own market presence in general (Table 8).

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**Difficulty expanding market presence**

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Many farmers were excited about the prospect of this operation, and voiced general support (Table 12) and ideas for the operation (Table 13).

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**General Support:**

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**Ideas for Solutions:**

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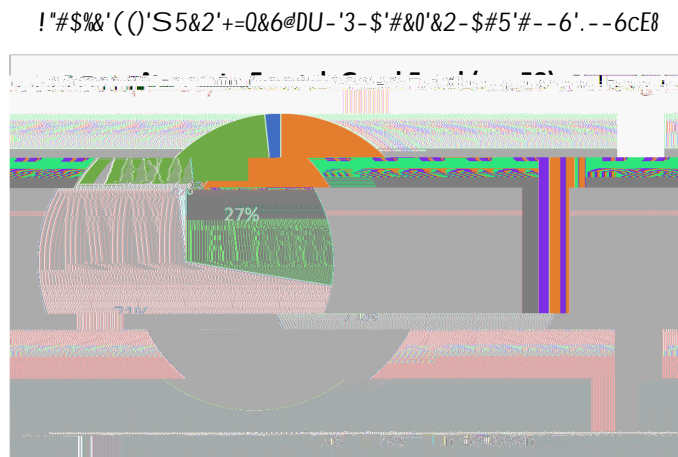


what their needs are regarding access to fresh produce at a low price. These responses were then added to the existing data, culminating in 59 total responses.

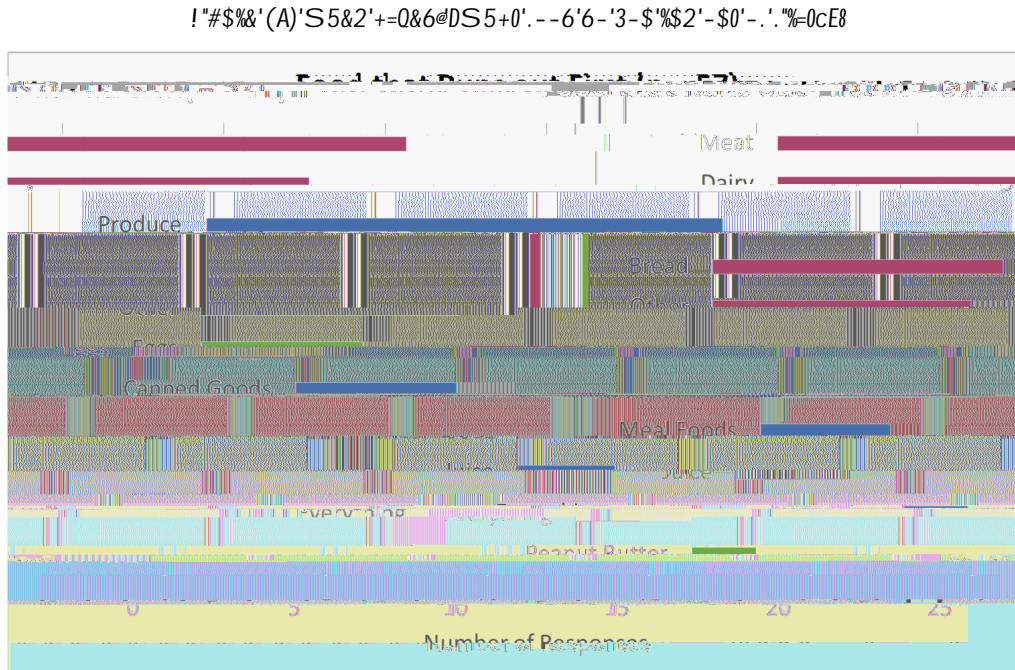
When asked to define what good food meant to them, 11 respondents used the word “fresh.” Health and nutrition were at the core of many definitions (Figure 10).



These terms appeared 30 times throughout the responses. Of those individuals interviewed, 27% self-identified that they do not have enough good food (Figure 11).



When asked to describe what foods they run out of first, 16 people explicitly identified produce (Figure 12).



However, defining good food is not necessarily the crux of the problem. The true crisis lies in access, availability and utilization of good food (as identified in the WFP definition of food security). Barriers to good food included that individuals identified include: more time to cook, kitchen tools, help with cooking, various organizations, nothing, or access to more gardens and growing spaces (Figure 13).

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The locations that consumers identified as where they generally source their food varied. 46 consumers stated that conventional, brick and mortar grocers were where they purchased the bulk of their food. 26 respondents identified donation-based feeding programs, such as food banks and pantries, and 2 identified Capital Roots as a source of food. Some individuals (15) purchased food from the farmers market or from farms directly. In regard to economic or financial aid (by way of the government), only 2 of the individuals utilize these systems (Figure 14).

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***Saratoga Economic Opportunity Council (EOC)***

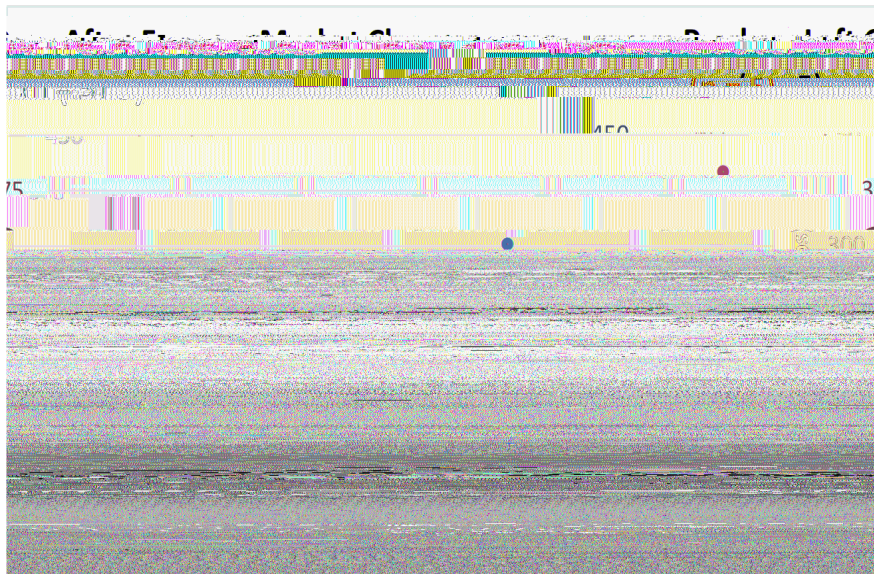
In an interview with Angelo Calbone of the EOC, he discussed the role of agency and the importance of creativity in the implementation of solutions (Quote Chart X). He discussed current initiatives that the local food pantry and the EOC are already participating in, as well as future programs that could be implemented. One such solution is the creation of a “choice” pantry that gives individuals the ability to self-select food in an environment similar to a standard







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Funded by a grant or another fundraising opportunity, Capital Roots could implement a program that purchases surplus at the end of the day at farmers markets, and then sell this produce to retail outlets. These could include stores interested in purchasing the food, the Sliding Scale CSA, the Veggie Mobile in Saratoga County, Headwater Food Hub, distributors like Antonucci's, or other options. Similar to Food For All - which allows vendors to post and sell their discounted surplus produce, and will be discussed further in the next section - an app could perhaps be another potential way to sell this food. The organization that collects the surplus can post on the app, and interested individuals can come to a determined location to purchase it.

Local farmers who struggle selling their excess produce would benefit from these transactions, and retail outlets for this food could be selected to best meet consumer needs. However, as expressed in quotes given previously, farmers worry that they will then be taken advantage of in this interaction. Further research and thought must be given towards this solution before implementing a program in order to address this concern.

Capital Roots currently has programs that collect food after farmers markets, but these efforts



the creation of any new infrastructure. Instead, Producers and consumers can simply download the app and purchase surplus or seconds produce only when it happens. The food when then not have to be stored, and there are no expectations for keeping food in stock for outlets that require consistency in the produce they receive.

### ***Expansion of Veggie Mobile to Saratoga County***

Currently, the Veggie Mobile initiative through Capital Roots does not have a route that goes through either urban or rural Saratoga County. The mobile market could stock farmer

fresh produce at cheap prices, decreasing their reliance on emergency feeding programs, and increasing their feelings of agency and self-reliance.

As with all social and environmental justice issues, creativity is key to finding solutions, and this research should guide those interested in implementing programs with these goals in mind.

## **ACKNOWLEDGMENTS**

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## APPENDIX A

Map of the distribution of agricultural land in the Capital District. Source: Capital District Regional Planning Commission (CDRPC) (2013).

