

HARVESTING FOR HEALTH



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Optimizing Farm Operations for a Local
Nonprofit

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**Harvesting for Health:
Optimizing Farm Operations for a Local Nonprofit**

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ABSTRACT

The goal of this project was to collaborate with Community Harvest Project (CHP) to comparatively analyze similar organizations, and to optimize operations in nutrition education, tracking produce distribution, managing partner relationships, volunteers, and community outreach. Through 15 interviews with similar nonprofit organizations, and four CHP staff interviews, we ascertained that CHP serves as a model for many organizations, however still has areas they wish to improve upon. Our team developed a number of recommendations largely focused on the expansion of CHP's current working strategies rather than creating new programs. Our final deliverable involved giving our data to CHP in a presentable and usable manner.

ACKNOWLEDGEMENTS

We would like to thank our advisors, Corey Denenberg Dehner and Purvi Shah, for their guidance and support in completing the proposal for our Interactive Qualifying Project. In addition, we thank Worcester Polytechnic Institute for this opportunity to extend our academic learning beyond the classroom. Finally, we want to thank our sponsor, the Community Harvest Project, for their willingness to work with us through the Worcester Community Project Center.

EXECUTIVE SUMMARY

Lack of access to healthy, affordable food is a major concern in the United States today. In 2014, more than 48.1 million Americans did not have consistently available food in their home (Food Research and Action Center, 2014). In 2012, within Worcester County, 12 percent of the population, or 99,796 residents, relied on food assistance from the Worcester County Food Bank and its network of food pantries (Worcester County Food Bank, 2016).

Non-profit and community organizations are working to alleviate food insecurity through programs, education initiatives, and collaborative efforts to bridge the gap in availability and affordability of local produce. The Community Harvest Project (CHP), located in North Grafton, Massachusetts, is a non-profit farm that relies on the help of volunteers to grow fresh fruits and vegetables to distribute to those in need within the Worcester community.

The goal of this project was to collaborate with Community Harvest Project to comparatively analyze similar organizations both nationally and locally in order to optimize CHP's operations and outreach. Alicia Cianciola, the Program Manager at CHP, served as our main sponsor liaison for this project, although the entire CHP staff offered us guidance and resources throughout our research.

METHODOLOGY

After discussions with Ms. Cianciola, we decided to focus our efforts on improving the efficiency of the CHP in five areas: (1) nutrition education, (2) tracking produce distribution, (3) managing partner relationships, (4) volunteers, and (5) community outreach. Before speaking with other organizations, we conducted semi-structured interviews with CHP staff, specifically: farm managers, program managers, the education and outreach coordinator, and the executive

director to determine CHP's current strategies in each area. In addition, we conducted participatory observation by attending CHP nutrition education programs as well as a CHP fundraising event held at CHP.

Using this data, we analyzed the strengths and weaknesses of Community Harvest Project. In doing so, we were able to compare CHP's operations to those of other agencies. We conducted 15 interviews with food justice organizations and compiled all of the data into charts for easier analysis. The charts aided in cross-referencing the strengths and weaknesses of CHP's programs to the opportunities and threats posed by the programs of other model agencies in a SWOT analysis. The SWOT analysis enabled us to develop evidenced findings and to provide CHP with feasible, useful recommendations (Appendix B).

FINDINGS

This chapter presents results of the 15 semi-structured interviews. Our findings are not only useful for CHP, but also many other organizations dedicated to providing access to fresh produce to low-income residents. Every single human being deserves to eat fresh fruits and vegetables, and they deserve to receive it with honorable and respectable means. We present findings from nutrition education, tracking distribution, maintaining relationships, and community outreach below.

NUTRITION EDUCATION

Long-term, hands on learning with elementary school children results in more effective nutrition education programs. Offering experiential learning opportunities is beneficial to the overall mission of improving access and affordability of fresh produce to as many people as possible. When students, both children and adults alike, are inspired through enriching and supportive nutrition education programs, they take that inspiration beyond the

program and bring it to their own neighborhoods and communities, creating another web in the network of fighting hunger (J. O'Brien, personal communication, October 31, 2016).

TRACKING DISTRIBUTION

Tracking of distributed produce is limited after it is distributed to partner organizations. When produce is handed off to partners, where it travels to next is a major concern for organizations, so their goal of reaching their target population is accomplished. Of the five organizations we interviewed that distribute produce to partner organizations for further distribution, three track how much produce is distributed to each partner. Even so, all five are unable to track how that produce is used by their partners.

MAINTAINING RELATIONSHIPS

Open and effective communication between partner organizations is mutually beneficial to maintain partner relationships. Organizations that maintain strong lines of communication are more likely to achieve their missions. Of the 11 organizations we interviewed who reported on their partner relationships, ten highlighted communication as the most valuable element in maintaining positive relationships. As we discovered through semi-structured interviews, clear, frequent communication paves the way for a long-term relationship grounded in respect, trust, and value.

OUTREACH

Populations, apart from low-income residents, can also benefit from CHP. Given that the question of “Who needs CHP and for what?” was presented to us halfway through our project process, we were able to begin research with the time we had left in the seven week term. Community Harvest Project already aids a larger number of people in the Worcester County area with the work that they complete on their farms. With that being said, there are inevitably groups, which could benefit from further efforts put forth by CHP.

RECOMMENDATIONS

Upon completing our project, our team has compiled recommendations to help CHP determine how they compare among similar organizations, as well as how they may optimize their farm operations and outreach.

PARTNER RELATIONS

Recommendation 1: Collaborate with similar organizations in the area to both expand outreach as well as combine resources to work towards a common goal rather than compete

Our group recommends that increased collaboration between organizations lead to a listserv. A listserv would allow for any organizations that run into a surplus of produce they harvest to reach out to all other organizations in the area through an email mailing list. Members would receive an email stating the same type of information, such as the quantities in surplus and what extra types of produce are available. When organizations see surplus produce that is available, they could arrange pickups to distribute the food to their particular target populations.

We found that organizations have the same goals but each have different strategies, and could use this listserv to collaborate and cooperate in accomplishing their mutual goals.

DISTRIBUTION

Recommendation 2: Utilize a free smartphone app to help record quantities and locations delivered by partners

One of the more basic, yet effective, modes of group discussion is Groupme. Groupme is a simple application for smart phones where the user can create chats with another individual, or group. Our group recommends that CHP uses Groupme to create a separate group message for each partner, where they would be required to report the quantities and locations of produce

distributed. In doing so, CHP would hold partners accountable for how much produce is delivered to target populations. People are more likely to have access to text messages than a computer during the day, therefore partners could send updates to CHP right when it happens, rather than risking losing or forgetting numbers if they only report online monthly.

Although guaranteeing all produce reaches its specific destination is a difficult task, an increased level of commitment by partners would increase the likelihood that CHP's produce reaches only populations they look to assist.

VOLUNTEERS

Recommendation 5: Reward system

A positive, enjoyable volunteer experience is something Community Harvest Project takes pride in. Throughout our interviews, we found that organizations close to CHP in proximity claimed they looked to CHP as a model. In order to make the volunteer experience even more enjoyable, Community Harvest Project could send out thank you emails to participants. The emails would be personalized showing pictures from that day's tasks, and even quantitative information about the success of the event. Volunteers who feel appreciated, and enjoy their experience, are more likely to return, which enhances the organization's reputation in the community.

Additionally, intrinsic motivation techniques create a sense of belonging for volunteers, such as receiving a free t-shirt from CHP. Wearing a t-shirt not only provides free publicity for CHP as a brand, but makes volunteers feel like that have a sense of belonging within CHP and can be proud of their accomplishments within the organization.

CONCLUSION

The goal of our project is geared towards helping Community Harvest Project improve their operational strategies in providing fresh fruits and vegetables to as many people experiencing food-insecurity in the Greater Worcester County Area as they can. In order to be better, we needed to compare them to similar organizations. In conducting 15 interviews and 3 participatory research experiences, we witnessed the dedication each person in these organizations puts in to make a change in combatting the “new hunger” facing the United States (see Chapter 2). It is our hope that our team’s findings and recommendations offer useful guidance in improving not only singularly, but as a community within the hunger relief networks throughout the country.

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TABLE OF ACRONYMS

BAG: Boston Area Gleaners

BMI: Body Mass Index

CDC: Centers for Disease Control

CHP: Community Harvest Project

CSA: Community Supported Agriculture

EPI: Economic Policy Institute

FNS: Food and Nutrition Service

IQP: Interactive Qualifying Project

MA: Massachusetts

MUG: Milwaukee Urban Gardening

N/A: Not available

NCOF: Natick Community Organic Farm

REC: Regional Environmental Council

SNAP: Supplemental Nutrition Assistance Program

STEM: Science, Technology, Engineering, and Math

USDA: United States Department of Agriculture

WCFB: Worcester County Food Bank

WCG: Worcester Common Ground

CHAPTER 1: INTRODUCTION

Hunger is a widespread and growing concern throughout the United States. There is a lack of healthy food within low-income areas of the nation. In 2014, more than 48.1 million Americans did not have consistently available food in their home (Food Research and Action Center, 2014). Studies have shown that every state has failed, at some level, to provide all citizens with proper access to food, let alone food that is both healthy and locally produced (Food Research and Action Center, 2014). The United States Department of Agriculture (USDA) guidelines recommend the average person consume 2.5-3 cups of vegetables daily. However, research by the USDA found that there are only enough vegetables in the country to supply 1.7 cups to each person daily (Mcmillan, 2015). A diet consisting of a variety of nutrient-rich fruits and vegetables, as opposed to a cheaper diet of processed and frozen foods, has been proven to lower risks of diseases, such as heart disease and diabetes (Mcmillan, 2015).

In Worcester County, 12 percent of the population, or 99,796 residents, relied on food assistance from the Worcester County Food Bank (WCFB) and its network of food pantries in 2012 (Worcester County Food Bank, 2016). In addition, the city of Worcester conducted a study disclosing that only about 24 percent of adults consume the necessary five or more servings of fruits and vegetables daily. According to the U.S. Census, 10.3 percent of Worcester County residents, or 82,951 people, live at or below the poverty level (Worcester County Food Bank, 2016). It is not all bad news, however, as there are organizations throughout the Worcester County area dedicated to bringing farm fresh produce to the community, which improves access to these foods.

The Community Harvest Project (CHP), located in North Grafton, Massachusetts, is a non-profit farm that relies on the help of volunteers to grow fresh fruits and vegetables and distribute that produce to those in need within the Worcester community. Through its volunteer farming programs, education initiatives, and community partnerships, CHP brings thousands of community volunteers together to contribute to improving access to healthy foods for people in need across Worcester County. Community Harvest Project Center has worked for over 40 years, providing healthy foods to those in need through community involvement. In 2015, CHP had over 11,000 volunteers who helped produce approximately 270,000 pounds of fruits and vegetables, which provided 1.2 million, four ounce, servings to Worcester residents.

The goal of this project was to collaborate with Community Harvest Project to comparatively analyze similar organizations, both nationally and locally, to optimize farm operations and community outreach. Alicia Cianciola, the Program Manager at CHP, served as our main sponsor contact for this project, although the entire staff at CHP was involved in providing resources and key information in order for us to complete our objectives and achieve our goal.

In the second chapter of this report, our Literature Review, we provide background information that is necessary to understand the importance of and the need for our project in Worcester County. We begin our report by stating the prevalence of unhealthy eating in the United States, and the consequences that come with a poor diet. We then highlight the barriers to healthy eating both nationwide as well as focusing on Worcester. The chapter transitions to the reduction of poor dietary habits through the presence of non-profit organizations revolving around urban agriculture, concluding with an introduction to the Community Harvest Project's role in helping the food insecure population in Worcester County.

In the third chapter, our Methodology, we define the steps we have taken to accomplish our goal of comparatively analyzing similar non-profit organizations, both locally and nationally, to offer feasible recommendations to optimize and improve operations at CHP.

The fourth chapter presents and explains our project findings. We discuss the results of our semi-structured interviews with 15 organizations, where we collected information on their strategies in five major areas: nutrition education, tracking produce distribution, maintaining relationships, volunteers, and funding.

Finally, we conclude our project report with chapter five, where we offer detailed recommendations and conclusions for CHP to present to their board for improvements to the organization's operations.

CHAPTER 2: BACKGROUND/ LITERATURE REVIEW

Lack of access to healthy, affordable food is a major concern in the United States today. Non-profit and community organizations are working to alleviate food insecurity through programs, education initiatives, and by collaborating with each other to bridge the gap in availability and affordability of local produce. In the following literature review, we explore unhealthy eating in the United States, the existing food issue in Worcester, Massachusetts, and the feasibility of a food related non-profit organization. We then introduce the Community Harvest Project and the organization's interest in improving their farm operations and outreach.

2.1 UNHEALTHY EATING IN THE U.S.

Unhealthy eating is not as obvious as choosing Doritos over a fruit cup, or a Sprite over an Odwalla smoothie, but involves other factors such as: the price and accessibility of fresher food, added sugars and more. As a result, many Americans are not following dietary guidelines and are not consuming healthy food options. The current American dietary habits are linked with obesity, which causes increased risk of chronic diseases such as type II diabetes, heart disease and cancer (Pi-Sunyer, 2002).

2.1.1 WHAT IS UNHEALTHY EATING?

Unhealthy eating refers to any diet that lacks the recommended number of fruits and vegetables, and is high in nutrient-poor, processed foods that contain added sugars and fats. A 2016 study published in *BMJ Open*, a medical journal, reports that an increased intake of added sugars in the current American diet comes from the following food and drinks: 17 percent soft drinks, 14 percent fruit drinks, 11 percent cakes, cookies, and pies, 8 percent breads, 7 percent desserts, and 7 percent sweet snacks (Steele et al., 2016). These percentages highlight where

majority of the problem lies with added sugars. In addition, a recent documentary, *Fed Up*, which connects the obesity epidemic to added sugars in the American food industry, reveals that sugar is added to 80 percent of processed foods on United States store shelves (Soechtig et al., 2014). Food manufacturers attempt to provide healthier products for Americans by reducing fat in their recipes, however most low-fat options contain much more sugar than their original higher fat products (Soechtig et al., 2014). Therefore, many low-fat options are unhealthy since they contain much more sugar. The best option for a healthy diet is fresh fruit and vegetables.

The United States Department of Agriculture (USDA) recommends that women's daily consumption include: 2-2.5 cups of fruit and 1.5-2 cups of vegetables, and that men's daily consumption include: 2.5-3 cups of fruits and 2 cups of vegetables. However, between 2007 and 2010 on average, half of the United States population consumed less than 1 cup of fruit each, and less than 1.5 cups of vegetables each daily. Therefore, approximately 76 percent of people in the United States fall below fruit intake recommendations, and 87 percent fall below vegetable intake recommendations (Moore & Thompson, 2015). Figure 1 displays the disproportion of recommendations to consumption. However, unhealthy eating is not always caused by choice alone, but may also be caused by barriers to healthy eating.

Median **Daily Vegetable Intake** Among Adults in the United States

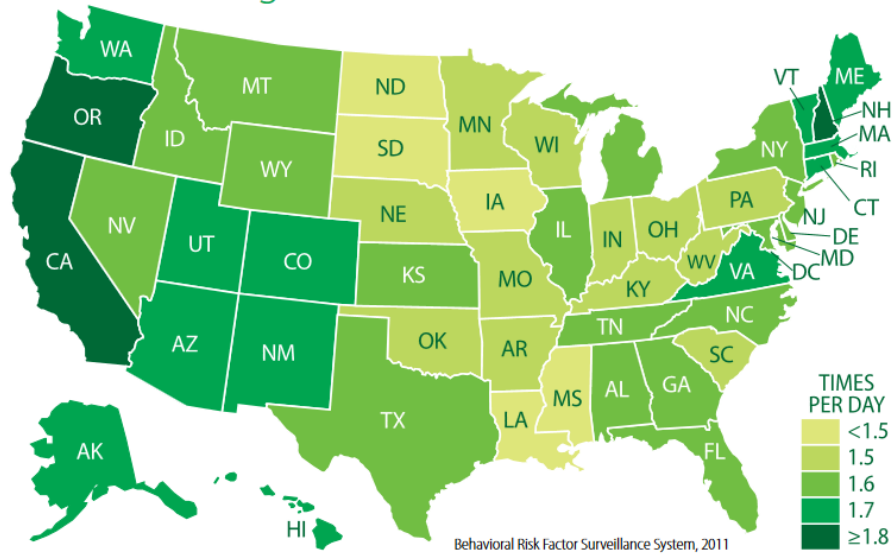


Figure 1: Median Daily Vegetable Intake among Adults in the United States (CDC, 2013)

2.1.2 BARRIERS TO HEALTHY EATING

A variety of barriers discussed in the subsequent sections may prevent residents in low income areas from accessing a healthy diet consisting of a variety of fresh fruits and vegetables. The barriers fall under the umbrella of low-income areas with limited access to grocery stores and healthy food that every person deserves, known as food deserts.

FOOD DESERTS

Food deserts are prevalent in neighborhoods with high poverty levels, regardless of their urban or rural location (Dutko et al., 2012). Residents who live in food deserts are prone to becoming food insecure, which is defined as the condition of having a limited or uncertain access to a sufficient amount of healthy and affordable food (Coleman-Jensen et al., 2015). Food deserts and the accompanying low-access to affordable and nutritious food due to lack of supermarkets,

limited financial resources, lack of a personal vehicle for transportation (Powell et al., 2007) and lack of nutrition education (Hard et al., 2015) are barriers to healthy eating.

According to the USDA, a food desert is defined as a low-income census tract where a significant percentage of residents have limited access to supermarkets or other food retailers that carry affordable and nutritious foods, especially fruits and vegetables (Ver Ploeg, 2010). Low-income households within food deserts often have no option other than to purchase food at higher prices, making these residents more prone to food insecurity. Lack of healthy food options adversely affects diet and increases the risk of diet-related health conditions such as obesity and type II diabetes (Powell et al., 2007).

The existence of a food desert is determined by analyzing income levels, population density, and distance from a supermarket (Walker et al., 2010). Food deserts are more prevalent in low-income neighborhoods where residents have limited food access and a large percentage of households do not have a personal vehicle (Ver Ploeg, 2010). Food retailers that are located in food deserts are often disadvantaged because of inconvenient delivery routes and high crime rates, which increase store operating costs (Ver Ploeg, 2010).

Economic Research Service analysts combine data from the Socioeconomic Data and Applications Center with addresses of supermarkets and other food retailers to identify areas where access to affordable and nutritious food may be limited (Ver Ploeg, 2010). According to 2000 U.S. Census data, approximately 8.4 percent of Americans, or 23.5 million people, live in low-income neighborhoods that are located a mile or more from a supermarket. Economic Research Service utilizes mapping software to make this food security data available to the public, as shown below in Figure 2 (Ver Ploeg & Breneman, 2016).

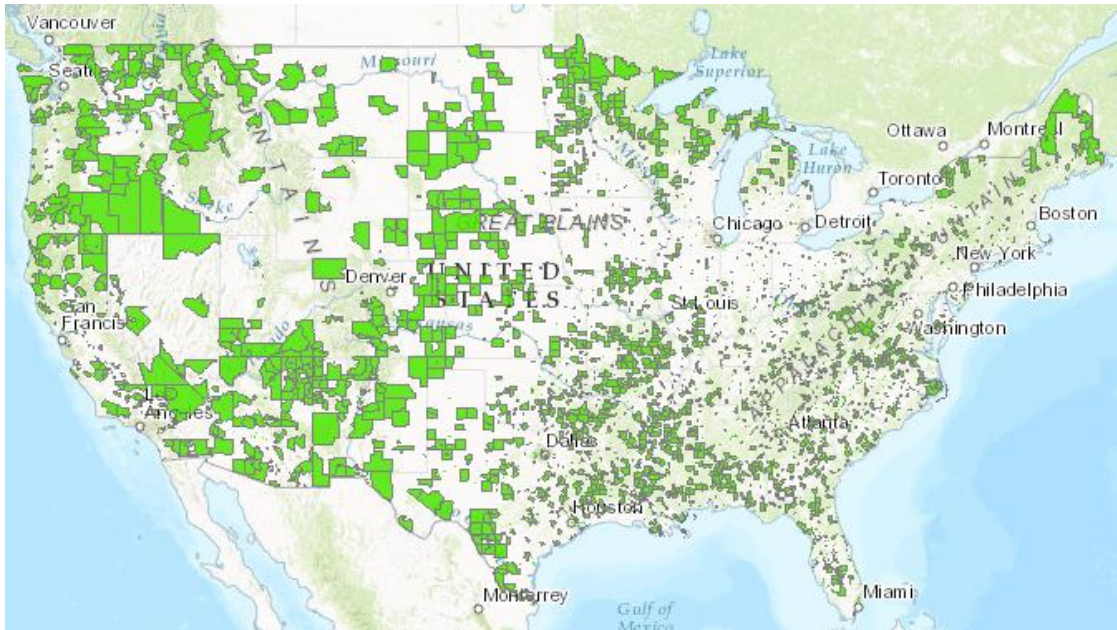


Figure 2: Food Deserts in the United States (Ver Ploeg & Breneman, 2016)

SUPERMARKETS

National studies have found that low-income neighborhoods, especially in metropolitan and urban areas, have fewer supermarkets but significantly more grocery and convenience stores (Powell et al., 2007). This statistic is important to consider as studies have proven that people are likely to make food choices based on the proximity of food retailers to their neighborhood (Walker et al., 2010).

Large chain supermarkets are often located in more affluent neighborhoods (Walker et al., 2010). Additionally, supermarkets generally offer consumers higher quality products, fresher produce, greater variety and more affordable prices due to their higher sales volume (Walker et al., 2010). Further, these food retailers offer customers the convenience of longer business hours and larger parking areas (Walker et al., 2010). Small grocery stores and convenience stores generally have less space to stock fresh produce or perishable goods (Walker et al., 2010). As a result of the lack of fresh, affordable produce in low-income neighborhoods, many residents

often do without fruits and vegetables and purchase unhealthy, processed food options instead, as it is more convenient.

LIMITED FINANCIAL RESOURCES

Families with limited resources often buy cheap, energy-dense foods that are filling to maximize their calories per dollar in order to prevent hunger (Ogden et al., 2016). Economic Research Service compared the price for three frequently purchased food items: milk, dry cereal, and bread, purchased from four types of food retailers: grocery, convenience, discount or supercenter and “other”. The analysis showed that convenience store prices were higher than prices at grocery stores for identical products. Milk prices were 5 percent higher; cereal, 25 percent; and bread, 10 percent (Ver Ploeg, 2010). For this reason, consumers are more likely to buy the cheaper food to get the most for their money, cycling back into the obesity epidemic.

Obesity is more prevalent in urban communities, specifically low-income urban communities that are home to refugees, immigrants, and other minority populations (Paarlberg, 2016). Many residents in low-income neighborhoods are supported by Supplemental Nutrition Assistance Program (SNAP), a federal food assistance program that offers nutrition assistance to millions of eligible, low-income individuals and families (USDA, 2016). Eligibility for SNAP requires that a household must have a gross monthly income at or below 130 percent of the poverty line. For example, a household of four must have a gross monthly income of \$2,628 or less (USDA 2016). This equates to a yearly income of \$31,536, yet according to the Economic Policy Institute (EPI) Family Budget Calculator for 2015, the cost of living for a family of four in the United States in order to attain a “secure yet modest” standard of living currently ranges from approximately \$49,000 per year to approximately \$106,000 per year. The histogram in Figure 3 highlights the disparity between the poverty income and the lowest cost of living.

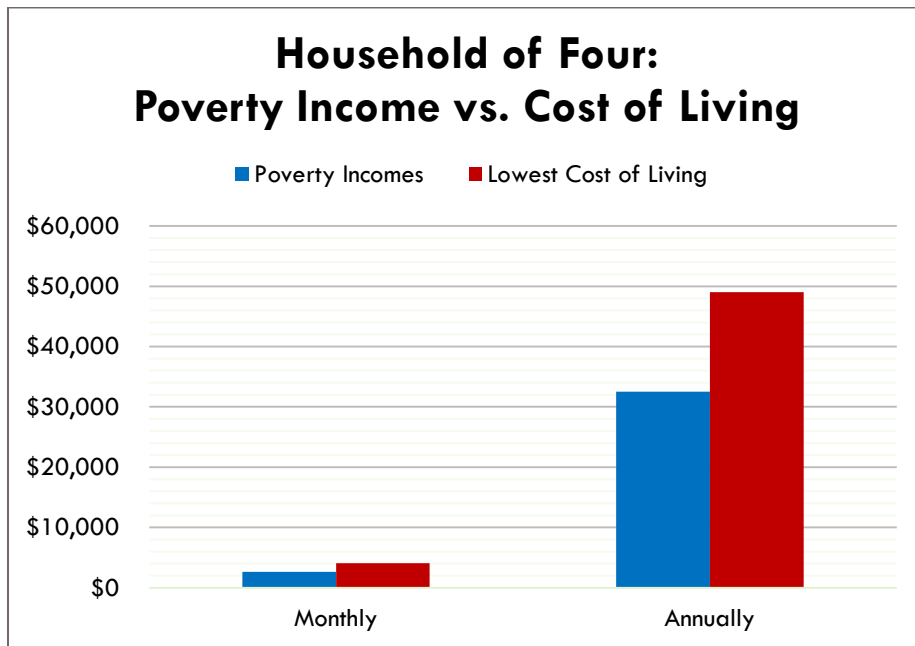


Figure 3: Comparison of Poverty Income versus Average Lowest Cost of Living for a Household of Four Based on the EPI Family Budget Calculator (USDA, 2016)

In order to perform this study, the EPI surveyed 618 different United States communities. The EPI included in their cost estimation: housing, food, childcare, transportation, health care, taxes, and other necessities (Soechtig et al., 2015). These “cost of living” ranges come from Morristown, Tennessee, the city surveyed that had the lowest cost of living, and Washington, D.C., the city surveyed with the highest cost of living.

As a result of the disparity between cost of living and income, many parents are forced to work long hours and multiple jobs to make the bare minimum, and do not have time to make home-cooked meals. Therefore, they rely on the convenience of fast food options and frozen “TV meals” to feed their families (McDermott & Stephens, 2010), which further perpetuates the cyclical relationship between low incomes, unhealthy eating, and obesity.

LIMITED TRANSPORTATION

Low-income residents in urban areas often have difficulty obtaining healthy, affordable food because they lack transportation needed to get to supermarkets (Dutko et al., 2012). Food stamp recipients on average live 1.8 miles from the nearest supermarket and travel an average of 4.9 miles to an affordable supermarket (Ver Ploeg, 2010). Low-income residents in urban areas often lack transportation and depend on neighborhood stores for their groceries. Public transportation costs are often too high for low-income urban residents, which further limits their ability to shop at food retailers outside of their neighborhood (Walker et al., 2010). However, small neighborhood stores often lack the space to carry a variety of produce and offer products at higher prices due to a lower sales volume (Ver Ploeg, 2010).

Approximately 2.2 percent or 2.3 million Americans live more than a mile from a supermarket and do not have a personal vehicle (Ver Ploeg, 2010). Residents of rural areas generally have access to personal vehicles since they rely on private transportation to travel to work, school, retailers, and other locations (Dutko et al., 2012). The percentage of households without access to private vehicles, within urban food deserts, is 24 to 38 percent higher than in other urban areas (Dutko et al., 2012).

NUTRITION EDUCATION

Nutrition education is defined as “any combination of educational strategies, accompanied by environmental supports, designed to facilitate voluntary adoption of food choices and other food and nutrition-related behaviors conducive to health and well-being” (Hard et al, 2015). According to the Food and Nutrition Service, effective nutrition education includes the following components: skill building to promote positive behavior change, environmental and policy changes to make healthy eating choices easier, and initiatives to build community and social support (FNS, 2010). Nutrition education is important because research has shown that it

helps consumers to select healthier food options by improving their awareness, skills, and motivation to maintain healthy eating habits at home, school, and work (FNS, 2010).

Nutrition education is essential for both adults and especially children as it can reduce the risk of diet-related health concerns such as obesity (FNS, 2010). In the United States, childhood obesity is an epidemic with more than one-third of children and adolescents being overweight or obese in 2012 (Hard et al, 2015). This statistic is concerning as childhood obesity is correlated with adult obesity and development of chronic health concerns such as type II diabetes and cardiovascular disease (FNS, 2010). Therefore, nutrition education is especially important for children, as it has been shown to decrease weight gain and BMI, increase vegetable and fruit consumption, and improve academic outcomes (Hard et al, 2015).

School-based nutrition education has been shown to be effective if done successfully (FNS, 2010). Research has shown that 35-50 hours per year of nutrition education is necessary to provide students with skills and motivation to make healthy food choices (Hard et al, 2015). However, in the United States, the average student only receives an average of 3.4 hours in elementary school, 4.2 hours in middle school, and 5.9 hours in high school (Hard et al, 2015). Since the average level of nutrition education in schools is significantly lower than the recommended 35-50 hours, many students still lack the skills and education they need to make healthy food choices. As a result, many students in the United States maintain a poor diet, which may lead to future diet-related health consequences.

2.1.3 CONSEQUENCES OF POOR DIET

Barriers to unhealthy eating impede people's ability to develop healthier eating habits. Unhealthy eating is not sustainable for a human being and often leads to health consequences discussed below.

Merriam-Webster’s online dictionary specifies the simple definition of the word hunger as “a very great need for food: a severe lack of food”. Taking a closer look, however, the full definition expands beyond not getting enough to eat and includes “a craving or urgent need for food or a specific nutrient” (Merriam-Webster’s Learner’s dictionary, 2016). The latter definition highlights just what hunger in the United States is shifting towards as a consequence of America’s poor diet: obesity, thus defining the prevalence of an advertised, nutrient-lacking diet as the “new hunger” (Paarlberg, 2016).

The United States Centers for Disease Control and Prevention state that the obesity rate has risen from 12 percent in 1969 to approximately 38 percent in the fall of 2016, showing a threefold increase in less than 50 years (CDC, 2016). The obesity epidemic sweeping the nation is show in Figure 4 below, with the darker colors representing a higher rate. This dramatic increase has been linked to chronic diseases, specifically type II diabetes and heart disease, which have skyrocketed to an all-time high, even in children (Pi-Sunyer, 2002).

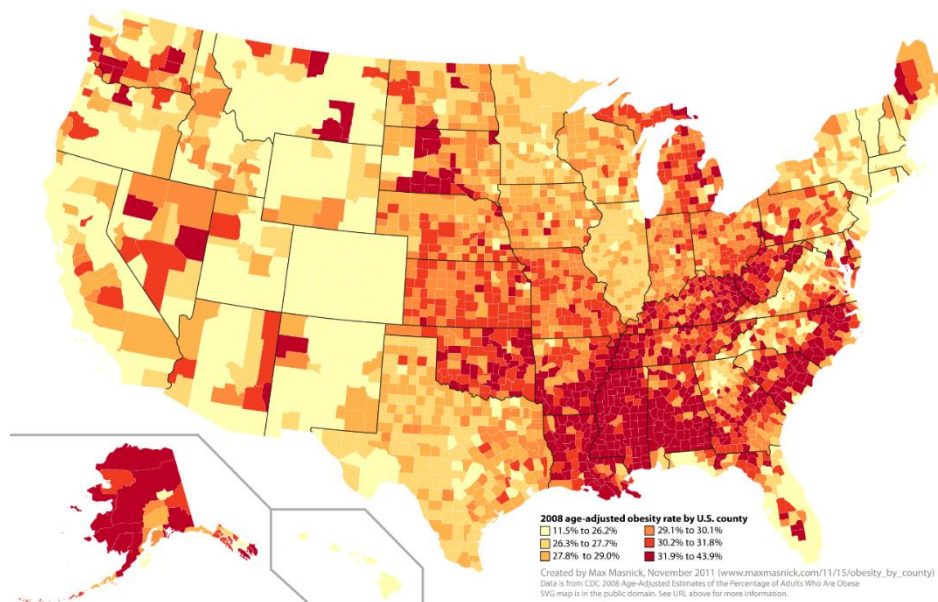


Figure 4: Obesity Rates in the United States by County (Masnick, 2011)

Accompanying the obesity epidemic is a rise in food insecurity among Americans. An article in the Journal of the Academy of Nutrition and Dietetics, which references the Life Sciences Research Office, defines food insecurity as existing:

“[W]henver the availability of nutritionally adequate and safe foods or the ability to acquire acceptable foods in socially acceptable ways is limited or uncertain” (Dinour et al., 2007).

It is when people are severely limited in their options to consume healthy, wholesome, and nutritious foods that they are at their most susceptible to develop chronic diseases (Pi-Sunyer, 2002).

2.1.4 HOW TO REDUCE POOR DIET HABITS

Reducing the poor eating habits and the resulting consequences stressed above, lie in strategies including nutrition education, highlighted in this section.

The United States Dietary Guidelines recommend that adults consume enough fruits and vegetables to reduce the risk of chronic disease. In 1991, U.S. National Cancer Institute in collaboration with Produce for Better Health Foundation initiated the “5 A Day for Better Health” campaign to encourage the consumption of at least five servings of fruits and vegetables daily (Erinosho et al., 2012). Despite these health initiatives, few adults consume the recommended fruit and vegetable intake (Erinosho et al., 2012). Education is essential to addressing poor dietary habits within low-income communities. A multifaceted approach to nutrition education that focuses on parenting skills, cooking skills, government guidelines, nutritional advice and labelling must be developed to address and alleviate the problem of poor nutrition within low-income communities (Withall et al., 2008). Presently, there are many non-profit organizations that are working to help remedy the problem of poor nutrition and food insecurity by incorporating various nutritional education programs into their organization.

2.2 EFFORTS TO TACKLE FOOD INSECURITY

Low-income populations are not facing this problem alone, however, as efforts to tackle food insecurity are largely present in nonprofit organizations and farming initiatives.

Farming practices are continually changing throughout American society. Industrialized croplands continue to grow across the country; however, their products counter-intuitively reach fewer people. While industrialized farming does little to improve the plight of those food insecure Americans, community farming practices, fractions of the size, continue to increase in an effort to aid those in need. In the forthcoming analysis, we explore community agriculture initiatives and the impacts they have on urban dwelling Americans, who lack access to healthy produce (Broadway, 2009).

2.2.1 INCREASED CROPLAND AND ACCESS TO HEALTHY PRODUCE

In recent years, the United States has witnessed an increase in industrialized croplands, which has expectedly led to greater crop yields (Hoppe, et al. 2013). Industrialized agriculture revolves around large corporations harvesting monoculture farms, which are massive plots comprised of only one type of crop that are exposed to chemical pesticides and synthetic fertilizers (Woodhouse, 2010). Unfortunately, although the amount of land utilized by industrialized farms has increased, the extra acreage has yielded no positive returns for the country (Kremen et al, 2012). The amount of food produced by industrialized farming is vast, but it does little to increase the access that Americans have to fresh and affordable produce (Kremen et al, 2012).

While large farming operations are doing little to provide healthy produce to people experiencing food insecurity, recent developments in other areas of farming display a trend toward increased access to healthy foods. Between 2002 and 2007, the United States witnessed an increase of almost 19,000 small farms, which are defined as farms that earn less than \$350,00 in gross income (Agricultural Census, 2007). During this time, there has been an increase in other types of farming practices. For example, the number of certified organic farms increased by 1,731 between 2008 and 2014 (Agricultural Census, 2014). Additionally, farmer's markets recorded \$1.3 billion in sales in 2012—a six percent increase since 2007 (Agricultural Census, 2012). Although these incidents do not necessarily indicate all individuals will have heightened access to the produce they deserve, it does show a changing climate in produce access. Echoing the trends in increased farmer's markets and organic farms, a multitude of community agriculture organizations are being established, with the goal of bringing increased access to fresh produce to low-income communities.

2.2.2 TYPES OF COMMUNITY AGRICULTURE INITIATIVES

Communities, especially urban communities, are working to reduce the difficulties residents face in finding healthy fruits and vegetables. There are varieties of farming practices that are working to facilitate this change. One such initiative is Community Supported Agriculture (CSA), which was first introduced in the United States in 1985 (Brown & Miller, 2008). There are two essential goals that CSA farming looks to achieve: (1) to improve the quality of food that members of the community consume and (2) to support small farming operations (Cone & Mhyre, 2000). Essentially, community members or shareholders buy shares of a local farm, and in return, they receive a certain amount of produce from the farm. The farmers and shareholders agree that all risks and losses will be equally distributed among them. Since the emergence of CSAs in the mid-1980s, it is estimated as of 2013 between 30,000-

50,000 Americans are involved in a CSA, which indicates the growing popularity of the Community Supported Agriculture movement in a relatively short period of time (Harper et al., 2013).

Urban agriculture is a second form of community farming, which has experienced various stages of popularity since the mid-20th century. In the economic depression of 1893, World War I and World War II both initiated a surge in community gardening programs, which, at the time, were known as “victory gardens”. The gardens, however, were abandoned after each of these events concluded and the country witnessed a positive turnaround in the economy (Broadway, 2009). In the 1970s, the urban agriculture movement began to resurface. The Urban Agriculture initiative focuses on taking vacated or abandoned lots of land and converting them into community gardens or farms that grow and supply produce. Urban Agriculture has not only brought fruits and vegetables to individuals with a lack of access to healthy produce, but also offers knowledge in learning how to grow crops, prepare meals, and create a sustainable, eco-friendly way of farming (Broadway, 2009). Urban Agriculture is a rapidly growing initiative. In New York City alone, in 2009, the Green Thumb program established over 600 gardens for over 20,000 residents (Broadway, 2009).

EXAMPLES OF URBAN AGRICULTURE AND COMMUNITY SUPPORTED AGRICULTURE

In 1982, Many Hands Farm, in Barre, MA, began growing crops. Twenty years later the farm became certified organic, which suggests that Many Hands Farm uses less harmful chemical fertilizer, insecticides, or herbicides. An organic certification guarantees that shareholders receive naturally grown produce without the risk of consuming chemicals. Many Hands participates in a practice not uncommon to CSAs, in which shareholders can work the land in exchange for produce as a form of bartering. In using this practice, the volunteers gain

knowledge in proper organic farming practices. After their shift, usually four hours, the shareholders receive one large share of produce, comparable to \$170-320 worth of produce (Many Hands Organic Farm, 2016). Many Hands Farm offers nutrition education through hands on involvement in growing produce, instilling a knowledgeable relationship between the recipient and their healthy produce received.

The Milwaukee Urban Gardening (MUG) not only has a growing number of community gardens, but also boasts many different programs for city residents. MUG is a non-profit organization located in Milwaukee, Wisconsin, founded in 2000. In 2009, MUG partnered with five local community organizations to increase the amount of land they oversee (Broadway, 2009). The organization also implemented a program in which Milwaukee residents could rent a plot of land (Figure 5), approximately 400 sq. ft. for \$20-25 a year. In addition to the availability of city plots, MUG offers a program every spring titled “grow your own groceries”, which teaches tenants how to effectively utilize the plots they rent (Broadway, 2009).



Figure 5: Milwaukee Urban Gardening (MUG) Farming Plots (Goyke, 2016)

2.3 FOOD INSECURITY IN WORCESTER, MASSACHUSETTS

Many Hands Farm and MUG both exemplify efforts that are happening in cities across the nation, facing the new hunger. Worcester, Massachusetts is yet another city currently affected by food insecurity issues. The prevalence of food deserts in the city constitutes a significant barrier for many Worcester residents accessing fresh produce. Limited access to affordable fresh fruits and vegetables is a major concern for many residents in the greater Worcester community. This limited access to produce results in many families becoming prone to food insecurity, which is defined as having limited, or uncertain, access to a sufficient amount of healthy and affordable food (Coleman-Jensen et al., 2015). According to the Worcester City Government, in 2011, only 24.3 percent of the Worcester population consumed the USDA recommended five or more servings of fruits and vegetables daily (Hirsh, 2016). This under-consumption of fresh fruits and vegetables is concerning because a diet lacking in produce can increase the risk of diet-related illness, such as obesity.

In 2011, the reported obesity rate for the entire state of Massachusetts was 24.2 percent (Hirsh, 2016). The obesity rate in Worcester, Massachusetts was reported as approximately 32 percent in 2011, as shown in Figure 6 below (Hirsh, 2016). These percentages show that Worcester residents are facing a “new hunger” that is plaguing the nation, as a result of unhealthy eating and limited consumption of fresh produce necessary for a nutrient-rich diet.

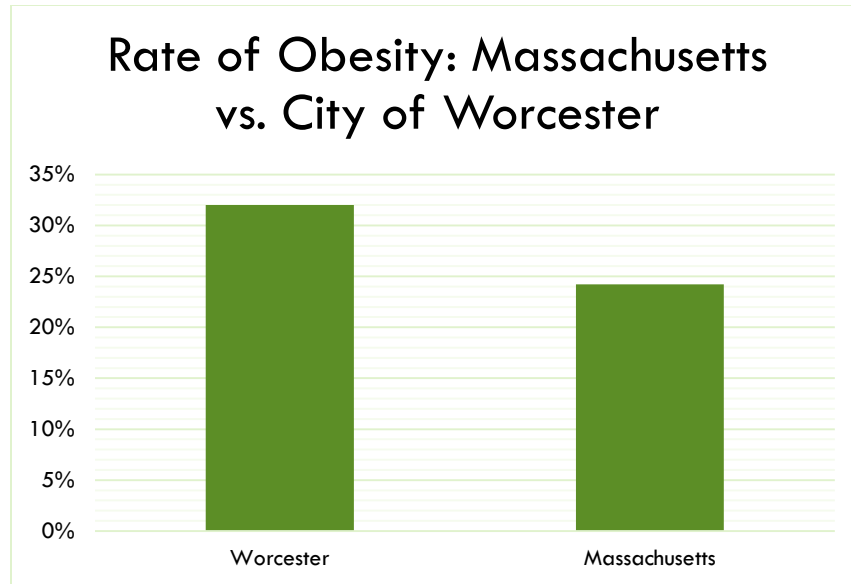


Figure 6: Obesity Rate in Massachusetts versus City of Worcester (Hirsh, 2016)

This “new hunger” is also displayed by data from the Worcester City Government, which found that in 2011, only 24.3 percent of the Worcester population consumed the USDA recommended five or more servings of fruits and vegetables daily (Hirsh, 2016). The high rates of obesity and under-consumption of fresh fruits and vegetables are major indicators that many residents of the city are food insecure.

Another indicator that shows food insecurity in Worcester is the map of food deserts throughout the city’s neighborhoods. Food deserts, as mentioned in the previous section, include areas that have a significant amount of low-income households. As illustrated in Figure 7, Worcester has a prevalence of food deserts.

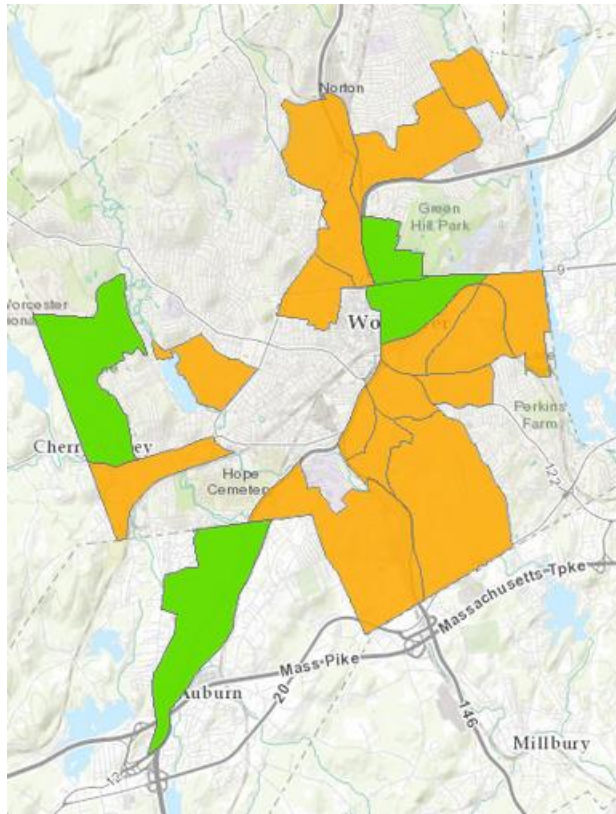


Figure 7: Food deserts in Worcester (Ver Ploeg & Breneman, 2016)

As displayed above, wide areas of Worcester are considered food deserts. The green area represents neighborhoods where a significant number of residents are more than 1 mile (urban) or 10 miles (rural) from the nearest supermarket (USDA, 2016). Those who live more than 0.5 miles from a supermarket are represented by the orange area, including the Greater Worcester municipalities: Grafton, Holden, Leicester, Millbury, Shrewsbury, West Boylston, and Worcester. Worcester center and the west/southwest portion of the city are most afflicted by the problem. The prevalence of obesity and limited access to supermarkets make many in Worcester food insecure.

A number of barriers put Worcester residents in food insecurity. The *first barrier* is financial. Worcester residents with low incomes are often forced to spend less on fresh fruits and vegetables, as they are available at a higher cost than processed, high sugar foods (Drewnowski

& Eichelsdoerfer, 2010). The *second barrier* is the inaccessibility to a vehicle. People without a personal vehicle who live over a mile from grocery stores tend to go to a corner store or convenience store to buy inexpensive, unhealthy foods because they do not have the time or money to find alternate modes of transportation to more distant supermarkets (Ver Ploeg, 2009).

2.3.1 LOW INCOME STATUS IN WORCESTER

In the city of Worcester, residents with lower incomes are more likely to suffer from poor eating habits. The Department of Numbers reported that in 2015 the per capita income of Worcester residents was \$31,792, which is almost \$5,500 lower than the average per capita income of Massachusetts (Department of Numbers, 2015). Additionally, according to the Central Massachusetts Regional Public Health Alliance, the median household income in Worcester was around \$11,000 less than the median household income of the rest of the state in 2013 (Central Massachusetts Regional Public Health Alliance, 2015).

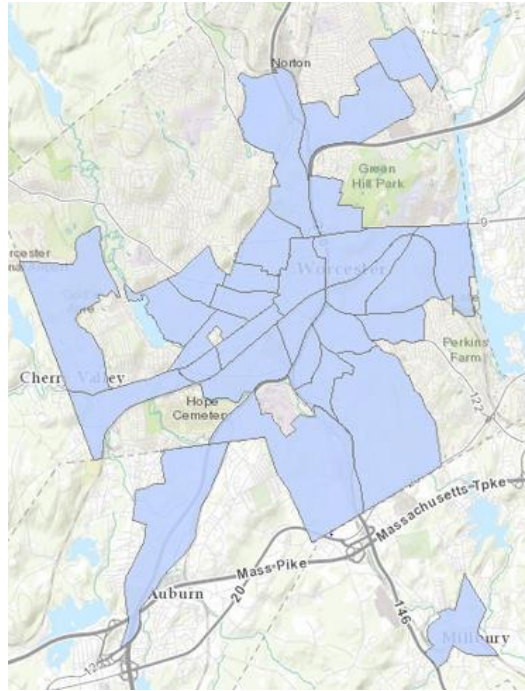


Figure 8: Low Income Areas in Worcester (Ver Ploeg & Breneman, 2016)

Figure 8 displays areas of Worcester where the median family income is 80% less than the average income in Massachusetts (USDA, 2015). Lower incomes have been shown to reduce diet quality, because individuals with lower than average economic standing have limited food choices. Foods, which are plentiful in nutrients are costly, and as a result are not a feasible option for Worcester residents with lower annual earnings. According to Dr. Drewnowski, Director of the Center for Public Health Nutrition at the University of Washington, low incomes are directly connected with food insecurity, because, when someone earns less and the family budget shrinks, food choices shift toward cheaper but more energy-dense foods, such as “junk foods” (Drewnowski & Eichelsdoerfer, 2010). Conversely, higher income households have enough of a budget to buy healthy foods such as whole grains, seafood, lean meats, fresh fruits and vegetables. Unfortunately, many financially strained people will be resort to items such as canned fruits and vegetables in attempts to eat healthy, but these canned foods are not nutritious

enough to take the place of fresh produce. Not only is affordability a contributing factor, but transportation limits residents access to fresh produce.

2.3.2 LOW VEHICLE ACCESS IN WORCESTER

A lack of consistent access to a motor vehicle can also contribute to food insecurity. According to Worcester Polytechnic Institute's Interactive Qualifying Project (IQP), 'Bringing More to Your Door', 29.6 percent of households in Worcester lack a personal vehicle, which is one of most important factors in getting to a grocery store where healthy food alternatives are available (DeVries, 2011). According to Michele Ver Ploeg, an economist at the USDA, households with fewer resources (i.e. SNAP households, and food insecure households) are less likely to have their own vehicle to use for their regular food shopping (Ver Ploeg, 2015). Those individuals who do not have a car and must walk to close grocery store are not only often limited in selection, but in the quantity of food that they can carry back to their homes. Transportation in and of itself reduces the likelihood that low income individuals and families buy healthy foods, because it factors in as an additional expense to an already limited budget (Wiig & Smith, 2009).

To resolve this situation, there are many not-for-profit farming initiatives, which work to support local residents by distributing healthy foods, while also providing a variety of education programs. The Community Harvest Project (CHP) is one such organization extending its hand to help those in need throughout Worcester County.

2.4 COMMUNITY HARVEST PROJECT

The Community Harvest Project (CHP) is a non-profit community farm based out of North Grafton, Massachusetts. They depend on volunteers' help to function and grow fresh fruit

and vegetables for Worcester County residents who have limited access to healthy food alternatives. According to Alicia Cianciola, Program Manager at CHP, many Worcester residents are limited in access to nutrition education, which is coupled with lack of ingredients knowledge (Cianciola, 2016). If residents had more opportunities to learn about nutrition, healthy foods, and how to cook some of the ingredients grown locally, it would help reduce the prevalence of unhealthy eating in Worcester.

CHP wants to increase the scope of its assistance and food programs. Because of this desire, Ms. Cianciola reached out to Worcester Polytechnic Institute's Worcester Community Project Center for aid in five particular areas. Our group identified and evaluated strategies in the following six areas of both CHP and 15 comparable organizations:

- Nutrition education
- Tracking produce distribution
- Funding
- Volunteers
- Maintaining relationships
- Outreach

After analyzing CHP and other organizations, we made recommendations to optimize their farm operations. We discuss our methodological approach in the following chapter.

CHAPTER 3: METHODOLOGY

The Community Harvest Project (CHP), located in Grafton, Massachusetts is a non-profit community farm organization that grows and donates fresh fruits and vegetables to those in need within the greater Worcester community. The staff at CHP sought to improve the farm operations and community outreach of CHP through expansion of nutrition education programs, improved tracking of produce distribution, maintaining partner relationships, implementation of strategies used at other non-profit farm organizations, and by the identification of populations that would benefit from the help of CHP. The goal of our project was to assess the costs and the feasibility of implementing potential changes in a collaborative effort with CHP. We discussed our objectives as well as the research methods we used to complete our objectives in the following sections.

OBJECTIVES

To accomplish the goal of improving farm operations and community outreach, our team objectives were as follows: to identify and evaluate nutrition education programs and methods for tracking produce distribution, to identify and comparatively analyze operational strategies of other non-profit farm organizations, and to evaluate what populations need CHP and for what purpose. Our methods for data collection included internal data collection, secondary data collection, and interviews. The six objectives we accomplished are listed below:

Objective 1: Identify and Evaluate Current Nutrition Education Programs at CHP

Objective 2: Identify and Evaluate Current Methods for Tracking Distribution and Maintaining Partner Relationships at CHP

Objective 3: Identify Strategies from Similar Non-Profit Organizations

Objective 4: Comparatively Analyze Strategies of Similar Non-Profit Organizations

Objective 5: Identify and Evaluate Who Needs CHP and for What Purpose

Objective 6: Develop Recommendations for CHP

We discuss each objective in more detail in the following sections.

OBJECTIVE 1: IDENTIFY AND EVALUATE CURRENT NUTRITION EDUCATION PROGRAMS AT CHP

To accomplish this objective, we identified the nutrition education programs offered by CHP to the greater Worcester community through interview and discussion with CHP staff members. We attended nutrition education programs offered by CHP, as participatory observers, to gather information such as the number of attendees, age of attendees, education topics covered, and feedback from attendees.

We conducted semi-structured interviews with Alicia Cianciola, the Program Manager at CHP, to get a better understanding of how the nutrition education programs at CHP are planned, scheduled and conducted. We conducted semi-structured interviews, which used predetermined questions that could be changed, reordered, added, or removed based on the interviewee's responses and the direction that the conversation took. This method of interview is beneficial because it allows for focused, two-way communication that is similar to a conversation. However, semi-structured interviews can be challenging because they require a skilled interviewer who does not unintentionally influence the responses of the interviewee by asking questions. To ensure proper wording, our team sent our draft interview questions to Ms. Cianciola and to our advisors, Corey Denenberg Dehner and Purvi Shah, for their advice on how to best word our questions.

After completing the interviews, we analyzed the responses from representatives and to compare the organization and management of CHP's programs to those of similar agencies. We interviewed Vittoria Buerschaper, Education and Outreach Coordinator at CHP, who explained the topics and goals of each CHP education program. After identifying the topics and goals of each program, we analyzed this data to later use for comparison to the topics and goals of other organizations.

We had the opportunity to observe a field trip to CHP, attended by second grade students from the Mary E. Finn School in Southborough, Massachusetts. During this program, we observed students engage in the following activities: vegetable taste testing, nutrition fact learning activities, seed saving, and farm equipment education. The qualitative and quantitative information we gathered was important to both our evaluation of current nutrition education programs at CHP and to our development of a recommendation to improve these programs. Further, we used the findings from this objective in our comparison and analysis of the nutrition education curriculum of CHP to those of other non-profit farm organizations.

OBJECTIVE 2: IDENTIFY AND EVALUATE CURRENT METHODS FOR TRACKING DISTRIBUTION AND MAINTAINING PARTNER RELATIONSHIPS AT COMMUNITY HARVEST PROJECT

To accomplish this objective, we identified both the methods for tracking produce distribution and the relationships CHP maintains with its partner organizations. Tracking of distributed produce included only produce sent to direct partners, not including the Greater Worcester Food Bank. We identified a direct partner as an agency that received produce from CHP and further distributed produce directly to the population it served. We identified a secondary partner as an agency that received produce from CHP, such as the Greater Worcester Food Bank, and distributed that product to another agency that is responsible for delivering

produce to clients. For example, produce distributed from CHP to the Greater Worcester Food Bank is further dispersed to other agencies that do not report back to CHP about what type of produce, and the quantity of that produce that is given to each organization. If this information was reported back to CHP, it would help CHP evaluate how far, and to what populations, their produce is reaching.

Alicia Cianciola mentioned in an informal interview with us, that the final destination of the produce is hard to know for sure, due to a lack of direct communication between distribution partners (Cianciola Interview, 2016). In 2016, CHP's top partners switched from picking up produce from the Greater Worcester Food Bank, to picking up produce directly from CHP location. CHP changed the pickup location in an effort to better identify where their produce is distributed. CHP documented this information about distribution in a spreadsheet called the Harvest Log.

We analyzed the 2016 Harvest Log to identify what type and quantity of produce was distributed to each partner agency. The 2016 Harvest Log is a spreadsheet that documents the following aspects of produce distribution: partner organization, date of pick-up or drop-off, type of produce distributed, quality of produce distributed, and both the number of pounds and servings in each distribution.

We interviewed Annie Stegink, the Farm Coordinator at CHP, to learn how distribution with partner agencies at CHP is managed. By interviewing Ms. Stegink, we were able to identify the following: how agencies become partners with CHP, how relationships with these agencies are maintained, how pick-up or drop off dates are scheduled and managed, and how quality of produce given each distributor is selected. For example, several organizations will only accept "firsts", which are high quality produce, while other organizations accept "seconds", which are

bruised or misshapen produce that will be salvaged and used in prepared foods. Understanding the current distribution methods used at CHP made it possible for us to recognize areas that needed improvement, and also provided us with a basis for comparing CHP's distribution methods to those of similar organizations.

OBJECTIVE 3: IDENTIFY AND EVALUATE STRATEGIES FROM SIMILAR NON-PROFIT ORGANIZATIONS

In order to effectively compare CHP to similar organizations, we conducted semi-structured interviews with similar non-profit farm organizations in order to identify their strategies in six main operational areas: nutrition education, tracking produce distribution, maintaining relationships, financials, volunteers, and outreach.

To begin, we discussed as a team, with the help of both our sponsor as well as our advisors, a feasible goal for the number of interviews we could conduct given the seven-week time frame. We concluded that 15-20 interviews would be enough to observe themes among responses, as well as allowing for a variety of responses. In choosing which organizations to contact, we used information acquired from Alicia Cianciola, Project Manager at CHP. Ms. Cianciola created a comparative Excel spreadsheet for us that listed food justice organizations in which CHP had been interested in learning more about in a particularly strong area.

The spreadsheet had 72 potential organizations, located both nationally and statewide, for us to choose from, with data including: whether or not the organization has a budget and if so, what the budget is, the presence of farm volunteers, and if so, the number of volunteers per year, the presence of nutrition education programs and funding for each program. Our team spent time researching each organization's website, choosing ones that had detailed descriptions of programs in the six previously mentioned areas above, which were similar to CHP's identified

strategies. We then sent emails or called the organization to set up an interview, following up with the organizations no more than two days later to confirm an interview date.

In addition to the spreadsheet, Ms. Cianciola provided us with a list of organizations that she had direct contacts with from past conferences or collaborations with CHP, highlighting approximately eight that she was most interested in for comparison. For example, America's Grow a Row is an organization that Ms. Cianciola had a contact with as she had spoken with President and Founder at a conference in past years, as well as high interest in detailed insight into their success in collaboration between partners over competition.

Given the seven-week timeframe, priority was given to the organizations that called back most expeditiously. By the end of the project, we had conducted 15 interviews, with the organizations and their locations listed in Table 1 below. We chose to interview ten organizations located in Massachusetts, to learn their methods for distribution, since they share a common growing season with CHP. National organizations, outside of Massachusetts however, offered insight into strategies that CHP could still benefit from in areas not involving growing season.

Table 1: Characteristics of Organizations Interviewed

Organization	Serving Areas	Number of Staff	Acreage of Farm	Number of Volunteers	Annual Produce (lbs)
1. Community Harvest Project	Urban	10	50 acres	11,000	270,000
2. Growing Places	Urban	6	No Farm	100	N/A
3. Just Roots	Rural	8	N/A	N/A	10,000
4. America's Grow a Row	Suburban	18	175 acres	7,000	1,200,000
5. Natick Community Organic Farm	Suburban	9	N/A	N/A	N/A
6. Newton Community Farm	Suburban	4	N/A	N/A	N/A
7. Green Meadows Farm	Suburban	5	N/A	N/A	N/A
8. Dismas House	Urban	N/A	N/A	N/A	N/A
9. Salvation Farms	Rural	10	No farm	179	217,696 gleaned
10. REC Worcester	Urban	20	62 urban community gardens	8,000	15,000
11. Boston Area Gleaners	Urban	6	No farm	267	364,282 gleaned
12. EarthDance Farms	Urban	13	14 acres	599	25,000
13. Gaining Ground	Suburban	4	3 acres	3,200	60,000
14. Worcester Common Ground	Urban	6	No farm	No volunteer	N/A
15. Second Harvest Foodbank of Santa Clara and San Mateo Counties	Urban	8	No farm	6,200	67,000,000 gleaned
16. Hunger Task Force	Urban	57	173 acres	5,900	9,400,000

Interviews were conducted by two or more of our group members, with the interviewee being a representative from each organization. We conducted ten interviews by telephone, and the remaining five interviews in person. On average, telephone interviews were approximately 30 minutes long, and in person interviews were approximately one hour long, since interviewees were kind enough to give us a tour of their site. During each telephone interview, one of our group members spoke with the interviewee on speakerphone, while the other group members took notes. We compared and discussed notes after the interview to compare interviewee responses. Having one group member speak on the telephone reduced the risk of confusion during the call, and provided consistency for the interviewee.

Prior to asking our questions, we read a preamble to the interviewee and we asked the interviewee if we could quote them, and if they wanted a copy of the report when it was completed. In addition, we asked each interviewee if we could follow-up with them for more information if we needed clarification on any question.

We developed interview questions based off an outline for each of the six major areas that described CHP's general interest in the area. Interview questions and the outline can be seen in Appendix A and B, respectively. The outline represents the factors within each major area that CHP was interested in. The focus of each interview was determined by researching the mission statement, programs, and community involvement of each organization. We created the following categories, as requested by our sponsor, as the focus for each interview: nutrition education, volunteering, financial strategies, and distribution/partner relationships. We also added multiple sub-categories to our spreadsheet, illustrated in Table 2, below, to help us determine which areas CHP may want to research in more detail.

Table 2: Interview Data Collection Categories

Interview Focus	General Information	Nutrition Education	Volunteer	Financial Strategies	Distribution/Partner Relationship
Sub-categories	Location	Presence of Education coordinator	Annual headcount	Major portion of funding	Gleaning/ distribution method
	Size	Detailed explanations of each program	Way of assisting organization	Sell produce	Tracking produces
	Mission	Program outcomes	Consistency of volunteers	Annual report	Maintaining partner relationship

By maintaining an organized spreadsheet, we were able to compare organizations similar to CHP, and to develop recommendations to conclude our project.

OBJECTIVE 4: COMPARATIVELY ANALYZE STRATEGIES OF SIMILAR NON-PROFIT ORGANIZATIONS

We comparatively analyzed similar non-profit organizations that provide food relief services to individuals in need. The semi-structured interviews we conducted in Objective 3, allowed us to compile a substantial amount of information. We compared and analyzed this information to reveal common trends in responses within the following categories: financial strategies, volunteers, partner relationships and education programs. We recognized trends in the data, as well as potential sources for our recommendations for improvement to CHP operations and outreach.

A practical tool that we used to determine areas for CHP to improve upon, and ways they can improve, is SWOT (strengths, weaknesses, opportunities, threats) analysis method. This method is utilized to elicit a particular change, or to solve a problem. By completing a SWOT

analysis (Appendix C) focused around the Community Harvest Project, we identified strategies CHP can implement to improve its operations and community outreach. Our external analysis of similar organizations helped us to recognize successful strategies offered at other organizations, as well as potential threats posed by CHP incorporating strategies from model agencies. For example, a threat CHP encounters is when they hand off produce to distribution partners, the produce sometimes ends up at locations beyond the target population. Without CHP having information on where the entirety of their produce goes, they are unable to obtain the accuracy they prefer when trying to understand how many Worcester County residents they are able to assist. Our internal SWOT analysis of the programs at CHP helped us to determine strategies that could be implemented to improve current operations and outreach at CHP.

OBJECTIVE 5: IDENTIFY AND EVALUATE WHO NEEDS CHP AND FOR WHAT PURPOSE

The target population of outreach is the hunger relief network in the Greater Worcester County Area, and CHP believes more populations could benefit from their resources. This centered on the question of “Who needs CHP and for what?” Through semi-structured interviews with local nonprofit organizations outside of the hunger relief network, we identified populations within the greater Worcester community that could benefit from the help of CHP. We used the responses from these interviews to determine what populations CHP may not assist when assessing where their help may be needed. We facilitated informal interviews with CHP staff to discuss the potential of bridging a gap between demographics in Worcester County in need of healthy food alternatives, and the organizations that provide them.

Three interviews in particular helped us to determine specific groups that could benefit from CHP’s operations. Molly Hourigan, from Dismas House, Casey Burns, from the Regional Environmental Council, and Yvette Dyson, of Worcester Common Ground, brought to our

attention a particular group who CHP could assist. We found that each of these individuals' extensive work with their respective organizations allowed us to identify specific demographics we would not have been able to identify on our own.

OBJECTIVE 6: DEVELOP RECOMMENDATIONS FOR CHP

After completing objectives 1-5, the final component to our project was to develop recommendations for improvement to each program and operational strategies at CHP. We provided CHP with the data we compiled including the following: background research, spreadsheets of local and national organizations and interviewee responses. We utilized this information to create a list of potential changes to the operations and community outreach at CHP, which our sponsor will present to the CHP board of directors in January 2017.

We spent several days going through both the interview responses and charts looking for practices organizations incorporated that appeared beneficial for CHP to adopt. In most cases, we had a good idea of a particular practice one organization utilized that we thought would be useful, but in other instances, through themes and commonalities in the charts, we were able to recognize other practices that we had not thought of before. From there, we concluded ways in which CHP could effectively implement the same strategies to enhance their current system.

CHAPTER 4: GENERAL INFORMATION ABOUT ORGANIZATIONS

Throughout the United States, hunger relief networks work to expand access to fresh fruits and vegetables and to help alleviate the obesity epidemic (see Chapter 2). A hunger relief network is known as a “collection of agencies that implement a wide range of programs and methods of ultimately connecting people in need with food and/or with the resources to obtain food” (A. Cianciola, personal communication, December 5, 2016). In our project, we focused on 15 organizations that are involved hunger relief networks across the United States. All 15 organizations share the common mission of providing access to the food that every person deserves: fresh fruits and vegetables to maintain a balanced, healthy diet. A brief description of each organization is provided for reference below.

America’s Grow a Row

Location: Pittstown, New Jersey

Description: Through gleaning partner farms and harvesting on their own farm, America’s Grow a Row is driving a movement in bringing fresh produce to those who need it most, all the while fostering other incredibly positive elements along the way. America’s Grow a Row: educates people from children to elderly about hunger and how they can help, introduces youth to farming and what it means to eat healthy, cultivates a future generation that has the habit and passion of giving back, and contributes to sustainable agriculture (America’s Grow a Row, 2015).

Boston Area Gleaners

Location: Waltham, Massachusetts

Description: Boston Area Gleaners distributes “high quality, local produce to food pantries and meal programs by working closely with farmers, providing volunteer labor to harvest what would otherwise be plowed under” (Boston Area Gleaners, 2016). In 2015, Boston Area Gleaners delivered **1.45 million four-ounce servings** to food- insecure individuals! They are not only improving access to fresh produce, but rescuing what would be wasted in the process, actively contributing to sustainability and following the motto “Leave No Crop Behind!” (Boston Area Gleaners, 2016).

Dismas House

Location: Worcester, Massachusetts

Description: Dismas House is passionately dedicated to rebuilding lives of former prisoners, offering them a home in Worcester where they are supported in “rekindling hope for themselves” (Dismas House, 2016). Former prisoners at Dismas House participate in the Dismas Family Farm, where they work on the farm planting, harvesting, and whatever else is needed. The farm work is rehabilitative because it allows residents to take ownership of their work, offering life skills including patience and responsibility.

EarthDance Farms

Location: St. Louis, Missouri

Description: Differing from the other organizations, EarthDance Farms “sustainably grows food, farmers, and community, one small farm at a time, through hands-on education and delicious experiences” (EarthDance Farms, 2016). Emphasizing community along with offering nutrition education makes a learning experience so much more motivating and exciting when you are creating something together.

Gaining Ground

Location: Concord, Massachusetts

Description: An organic farm that grows and distributes the entirety of its fresh produce to meal programs and food banks, Gaining Ground is dedicated to working with hundreds of community volunteers towards their mission. According to Program Manager, Fan Watkinson, sometimes being a smaller organization helps because it allows Gaining Ground to be more customized and less systematic in their strategies. In her words, Gaining Ground is “boutique in terms of who they work with”, able to put more specialization in their target population (F. Watkinson, personal communication, November 15, 2016).

Green Meadows Farm

Location: South Hamilton, Massachusetts

Description: Green Meadows Farm is an organic farm that focuses on certified organic harvesting and youth education. Their education programs focus on home schooling kids who are predominantly between the ages of 3 and 5. Green Meadows is able to provide fresh meat, eggs, fruits, vegetables, and even flowers to individuals who are members of their CSA program.

Growing Places

Location: Leominster, Massachusetts

Description: Through gardening, Growing Places helps low-income individuals, families, and communities in North Central Massachusetts the health, economic, and social benefits of growing their own produce with food gardens, and teaching the skills to maintain them. By providing both the garden and the skills to maintain them, they lay the groundwork for an increased access to fresh, economically sound produce, than if they supplied the garden without the tools and skills to grow the produce on their own each season (Growing Places, 2016).

Hunger Task Force

Location: Milwaukee, Wisconsin

Description: Hunger Task Force is a free and local food bank leading anti-hunger in Wisconsin. They are the only food bank in Milwaukee that does not charge for food, delivery, or network membership. They believe that “every person has a right to adequate food obtained with dignity” (Hunger Task Force, 2016).

Just Roots

Location: Greenfield, Massachusetts

Description: Just Roots is an organization that connects community with “land, resources, and know-how”. They believe that “culture plays an integral role in their ability to attract engagement, empower change, motivate community members and inspire great work” (Just Roots, 2016).

Natick Community Organic Farm

Location: Natick, Massachusetts

Description: Natick Organic Farm is a non-profit certified organic farm that has a heavy focus on providing education based programs to youth all year round. The farm looks to establish connections between the youth who attend their programs and the land they work on. Natick Community Organic Farm incorporates a curriculum based education program that helps students learn not only about farming, but also STEM topics with the hopes their students to become good stewards of the environment (Natick Community Organic Farm, 2016)

Newton Community Farm

Location: Newton, Massachusetts

Description: Newton community farm is a non-profit community farm that provides locally grown foods through CSA, farm stand, Newton’s Farmer’s market, and also donates to local food pantries. The farm models and teaches public about agriculture and environmental practices. The farm focuses on youth program to provide kids an opportunity to learn about academic based farming practices (Newton Community Farm, 2016).

Regional Environmental Council (REC) Worcester

Location: Worcester, Massachusetts

Description: Regional Environmental Council Worcester is environmental justice organization which provides multiple Food Justice Program. Food Justice Program focuses on community garden network, youth development through urban agriculture, farmer’s markets, and new mobile market program. The organization also helps refugee farmers to settle down at United States (Regional Environmental Council Worcester, 2016).

Salvation Farms

Location: Morrisville, Vermont

Description: Salvation Farms is an agriculturally minded organization focused on reducing the amount of food loss within the state. Salvation Farms as an organization does not own its own farm, however it collaborates with local farms to create a traditional model of gleaning produce. In doing so, they are able to take produce that would otherwise go to waste, and distribute this food to individuals who could benefit from it as a means to establishing a more healthy diet (Salvation Farms, 2016).

Second Harvest Food Bank

Location: Silicon Valley, California

Description: Second Harvest food bank is one of the largest food banks in the country serving over a quarter million people every month. Although Silicon Valley is an affluent community, rising cost of living has increased hunger in the area. Second Harvest combats hunger by conducting an extensive list of programs, such as assisting seniors by providing healthy groceries and in depth nutrition education programs conducted by knowledgeable staff (Second Harvest Food Bank, 2016).

Worcester Common Ground

Location: Worcester, Massachusetts

Description: Worcester Common Ground is a non-profit organization that promotes and develops permanent and sustainable improvement in the neighborhoods of central Worcester through affordable housing, community activism, and economic development. The organization acts as a developer of rehabilitate abandoned housing and acquiring parcels of vacant land for new construction to provide low income population with affordable rental units, and the opportunity to own their own houses (Worcester Common Ground, 2016).

You can reference back here for context of mentioned organizations below. Following are findings and recommendations that both Community Harvest Project and many more could benefit from.

CHAPTER 5: FINDINGS

This chapter presents results of 15 the semi-structured interviews and four informal interviews in six sections. Our findings are not only useful for CHP, but also many other organizations dedicated to providing access to fresh produce to low-income residents. Every single human being deserves to eat fresh fruits and vegetables, and they deserve to receive it with honorable and respectable means. We discuss nutrition education in section 5.1, in which we describe our findings for methods of education and desired program outcomes. In section 5.2, we present our findings for methods of tracking distributed produce and the effectiveness of these methods. We report our findings for maintaining relationships in section 5.3, in which we provide information about both partner and volunteer relationships. In section 5.4, we present our findings for how organizations are funded through both corporate donations and through grants. We discuss our findings for the contribution and commitment of volunteers is in section 5.5. Finally, in section 5.6, we report our findings for community outreach. Each of the six sections offers valuable claims that can positively contribute to improving strategies.

5.1 NUTRITION EDUCATION

Of the 15 organizations we interviewed, we learned that 10 organizations have nutrition education programs. These 10 organizations offer a variety of nutrition program topics, such as healthy eating, preparing meals, and community gardening, to both adults and youth attendees. In this section, we present our findings for youth education, hands-on education, long-term education, and desired program outcomes. We have created a table that summarizes the goals,

impacts and planning strategies for each organization's nutrition education programs (See Appendix D).

FINDING 1: ELEMENTARY SCHOOL CHILDREN ARE OFTEN MORE RECEPTIVE TO NUTRITION EDUCATION THAN ADULTS

We interviewed ten organizations that offered nutrition education programs to elementary school children, as shown below in Table 4. Nine of these organizations chose to focus their efforts towards teaching young children the importance of eating fruits and vegetables to not only make a positive impact on their current diet, but also to set them up for a lifetime of health. We interviewed representatives from these organizations to find out why youth nutrition programs are so important in building healthy eating habits that can last a lifetime. In addition, we wanted to find out which types of programs these young children enjoy and learn from the most.

We found that elementary school children are usually more willing to participate and learn from nutrition programs. We interviewed Fan Watkinson, the Program Manager of Gaining Ground, a non-profit organization dedicated to growing organic produce for hunger relief, to get a better understanding of why youth may be more open-minded to learning about why produce is important to overall health. Ms. Watkinson suggested that elementary school children are so willing to learn and try new foods because they have not yet developed food preferences (F. Watkinson, personal communication, November 15, 2016). She added that the parents of these children often have a significant impact on the dietary choices of the children. Ms. Watkinson went on to mention that exposing children to new fruits and vegetables in a setting without their parents, such as in the classroom or on the farm, can make them more comfortable to try new

foods they made not have tried otherwise while their parents were by their side (F. Watkinson, personal communication, November 15, 2016).

We later interviewed Allison Scorer, the Farm Educator and Outreach Coordinator of Newton Community Farm, which is an organization dedicated to supporting sustainable farming and environmental practices. Ms. Scorer explained to us that elementary school children are able to learn nutrition information quickly and relay what they have learned about the importance of healthy eating to their peers, parents and teachers (A. Scorer, personal communication, November 4, 2016).

The ten organizations we interviewed teach children how their food is grown in a variety of ways such as through in school garden programs, neighborhood community garden programs and on the farm programs. These organizations also offer a variety of nutrition education topics to children in their programs. Some of these topics include garden-to-table cooking classes, vitamin and nutrient education, and farm animal product education, such as how eggs and milk are produced. A full list of the nutrition programs offered at each organization is shown below in Table 3.

Table 3: Education Programs Offered at Organizations Interviewed

Organization	Education Programs Offered	Target Audience
1: Growing Places	On site: community gardens, teaching gardens, garden-to-table cooking classes	Individuals/families below 80% of mean income
2: Just Roots	On site: farm programs In school: in-class farming education, snack markets Other: mobile farmers markets	Specific interest groups depending on workshop topic, anyone interested, youth K-5
3: America’s Grow a Row	On site: sustainability of agriculture, cooking and healthy eating classes, raised beds In school: free farmer’s markets	All ages, focus on youth Low income inner city areas
4: Natick Community Organic Farm	On site: farming education, healthy eating education, soil and plant education, animal product (eggs, meat, wool) education, variety of other programs topics	All ages, focus on youth
5: Newton Community Farm	On site: farming education, healthy eating education, cooking classes	Youth, PreK-5 students
6: Green Meadow Farm	On site: farming education, composting, CSA, farm animal education	Youth, K-5 students
7: REC Worcester	In school: school gardens Other: community gardens, mobile farmers markets, agricultural training	All ages, focus on youth Refugees
8: EarthDance Farms	On site: youth farming programs and healthy eating lessons	Youth, young adults Anyone over the age of 14 who wants to grow food for themselves or others
9: Hunger Task Force	On site: farming education, healthy eating and cooking healthy recipes	Low income children (Youth, 3rd, 4th grade)

As shown in Table 3 above, all ten organizations offered farm or garden programs to elementary school children as a way to teach them how produce is grown from planting to

harvesting. Three of these agencies gave student the chance to learn both on the farm and in their school classroom. In doing so, these organizations are able to reach a wider audience of students than the seven that only offer on-site education programs.

One organization we interviewed that offers both on the farm and in school education programs to students is Just Roots in Greenfield, Massachusetts. Just Roots, is a non-profit community farm that strives to increase access produce by joining people, land, resources and knowledge (Just Roots, 2016). Just Roots offers on the farm workshops where students can learn the basics of how to plant, maintain, and harvest crops.

We interviewed Jay Lord, the Founding Director of Just Roots, to better understand how what programs are offered and what he hopes the students will gain from each program. Mr. Lord described that Just Roots offers in school raised-bed garden programs to elementary school children where student are able to plant their own seeds and harvest what they grew in the fall (J. Lord, personal communication, November 1, 2016). During this program, each classroom focuses on growing one crop, such as tomatoes or carrots, with the help of their teacher and Just Roots staff. A fall festival is held at the end of the season where students are able to showcase what they grew to their families and friends in other classes. During the fall festival, students can also try new fruits and vegetables, and foods made using those fruits and vegetables (J. Lord, personal communication, November 1, 2016).

Mr. Lord explained that the goal of the on-site farm program is to have children build skills needed to grow their own food (J. Lord, personal communication, November 1, 2016). He described that the goal of the in school garden program is to have students become invested in their plants and to have them become excited about gardening and healthy eating. In addition, he mentioned that students are able to increase their knowledge of fruits and vegetables and expand

the variety of produce in their diets through the in school garden program (J. Lord, personal communication, November 1, 2016).

FINDING 2: HANDS ON LEARNING WORKS BEST FOR NUTRITION EDUCATION PROGRAMS

We interviewed representatives from ten organizations that used hands-on learning in their nutrition education programs to get a better understanding of why hands-on education can help attendees learn from the programs. We discovered that hands-on learning helped attendees to become engaged in the program in which they were participating. Table 3 above highlights hands-on learning programs.

We spoke with Chip Paillex, the President and Founder of America’s Grow a Row, an organization that strives to “positively impact as many lives as possible through a volunteer effort of planting, picking, rescuing, and delivering free fresh produce” (America’s Grow a Row, 2016). Mr. Paillex explained to us the hands-on learning works best for nutrition education because it engages people and allows them to actively participate in learning. America’s Grow a Row offers students interactive raised bed community garden programs where they are able to plant their own vegetables, and take care of them as they grow (C.Paillex, personal communication, November 3, 2016). Mr. Paillex stated that the goal of this program is to have students become invested in their plants. He added that as an outcome many of the students mentioned that they wanted to start gardens at home with their families because of what they had learned and the enjoyment they got out of the raised-bed garden program (C.Paillex, personal communication, November 3, 2016).

We interviewed Casey Burns, the Food Justice Program Director from the Regional Environmental Council (REC) Worcester, to find out what programs the organization offered

and how they were received by attendees. She explained to us that REC Worcester offers youth a program called YouthGROW (Youth Growing Organics in Worcester) as an initiative of the organizations' Food Justice Program. YouthGROW is an urban community garden intended for youth development and employment for youth in low-income families (REC Worcester, 2016). By participating in an 8 week program, youth complete classes focused on Professional Development, Leadership Skills, Urban Agriculture, and Social Justice (PLUS) (REC Worcester, 2016). Ms. Burns stated that as a result of this program, teens gain job skills, knowledge of the food system, farming skills, and leadership skills that they can translate into future academic and work settings (C.Burns, personal communication, November 10, 2016).

FINDING 3: LONG-TERM NUTRITION EDUCATION PROGRAMS ARE MORE EFFECTIVE THAN ONE DAY PROGRAMS TO ACHIEVE DESIRED PROGRAM OUTCOME

We contacted seven organizations (Growing Places, Just Roots, Natick Community Organic Farm, Newton Community Farm, Green Meadows Farm, EarthDance Farms, Hunger Task Force) that offer long term nutrition education programs to both adults and youth. We noticed that these organizations all offered weekly programs to attendees during the same day and time each week. These long-term programs allow for better learning outcomes than one-day programs because they provide attendees the chance to review and build on what they learned each week (J. O'Brien, personal communication, October 31, 2016). As a result, attendees ultimately learn and retain more nutrition information than can be taught during a single program.

We interviewed Alison Scorer, the Farm Educator and Outreach Coordinator of Newton Community Farm, to find out what programs the organization offers and how these programs help attendees to learn nutrition education. Ms. Scorer mentioned that Newton Community Farm

offers students a five-week program during the off-season, in the late fall, where students in kindergarten through fifth grade are given the chance to learn nutrition education in a classroom setting (A. Scorer, personal communication, November 4, 2016). She added that as an outcome of these programs, students are able to tell what foods are considered healthy and are able to prepare simple, healthy meals for themselves and to share with their families (A. Scorer, personal communication, November 4, 2016). Ms. Scorer then explained to us that long-term programs are important because if students are able to understand and retain information about healthy eating, they will be more likely to implement healthy eating habits into their lives (A. Scorer, personal communication, November 4, 2016). In summary, if students are able to implement these healthy eating habits into their lives, it will make a positive impact on both their current and future overall health.

We interviewed Janet O'Brien, the Director of Program Operations of Growing Places, to find out what programs the organization offers and to find out the response from attendees. Ms. O'Brien explained that Growing Places offers low-income families a season-long teaching garden program, lasting April to October. In this program, participants attend weekly sessions in group setting to learn the basics of community gardens. Ms. O'Brien stressed the importance of weekly commitment to the program, explaining that it allows for staff to form and attendees to form a deeper connection. As a result of the program, attendees learn gardening skills, starting at the first session and building each week, which they bring home to use in their family gardens. Ms. O'Brien stated that the goal of the program is to have attendees make a positive contribution in their own lives, by stressing that Growing Places is "not a charity organization but a skill-building organization" (J. O'Brien, personal communication, October 31, 2016).

FINDING 4: RESPONSIBILITY AND ACCOUNTABILITY ARE DESIRED OUTCOMES AMONG ORGANIZATION'S NUTRITION EDUCATION PROGRAMS

We interviewed four organizations that strived for a heightened sense of responsibility and accountability for desired objectives (Growing Places, America's Grow a Row, Dismas House, EarthDance Farms). These organizations held the hope that the students of the nutrition education program, both adults and youth, leave with new learning outcomes. These skills included a variety of goals including maintaining a home garden for themselves, appreciating nature, connecting with the food they eat, and fostering life skills from their farm work. Many organizations had the goal of attendees translating these skills to generate a personal and environmental awareness.

We contacted Kaitie Adams, the Youth Education Coordinator at EarthDance Farms to gather information about why the qualities of accountability and responsibility are desired outcomes in program participants. EarthDance Farms is an organization that grows organic produce through sustainable hands-on methods. Ms. Adams explained that EarthDance Farms incorporates a Junior Farm Crew Program that focused on teaching high school students farming techniques as a way to develop life skills (K. Adams, personal communication, November 14, 2016). Ms. Adams believes that strenuous farm labor is a great approach to teach young individuals responsibility. She went on to add that the Junior Farm Crew Program provides students with a "safe place for them to grow as individuals and future food leaders." (K. Adams, personal communication, November 14, 2016). Providing teenagers, the chance to work on the farm gives them an opportunity to feel pride in something they created, and offers them areas for creativity and confidence in their work. Additionally, the skills and positive character qualities taught through farm work can be translated into the workforce, as these skills build leadership skills and create healthy work mindsets.

Chip Paillex, President and Founder of America's Grow a Row, has had similar experiences in watching his organization grow throughout the years. Mr. Paillex recalled working with a young man volunteering, who at the time encountered legal issues. The young volunteer began to show up regularly, around six in the morning, to work on maintaining the community gardens (C.Paillex, personal communication, November 3, 2016). The experience that America's Grow a Row was able to offer him sparked a sense of responsibility and contribution in him, making him feel like he was a part of something bigger (C.Paillex, personal communication, November 3, 2016).

Offering experiential learning opportunities that encourage responsibility and accountability is beneficial to the overall mission of improving access and affordability of fresh produce to as many people as possible. When students, both children and adults alike, are inspired through enriching and supportive nutrition education programs, they take that inspiration beyond the program and bring it to their own neighborhoods and communities, creating another web in the network of fighting hunger (J. O'Brien, personal communication, October 31, 2016).

5.2 TRACKING DISTRIBUTION

The second part of our findings focuses on tracking produce distribution of non-profit farm organizations. According to Ms.Cianciola, Program Manager at CHP, tracking the entirety of produce distributed to partners proves to be a difficult task, as once it leaves the site, partners further distribute to various locations (A. Cianciola, personal communication, 2016). We interviewed six organizations, which distribute, or donate their produce in a myriad of ways, in search of a way to document and understand just how wide their net of produce is reaching in

Worcester County. After discussing distribution management techniques throughout the first four weeks of our project, we were able to develop two major findings.

First, the preferred method for recording distributed produce was incorporating paper forms that are later transcribed into a digital master spreadsheet. Second, organizations experience difficulties tracking the entirety of the produce they distribute after it is handed off to partners. Table 4 below summarizes the six strategies for tracking and managing produce data.

Table 4: Operation System of Distributing Organizations

Organization	Way of Managing data	Tracking System
1. America's Grow a Row (AGAR)	<ul style="list-style-type: none"> Recipients write their names on pallets of produce, and this allows AGAR to track it 	<ul style="list-style-type: none"> Pallets are tracked at the distribution sites
2. Boston Area Gleaners (BAG)	<ul style="list-style-type: none"> Have a receipt flip book, handwritten, where they write out amounts and later transfer to a spreadsheet on the computer 	<ul style="list-style-type: none"> BAG tracks the amount of distribution each partner gets
3. Gaining Ground (GG)	<ul style="list-style-type: none"> GG writes everything down on paper forms at farm site All the data on paper are entered in master spreadsheet 	<ul style="list-style-type: none"> Gaining Ground has minimum control once leave the gate. It is hard to track after distribution
4. Hunger Task Force (HTF)	<ul style="list-style-type: none"> Manual harvest logs are used at farm Data are transferred to master spreadsheet 	<ul style="list-style-type: none"> Delivery drivers use tracking log(It contains name of product, how many bins are given to each site) Recipient site has to sign document
5. Salvation Farms (SF)	<ul style="list-style-type: none"> SF use a lot of sheets for tracking They record on blank papers about the list of inventory from farm to storage 	<ul style="list-style-type: none"> Salvation Farms does not encounter the same issues CHP does with occasional lack of knowledge in locations produce reach. They provide their drop off sites with a predetermined amount of produce, which they establish due to long term relationships
6. Second Harvest Food Bank of Santa Clara and San Mateo Counties	N/A	<ul style="list-style-type: none"> Partners report monthly about where produce went and how much

FINDING 5: THE PREFERRED METHOD FOR RECORDING DISTRIBUTED PRODUCE WAS BY USING PAPER FORMS THAT WERE THEN COPIED INTO A DIGITAL MASTER SPREADSHEET

When the daily farm operations are underway, farm managers face field conditions that require data management systems that can get wet and dirty without losing the collected produce data. Hence, we found that recording on paper forms that can be inputted into a Microsoft Excel document is a tried and tested method that works for farming organizations. Ultimately, recording methods revolve around convenience for farm managers busy with daily operations (A. Stegink, personal communication, November 29, 2016).

Community Harvest Project currently uses paper forms as a data management system, which is a popular practice among other organizations (A. Stegink, personal communication, November 29, 2016). All five organizations we interviewed that collect data about their distributed produce use paper forms, which are later inputted into an online spreadsheet, as opposed to solely relying on a computer-based data collection system. All five organizations we investigated highlight this method as a simple, yet efficient method of recording soon to be distributed food.

Hunger Task Force is an organization that “believes that every person has a right to adequate food obtained with dignity” (Hunger Task Force, 2015). They “work to prevent hunger and malnutrition by providing food to people in need today and by promoting social policies to achieve a hunger free community tomorrow” (Hunger Task Force, 2015). According to Amy Wallner, Farm Produce Manager, Hunger Task Force implements a manual harvest log as a reliable way to track what is leaving the farm. In doing so, they can ensure their distribution process is aligning with their mission in bringing fresh produce to food-insecure individuals, with dignity. The data from the harvest log is later transferred to an online master spreadsheet (A. Wallner, personal communication, November 18, 2016).

Likewise, Fan Watkinson, Program Manager, states that Gaining Ground Farm Managers begin with paper forms, because it is both efficient and lessens the chance of losing information with technology; especially when Farm Managers are dealing with dirt, water, and a fast paced environment. Ms. Watkinson takes photos of the physical copies once a month, and then transfers the information into her spreadsheet. The inputted data is then used to create tables, and graphs that allow her to share with Gaining Ground's Board. The board members then analyze the table to search for potential areas for improvement (F. Watkinson, personal communication, November 15, 2016).

Identifying a reliable process for recording produce distribution data is so important for these organizations because they rely on the data to analyze whether they are distributing equally, reaching as much of the target population as possible, in planning for the following season with popular crops and many more parameters that are essential to connecting with food-insecure individuals.

FINDING 6: TRACKING OF DISTRIBUTED PRODUCE IS LIMITED AFTER IT IS DISTRIBUTED TO PARTNER ORGANIZATIONS

When produce is handed off to partners, where it travels to next is a major concern for organizations, as their main goal is to make sure that enough produce is reaching the people that need it most, their target population. Of the five organizations we interviewed that distribute produce to partner organizations for further distribution, three track how much produce is distributed to each partner. Even so, all five are unable to track how that produce is used by their partners.

Fan Watkinson, Program Manager of Gaining Ground, emphasized that once produce leaves the gate, there is little control over where the produce ends up, meaning some produce

may be distributed to other populations, and some may even be taken home by staff at the partner organization (F. Watkinson, personal communication, November 15, 2016). This is not for a lack of trying, though, as even in attempting to have partners report, you risk exaggerated or under reporting to occur. Many partners within the hunger relief network are amazingly dedicated to serving their populations, so if they have a surplus of produce, sometimes the fear of receiving not enough the following time corresponds to false reporting.

Likewise, Annie Stegink, Farm Coordinator at Community Harvest Project, expressed that they are not certain that all distributed produce remains at its intended destination, something that is key in understanding how far they are reaching as an organization. This means that produce may be further distributed to other organizations or populations after it leaves CHP. Additionally, when there is a surplus in produce, partners will find alternate locations for the extra fruits and vegetables, which are not always reported back to CHP (A. Stegink, personal communication, November 29, 2016)

Time and funding is a limiting factor for non-profit organizations. However, the organizations all do whatever they can to maximize their distribution efforts. While they may not have an exact idea of where 100% of all produce ends up, it is not a lack of effort that prevents each organization from eliminating this outcome.

5.3 FUNDING

Every organization requires a certain degree of funding in order to not only keep their operation going, but also to accomplish their mission of aiding food insecure individuals in their communities. Although funding is a necessity, every organization looks to different avenues in order to obtain the financial backing they require. Grants played a very important role in

supporting every organization, however alternative methods were often explored as well. Table 5 summarizes each organization’s sources of funding for reference.

Table 5: Source of Funding and Main Financial Partners of Organizations

Organization	Source of funding	Main Financial Partners
1. Community Harvest Project (Not included in the 12 referenced below)	N/A	<ul style="list-style-type: none"> • Worcester Telegram Magazine • MASS Live
2. Growing Places	<ul style="list-style-type: none"> • Foundation: 70% • Individual: 13% • Government: 10% • Corporations: 3% • Earned Income: 4% 	<ul style="list-style-type: none"> • Shaw's • Workers Credit Union • Enterprise Bank
3. Just Roots	N/A	<ul style="list-style-type: none"> • Big Y • Community Foundation of Western Mass • Baystate Franklin Medical Center
4. America’s Grow a Row	<ul style="list-style-type: none"> • Private Foundation: 82% • Individual/Community Donors: 10% • Corporate Foundations: 8% 	<ul style="list-style-type: none"> • ADP • 3M • AT&T • Bank of America
5. Natick Community Organic Farm	N/A	<ul style="list-style-type: none"> • COAN Heating & Air Conditioning • Fair & Yeager Insurance Agency Inc.
6. Newton Community Farm	N/A	<ul style="list-style-type: none"> • The Village Bank • Honda Village • TripAdvisor
7. Salvation Farms	<ul style="list-style-type: none"> • Grants: 44% • Individual: 26% • Program Revenue: 13% • Business Contributions: 12% 	<ul style="list-style-type: none"> • Action Circles • Baird Farm • Bourne’s energy

Organization	Source of Funding	Main Financial Partners
8. REC Worcester	<ul style="list-style-type: none"> • Government: 5% 	<ul style="list-style-type: none"> • United Way of Central Massachusetts • 1% for the Planet
9. Boston Area Gleaners	<ul style="list-style-type: none"> • Grant & Foundation award: Operating: 41% • Individual Donations & Events: 30% • Earned Income: 14% • Corporate & Matching gifts: 8% • Donated Goods & Services: 7% 	<ul style="list-style-type: none"> • Biogen • IBM • Liberty Mutual • Stop & Shop
10. EarthDance Farms	N/A	<ul style="list-style-type: none"> • AMERICORPS VISTA • National Young Farmers • Operation Food Research
11. Gaining Ground	N/A	<ul style="list-style-type: none"> • Foundation for Metrowest • Concord-Carlisle Community Chest • Cummings Foundation
12. Second Harvest Food Bank of Santa Clara and San Mateo Counties	<ul style="list-style-type: none"> • Individuals: 60% • Corporations: 19% • Foundations: 10% • Government: 6% • Organizations, special events: 5% 	<ul style="list-style-type: none"> • Google • Facebook • Samsung • Ebay • Adobe Foundation
13. Hunger Task Force	<ul style="list-style-type: none"> • Emergency Food: 55% • Individuals: 12% • Government Grants: 12% • Foundations: 13% • Corporations: 4% 	<ul style="list-style-type: none"> • Green Bay Packers • Kohl's • Sargento

FINDING 7: FOOD JUSTICE ORGANIZATIONS RELY ON GRANTS AND DONATIONS AS A KEY SOURCE OF FUNDING, BUT THE SIZE OF THE ORGANIZATION IMPACTS THE LEVEL OF THAT RELIANCE.

Grants play an important role in the monetary support received by similar organizations we spoke with. Paying for farm equipment, seeds to grow crops, retaining a reliable staff, and having a place to work all requires money. Of the 12 interviews where we discussed avenues of funding, only two organizations indicated that they did not rely on some sort of grant. Although many organizations indicated they utilize grants as a form of funding, the level of need for these grants varied. For example, Second Harvest Food Bank indicated that only 4% of their funding came by way of grants, while Boston Area Gleaners receives about 60% of their budget through grants (B. Pillet, personal communication, November 17, 2016, M.Crawford, personal communication, November 11, 2016). The interviews we conducted also showed that large food banks like Second Harvest do not utilize grants to the extent that smaller staffed, farm based, organizations do. Agencies like Green Meadows, who have a Community Supported Agriculture (CSA) program, do not incorporate grants at all, as a CSA provides a reliable source of funding. The organizations that were more likely to apply for grants were the smaller farm based agencies that did not have CSA's, or other well-funded programs, such as the education programs at Natick Community Organic Farm (C. Schell, personal communication, November 3, 2016).

FINDING 8: URBAN FOOD BANKS ARE ABLE TO ESTABLISH DISTINGUISHED ORGANIZATIONS AS PARTNERS AND DONORS

We conducted semi-structured interviews with two food banks (one from California and the other from Wisconsin) in the research phase of our project. These organizations explained the importance of creating corporate sponsorships and partnerships with influential companies in their respective locations. Second Harvest, which operates in the Santa Clara and San Mateo

counties in California, and Hunger Task Force out of Milwaukee, Wisconsin outlined the ways in which they have been able to receive substantial donations through these relationships, which help operations serving a large population.

Bruno Pillet, the Vice President of Programs and Services for Second Harvest Food Bank, indicated that although the Silicon Valley area of California is an affluent community, the high cost of living in the area has also increased the number of individuals who are in need of food services. Fortunately, Second Harvest has been able to establish strong relationships with companies such as Ebay, Samsung, Adobe, and more. In having these relationships, Second Harvest Food Bank has been able to receive funding that allows them to pay for more fresh food and efficient operations to help low-income residents in their neighborhood. In 2015, Second Harvest accumulated about \$37 million in total funding, and Mr. Pillet explained that Second Harvest receives 96% of all funding came from private donations. With these donations their organization was able to purchase \$12 million worth of food in 2015 (B.Pillet, personal communication, November 17, 2016).

Hunger Task Force, on the other hand, has utilized a different approach to achieve their own goals of helping Milwaukee residents in need of food. Hunger Task Force has created partnerships with various companies throughout the city. They receive volunteer groups from Harley Davidson, while also creating programs with organizations like Kohl's, Sargento, and the Green Bay Packers. For example, partnerships with Sargento and the Packers have led to a program where Sargento donates \$1,000 for every touchdown the Packers score (A. Wallner, personal communication, November 18, 2016).

Although the Community Harvest Project has been able to establish their own partnerships with various groups throughout the greater Worcester community, their ability to

develop corporate sponsorships is also inhibited due to their location. CHP is not located in a highly populated city, which reduces the likelihood that they can connect with a local organization that has the financial backing like those of Sargento or Samsung, for example (A. Cianciola, personal communication, 2016).

The locations of both Second Harvest and Hunger Task Force place them within close proximity to the organizations that sponsor or partner with them. Additionally, organizations like Second Harvest have a board comprised of top level employees at well-respected companies in their respective communities, which leads to lucrative partnerships. While Second Harvest and Hunger Task Force look to provide food relief to those in need within their community, much like CHP does, sources of funding, are drastically different.

Having well-known companies as partners increases the amount of funding they can offer an organization, and more funding can mean replacing old equipment to optimize farm operations, as well as increase output in the Worcester area.

5.4 VOLUNTEERS

The fifth part of findings is related to volunteers for nonprofit farm organizations. CHP is well known for organizing a volunteering system and getting many volunteers as compared to its farm size. To compare and contrast how other organizations deal with managing volunteers, we interviewed employees at ten organizations. We discovered organizational differences in volunteer commitment and volunteer responsibilities.

Organizations see a multitude of volunteers throughout the growing season, and as stated above, without their help, the success in distributing large amounts of produce to those in need

would not be possible. Interviewees had a wide range of insight into volunteer commitment discussed below.

FINDING 9: VOLUNTEER AVAILABILITY AND PARTICIPATION IN FARM ORGANIZATIONS VARIES WITH SEASONS AND SCHEDULES ON AN ANNUAL BASIS

With volunteer sizes ranging from eight to 11,000, all 12 organizations we interviewed were able to deliver anywhere from to 15,000 pounds per year of produce grown to 67 million pounds per year of produce gleaned. The incredible amount of assistance provided to target populations is only made possible through the enormous help and support of each and every volunteer, despite the level of commitment being varied.

When the school bells ring and the days start to cool, summer has nearly ended and once again, school is in session. From August to October, at the start of the academic year, farming organizations experience a wave of volunteer interest. Field trips, more free time for parents, and corporate trips to kick off the fall bring the volunteer support that nonprofit food justice organizations thrive on in working tirelessly toward combatting hunger and food insecurity.

The downside, emphasized by Gaining Ground, is that sometimes busy schedules keep volunteers away when they need them most. Fan Watkinson, Program Manager, at Gaining Ground, explained that with a small staff of four, only two of which are farm managers, an ebb in the wave of volunteer interest greatly impacts the stress put on their organization in bringing 60,000 pounds of fresh produce to low-income, food insecure individuals who are dependent on them. Specifically, Gaining Ground sees the highest volunteer participation and availability in September to October, and lacking much needed help in April, when it is time to prepare the fields and plant the seeds for an abundant upcoming season (F.Watkinson, personal communication, November 11, 2016). This could be in part correlated to the fact that there are

school vacations in April and holidays that interfere with a volunteer's flexible schedule. Natick Organic Farm experiences a slightly different wave, with high volunteer interest in the spring, and few available in the summer (C.Schell, personal communication, November 3, 2016).

Each of these non-profits dedicates itself to increasing the availability of healthy produce to as many individuals as possible. If they were able to increase volunteer availability in preparing the fields, planting, and peak harvesting months, these organizations would be able to positively impact a great number of community residents, and therefore help them to achieve their mission.

As volunteers are people with unique schedules and commitments, Founder and President of America's Grow a Row, Chip Paillex, explained that 92% of America's Grow a Row volunteers come out once a year (A. Paillex, personal communication, November 3, 2016). The Natick Community Organic Farm has a similar experience in that it does not have many repeat volunteers (C. Schell, personal communication, November 3, 2016). On the other hand, Second Harvest Food Bank has many regular volunteers, for example, some come once a month with companies that they work with (B. Pillet, personal communication, November 17, 2016). Similarly, Hunger Task Force spoke about a group of eight retired volunteers who have been helping once a week for the last four years. Hunger Task Force also benefits from company group of volunteers, Harley-Davidson, which is a large contributor to their consistent volunteer base (A. Wallner, personal communication, November 18, 2016). Varied level of participation and availability is to be expected as volunteer's daily schedules may vary, and their reasons for volunteering contribute to whether they would be a one-time or regular volunteer.

In comparing the ten organizations that incorporate volunteers, to CHP, we found that CHP has the highest number of 11,000 volunteers annually, shown in Table 6 below, while they

do not have the largest farm acreage. CHP has 50 acres of land compared to Hunger Task Force or America’s Grow a Row with 175 acres, approximately three and half times the size of CHP’s farm.

Table 6: Volunteer Tasks by Different Organizations

Organization	Number of Volunteers	Consistency of Volunteers	Volunteer Tasks
1. Community Harvest Project	11,000	<ul style="list-style-type: none"> Some companies and school volunteer each year 	<ul style="list-style-type: none"> Harvest, sort, and wash produce
2. Growing Places	100	<ul style="list-style-type: none"> Volunteers consistently teach education program 	<ul style="list-style-type: none"> Organize and teach primary education program Volunteers help to build and install 43 raised beds, a community garden, and 3 community garden compost bins
3. America’s Grow a Row	7,000	<ul style="list-style-type: none"> Highest from August to September 92% of volunteers come once a year 	<ul style="list-style-type: none"> Plant and harvest produce Serve on Board of Directors. Variety of people (engineers, pharmaceutical workers) Volunteers help to distribute produce to partner organizations
4. Newton Community Farm	N/A	<ul style="list-style-type: none"> Volunteers usually come to farm during bulk harvesting season 	<ul style="list-style-type: none"> Serve on Board of Directors, entirely volunteers Create marketing and financial plans

5. Natick Community Organic Farm	N/A	<ul style="list-style-type: none"> • More volunteers in spring and few in summer 	<ul style="list-style-type: none"> • Daily farm tasks
Organization	Number of Volunteers	Consistency of Volunteers	Volunteer Tasks
6. Gaining Ground	3,200	<ul style="list-style-type: none"> • Too many volunteers from August to September • Need more volunteers on April • Volunteer organizations usually come back each year 	<ul style="list-style-type: none"> • Volunteers help daily farm tasks such as planting, weeding, and harvesting • Sometimes, GG needs volunteers to help office tasks such as mailings, data entry, research, technology, social media support, or event organization
7. Regional Environmental Council (REC Worcester)	8000	<ul style="list-style-type: none"> • Certain days have more volunteers. Largest number on Earth day 	<ul style="list-style-type: none"> • Help community gardening • Support in teaching curriculum and event planning
8. Salvation Farm	179	<ul style="list-style-type: none"> • Many repeat volunteers • Many volunteers are new faces too. 	<ul style="list-style-type: none"> • On site: volunteers help to glean, clean, and pack produce • There are higher level administrative volunteer such as legal advisors and technology support
9. EarthDance Farms	599	<ul style="list-style-type: none"> • Majority of volunteers just visit once • This year, ED have seen increase in 	<ul style="list-style-type: none"> • On farm: weeding, planting, and harvesting • In the office: data entry, fundraising events

		regular individual volunteers and volunteer groups who work with them on a regular basis	<ul style="list-style-type: none"> • During events, set up, service at farm dinners, clean up, and general event support
Organization	Number of Volunteers	Consistency of Volunteers	Volunteer Tasks
10. Second Harvest Food Bank	6,200	<ul style="list-style-type: none"> • Many repeat volunteers • Some of them come once a month from companies they work for 	<ul style="list-style-type: none"> • Sort and wash Produce (80,000 hours) • Distribution • Office tasks (Accounting, Reporting)
11. Hunger Task Force	5,900	<ul style="list-style-type: none"> • Group of 8 retired volunteers come every week for last 4 years 	<ul style="list-style-type: none"> • Harvest, and sort produce • Volunteers help HTF to build stock boxes for local seniors • Volunteers also assist in day to day operations including data entry, mailing, filing, and making phone calls

FINDING 10: VOLUNTEERS CONTRIBUTE TO ORGANIZATIONS IN VARIOUS ROLES

Since farm labor is one of the major tasks organizations need volunteers to perform, many volunteers help organizations by weeding, planting, harvesting, and working in greenhouses. However, volunteers contribute to organizations in various roles within the organization.

We learned that organizations sometimes have board members, or an entire board, who are volunteers. Chip Paillex, President and Founder of America’s Grow a Row, let us know that board members come from various backgrounds ranging from engineers to those involved in pharmaceuticals (C. Paillex, personal communication, November 3, 2016). A board comprised of

occupationally diverse individuals allows for each member to lend their skill sets in different ways. For example, engineers aid in the construction of bridges or farm roads, while more business inclined members are able to attract future investments from potential donors. Alison Scorer, the Farm Educator and Outreach Coordinator of Newton Community Farm, noted that although acting as a member of the board is very time consuming effort every member of their board is a volunteer. The volunteer board members engage in essential tasks, such as planning the entire marketing and financial plan for the organization (A. Scorer, personal communication, November 4, 2016).

Volunteers even go as far as to assist, or even conduct, education programs. There are some organizations that have paid professionals or staff members who plan and conduct education programs. For example, according to Christine Schell, Farm Educator and Outreach Coordinator of Natick Community Organic Farm (NCOF), they have few staff members or freelancers, who get paid for planning and teaching different types of education programs (C.Schell, personal communication, November 3, 2016). However, due to many reasons, such as lack of professional educators or funding, many organizations look to volunteers to assist with education programs. According to Janet O'Brien, Director of Program operations of Growing Places, four gardeners, known as gurus, teach four different gardening classes. In a group setting, these volunteer gurus teach basic gardening skills to help attendees get a better understanding of how to manage their home gardens (J. O'Brien, personal communication, October 31, 2016).

Lastly, the vast majority of produce grown at the eight farms is sorted and stored by volunteers. When organizations get in contact with local farmers or local grocery stores owners with surplus produce, organizations set up appointments and send volunteers to pick up the produce. According to Mr. Pillet of Second Harvest Food Bank, volunteers assist in sorting and

washing produce before storing it in warehouses, which requires approximately 80,000 hours worth of work (B.Pillet, personal communication, November 17, 2016). Further, Mr. Paillex, mentioned that volunteers provide a substantial amount of assistance by distributing produce from America's Grow a Row to partner organizations, such as food pantries and soup kitchens. While delivering produce to food pantries or soup kitchens, volunteers assist the staff members by unloading produce from trucks, and to recording how much produce was received (C. Paillex, personal communication, November 3, 2016).

5.5 MAINTAINING RELATIONSHIPS

In speaking with 11 organizations, we realized just how much they rely on long-term, positive relationships with partners, donors, and volunteers alike. We recognized very early on in our research that nonprofit organizations view their partners as vital contributors to the accomplishment of their mission. Additionally, we learned how important, consistent and genuine forms of communication are, in maintaining such important relationships. As shown below, Table 7 summarizes the responses from the organizations we interviewed regarding how partner relationships are managed.

Table 7: Organizations' Ways of Maintaining Good Partner Relationships

Organization	Ways of Maintaining Good Relationship
1. Growing Places	<ul style="list-style-type: none"> • Communication is key • Always try to keep regular contact • Build Give and Take relationship
2. Just Roots	<ul style="list-style-type: none"> • Don't do it as well as we should because of being under-funded and short-staffed • To do that, they need more staff to keep in touch with donors and volunteers
3. America's Grow a Row	<ul style="list-style-type: none"> • Send out genuine thank you email to make sure to thank people after donations • Must find partners that will work collaboratively • More Exposure and community outreach increases funds
4. Newton Community Farm	<ul style="list-style-type: none"> • Being open and going extra mile really does help • Take time to make it personal • The little things sometimes can be overlooked
5. Salvation Farms	<ul style="list-style-type: none"> • Approach non-traditional partners, help moving the mission forward, help them to think outside their frame of mind and outlook • Humility, and giving them as much a benefit in the organization as you do • Being creative and patient, and try to share table and concept
6. Boston Area Gleaners	<ul style="list-style-type: none"> • Maintain regular schedule with partner • Do a lot of communications • Get feedback about produce distributed to partners
7. EarthDance Farms	<ul style="list-style-type: none"> • Need an incredibly organized person to manage communication • Many of partnerships are seasonal, delegated to other staff members, or just run programs on ED's properties
8. Gaining Ground	<ul style="list-style-type: none"> • GG prefers that organizations reach out to them • If partner reach out, they would know if the partnership is sustainable long term • Communication between GG staff and at other organizations is key between partnerships • Year-end survey for partners and volunteers
9. Second Harvest Food Bank	<ul style="list-style-type: none"> • SHFB has small team of 4 partner managers

of Santa Clara and San Mateo Counties	<ul style="list-style-type: none"> • Managers are responsible for determining who they are, what their programs are, and what they do • They also train partners on food safety and regulations, distribution process, how to pick up themselves, and reporting
Organization	Ways of Maintaining Good Relationships
10. Hunger Task Force	<ul style="list-style-type: none"> • There is “Packer Party” at warehouse on December • It is thank you party as well as celebration for donors • There are farm tours for donors when part of the farm are changes/updated • Staying in touch with volunteers by email
Regional Environmental Council (REC) Worcester	<ul style="list-style-type: none"> • Try not to just rely on one person

FINDING 11: OPEN AND EFFECTIVE COMMUNICATION BETWEEN PARTNER ORGANIZATIONS IS MUTUALLY BENEFICIAL TO MAINTAIN PARTNER RELATIONSHIPS

For organizations that either partner with other organizations for distribution or receive donor funding, maintaining positive, consistent, and reliable partner relationships is essential. Organizations that maintain strong lines of communication are more likely to achieve their missions, which in most cases relates to bringing fresh, healthy produce to those with limited access in areas across the country.

For ten of the 11 organizations we interviewed about partnerships, communication is one of the most valuable elements in not only approaching positive relationships, but in being a part of a hunger relief network. The ten organizations referred either directly or indirectly to what Janet O’Brien, Director of Program Operations at Growing Places, described as a “two-way street” (J. O’Brien, personal communication, October 31, 2016). This alludes to a relationship where both parties contribute their opinions, goals, and concerns equally. As we discovered

through semi-structured interviews, clear, frequent communication paves the way for a long term- relationship grounded in respect, trust, and value.

Chip Paillex, President and Founder of America's Grow a Row, stressed that the key to effectively working with partners and donors alike is to show them how valuable they are. In order for organizations to understand how important their contributions are, Mr. Paillex believes personalized, or "real", relationships must be established (A. Paillex, personal communication, November 3, 2016). A collaborative effort amongst a non-profit and their partners is crucial to show donors that their money is being used efficiently. Mr. Paillex passionately emphasized that America's Grow a Row and many other organizations do not look to take over a certain work, rather they look to work with one another, which emphasizes the concept of collaboration over competition.

Gaining Ground emphasized how much give-and-take communication between partner organizations helps them function, accomplished through having a working board. Board members go out and visit partner organizations frequently to liaise with how each party feels about the current relationship, what can be improved, and to see produce distribution in action (F. Watkinson, personal communication, November 15, 2016). Understanding a partner and listening to how they perceive the relationship lays a foundation of respect and connection in a relationship. Going out to have in-person meetings with partners allows Gaining Ground to connect to the process and who they are working with. In the words of Allison Scorer of Newton Community Farm, "being open and going that extra mile" is required to make the partnership personal and authentic (A. Scorer, personal communication, November 4, 2016).

Ultimately, communication is singlehandedly responsible for creating a balanced and effective connection. Matt Crawford, Distribution Program Manager for Boston Area Gleaners

(BAG), provided insight to how BAG has advanced and maintained long-term relationships. Mr. Crawford explained that in order to continuously improve partner relationships, partners need to be willing to put time into relating to one another and understanding how the relationship is going (M. Crawford, personal communication, November 11, 2016). Usually, maintaining relationships involves establishing a clear and timely schedule that partners can anticipate and rely on consistently. For example, Boston Area Gleaners has a regular and dependable schedule for partner's produce pickups. BAG sends partner organizations an email two days before each pickup, and later, after produce is distributed, follow-ups with partners to find out whether the recipients liked the produce they received (M. Crawford, personal communication, November 11, 2016). In this example, the partner is involved, up to date, and respected. A clear discussion of progress and checking in exhibits mutually beneficial communication, where two organizations working together to help one another achieve their missions.

With any give-and-take relationship, time and devotion to maintaining the relationship is necessary. Jay Lord, Founding Director of Just Roots, emphasized that communication is key, but asks a lot of a nonprofit organization, especially with limited funding and staff available. Although Just Roots is not able to maintain relationships as well as they would like because of being understaffed and underfunded, Mr. Lord lists communication as an important aspect to master, and having a specific staff member in charge of managing a positive partner relationship experience can take the time demand away from the organization. Mr. Lord stressed the importance in making sure partners understand the impact that their donation makes (J.Lord, personal communication, November 1, 2016).

Mutually beneficial communication opens the gate to a clear, honest, genuine partnership. It brings fellow agencies, communities and therefore a multitude of populations together working

towards a common goal. High-functioning relationships with partners are vital to a functioning non-profit organization. Partners allow for operations to stay up and running, while providing vital resources, such as funding and modes of transportation. Whether they are able to or not, every organization we spoke with regards to partner relationships stated how important not only communication is, but the partners themselves.

FINDING 12: THANKING VOLUNTEERS AND COMMUNICATING WITH THEM AFTER VOLUNTEERING IS ESSENTIAL TO BUILDING POSITIVE RELATIONSHIPS

Maintaining effective partnerships contributes greatly to the running of an organization, and along with that is volunteer contribution. Without volunteers, the 12 food justice organizations we interviewed would not be able to grow, pick, save or distribute as much produce as they do for those in need. Creating a consistent volunteer base allows increased output and a high functioning operation on non-profit farms.

According to Chip Paillex from America's Grow a Row, authenticity and consistency in thanking volunteers is important for volunteer retention. At America's Grow a Row, staff work hard to inspire volunteers with the importance of their mission, where the produce the volunteers will work with goes, and who groups who benefit from their work. Staff members relay their excitement to volunteers in the field with a debriefing at the end, which highlights the amount of produce harvested. America's Grow a Row dedicates their time to also making sure that volunteers feel appreciated for the hard work they have put into helping the community. Staff members start by sending out a flyer letting volunteers know how much produce was harvested, which is preceded by a sincere thank you note. America's Grow a Row incentivizes long term involvement from their volunteers by consistently reaching out and stating their appreciation for the tasks volunteers perform (C.Paillex, personal communication, November 3, 2016). In similar

fashion, Hunger Task Force sends personal “thank you” emails to volunteers, encouraging them to stay connected (A. Wallner, personal communication, November 18, 2016).

Without volunteers, organizations would not have the help they need in growing and distributing as much produce as they do. Valuing volunteers’ time and dedication sets the stage for a positive volunteer experience, encouraging future volunteer visits and another season of community and impact!

5.6 OUTREACH

Through our conversations with organizations all across the country, we recognized the common target population to receive fresh produce was low-income residents experiencing food insecurity. Our team, however, determined that there are populations, interestingly outside of the direct hunger relief network (see Chapter 4), in the Worcester County area that could benefit from the CHP’s resources.

FINDING 13: POPULATIONS, APART FROM LOW-INCOME RESIDENTS, CAN ALSO BENEFIT FROM CHP

We first recognized a population that CHP could work with when we conducted our interview with Molly Hourigan, from Dismas House, a nonprofit organization that provides former prisoners with reacquainting themselves with society (Dismas House, 2016). Ms. Hourigan indicated that Dismas House is able to help recovering addicts and alcoholics reintroduce themselves into society by performing labor on their farm (M. Hourigan, personal communication, November 8, 2016). Recall, strenuous farm labor has proven to be an effective way to invoke sentiments of responsibility and accountability (see finding 5 above). While

Dismas House is successful in their approach, there are, without question more individuals who could use a similar outlet as a means to foster life skills in their recovery.

In the process of discussing operations at the Regional Environmental Council (REC), Casey Burns, Food Justice Program Director, introduced to our group a second population that might benefit from CHP. Ms. Burns highlighted the ways in which the REC works with immigrant populations. The REC has a program in which immigrants, who have recently moved into the area, are given access to land and kitchens. Through this process, immigrants, who were farmers in their native countries, are able to tie their own knowledge and expertise in with American farming practices. In an urban setting such as Worcester County, access to plots of land for farming is limited. Therefore, bringing access to the prevalent immigrant population would be beneficial to remaining connected to their food and maintaining healthy eating habits.

Although the last population we discovered in our research is a low-income population, we found a gap that could be filled. Our interview with Worcester Common Ground (WCG) introduced us to the residents of the Greater Piedmont Area, defined by three census tracts in the Worcester area highlighted in dark green in Figure 9.

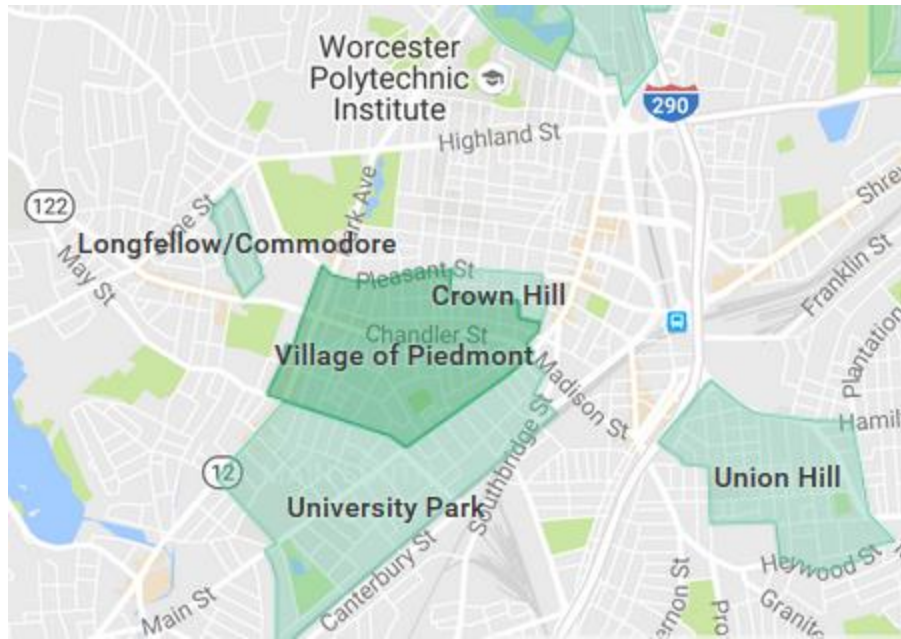


Figure 9: Greater Piedmont Area, known as Village of Piedmont (Nextdoor, 2016)

Numerous individuals that Worcester Common Ground works with in this region are living below the poverty line. Fortunately, through WCG's efforts with other local groups they were able to grow about 3,000 pounds of produce for residents living in the area by working on about three acres of land. In addition, Worcester Common Ground collaborated with Dismas House, which allowed WCG to receive ten farms shares, which fed about twenty households. A farm share is when person buys a share of a farmer's harvest at the beginning of the growing season, and then comes to the farm each week to pick up their "share" (Devon Point Farm, 2012). WCG manage 73 community housing units, however, and their efforts cannot extend to fully eliminate the food desert in this particular region of the city (Y. Dyson, personal communication, November 15, 2016).

Over the course of the seven weeks that we conducted interviews, we became accustomed to the saying that there are more individuals in need than there is assistance. The Community Harvest Project already aids a larger number of people in the Worcester County area with the

work that they complete on their farms. With that being said, there are inevitably groups, such as the ones mentioned above, which could benefit from further efforts put forth by CHP.

The preceding fourteen findings we have documented will allow CHP to compare themselves to organizations throughout the country. CHP hoped to obtain this data in order to enhance their efforts in aiding Worcester County residents who do not have the access they deserve to healthy produce. In the subsequent section, we will outline recommendations we have for CHP that coincide with the findings, which are aimed at improving operations at the farm.

CHAPTER 6: RECOMMENDATIONS & CONCLUSIONS

Upon completing our analyses, our team has compiled recommendations to help Community Harvest Project determine how they compare among similar organizations, as well as how they may optimize their farm operations and outreach. The following chapter offers detailed suggestions in five overarching categories: partner relations, volunteers, nutrition education, and distribution, and a proposal on future uses of the beginning stages of research regarding who needs CHP for what.

6.1 PARTNER RELATIONS

RECOMMENDATION 1: COLLABORATE WITH SIMILAR ORGANIZATIONS IN THE AREA TO BOTH EXPAND OUTREACH AS WELL AS COMBINE RESOURCES TO WORK TOWARDS A COMMON GOAL RATHER THAN COMPETE

Collaboration rather than competition between organizations working towards a similar mission, through communication as discussed in Finding 11, is essential to reach a greater number of low-income individuals. For example, many organizations strive to aid the same demographic of low-income, urban residents, who lack access to produce. Chip Paillex, President and Founder of America's Grow a Row, mentioned to us in an interview that donors are more likely to aid non-profit organizations if they recognize a well-organized collaborative effort.

After our interview with Mr. Paillex, we interviewed Matt Crawford, Distribution Program Manager of Boston Area Gleaners. Mr. Crawford proposed a potential collaboration with Community Harvest Project because he believes the combination of Boston Area Gleaners' focus on distribution and Community Harvest Project's effective volunteer strategies could result in a mutually beneficial partnership.

Future collaborative efforts could not only provide increased donations, but they may also serve as an opportunity for Community Harvest Project to learn from areas other organizations excel at. Our results provided the realization that organizations are constantly looking to improve the efficiency of their operations. The twofold nature of collaboration with groups such as Boston Area Gleaners could provide a necessary avenue for CHP to augment aspects of their non-profit. Therefore, we conclude future collaborative efforts between Community Harvest Project and organizations with similar missions will be beneficial in expanding their outreach and combining resources.

Over the course of our project we have learned that fruits and vegetables grown by organizations does not always reach populations that need it. In some instances, partners, who distribute produce to target populations, will even take surplus produce home, which is not an intended outcome. Also, we have learned that some produce is even left in the fields instead of getting harvested. Our group recommends that increased collaboration between organizations lead to a classified advertisement database, or listserv.

A classified advertisement database would allow for any organizations that run into a surplus of produce they harvest to reach out to all other organizations who are members of the advertisement database, and state the types and quantities of produce they have to share. Similarly, a listserv would allow for the same organizations to create a mailing list in which all members would receive an email stating the same type of information, such as the quantities in surplus and what extra types of produce are available. When organizations see surplus produce that is available, they could arrange pickups to distribute the food to their particular target populations.

Classified advertisement databases and listservs would undoubtedly require consistent maintenance. However, there are colleges and universities that offer assistance in maintaining these types of online databases. Instead of having a staff member devote time to this project, it is entirely possible that students may be capable of providing the necessary assistance. It is also possible that by reaching out to volunteers, an individual, or group of individuals, could ensure that the program is well maintained.

When utilizing online programs like classified advertisement databases and listservs there are potential drawbacks. For instance, in order for the system to be effective all parties would need to be fully invested. This means that organizations would need to be committed to letting others know of extra produce they have, and potential recipients would also need to consistently check the database or their email. Additionally, organizations would need to be willing to create some type of delivery system. In order for extra produce to reach different target populations, one organization would need to be willing to provide a pickup, which requires more volunteers and time for scheduling.

Throughout the course of our research, we have found that every organization we have spoken with is committed to their mission. However, it seems apparent that there will always be more individuals in need than there is healthy food to aid them. Unfortunately, for all the harvesting and gleaning that is performed, healthy produce does not reach as many people as it can. While the entirety of harvested and gleaned produce accumulated by not for profit organization may never reach intended populations, it seems that heightened communication and collaboration could greatly increase the number of individuals who look to nonprofits for assistance.

6.2 NUTRITION EDUCATION

RECOMMENDATION 2: INCLUDE VOLUNTEERS IN EDUCATION PROGRAMS

We recognized that a significant amount of effort goes into planning and operating every education program. We engaged in participatory research at Community Harvest Project during a nutrition education program with second grade students from the Mary E. Finn School in Southborough, MA. During this program, we observed the students partake in a seed saving project, where students were able to choose from a variety of seeds to put in a paper packet they made using crayons and a paper template, showing where to fold and tape.

The organization of this program required not only the setting up of the activity for all the students who attended, but also a great deal of focus on the actions of each student. The children occasionally placed the wrong number of seeds, or type of seeds into packets, while others colored the inside of the seed packet rather than the outside for them to see. It appeared that a great deal of these difficulties were due to the fact that they were not receiving individualized attention, even though there were several chaperones in attendance. We found throughout our interviews that volunteers contribute to organizations in various roles (see Finding 10), and we believe that one of the roles could be involvement in nutrition education programs.

Our observations were supported, specifically in our interview with Janet O'Brien, Director of Program Operations of Growing Places. Growing Places already utilizes multiple volunteers for their raised plot garden program. These volunteers range in skills and experience, but they are all important to the program in the way that they make the experience for the participants as fluid as possible. Ms. O'Brien indicated that while they have many volunteers, they would like to increase the number of volunteers to do minor tasks, such as finding additional seeds so that the teacher does not have to disrupt the class.

These results show that maintaining, preparation, and distribution of materials for an activity impedes the instructor's ability to keep the student's focus on the program itself. We

concluded that an extra hand to help with the minor details throughout a program would allow for the instructor to completely dedicate their focus to maintaining engagement with students, thus more effectively delivering the program.

RECOMMENDATION 3: REPLACE FARM EQUIPMENT DESCRIPTION IN SPROUTING MINDS WITH A MORE INTERACTIVE ACTIVITY

During the course of our participatory research of CHP's Sprouting Minds program we noticed a lack of engagement from students in the farm equipment station. The farm equipment station educated students on the different tools CHP uses to maintain the farm. The equipment ranges from fertilizer attachments for a tractor to a rock separator. While the idea behind the activity is definitely informative for kids to understand, this particular station did not achieve the level of student interest relative to the rest of the program. We believe by having students work hands-on (see Finding 2) with some of the equipment in the field with supervision by staff, students would be more interested in learning the benefits of each tool. Another addition to the equipment station would be allowing students to watch, or even participate, in cleaning produce using the washing equipment, which is in the same area. Again, this familiarizes the children with not only the equipment, but it also gives them an enjoyable educational activity to engage in.

6.3 DISTRIBUTION

RECOMMENDATION 4: CREATE A MACRO FOR CONVERTING DISTRIBUTION DATA IN THE MASTER SPREADSHEET INTO CHARTS AND TABLES THAT CAN BE PRESENTED TO THE BOARD

As discussed in Finding 5, many farm-based organizations use paper forms to keep track of produce distribution data. While the Community Harvest Project incorporates many of the same methods for managing the distribution of their produce, electronic spreadsheets, and

surveys to identify potential changes, there are some areas that would allow for their yearly, and even monthly records to be compiled and organized in a more efficient and usable manner. Fan Watkinson, Program Manager of Gaining Ground, provided us with an in-depth look into the finalized yearly document for the produce provided to members of the surrounding community. Ms. Watkinson indicated that they were able to document their distribution in such a detailed way revolved around the implementation of a macro, displayed in Figure 10 below.

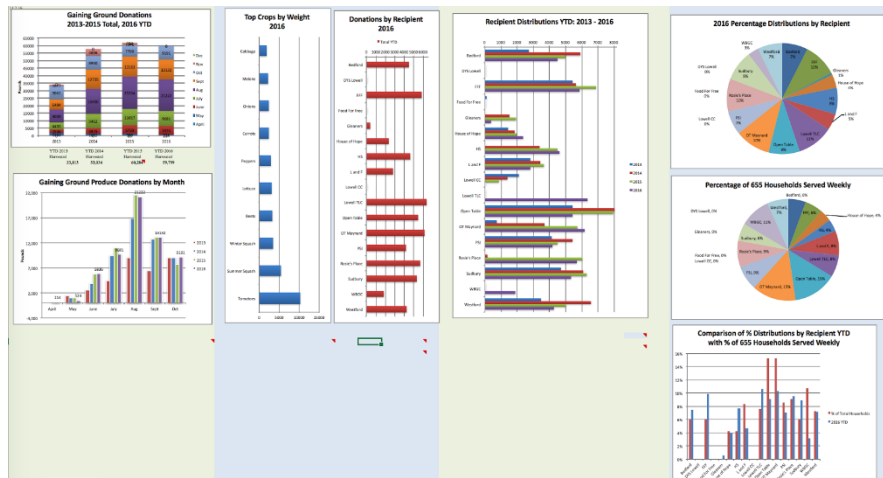


Figure 10: Gaining Ground's yearly data charts created from macro

Macros are a set of stored functions that can be used to automate processes that are repeated often. They are tools which can be used to perform most of the redundant tasks with relative ease (“Macros”, 2015). The simplest way of using a macro is by working within Excel. In short, the user starts to record the macro while within an excel sheet, or workbook. They begin to make a pivot table as they normally would to incorporate whatever specific data they want to be included in their charts, graphs, or tables. Once the necessary actions are complete, and the pivot tables are completed, the user stops the recording, creates a hot key command for the macro (i.e. CTL+SHIFT+c), and writes out a short description of what the macro does. Going

forward, the organization can use this macro in other workbooks by simply inputting the hot key command they created.

In conclusion, the utilization of a macro to convert data into usable graphics may help CHP to get a better understanding of their yearly produce output and operations. The macro would allow CHP to allocate the amount of produce each partner receives. Ms. Watkinson emphasized how helpful this tool was in preventing one organization from receiving a disproportionate amount of produce annually. Finally, an organized presentation of yearly distribution statistics would highlight both the areas of success and potential areas for improvement, which could be presented to the board of directors at CHP.

RECOMMENDATION 5: ASK THEIR PARTNERS TO REPORT THE QUANTITY OF PRODUCE DISTRIBUTED AND HOW IT IS USED ON A MONTHLY BASIS

Second Harvest Food Bank of Santa Clara and San Mateo Counties has implemented an online system in which their partners report about the following to them on a monthly basis: how much produce (in pounds) was distributed, and where the produce was distributed to. Second Harvest Food Bank reviews the data they receive, and analyzes that data to check for any errors. We recognize this process as a way to promote accountability in partners in a fair way. Further, this process provides Second Harvest a method to track the produce they distribute once it leaves their site.

In our discussions with Ms. Stegink, Farm Coordinator of Community Harvest Project, we recognized that they are unable to ensure that 100% of the produce they hand off to partners reaches intended destinations. By incorporating a monthly reporting system, CHP could determine which partners are administering produce to locations beyond themselves, and how much. A concrete idea of how far their produce is reaching and where it is going is key in

discussing their strategies and improvements for following seasons. If an online system is implemented, CHP could follow Second Harvest Food Bank's lead in training existing and new partners alike on using the system and their expectations for completing it each month.

There are a variety of electronic applications that allow groups of people to interact with one another. An example of one of the more basic, yet effective, modes of group discussion is Groupme. Groupme is a simple application for mobile phones and computers where the user can create chats with another individual, or group. We see Groupme as a great tool for CHP to incorporate in their tracking methods. CHP staff indicated the difficulties they sometimes run into when partners distribute their produce to locations they had not intended their produce to end up at. By incorporating something like Groupme, CHP could request that partners utilize the app, and indicate the quantities and locations the produce was delivered to. In doing so, CHP would hold partners accountable for how much produce goes to each location, and would ultimately be able to receive more accurate numbers for the number of people they are able to assist in Worcester County. Groupme would allow CHP to list each partner within the app and open a private chat for each partner, which would make the lines of communication simple but efficient. While Groupme is a free app, it would require that all individuals participating in the distribution of CHP's produce would have access to a mobile phone or computer. Also, if CHP was to incorporate Groupme, there would always be the possibility that a partner would still bring produce to another destination without CHP knowing.

Although guaranteeing all produce reaches its specific destination is a difficult task, an increased level of commitment by partners would increase the likelihood that CHP's produce reaches only populations they look to assist. By requiring partners to report where produce was delivered, CHP would be able to have more accurate records of how their produce is used. In

turn, CHP would be able to adjust their efforts with the hopes to consistently increase the number of people they positively impact.

6.4 VOLUNTEERS

RECOMMENDATION 6: REWARD SYSTEM

As we presented in Finding 12, thanking volunteers is key in having a positive volunteer retention relationship. A positive, enjoyable volunteer experience is something Community Harvest Project takes pride in. Throughout our interviews, we found that organizations close to CHP in proximity claimed they looked to CHP as a model. Two key CHP staff members Wayne McAuliffe, Program Manager, and Annie Stegink, Farm Coordinator, indicated that CHP works hard to make sure that all volunteers leave having enjoyed their experience working at the farm. The staff at CHP understands that the more enjoyable an experience volunteers have, the more likely they are to return. Having a large number of volunteers continuously return adds to CHP's reputation throughout the community.

While CHP has been able to garner one of the most prolific volunteer programs out of all the organizations we spoke with, they do have one particular area they are looking to improve upon. Mr. McAuliffe stated that he is looking to improve the methods by which they reward individuals who have come out to volunteer, showing that they value their volunteers' time and efforts.

In terms of volunteer appreciation, there was broad support for the idea of a reward system. Hunger Task Force implements a program of the sort where a staff member who worked with a specific volunteer group sends "thank you" emails, including a photo of that particular volunteering day, with a statistic of what that group accomplished. Amy Wallner, Farm Produce Manager at Hunger Task Force, explained that this system maintains volunteer connection, and

encourages both, more volunteering and monetary donation (A. Wallner, personal communication, November 18, 2016). Similarly, America’s Grow a Row records volunteer contact information so that they have emails to send a “thank you” note.

Some of the most effective incentives for individuals, no matter the task at hand, are providing free merchandise. CHP has been looking for ways that they can reward their volunteers that not only leads to individuals returning for future volunteer opportunities, but also increases the organization’s reputation in the community. Providing merchandise, such as a t-shirt, for specific volunteers who have gone above and beyond what the average volunteer contributes, may provide the exact outcome CHP is looking for. The shirts could be a bright color that has text highlighting a milestone, such as reaching a large number of volunteer hours. Financially, it is cheaper to buy shirts in bulk, and thus they could be used for years to come. An example of a shirt can be seen in Figure 11 below.



Figure 11: Example of a Volunteer T-shirt for CHP

Not only would merchandise promote future volunteer efforts, but it would also be a great opportunity to promote the CHP brand. If a whole group of volunteers receive these bright and vibrant shirts, they are providing free marketing for CHP. People who see these shirts would be able to find out what CHP is, and that they are an organization that values the efforts of volunteers. We know that CHP is not able to bring in more staff than they currently have, and we have often thought how influential a marketing coordinator would be to their mission, so this form of cost effective advertisement would be a great opportunity.

Ultimately, a reward system can further build on CHP's positive volunteer experience, showing sincerity and appreciation to volunteers, making them want to come back even more so than before. Thus, we conclude that implementing a reward system would enhance CHP's current model volunteer strategies.

6.5 OUTREACH

RECOMMENDATION 7: RECOMMENDATIONS FOR FUTURE IQPS

Community Harvest Project serves the hunger relief network in the Greater Worcester County area, yet populations beyond low-income populations can benefit from CHP's available resources. As discussed in Chapter 4, volunteer farming and nutrition education programs develop life skills such as responsibility, accountability, and community in people. The question of "Who needs CHP for what?" has the potential of being a full-fledged IQP in itself. We believe the foundation set through our research can be built upon in future Interactive Qualifying Projects.

Our findings exhibited numerous populations that could benefit, and interest in connecting with CHP was present. Specifically, Worcester Common Ground would like to increase the amount of produce that is provided to the neighborhoods throughout Worcester that

they work with. Currently, Worcester Common Ground is able to provide about 20 of the 73 households they assist with healthy produce by partnering with other organizations in the city. However, they are looking to improve the number of residents that obtain these foods. Unfortunately, transportation is a major difficulty in allowing these Worcester residents to work at locations outside of the city.

To conclude, building off of the interest displayed by organizations in our research, a project geared towards bridging the gap between these populations and CHP could expand outreach, where a plan is developed in how to incorporate new populations into land availability, extra produce, budget, and staff.

Some other IQP recommendations are (1) developing a reward and training system for CHP volunteers, (2) developing novel and creative ideas for nutrition education, and (3) developing a distribution tracking system for CHP. All of these projects would contribute toward CHP's efforts to fight food insecurity.

Each interview we conducted was very important in the process of developing the recommendations we have shared. Although we tried to cover six overarching concepts throughout every interview, each organization had a different approach that set them apart from the others. Initially, connecting all the different interviews was a difficult task, but overtime we were able to generate a greater degree of supporting evidence due to the fact that every organization was unique. CHP staff's consistent guidance gave our group a great deal of additional support in developing the recommendations we hope will allow them to improve their operations. In the end, it is the goal that our efforts will provide CHP with additional tools to increase the aid they provide to members of Worcester County.

APPENDICES

APPENDIX A: SAMPLE INTERVIEW QUESTIONS FOR NATIONAL AND LOCAL ORGANIZATIONS SIMILAR TO CHP

Introduction Questions:

1. Would you be able to tell us a little about the organization, and how you got involved with it?
2. What is the mission of your organization?

Volunteers:

3. Do you have farm volunteers?
4. How many volunteers per year do you have?
5. Do you get a lot of returning volunteers, or do volunteers typically only come to your location one time?
6. Do you have any particular method for rewarding volunteers?

Farm Operations:

7. What kind of land does your organization use (community garden, farm land, donated land, etc.)
8. Does your organization donate food? If so, how many lbs./year?
9. Do you sell any of the food you grow? If so, how many lbs. or how much money earned per year?

Funding:

10. What type of funding does your organization rely on?

Nutrition Education:

11. Do you have education programs that you run?

12. What are the outcomes you look for in your education programs?
13. What is the target population of your education programs?
14. If you have made any changes to your program, could you tell us the reason for altering the curriculum?
15. Is there an education coordinator to create and run these programs?
16. Do you distribute produce to specific populations in your community?
17. Is your organization able to determine where the entirety of its produce goes, and who obtains it?

Tracking Distribution:

18. Have you found ways to overcome the issue of not knowing where all produce ends up?

Maintaining Partner Relationships:

19. How are you able to maintain strong relationships with other organizations you partner with?
20. How do you obtain new partnerships? Do you seek out new partners, or do they often reach out to you?

Outreach:

21. Can you think of any populations that might benefit from the resources CHP has at their disposal?

APPENDIX B: OUTLINE OF THE FACTORS WITHIN EACH MAJOR AREA THAT CHP WAS INTERESTED IN

Distribution Programs – *Strategies to More Effectively and Efficiently Serve Target Audience*

1. Target audience
2. Do they donate produce?
 - a. # Pounds annually
 - b. Target audience
 - c. Donation method
3. Do they sell produce?
4. # Pounds annually
5. \$ Annual sales
6. Target Audience
7. Crops sold
8. Sales method
9. What is their end-user interaction?
10. Outcomes of distribution programs, if applicable

Financial Strategies – *Strategies to More Efficiently Support Operations*

11. How are they funded?
12. What events do they do each year to support their fundraising?

Education Programs – *Strategies to More Effectively Engage Target Audience*

13. Do they educate?
 - a. Target audience
 - b. Education topics
 - c. # people educated annually
 - d. Program outcomes

14. Do they charge for education? If so, how much?

Production Methods – *Strategies to Maximize and Innovate Production*

15. Acreage in Cultivation

16. Annual production (in pounds for all, in servings or \$ value where applicable)

17. Land Use (farm or garden, own, rent, or use others' land ie as in the case of gleaning)

18. Crops Raised (if not a list, then a number of crops they grow)

19. Growing Methods (organic, conventional, etc)

Volunteer Programs – *(This is something we do well – information here would be gathered so we could see how we compare, and then have our VISTA later reach out to these agencies to share best practices)*

20. Annual # volunteers engaged

21. Do they charge volunteers? If so, how much?

General Background – *for context*

22. Mission

23. Target audience

24. Location

25. What is their Board makeup?

26. # of Board Members and backgrounds

APPENDIX C: SWOT ANALYSIS



Strengths

- CHP gets a large number of volunteers
- They run well-organized and engaging nutrition education programs
- Different education approaches have been created to benefit varying target audiences
- Have consistently improved their use of paper forms when handing off various quantities of produce to partners



Weaknesses

- Tracking after distribution is limited
- Education program is under-staffed
- Specific aspects of nutrition education do not maintain engagement as well as others (i.e. farm equipment station)
- Would like to increase their methods for rewarding volunteers
- Software for various tasks, such as Excel, are not compatible with one another



Opportunities

- Collaboration with other partners. There are many aspects of CHP's operations that could benefit from branching out to other organizations.
- Use volunteers to help administrative tasks and assist in nutrition education programs
- Incorporate distribution partners into a monthly tracking system to increase commitment for tracking feedback and record keeping
- Increased use in various forms of technology could increase annual reporting and improve tracking process



Threats

- Inconsistency with volunteers
- Distribution partners do not always take produce solely to intended destinations
- Distribution partners do not always provide thoughtful feedback
- Lack of communication between organizations looking to achieve similar missions

**APPENDIX D: NUTRITION EDUCATION PROGRAM GOALS, PLANNING,
AND IMPACTS OF INTERVIEWED ORGANIZATIONS**

Organization	Goals	How Are Programs Created/Planned?	Positive Impact
1. Growing Places	<ul style="list-style-type: none"> To target life skills that will be used to help themselves rather than simply giving away free items, which will be a less connected impact and relationship. GP do not simply want to give a garden to someone and leave them to figure out maintaining the garden for themselves. They offer more technical support in the form of providing the skills necessary to make their garden an asset to their family. 	<ul style="list-style-type: none"> In the Winter: look at how entire season went, plan programs during this time - Make sure attendants receive “concentration” useful information Preserve anything GP noticed that worked well Focus on positives and not negatives volunteer resumed full contribution They have a limited time with the attendees so they concentrate on what is essential skills in the short time available MAJOR FACTOR: strategies are focused on the positives not the negatives -It is okay to mess up - Stressing a learning environment and offering support 	<ul style="list-style-type: none"> Students take pride in ‘give and take’ relationship that is established Programs create positive sense to community: Greater pride in their neighborhood, meeting new people, and contributing a community asset
2. Just Roots	<ul style="list-style-type: none"> Workshop: To build skills needed to grow food on a farm and to maintain crops. Emphasized how 	<ul style="list-style-type: none"> Program planning begins in January Process is dependent on interest levels and expertise available 	<p>In School Program</p> <ul style="list-style-type: none"> Children are much more willing to try new vegetables after the 10 week

	<p>everyone has the right to healthy produce, and these skills allow for low income individuals to obtain healthy foods</p> <ul style="list-style-type: none"> • In School Program: To allow children try more vegetables, and get familiar to local produce. The ‘In School Program’ allows students to conduct experiment with vegetables they may not be familiar with, while gaining knowledge in basic food preparation 		snack market program
3. America’s Grow a Row	<ul style="list-style-type: none"> • To provide consistency and engagement with participants year round • Expose young individuals to produce they are not accustomed to, as well as create an interest in farming, healthy eating, and overall produce knowledge • To give all generations the opportunity to give back and volunteer through their education programs 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Program created interest in students having their own gardens at home, as a result of free farm markets raised bed programs started. • Program also creates an awareness and interest in healthy eating that goes beyond just the single day that they spend planting or harvesting
4. Natick Community	<ul style="list-style-type: none"> • Natick Community Organic Farm 	<ul style="list-style-type: none"> • There was already a curriculum in place, 	N/A

Organic Farm	wants everyone in their education program to learn exactly what the farm advertises. They are a small fully functioning farm that has many small operations working together	which Ms. Schell has enhanced and made clearer. <ul style="list-style-type: none"> Wanted the curriculums to be clearer: cleaned it up, and updated it. In doing so, the programs are always in place to be conducted from year to year without having to alter the programs. 	
5. Newton Community Farm	<ul style="list-style-type: none"> Having the kids at the farm, grow their own food, see where it comes from, and how good it is rather than advocating an idea that is constantly changing with individual needs 	<ul style="list-style-type: none"> Programs built over the years with age For preschool: enjoying outside, observing, connect First and second grade: observations turn into we are all connected - Identify goals and assess the program they have Makes it personal and once they are engaging and are involved in something, it becomes a powerful, personal, connecting experience and relationship 	<ul style="list-style-type: none"> Parents have reported that, after the program, students told parents that they only want to eat vegetables from the farmer's market, so they knew where it come from
6. Green Meadows Farm	<ul style="list-style-type: none"> To teach Homeschooling students farming practices with the hopes that they will learn what goes into maintaining a farm 	<ul style="list-style-type: none"> Program is dependent on daily task of the farm (Weather) 	N/A
7. REC Worcester	<ul style="list-style-type: none"> Food Justice Program: 	<ul style="list-style-type: none"> Create lesson plans and make sure they 	<ul style="list-style-type: none"> UGROW: Students who

	<ul style="list-style-type: none"> • Organic model of trying things out, building on what is already there • To improve existing community gardens and farmers' markets • In order to offer more access, a mobile market was set up in a low-income area as a pilot program. 	align with REC Worcester's values as an organization	<p>participate in the UGROW program are able to establish internships based off their experience with REC Worcester</p> <ul style="list-style-type: none"> • YouthGROW: Working with teens is a way to get into households that would not have otherwise had the opportunity to gain knowledge of gardening and healthy produce
8. EarthDance Farms	<ul style="list-style-type: none"> • Junior Farm Crew Program • To show the human side of farming, how important it is in their daily lives • Biggest hope is that kids get to see a seed is planted that will grow through the years, encouraging them to support local farmers, to grow their own food, or to become farmers themselves 	N/A	<ul style="list-style-type: none"> • For many of Junior Farm Crew members, this is their first job, first paycheck, and first time working outside
9. Second Harvest Foodbank of Santa Clara and San Mateo Counties	<ul style="list-style-type: none"> • 3 main goals: <ol style="list-style-type: none"> 1. Ensure food distributed to clients is healthy 2. Encourage clients to consume the healthy food that 	N/A	N/A

	<p>they distribute</p> <p>3. Provide food safety education</p>		
10. Hunger Task Force	<ul style="list-style-type: none"> To teach low income students about healthy eating habits and recipes, and taste test fresh produce 	<ul style="list-style-type: none"> Staff creates curriculum during off-season in spring 	N/A

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