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# EXAMINING DISPARITIES IN FOOD ACCESS AND ENHANCING THE FOOD SECURITY OF UNDERSERVED POPULATIONS IN MICHIGAN


*by*

**Stephen Ahn**
**Kenneth Johnson**
**Mary Lutton**
**Ima Otudor**
**Juliana Pino**
**Connie Yu**

*Faculty Advisor*

**Dorceta E. Taylor**

**School of Natural Resources and Environment**
**University of Michigan, Ann Arbor**

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# Abstract

Michigan is a state in which food insecurity and lack of access to healthy foods are major concerns, therefore it is important to research and provide case studies for what has become a global and national problem. In recent years, there has been a rise in food insecurity in the United States, with millions of households nationwide experiencing food insecurity. Our research is aimed at understanding the disparities in food security and access to healthy foods in the state of Michigan. The overarching goal of our project is to identify barriers for accessing healthy local foods and promote strategies for enhancing the food security of underserved populations in the state. In order to accomplish this, we employed quantitative and qualitative analysis techniques to look at food access in Michigan. Using procedural survey research and case study methodologies we examined a variety of organizations and stakeholders involved in the food system in Michigan. Our separate research focuses included: school meals, farmers' markets managers, small scale farms, farmers, and urban farms and community gardens.



**Key words:** food insecurity, food access, Michigan, inequality

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# Acronym Legend

| Acronym | Definition |
|---|---|
| AAA | Agricultural Adjustment Administration |
| ADA | American Dietetic Association |
| BAV Consulting | BrandAsset Valuator Consulting |
| CED | Community Economic Development |
| CDC | Centers for Disease Control and Prevention |
| CSA | Community Supported Agriculture |
| DUFB | Double Up Food Bucks |
| EBT | Electronic Benefit Transfer |
| FAO | Food and Agriculture Organization |
| FMC | Farmers Market Coalition |
| FMPP | Farmers Market Promotion Program |
| FNS | Food and Nutrition Service |
| FSCC | Federal Surplus Commodities Corporation |
| FTS | Farm to School |
| GDP | Gross Domestic Product |
| HHS | United States Department of Health and Human Services |
| HIP | Healthy Incentives Pilot |
| MIFMA | Michigan Farmers Market Association |
| MSFW | Migrant seasonal farm worker |
| MSU | Michigan State University |
| NHANES | National Health and Nutrition Examination Survey |
| NPR | National Public Radio |
| NSLP | National School Lunch Program |
| SBP | School Breakfast Program |
| SNAP | Supplemental Nutrition Assistance Program |
| SNDA | School Nutrition Dietary Assessment Study |
| UN | United Nations |
| USDA | United States Department of Agriculture |
| USDA ERS | USDA Economic Research Services |
| WHO | World Health Organization |
| WIC | Women, Infants, and Children |

# Introduction

The goal of this project was to promote strategies for enhancing food access and food security of underserved populations in the state of Michigan. The project broadly focused on 18 towns and cities in 14 counties in Michigan. These include Sault Ste. Marie, Brimley/Bay Mills (Chippewa County), and St. Ignace (Mackinac County) – these are northern towns in the Upper Peninsula that abut Native American reservations; Holland (Ottawa County), Muskegon (Muskegon County), Benton Harbor (Berrien County), and Grand Rapids (Kent County) in the west; Flint (Genessee County), Saginaw (Saginaw County), Lansing (Ingham County), and Kalamazoo (Kalamazoo County) in the central part of the state; and in the southeast we will focus on Ypsilanti (Washtenaw County); Taylor, Inkster, and Dearborn (Wayne County); Southfield and Pontiac (Oakland County); and Warren (Macomb County). Other cities were included in individual study reports, as well. Overall, the team looked at the many different and diverse areas within Michigan's regions, focusing on those places where underserved communities reside and access to healthy, affordable, and culturally appropriate food is an ongoing challenge.

Food insecurity and lack of food access are critical problems across the United States and the state of Michigan is one of the most severely impacted states in the country. To that end, this project sought to achieve the following goals:

**(a)** Identify disparities in access to healthy foods in several municipalities and multiple stakeholders in the food system important to addressing these disparities

**(b)** Assess the existing nature of various stakeholder interests, programs, and policies centered around providing food to underserved communities

**(c)** Identify mechanisms through which producers and underserved consumers can be connected more directly and effectively

**(d)** Identify opportunities to foster increased participation by vulnerable consumers in local food networks

More specifically, our research focused on the following:

**(a)** School Lunches

**(b)** Emergency Food Assistance

**(c)** Farmers' Market Managers

**(d)** Farmers and Farmers' Markets

**(e)** Micro-sized Farms

**(f)** Urban Farms and Community Gardens

These six specific research topics represent a variety of organizations and stakeholders involved in the food system. It is our hope that the following six studies take the reader on a journey through the current state of the food system in Michigan and provide insights into changing the status quo for underserved communities. These areas of research are crucial topics to examine in order to develop food security and food access. The amalgamation of these topics ultimately aims to provide a robust analysis of the situation as well as opportunities for moving forward.

# PART 1

## What Lunch in Michigan Really Looks Like: An Exploration of School Lunch Menus

*by Mary Lutton*

**Mary Lutton**
**University of Michigan**
**School of Natural Resources and Environment**

# What Lunch in Michigan Really Looks Like: An Exploration of School Lunch Menus

**Abstract**
This study explores the role school lunch menus play in communicating information to parents and students. School lunch plays a critical role in childhood nutrition and well-being. Recently changes to school meals in the form of the Healthy Hunger-Free Kids Act and the Farm to School movement have attempted to improve the nutritional quality of school meals. This study hypothesized that school lunch menus would include information regarding the nutritional value and content of meals, along with information about Farm to School activities. Fifty-two monthly school lunch menus from schools throughout the state of Michigan were analyzed for information regarding general menu items, nutritional information, and Farm to School activities. Very little information regarding nutritional content and Farm to School efforts were included on these menus. School menus are an important resource that can be used to promote schools' efforts to provide healthy local food and in turn encourage participation in school meal programs.

## Introduction

The National School Lunch Program (NSLP) has unique potential to address two major issues facing today's youth: obesity and food insecurity. In 2012, more than one third of children and adolescents in the United States were overweight or obese (CDC, 2014). In contrast to these high rates of obesity, in 2012, 15.9 million children in America lived in food insecure households (Feeding America, 2014). These two seemingly contradictory statistics bring attention to one of the few programs that has the potential to effect both of these aspects of children's well-being: school lunch.

The data on whether or not school meals contribute to obesity has been mixed. Some studies have found that participants in school meal programs have higher body mass index values than nonparticipants (Li & Hooker, 2010). Other research has shown that school provided meals contribute positively to children's nutrition. One study found school meals have more servings of fruits and vegetables than meals brought from home (Johnston, Moreno, El-Mubasher, & Woehler, 2012). Another study found that school meals, while high in saturated fat and sodium, were positively associated with nutritional adequacy (Clark & Fox, 2009).

While the research has yet to yield definitive answers with regards to school lunch and nutrition, students are voicing their own opinions regarding their lunches. Students are major stakeholders in the school lunch conversation, yet their voices are rarely heard. The organization, DoSomething.org, started the Fed Up project as a way for students to express their feelings regarding their school lunches. Fed Up provides an online space for students to post pictures of their school lunches, answer questions regarding the quality of their school meals, and vote on pictures of school lunches. The students get to vote whether they would "toss it" or "eat it". A

summary of results from the Fed Up campaign revealed that 70% of school meals were considered toss-able (DoSomething.org, n.d.)

Students have also expressed their feelings towards school lunches in other forms. Zachary Maxwell, a fourth grade student from New York City, secretly filmed his school's lunches for six months during the fall of 2011. He created a documentary, *Yuck - A 4th Grader's Short Documentary About School Lunch*, to show the stark difference between the menu that was posted on the school website and the actual lunch that was served at school. Throughout the documentary Zachary reveals that the actual lunches did not live up to the appealing menu descriptions (Maxwell, 2012).

Students' displeasure over the state of their school meals comes at a time when the NSLP is experiencing significant changes. The Healthy Hunger-Free Kids Act (HHFKA), enacted in 2010, implemented major nutritional reforms to school meals. The Farm to School movement, which in part seeks to incorporate local food into school meals, has also experienced significant growth. This research seeks to examine more fully these changes to the NSLP through the medium of school menus. The objective of this research is to describe the current lunch menus offered in public schools throughout Michigan and determine what kinds of information school menus currently provide.

*The Historical Context for School Lunch*

In order to understand the current state of school lunch it is necessary to understand how the NSLP evolved historically. Before the Great Depression, school boards and government organizations were rarely involved in providing meals to school children. However, during the economic downturn of the 1930s, with an increasing number of hungry and malnourished children, states began passing temporary laws that allowed school boards to use tax money to

pay for milk and meal programs (Levine, 2008). President Roosevelt's New Deal legislation provided federal support for school meal and milk programs and the Workers Progress Administration became involved in providing free lunches to school children (Levine, 2008).

These efforts increased the number of school lunches served throughout the nation, but it was amendments to the Agricultural Adjustment Act that had the largest impact on these nascent school lunch programs. In 1935, under section 32 of the amended Agricultural Adjustment Act, the Department of Agriculture could now purchase surplus farm commodities and donate a portion of these commodities to schools (Poppendieck, 2010). With the availability of federally donated food, school lunch programs throughout the country greatly expanded (Levine, 2008).

In addition to the increased rates of malnutrition amongst children and the surplus of certain farm commodities there was another major factor that contributed to the creation of a National School Lunch Program: concern for national security. During World War II malnutrition proved to be a major barrier towards recruiting men for active military service (Gay, 1996). So it was out of concern for national security combined with considerations of children's health and the desire to support the domestic agricultural sector that the NSLP was eventually created by Congress (Levine, 2008).

In 1946, President Truman signed the Richard B. Russell National School Lunch Act into law (Poppendieck, 2010). The National School Act was championed by Southern Democrats who were also heavily invested in promoting agriculture and limiting the role of the federal government (Levine, 2008). The funding structure of the Richard B. Russell National School Lunch Act reflected the desires of the Southern Democrats. In this Act, each state was responsible for the creation and execution of the school lunch program and each state was required to match federal monetary support (Levine, 2008). Initially 75 million dollars was

allocated for the National School Lunch Program, with federal funds to be distributed on a matching basis to States (Gay, 1996).

The matching requirement hindered the ability of the poorer states to receive federal funding, which meant that economically disadvantaged states where lunch programs were most needed often did not receive adequate funding (Levine, 2008). States raised the majority of the funds for school lunch programs through school lunch fees. Between 1947 and 1968 children's fees covered 55% of the total program costs. Additionally, since states were not required to participate in the NSLP many did not. By 1960, half of the country's public and private schools did not participate in the NSLP (Levine, 2008).

During the early days of the NSLP very few efforts were made to provide free lunches to students, even though the Russell B. Richard National School Lunch Act stated that free school lunches should be provided to children who qualified. Further, it was left up to teachers and local school districts to decide which students qualified for free lunches (Levine, 2008). It wasn't until President Johnson's War on Poverty, that funds were specifically appropriated to provide free school lunches with the passing of the Child Nutrition Act (Kerr, 1990).

In 1973, Congress declared that all children falling below the poverty line were eligible for free school lunch (Poppendieck, 2010). Schools were now responsible for providing free lunches to children whose family's income was below the poverty line or 25% above the poverty line and reduced-priced lunches to those children whose family's income was up to 50% above the poverty level (Levine, 2008). Currently, the poverty line is still used to determine which children qualify for free and reduced-price school lunches and breakfasts. Students are eligible for a free lunch when their family's income is at or below 130% of poverty level and students are

eligible for a reduced-price lunch when their family's income is between 130% and 185% of poverty level (Glantz, Berg, Porcari, Sackoff & Pazer, 2004).

The emphasis on providing free or reduced-price lunches to qualified children during the late 1960s and early 1970s resulted in a large increase in school lunch participation rates. While overall participation in the School Lunch Program increased during these years, the number of children paying for lunch dropped significantly during this time period. Federal law required schools to provide free and reduced price lunches, but provided little additional funding to accomplish this. To compensate, school lunch programs placed a heavier financial burden on paying students, which resulted in paying students leaving the program (Levine, 2008).

*The Contemporary Picture for School Lunch*

Today, approximately, 95% of public schools participate in the National School Lunch Program (Food Action Research Center, n.d.). On a typical school day 62% of children will participate in the NSLP (Gordon et al., 2007). Under the National School Lunch Act a cash subsidy is provided to schools for every lunch served. Additional cash subsidies are provided for children who qualify for free or reduced-price lunches. Schools that serve 60% or more of school lunches at a free or reduced-price qualify for a higher reimbursement rate (USDA, 2013). Typically, school lunch fees are used to make up for the difference between the federal subsidies and the true cost of the meal (Poppendieck, 2010). For the current year (July 1, 2013-June 30, 2014) the cash reimbursement rates are presented in Table 1 (USDA, 2013). Included in Table 1 are the different reimbursement rates depending on if the school previously served less than 60% free and reduced-price lunches during the second preceding school year and if the school served 60% or more free and reduced-price lunches during the second preceding school year.

**Table 1- National School Lunch Program Payments to States and School Food Authorities**

| National School Lunch Program (contiguous states) | Less than 60% | 60% or more |
|---|---|---|
| Paid Lunch | $0.28 | $0.28 |
| Reduced Price Lunch | $1.59 | $1.28 |
| Free Lunch | $1.89 | $1.58 |

Source: Food and Nutrition Service, USDA. (2013). National School Lunch, Special Milk, and School Breakfast Programs, National Average Payments/Maximum Reimbursement Rates. *Federal Register*, 78(144), 45178-45181. Retrieved from: http://www.fns.usda.gov/cnd/governance/notices/naps/NAPs13-14.pdf

*Participation in the School Lunch Program*

Despite these subsidies, the cost of the school meals can still be a barrier towards participation in the NSLP. The full cost of the school meals may not be feasible for some families even if they do not qualify for free or reduced price status (Maurer, 1984). Another issue when it comes to the pricing structure of school meals is the prevalence of competitive foods in schools. Competitive foods are any food or beverage sold at school that is not part of a USDA meal (Bhatia, Jones, & Reicker, 2011). Currently, there is a trend of children spending money on competitive foods, rather than school provided lunches and breakfasts (Bhatia, Jones, & Reicker, 2011).

In addition to cost considerations, other barriers to participation exist. Children who are qualified to receive free or reduced price lunches frequently do not utilize these resources. Twenty percent of children who qualify for free meals do not participate in school meals and about 30% of the children who qualify for reduced-price meals do not participate (Glantz et al., 1994). The reasons for participation vary, but perceived quality and variety of food being served, were reasons that students cited as influencing their participation in school meals (Glantz et al., 1994). Structural and environmental considerations may also play a role in influencing NSLP participation.

Structural barriers, like the scheduling of meal times and the time provided for meals, is another factor that influences NSLP participation (Glantz et al., 1994). Environmental factors, like the noise level in the cafeteria and the cleanliness of the food service and eating areas, were also mentioned by children as influencing factors (Poppendieck, 2010). The third School Nutrition Dietary Assessment (SNDA-III) provides conflicting information. Results from this study found that environmental and structural factors, like noise level in the cafeteria and the time provided for meals, did not influence students' decisions to participate in school meals (Gordon et al., 2007). According to the data from the SNDA-III issues of food quality and taste were also not factors for non-participation among the students. The main reasons students gave for participating in the NSLP were: being hungry, liking the food, and liking what was on the menu that day (Gordon et al., 2007).

*Participation and Nutrition*

While perceived quality of the food seems to be an important indicator for student participation in NSLP, nutritional quality does not seem to be major factor affecting student participation (Gordon et al., 2007). Nutrition, however, is a major focus of parents, public health professionals, policy makers and researchers in regards to the NSLP. Children's diets are not in line with current dietary guidelines; children are not consuming the recommended servings of fruit, vegetables and whole grains (Luppold, 2013). Schools are in a prime position to address children's nutritional health since children obtain up to 47% of their calories at school (Condon, Crepinsek, & Fox, 2009). Recent changes to school meals with the Healthy Hunger-Free Kids Act (HHFKA) have aligned school meals with the Dietary Guidelines for Americans. This has increased the amount of fruits and vegetables served as part of school meals (Luppold, 2013). In

addition the HHFKA is also requiring schools to serve "whole grain-rich foods" and has established calorie maximums based on age/grade groups (Mortazavi, 2011).

*Farm to School*

A popular solution that has been proposed to deal with poor nutrition in school meal programs is the Farm to School (FTS) movement. Farm to School is defined as "a school-based program that connects schools (K-12) and local farms with the objectives of serving local and healthy foods in school cafeterias or classrooms, improving student nutrition, providing health and nutrition education opportunities, and supporting small and medium-sized local and regional farmers" (Joshi, Azuma & Feenstra, 2008, p. 229). FTS programs began in the 1990s on the East and West Coasts with support from community groups, non-profits, and larger corporations. FTS has continued to expand across the country and has become a national movement; by the spring of 2012 every state had an appointed Farm to School leader (Feenstra & Ohmart, 2012). An estimated 12,500 FTS programs were in place by 2012 (National Farm to School Network, 2012). FTS has reached a position of such national awareness that the HHFKA allocated funds for a pilot FTS program (Mortazavi, 2011).

While FTS is still growing and the impacts of these programs are still being investigated, there is evidence that FTS programs positively influence students' dietary behavior. A review of FTS evaluation studies, which included eleven studies that specifically looked at dietary behavior, found that ten of these studies reported that FTS led to positive dietary change. This positive dietary change included increased fruit and vegetable consumption (Johsi, Azuma, Feenstra, 2008). This same evaluation also found that FTS increased NSLP participation; seven studies found a large increase in the participation rates, with an average increase of 9.3% (Joshi, Azuma, Feenstra, 2008).

Michigan has been very receptive to the Farm to School movement. Support for the FTS movement has been incorporated into a broader plan for State, one of the goals of the Michigan Good Food Charter is for Michigan institutions to source 20% of their food products from Michigan growers, producers and processors (Colasanti et al., 2010). A survey of Michigan food service directors conducted in 2004 and again in 2009, showed that participation in Farm to School was three times higher in 2009 than it had been in 2004, with 41.5% of food service directors stating that they participated in FTS in 2009, in contrast to 10.6 % in 2004 (Colasanti, Matts, Hamm, 2012).

*The Role of the Parent in School Lunch*

One main factor that has not yet been mentioned, but that has the ability to influence student participation in NSLP, the nutritional quality of school meals, and the success of FTS programs, is parental involvement. Since the start of the Farm to School movement, parents have played a major role. The establishment of first Farmers Market Salad Bar implemented in the Santa Monica-Malibu Unified School District in the mid-1990s was an effort led in large part by a parent (Feenstra & Ohmart 2012). Parental support and feedback has been found to be critical to the success of FTS programs (Azuma & Fisher, 2001).

Parents can also be advocates for student nutrition beyond being involved in the FTS movement. In the San Francisco Unified School District parents were crucial to implementing a progressive nutrition policy. Parental involvement took the form of a grassroots effort to change school menus. The parents formed a group interested in nutrition to review and critique school menus. Parents then worked with school board officials, community groups, and Student Nutrition Services staff to change the nutrition requirements in these schools (Wojcicki & Heyman, 2006). To encourage healthy eating, parents can also serve as role models for their

children. In one study, students whose parents reported eating fruit and vegetables ate 0.5 servings more of fruits and vegetables, then students whose parents did not report eating fruits and vegetables (Luppold, 2013). The 2005 Dietary Recommendations for Children and Adolescents recommend that parents and guardians should be responsible for teaching their children about healthy eating habits and nutrition (Ballard, 2013).

In addition to promoting FTS programs and better nutrition, parents have influence over whether students participate in NSLP. Parental views can be a major factor in whether or not students participate in school meals. Students are more likely to participate in NSLP when their parents have a positive attitude towards school lunch (Maurer, 1984). One study found that the decision to eat school lunch was viewed by parents as a joint decision between the parent and child. In the joint decision making process nutrition was the main concern with the school menu and taste being other important factors (Meyer, Lambert, Blackwell, 2002).

Given, the important implications for parental involvement in school meals, it is essential to consider the ways that parents are involved and informed. Little research exists on school menus and the use of school menus as a communication tool, but it could be an important pathway to connect parents to school meals. Clearly, menus have a strong influence over students' decisions to participate in school meals (Meyer, Lambert, & Blackwell, 2002 & Maxwell, 2012), menus could possibly be an avenue to influence parents' perceptions and views of school meals as well. This study seeks to understand what kind of information is currently being provided by school menus.

## Methods

### *Research Question and Hypotheses*

The objective of this study is to describe the current lunch menus offered in public schools throughout Michigan and understand what information school menus are providing. The main question of this research is what kinds of information do school menus currently provide? Are the Farm to School movement and nutritional requirements expressed in school menus? I hypothesized that given the high interest in Farm to School initiatives that school menus will reflect this interest by including information regarding the Farm to School activities, including the geographic origin of menu items. Also, I hypothesized that school menus will have information on calories and healthy eating. I hypothesized that there will be information regarding healthy items like fresh fruit and whole grains as opposed to items like pizza, burgers, and hot dogs.

### *Study Design*

This study was designed as case studies of selected school lunch menus. Lunch menus were chosen from the following cities in Michigan to obtain a geographically representative sample: Benton Harbor, Detroit, East Grand Rapids, Grand Rapids, Brimley, Dearborn, Flint, Holland, Kalamazoo, Lansing, Muskegon, Pontiac, Romulus, Saginaw, Sault Ste. Marie, Southfield, St. Ignace, Taylor, Warren, Wayne, Westland, and Ypsilanti. Lunch menus were obtained from public schools located in these cities from school district and school websites for the month of January, 2014.

All schools and programs administered publically were considered as part of this sample including: prekindergarten programs, kindergarten programs, elementary schools, middle schools, high schools, charter schools, special education schools, and adult education schools.

Monthly menus were analyzed, as they provided a more comprehensive look at school meals than weekly menus. The majority of menus came in a monthly format, but if only weekly menus were available then they were aggregated to represent a month. For menus that covered a time span longer than a month, only the month of January was considered.

Only school meals were analyzed, items marked as a la carte were not analyzed. Schools that served food in station format, where students choose items from different stations, were not analyzed give the difficulty in aggregating these menus to a monthly format. Menus were chosen from the month of January to control for any variation that might occur across months. If menus were not available for January then menus from the closest month were considered, either December or February depending on availability.

*Analysis*

Themes and key words for menu analysis were identified through the literature. Popular lunch items and common lunch items were identified as: pizza, French fries, chicken nuggets, hamburger, cheeseburgers, hot dogs, Mexican-style food, chicken entrees, and apples (Marples & Spillman, 1995; "What do kids love to eat at school?," 2004). Items served as part of the HHFKA were identified as: whole wheat/whole grain, fresh fruit, in addition to information regarding healthy eating/healthy lifestyle and calorie counts (Mortazavi, 2011). FTS activities were represented by the following terms: farm, Michigan, local, garden, salad bar (Joshi & Azuma, 2008; Joshi, Azuma, & Feenstra, 2008). Menus were analyzed for these key words and themes; the presence of the items and in some cases the count of the item (how frequently it was served a month) were recorded. The data were analyzed using the SPSS statistical package (version 22.0, IBM Corporation, Armonk, NY, 2013). Descriptive statistics, including frequencies and cross-tabulations, were calculated.

*Limitations of the Analysis*

This study had a limited sample size of fifty-two school menus. A larger sample size would have resulted in a more robust analysis and would be more representative of schools throughout the state of Michigan. The analysis for this study involved creating a code book based on key words identified from the literature; this code book could have missed important key words or incorrectly identified key words. School menus are subject to change and this was noted on many of the menus analyzed, for the study this means that the information analyzed may not represent the reality of the school lunches served. Additionally, only one monthly menu was analyzed from each school in the sample, which does not provide an accurate representation of what these schools serve for the entire school year. So the information from this study cannot be used to make generalizations regarding the schools' activities for the entire year. Lastly, there could be other key ways that schools communicate information regarding school meals to the community beyond menus. This communication could take a variety of forms like emails, announcements, and additional information on school websites. Menus are a limited representation of the amount and type of information that parents and students may receive.

## Results and Discussion

*Demographics*

Fifty-two school lunch menus were analyzed from public schools located throughout the following Michigan cities: Benton Harbor, Detroit, East Grand Rapids, Grand Rapids, Brimley, Dearborn, Flint, Holland, Kalamazoo, Lansing, Muskegon, Pontiac, Romulus, Saginaw, Sault Ste. Marie, Southfield, St. Ignace, Taylor, Warren, Wayne, Westland, and Ypsilanti. These cities provided a comprehensive geographic representation of the State. Sault Ste. Marie, Brimley, St. Ignace represent the Northern portion of the State. Holland, Muskegon, Benton Harbor, East Grand Rapids, and Grand Rapids represent the West. Flint, Saginaw, Lansing, and Kalamazoo signify the Central portion of the State. Ypsilanti, Taylor, Wayne/Westland, Romulus, Detroit, Dearborn, Southfield, Pontiac, and Warren represent the Southeastern portion of the State (refer to Figure 1, Appendix A for a map of the study locations). Six menus came from the northern portion of the State, fourteen from the west, twelve from the central region, and twenty from the southeastern region. Michigan's population is concentrated in metropolitan areas in the western and southeastern parts of the State, so the menu distribution follows the population trends of the State (Markham & Rinkus, 2006).

Of the 52 school lunch menus: two menus came from pre-kindergarten through kindergarten schools, twenty-one from elementary schools, ten from secondary schools (meaning middle school and high schools), three represented the entire school district (the menus encompassed all of the grades the district serves), four menus were from charter schools, and twelve menus came from alternative and non-traditional public school entities, like daycare and special education centers. For analysis, the pre-kindergarten, kindergarten, and elementary menus were grouped together to form a Primary School category. The secondary schools and all

school district menus were analyzed together as a Secondary School category. The charter schools, alternative schools, and non-traditional schools were analyzed together as an Other category.

**Table 2. Regional Location and Type of School Studied**

| School Location and Type | Frequency | Percent |
|---|---|---|
| **Region** | | |
| North | 6 | 11.5 |
| West | 14 | 26.9 |
| Central | 12 | 23.1 |
| Southeast | 20 | 38.5 |
| Total | 52 | 100.0 |
| | | |
| **Type** | | |
| Primary | 23 | 44.2 |
| Secondary | 14 | 26.9 |
| Other | 15 | 28.8 |
| Total | 52 | 100.0 |

*Local food*

Given the provisions at both the federal and state level to support Farm to School programs and an increased interest in buying local food among school food service directors (Colasanti, Matts & Hamm, 2012), it was hypothesized that school menus would reflect this heightened interest in the Farm to School movement. Not a single menu that was analyzed, however, used the word "farm" in their menus. Only, one school district specifically mentioned a local producer on their menu and it was for a dairy operation. Other words that could indicate a Farm to School presence on school menus, like the words "Michigan", "harvest", and "garden" were rarely present.

Only one school menu used the word "Michigan" to refer to items on their menu. The menu featured a "Michigan Harvest Day", with a "fresh Michigan apple" as part of the day's meal. While, Michigan is the third largest producers of apples in the region, only one school

menu specifically referred to an apple as coming from Michigan (USDA, 2011). Of the 52 school menus only 32 mentioned serving apples. The word "harvest" appeared on seven school menus. This word was used in a variety of ways throughout the school menus. As was previously mentioned one school held a "Michigan Harvest Day", but other schools used the term harvest to refer to bread products like "harvest bread" and "three grain harvest roll". Other menus had a "harvest of the month" section where a specific fruit or vegetable was highlighted and detailed information provided on how to incorporate that fruit or vegetable into students' diets. Except, for the one school that held a "Michigan Harvest Day", the word harvest did not seem to indicate local food.

Four schools mentioned "school-made" or "house-made" items. These items reflect the made from scratch movement, which is also an aspect of the FTS movement. The limited number of times the from scratch movement was mentioned could be a direct result of the fact that many school kitchens in Michigan do not have the equipment needed to produce many items from scratch. Schools that do have the necessary equipment often do not have the staff capacity to make these items (George, Matts, Schmidt, 2010).

The term "garden" was also lacking throughout the school menus, only nine menus mentioned the word "garden." "Garden" frequently referred to types of vegetables, "garden peas", a type of salad, "garden muncher" or to a "garden bar" which is what some school districts call their equivalent of a salad bar. None of the ways in which "garden" was used throughout the menus indicated that the school had a garden.

**Table 3. Appearance of words indicating Farm to School activity**

| FTS Key Words | Frequency | Percent |
|---|---|---|
| **Farm** | | |
| Yes | 0 | 0 |
| No | 52 | 100.0 |
| Total | 52 | 100.0 |

| | | |
|---|---|---|
| **Michigan** | | |
| Yes | 1 | 1.9 |
| No | 51 | 98.1 |
| Total | 52 | 100.0 |
| | | |
| **Harvest** | | |
| Yes | 7 | 13.5 |
| No | 45 | 86.5 |
| Total | 52 | 100.0 |
| | | |
| **Garden** | | |
| Yes | 9 | 17.3 |
| No | 43 | 82.7 |
| Total | 52 | 100.0 |

While information regarding the geographic origin of the majority of menu items is lacking this does not mean that these schools are not serving local food. Seasonality is a major issue for Farm to School programs. Many Michigan agricultural products, like blueberries and cherries, reach peak season during the summer months when school is not in session. Oftentimes, these items can be difficult to store for the coming school year and as a result are not incorporated into school meals (Joshi, Kalb & Beery, 2006). Also, instead of promoting their FTS efforts on their menus, schools may be choosing to mention their Farm to School efforts in their cafeterias. Many FTS programs incorporate local and seasonal food into school meals through salad bars (Taylor & Johnson, 2009). From this sample of menus, 22 school menus indicated that there was a salad bar option available. While the salad bars on the analyzed school menus did not specifically mention local or seasonal food, they could be being used as vehicle for highlighting local and seasonal foods in the schools. Even if salad bars are not used to promote local foods they have been shown to increase the variety of fruits and vegetables that are offered (Schmidt & McKinney, 2004). Salad bars can be an important tool for schools looking to incorporate local food or just a greater variety of fruits and vegetables.

*Healthy options*

Outside of FTS programs, schools are required to meet federal nutrition standards. In 2010, the Healthy Hunger-Free Kids Act required new nutritional standards for school meals based on the latest Dietary Guidelines for Americans. This legislation increases the availability of whole grains, fruits and vegetables in school meals (Hirschman & Chriqui, 2012). Additionally, the Healthy Hunger-Free Kids Act requires school meals to meet a minimum calorie count and not exceed a maximum calorie count (Godfrey, 2012). Based on this information it was hypothesized that school meals would have information regarding calories, healthy eating, whole-wheat products, fruits and vegetables.

None of the school menus analyzed provided calorie information. Some schools provided calorie information and detailed nutritional information on their websites, but not on the actual menus. Information on healthy eating and healthy habits, including physical activity, appeared on 40% of the school menus. Research shows the importance of involving parents in their children's eating habits (Luppold, 2013). Since parents can be a powerful force for encouraging healthy eating habits, schools should be trying to involve parents as much as possible. This involvement could take the form of providing healthy eating tips on school menus and providing more complete nutritional information on the school menus.

**Table 4. Calorie Information and Healthy Habit Information**

| | **Frequency** | **Percent** |
|---|---|---|
| **Calorie Information** | | |
| Yes | 0 | 0 |
| No | 52 | 100.0 |
| Total | 52 | 100.0 |
| | | |
| **Healthy Habit Information** | | |
| Yes | 21 | 40.4 |
| No | 31 | 59.6 |
| Total | 52 | 100.0 |

Thirty-two school menus reported serving fresh fruit. The amount of fresh fruit varied, however, from being offered once to twenty times a month. The majority of schools (69.7%) serving fresh fruit, offered four servings or less of fresh fruit a month. Eleven school menus mentioned serving chilled fruit, but these eleven menus also offered at least one serving of fresh fruit. Michigan's fruit belt is located along the shores of Lake Michigan in the Western part of the state (Garrett, 2007). It was hypothesized therefore that schools located in the West would serve more fresh fruit than schools in other parts of the state. This, however, turned out not to be the case. While more than half, 57.1%, of the schools in the Western part of the State served fresh fruit on their monthly menus, schools in both the Northern and Southeastern parts of the State mentioned serving fresh fruit on a higher percentage of their monthly lunch menus.

**Table 5. Percentage of Schools per Region Serving Fresh Fruit**

| | | Fresh Fruit Served By School | | | |
|---|---|---|---|---|---|
| | | Yes | No | Total | Percentage Per Region |
| School Region | North | 5 | 1 | 6 | 83.3% |
| | West | 8 | 6 | 14 | 57.1% |
| | Central | 4 | 8 | 12 | 33.3% |
| | Southeast | 15 | 5 | 20 | 75.0% |

In addition to fresh fruit other healthy items were present on school menus. Whole wheat and whole grain items frequently appeared on menus with 37 school menus serving whole wheat/whole grain products. There was a large diversity of whole wheat/whole grain products being offered by schools, with schools offering items like whole grain chicken nuggets, whole grain pizza, and whole wheat dinner rolls.

Desserts were hardly mentioned throughout the school menus. Only 11 schools mentioned serving dessert. Of those 11 schools, not one served dessert more than twice in a month. One reason behind this lack of desserts could be the calorie maximum restrictions that are part of the Healthy Hunger-Free Kids Act (Godfrey, 2013).

**Table 6. Frequency of schools serving dessert**

| Dessert Served | Frequency | Percent |
|---|---|---|
| Yes | 11 | 21.1 |
| No | 41 | 78.9 |
| Total | 52 | 100.0 |

*Popular Menu Items*

Despite, the shift towards healthier foods, items like pizza, chicken nuggets, and French fries still appear on school menus. Of the 52 menus analyzed, only one menu did not mention pizza. How often pizza appeared on the menus ranged from daily to once a month. The majority of school menus, 64%, served pizza four or fewer times a month. Chicken nuggets also were a consistent presence on menus, with 41 schools serving this item at least once a month. There was as sharp divide in how often chicken nuggets were served; 74% of the schools served chicken nuggets only once or twice a month. Then there was a sharp increase in how often chicken nuggets were served, with the remaining four schools serving chicken nuggets at least ten times a month. While, the majority of the schools did not serve chicken nuggets more than twice a month, other menu items similar to chicken nuggets appeared throughout the menus. Items like popcorn chicken, "baked chicken fryz", chicken sticks, and chicken tenders appeared throughout the menus.

Another popular menu item, French fries, also appeared infrequently throughout the monthly lunch menus. Only 19 school menus, 36.5% of the schools analyzed served French fries at least once a month. The majority of schools, 63%, that served French fries only served this menu item once a month. Similar items to French fries, like oven baked fries and potato wedges appeared throughout the menus, but overall potatoes were an infrequent menu item. Five school menus didn't mention potatoes at all and the overwhelming majority of schools that served potatoes, 89%, only served them between once and four times a month. Many schools were also trying to incorporate sweet potatoes into the menus, 41 school menus served sweet potatoes at least once on their menus.

Other popular menu items also appeared on school lunches: cheeseburgers appeared on about half of the school menus, but appeared only once on 92% of these menus. Hamburgers also appeared on half the menus, but appeared more frequently with over half of the menus 52% serving hamburgers twice or more times a month. These popular items weren't immune to the push for healthier foods. Pizza was often served with whole wheat crusts and the burgers were often served on whole wheat buns. Other classic items like corn dogs and hot dogs appeared less frequently. Only 36% of schools served corn dogs, while 61% served hot dogs. These menu items also got an update with many of the schools serving turkey hot dogs and corn dogs on whole wheat buns.

*Religious and Cultural Considerations*

One theme that appeared throughout the menus, but that was not part of the initial analysis was that of religious and cultural considerations. Only one school menu addressed religious dietary considerations by having a halal menu available. Other schools addressed different cultural cuisines by having different food stations that represented different parts of the world. Since these stations often fell out of the scope of the monthly menu format, they were not analyzed. On the monthly menus there was a large variety of the different types of food offered. Some school menus offered cuisine such as gyros, tikka masala, and sweet thai chili chicken. Of the 52 school menus analyzed, 51 one of them served at least one Mexican-style dish. Very little was mentioned about vegetarian and vegan options throughout the menus. There exists a small body of research that emphasizes that interventions to improve children's nutrition should be culturally appropriate (Bronner, 1996). While, there seem to be some efforts to incorporate diverse dishes into school menus, this seems like an area that could be focused on as a potential avenue for improving nutrition and student participation in school lunches.

## Conclusion

Menus are currently an underutilized resource for conveying information regarding school nutrition and FTS activities. In the future, menus could be used as an outreach tool to inform parents of what is being served in school and communicate activities that the school is undertaking to incorporate local food. Research has shown that parents want ongoing communication about what is available for school lunch (Patino-Fernandez et al, 2012). Menus that provide more details regarding what is being served and the nutritional content of what is served would most likely be welcomed by parents.

Menus could also be used to encourage healthy choices. Many of the menus analyzed did include tips for healthy eating and healthy lifestyle choices, but schools could take this a step further by providing caloric and nutritional information. One study showed that there was a small increase in the selection of the low-fat entrees by students when they were labeled on the menu and parents were notified of their availability (Whitaker, Wright, Koepsell, Finch, & Psaty, 1994). Another study involving students pre-ordering their lunch items found that students who stood in a lunch line were more likely to make less healthy lunch choices, but when students pre-ordered from their classrooms they made healthier choices (Hanks, Just & Wansink, 2013). If menus had more details regarding nutritional content, parents and students could use menus for at home planning and a way of mentally pre-ordering lunch before arriving at school, which could lead to healthier choices by students.

Menus are also an underutilized platform for promoting FTS activities. The menus that were analyzed revealed hardly any information regarding FTS activities. This finding is contradictory to the 2009 survey of Michigan school food service directors, which found that 77% of respondents reported having taken a least one action to connect their schools to local

food (Colasanti, Matts, & Hamm, 2012). Clearly, Michigan schools are actively participating in the FTS movement, but these efforts are not being communicated via school menus. Menus could be an important tool for promoting and communicating schools' FTS activities. Celebrating success is an important component in the success of FTS programs (Azuma and Fisher, 2001). School menus could provide information on FTS activities, which would inform and involve parents. Promoting successes, even small ones, could encourage support of these programs.

Menus have the potential to be a powerful communication tool. Parents' perception of school meals influences their children's participation in the school meal programs (Maurer, 1984). Menus could be a way to positively influence parents' views towards school meals. Students are also heavily influenced by the information provided on school menus (Maxwell, 2012; Meyer, Lambert, & Blackwell 2002).Menus should be utilized by schools as a mechanism for communicating information to parents and students, beyond just what is being served for lunch. Menus can include nutritional information and information regarding FTS activities. Menus could also be used as a forum to celebrate cultural diversity by incorporating foods that are representative of the school's population. Culturally sensitive school meal programs could positively impact children's nutrition (Bronner, 1996).

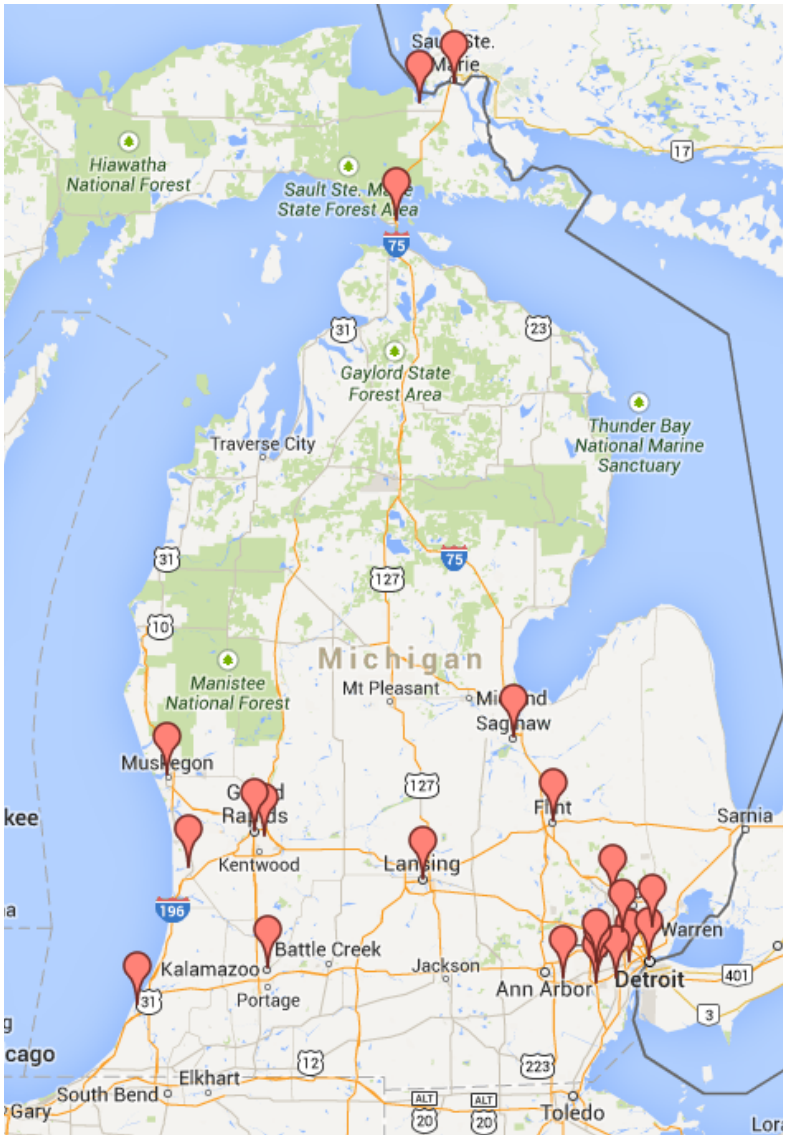
While some schools have taken steps to utilize their menus as important communication tools, as this analysis reveals there is the potential to do much more. School food service directors are already operating under budget and time restraints (Godfrey, 2013), so extensive menu design should not be added to their workload. Instead, the menu design and creation could be a key way to involve parents and students. Interested parent and student groups could take the lead on crafting menus, in consultation with the food services staff. Schools are doing incredible

work to improve the health of school meals and connect students with fresh food; their successes should be celebrated and encouraged. One main to promote these successes is to use school menus as a platform to engage with parents and students.

**Appendix A**

Figure 1: Locations of study cities

Menus were analyzed from schools located in these cities




Source: Map developed using Google Maps, 2014.

## References


Azuma, A.M. & Fisher, A. (2001). Healthy farms, healthy kids: evaluating the barriers and opportunities for Farm-to-School programs. Community Food Security Coalition. Retrieved from: http://mda.maryland.gov/farm_to_school/Documents/HealthyFarmsHealthyKids.pdf

Ballard, K. T. (2013). Improved nutrition through school food programs. *Pediatric Annals, 42*(9), 376-8. doi:http://dx.doi.org/10.3928/00904481-20130823-12

Bhatia, R., Jones, P., & Reicker, Z. (2011). Competitive foods, discrimination, and participation in the National School Lunch Program. *American Journal of Public Health*, *101*(8), 1380-1386. doi: 10.2105/AJPH.2011.300134.

Bronner, Y. (1996). Nutritional status outcomes for children: Ethnic, cultural, and environmental contexts. *Journal of the American Dietetic Association, 96*(9), 891-903. doi: http://dx.doi.org/10.1016/S0002-8223(96)00242-8.

Centers for Disease Control. (2014). Childhood obesity facts. Adolescent and School Health. Retrieved from: http://www.cdc.gov/healthyyouth/obesity/facts.htm

Clark, M. & Fox, M. (2009). Nutritional quality of the diets of US public school children and the role of the school meal programs. *Journal of the American Dietetic Association*, *109*(2), S44-S56. doi: http://dx.doi.org/10.1016/j.jada.2008.10.060.

Colasanti, K., Cantrell, P., Cocciarelli, S., Collier, A., Edison, T., Doss, J., George, V., Hamm, M., Lewis, R., Matts, C., McClendon, B., Rabaut, C., Schmidt, S., Satchell, I., Scott, A. & Smalley, S. (2010). *Michigan Good Food Charter*. East Lansing, MI: C.S. Mott Group for Sustainable Food Systems at Michigan State University, Food Bank Council of Michigan, Michigan Food Policy Council. Retrieved from: www.michiganfood.org.

Colasanti, K., Matts, C., & Hamm, M. (2012). Results from the 2009 Michigan farm to school survey: Participation grows from 2004. *Journal of Nutrition Education and Behavior*, *44* (4), 343-349. doi:10.1016/j.jneb.2011.12.003

Condon, E. M., Crepinsek, M.K., Fox, M.K. (2009). School meals: Types of foods offered to and consumed by children at lunch and breakfast. *Journal of the American Dietetic Association*, *109*(2), S67-S78. http://dx.doi.org/10.1016/j.jada.2008.10.062.

DoSomething.org. (n.d.). Fed Up: The state of school lunch as told by those who actually eat it. Retrieved from: https://www.dosomething.org/files/campaigns/fedup/FedUp_1.1.pdf

Feeding America. (2014). Child Hunger Facts. Retrieved from: http://feedingamerica.org/hunger-in-america/hunger-facts/child-hunger-facts.aspx

Feenstra, G. & Ohmart, J. (2012). The evolution of the school food and Farm to School movement in the United States: Connecting childhood health, farms, and communities. *Childhood Obesity*, *8*(4), 280-289. doi: 10.1089/chi.2012.0023.

Food Research & Action Center (n.d.). National School Lunch Program Fact Sheet. Retrieved from: http://frac.org/federal-foodnutrition-programs/national-school-lunch-program/.

Garrett, B. (2007). Fruit belt. Michigan Department of Natural Resources. Retrieved from: http://www.michigan.gov/dnr/0,4570,7-153-54463_19313_20652_19271_19357-176851--,00.html

Gay, J. (1996). Richard B. Russell and the National School Lunch Program. *The Georgia Historical Quarterly*, *80*(4), 859-872. Retrieved from: http://www.jstor.org/stable/40583600

George, V., Matts, C., & Schmidt, S. (2010). Institutional food purchasing: Michigan Good Food Work Group Report No. 3 of 5. East Lansing, MI: C.S. Mott Group for Sustainable Food Systems at Michigan State University. Retrieved from: www.michiganfood.org.

Glantz, F., Berg, R., Porcari, D. Sackoff, E. & Pazer, S. (1994). School lunch eligible non-participants. United States Department of Agriculture, Food and Nutrition Services. Retrieved from: http://www.fns.usda.gov/Ora/menu/Published/CNP/FILES/EligNonPart-Pt1.pdf

Godfrey, J.R. (2013). National school lunch nutrition standards: Making kids hungry or healthy? *Childhood Obesity, 9*(1), 71-73. doi:10.1089/chi.2013.9103.

Gordon, A., Crepinsek, MK., Nogales, R., Condon. E., Gleason, P. & Sarin, A. (2007). *School Nutrition Dietary Assessment Study-III*. Alexandria, Va.: U.S. Department of Agriculture, Food and Nutrition Service, Office of Research, Nutrition and Analysis; No: 43-3198-4-0060 and AG-3198-D-05-0071. Retrieved from: http://www.fns.usda.gov/Ora/menu/Published/CNP/FILES/SNDAIII-Vol2.pdf

Hanks A.S., Just, D.R., & Wansink, B. (2013). Preordering school lunch encourages better food choices by children. *JAMA Pediatrics, 167*(7), 673-674. doi:10.1001/jamapediatrics.2013.82.

Hirschman, J. & Chriqui, J. (2012). School food and nutrition policy, monitoring and evaluation in the USA. *Public Health Nutrition*, *16*(6), 982-988. doi: 10.1017/S1368980012004144

Johnston, C., Moreno, J., El-Mubasher, A., & Woehler, D. (2012). School lunches and lunches brought from home. *Childhood Obesity*, *8*(4): 364-368. doi:10.1089/chi.2012.0012.

Joshi, A., Kalb, M. & Beery, M. (2006). Going local: Paths to success for Farm to School Programs. Report developed by the National Farm to School Program Center for Food & Justice, Occidental College and Community Food Security Coalition. Retrieved from: http://community-wealth.org/sites/clone.community-wealth.org/files/downloads/report-joshi-kalb-beery.pdf

Joshi, A., & Azuma, A. M., (2008). *Bearing fruit: Farm to School program evaluation resources and recommendations*. National Farm to School Network, Center for Food & Justice, Occidental College. Retrieved from: http://www.uepitestsite.dreamhosters.com/wp-content/uploads/2012/11/Pub-Bearing_Fruit_Farm_to_School_Program_Evaluation.pdf

Joshi, A., Azuma, A. M., & Feenstra, G. (2008). Do Farm-to-School programs make a difference? Findings and future research needs. *Journal of Hunger and Environmental Nutrition 3*(2-3), 229-246. doi: 10.1080/19320240802244025

Kerr, N. (1990). Drafted into the war on poverty: USDA food and nutrition programs, 1961-1969**.** *Agricultural History 64* (2), 154-166. Retrieved from: http://www.jstor.org/stable/3743805

Levine, S. (2008). *School lunch politics: The surprising history of America's favorite welfare program*. Princeton, New Jersey: Princeton University Press.

Li, J. & Hooker, N. (2010), Childhood obesity and schools: Evidence from the National Survey of Children's Health. *Journal of School Health*, *80*, 96–103. doi: 10.1111/j.1746-1561.2009.00471.x

Luppold, D. (2013). Getting our children to eat more fruits and vegetables. *American Journal of Lifestyle Medicine, 7*(*5)*, 304-306. doi:10.1177/1559827613492092

Marples, C. A., & Spillman, D. (1995). Factors affecting students' participation in the Cincinnati public schools lunch program. *Adolescence, 30*(119), 745-54. Retrieved from http://search.proquest.com.proxy.lib.umich.edu/docview/195926085?accountid=14667

Markham, V.D. & Rinkus, M.A. (2006). U.S. state reports on population and the environment: Michigan. Center for Environment and Population and National Wildlife Federation. Retrieved from: http://www.cepnet.org/documents/US-State-Report_Michigan.pdf

Maurer, K. (1984). The national evaluation of school nutrition programs: Factors affecting student participation. *American Journal of Clinical Nutrition*, *40*, 425-447. Retrieved from: http://ajcn.nutrition.org/content/40/2/425.full.pdf+html

Maxwell, Z. (Writer & Director). (2012). *Yuck - a 4th grader's short documentary about school lunch* [Electronic source]. Retrieved from: http://www.yuckmovie.com/watch-it-now.html

Meyer, M. K., Lambert, L., & Blackwell, A. (2002). Choosing to eat school lunch: Child, parent, or joint decision? *Journal of Family and Consumer Sciences, 94*(2), 24-28. Retrieved from http://search.proquest.com.proxy.lib.umich.edu/docview/218195089?accountid=14667

Mortazavi, M. D. (2011). Are food subsidies making our kids fat? Tensions between the Healthy Hunger-Free Kids Act and the Farm Bill. *Washington and Lee Law Review, 68*(4), 1699-1735. Retrieved from http://search.proquest.com.proxy.lib.umich.edu/docview/920320089?accountid=14667

National Farm to School Network (n.d.). The benefits of Farm to School. Retrieved from http://www.farmtoschool.org/files/publications_514.pdf

Patino-Fernandez, A.M., Hernandez, J., Villa, M., & Delamater, A. (2013). School-based health promotion intervention: Parent and school staff perspectives. *Journal of School Health, 83*(11)*,* 763-770. doi: 10.1111/josh.12092.

Poppendieck, J. (2010). *Free for all: fixing school food in America*. Berkeley and Los Angeles, CA : University of California Press.

Schmidt, S. R., & McKinney, P. (2004). Fruits and vegetables offered in school lunch salad bars versus traditional school lunches. *Family Economics and Nutrition Review, 16*(2), 3-11. Retrieved from http://search.proquest.com.proxy.lib.umich.edu/docview/219383567?accountid=14667

Taylor, J. C. & Johnson, R. K. (2013), Farm to School as a strategy to increase children's fruit and vegetable consumption in the United States: Research and recommendations. *Nutrition Bulletin*, 38(1): 70–79. doi: 10.1111/nbu.12009

USDA, Food and Nutrition Service. (2013). National School Lunch, Special Milk, and School Breakfast Programs, national average payments/maximum reimbursement rates. *Federal Register*, 78(144), 45178-45181. Retrieved from: http://www.fns.usda.gov/cnd/governance/notices/naps/NAPs13-14.pdf

USDA, National Agricultural Statistics Service. (2011). Michigan agricultural statistics 2010-2011. Retrieved from: http://www.nass.usda.gov/Statistics_by_State/Michigan/Publications/Annual_Statistical_Bulletin/stats11/agstat11.pdf

What do kids love to eat at school?; school nutrition association names most popular lunch menu items as students head back for the 2004-2005 school year. (2004, Sep 23). *Business Wire*. Retrieved from http://search.proquest.com.proxy.lib.umich.edu/docview/445571588?accountid=14667

Whitaker, R.C., Wright, J. A., Koepsell, T.D., Finch, A.J., & Psaty, B.M. (1994). Randomized intervention to increase children's selection of low-fat foods in school lunches. Journal of Pediatrics, *125*(4), 535-540. Retrieved from: http://foodandpolitics.pbworks.com/f/sdarticle.pdf

Wojcicki, J.M. & Heyman, M.B. (2006). Healthier choices and increased participation in a middle school lunch program: Effects of nutrition policy changes in San Francisco. *American Journal of Public Health*, *96*(9), 1542-1547. http://dx.doi.org.proxy.lib.umich.edu/10.2105%2FAJPH.2005.070946

# PART 2

## Reimagining Food Security in Michigan's Emergency Food Network: Linking Capacity and Effectiveness with Culturally Appropriate and Fresh Foods

*by Juliana Pino*

# REIMAGINING FOOD SECURITY IN MICHIGAN'S EMERGENCY FOOD ASSISTANCE NETWORK: LINKING CAPACITY AND EFFECTIVENESS WITH CULTURALLY APPROPRIATE AND FRESH FOODS

By: Juliana Pino

School of Natural Resources and Environment, University of Michigan
April 22, 2014

**ABSTRACT**

Individuals and households in the United States face many obstacles to acquiring adequate food, including challenges related to the high cost of nutritious food, limited food access where they live, and financial difficulties related to income variability and job loss. Over 17 million households in the U.S. experience food insecurity, a state of inability to access adequate food due to insufficient monetary or other resources. A complex network of emergency food assistance providers supply short-term services to eligible clients in need of food. In Michigan, 3.86 million households are food insecure. This study of 55 emergency food providers throughout the state explored organizational capacity attributes to investigate which elements are most associated with achieving effectiveness within the traditional food security framework. More recently, grassroots activists and scholars have advocated for expansion of the definition of food security to include food that is "nutritionally adequate" and "culturally appropriate." Addressing a broader concept of food security, the study investigated whether these definitions are reflected in provider services by examining connections between capacity, effectiveness, and providing services tailored to cultural, racial, and/or ethnic minorities and inclusion of fresh produce.

Key findings include that providers are utilizing diversification in budgetary and funding sources to achieve effectiveness, and the ability to keep budgetary and food resource trends moving in congruence with client demand is connected to both perceptions that resources are meeting client needs and avoidance of food shortages. The presence and number of paid staff had a negative relationship with these outcomes, while utilization of computerized databases had a strong, positive relationship with them. In contrast, the presence and number of paid staff were the most significant elements of capacity positively associated with provision of services tailored to cultural, racial, and/or ethnic minority groups. Increases in the number of volunteers per week were negatively related to high-frequency provision of fresh fruits and vegetables, while high-frequency distribution of canned fruits and vegetables was still more common than that of fresh produce. It also found that high-frequency providers of fresh fruit were much more likely than non-providers to also supply culturally-tailored services. In sum, these results build a cross-sectional profile of Michigan's emergency food assistance providers, and they suggest that staffing characteristics and computerized database usage, in particular, play a complex, but significant role in effectiveness outcomes, tailoring services to diverse clientele, and providing fresh foods.

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## Chapter 1. *Introduction*

Individuals and households in the United States face many obstacles to acquiring adequate food, including situational challenges related to the high cost of nutritious food, limited food access where they live, and financial difficulties related to income variability and job loss. A total of 17.6 million households in the U.S., 14.5%, experience food insecurity, a state of inability to access adequate food due to insufficient monetary or other resources (Coleman-Jensen, Nord, & Singh, 2013). Federal food assistance programs work to aid those low-income residents of the U.S. experiencing food insecurity through supplementary food programs. However, under-enrollment of eligible participants and constrictions on benefit levels due to budget cuts and other policy decisions have resulted in gaps in the social safety net for low-income families and individuals experiencing food insecurity. This has been largely addressed through a complex network of emergency food assistance providers that supply short-term food to eligible clients. In Michigan, over 1.5 million individuals in households are food insecure (Coleman-Jensen et al., 2013). This study seeks to address measuring capacity and effectiveness in the network of Michigan's emergency food assistance providers, in addition to assessing whether expanding notions of food security to include nutritionally adequate and culturally appropriate foods are reflected in their services.

## Chapter 2. *Review of the Literature*

Experiences of Food Insecurity

*Food Insecurity in the United States and Michigan*

Individuals and households in the United States encounter a wide variety and large number of obstacles to accessing adequate food, including a range of situational challenges related to the high cost of nutritious food, limited food access where they live, and financial difficulties related to income variability and job loss (Mabli et al., 2010; Pascucci et al., 2010; Banks et al., 2006; Drewnowski & Barratt-Fornell, 2004). The United States Department of Agriculture (USDA) defines experiencing food insecurity as "being unable to acquire adequate food for one or more household members because [a household] had insufficient money and other resources for food" (Coleman-Jensen, Nord, Andrews, & Carlson, 2011, p. 4).[1] Approximately 14.5% of all households in the United States are food insecure, totaling 17.6 million households, and of those households including children, 10% or 3.9 million households, experienced food insecurity (Coleman-Jensen, Nord, & Singh, 2013).

The USDA also reports that households with incomes near or below the Federal poverty line, single parent households with children, and Black and Latino households also experience food insecurity rates substantially higher than the national average. Geographically, a condition of food insecurity is more common in large cities and rural areas than suburban areas or exurban areas around cities (Coleman-Jensen et al., 2011, p. vi). Food insecurity can also be experienced to various degrees or levels on the USDA scale. Among these, a very low level of food security is partly characterized as having disruptions in eating and reduction in intake of food by at least one or more individuals in a household at some point in the year due to not having enough

1 The most recent national-level data and state-level data are estimates from 2012.
2 Michigan's state-level data represents an average taken from 2010 to 2012.
3 NHANES is comprised of a battery of large-scale studies run by the Centers for Disease Control and

money to afford food (Mabli et al., 2010). Nationally, seven million households, 5.7% of all households, experienced very low levels of food security (Mabli et al., 2010).

In the state of Michigan, food insecurity is also a major issue of concern, and its prevalence has increased within the population in the last decade. Food insecurity in Michigan has risen from 9.9% of households experiencing food insecurity based on the USDA's 2000-2002 figures, to 13.4% of households experiencing food insecurity in 2012 (Coleman-Jensen et al., 2013). This reflects a broader trend across most states in the United States, where increases in food insecurity in the population have been tracked from the beginning of the 2000s as compared to early 2010s (Coleman-Jensen et al., 2013). With an estimated 3.86 million households in the state of Michigan in 2012, 13.4% would amount to over 500,000 households, while 5.3% of households in 2012 experienced very low food security, amounting to nearly 200,000 households (Coleman-Jensen et al., 2013).[2] In Michigan's households living below the poverty line, approximately 44% experience food insecurity, reflecting the national trend of differential experiences of food insecurity along socioeconomic lines (Coleman-Jensen et al., 2013).

*Ethnic Minority Food Insecurity in the United States and Michigan*

Compared with the general population, ethnic minority households, particularly Black and Latino households, are extremely afflicted by food insecurity, and are almost twice as likely as White households to experience it (Coleman-Jensen et al., 2011; Graham et al., 2010). In the year 2012, the USDA found that Black and Latino households in the U.S. experienced substantially higher rates of food insecurity than White households. Comparatively higher rates of food insecurity in both groups have been confirmed for a number of sequential years by the USDA's annual food insecurity study findings, indicating that this disparity in experiences of

2 Michigan's state-level data represents an average taken from 2010 to 2012.

food insecurity is a persistent trend (Coleman-Jensen, 2013). The USDA has also noted a relationship in their finding of lower average household spending on food by Black and Latino households – as compared to White households – to the lower average incomes for households in these racial-ethnic groups, connecting their experiences of food insecurity by these households with their tendency, on average, to also be of a lower socioeconomic status than White households (Coleman-Jensen et al., 2013).

In Michigan, as of 2009, Black "Non-Hispanic" households experienced rates of food insecurity at over double the rate of their White Non-Hispanic counterparts with 35.4% compared to 12.6% of households classified as food insecure in each group, respectively (U.S. Census Bureau, 2010). The disparity in experiences of very low food security in Michigan's Black Non-Hispanic households versus White Non-Hispanic households is even more pronounced, with 16.1% of Black Non-Hispanic Michigan households experiencing very low food security, 3.5 times the 4.6% of White Non-Hispanic households who are classified as having experienced very low food security (U.S. Census Bureau, 2010). In general, this data reflects the national trend: minority households in Michigan experience substantively higher rates of food insecurity than their White counterparts (Coleman-Jensen et al., 2013; U.S. Census Bureau, 2010).

*Food Insecurity and Associated Health Outcomes*

One of the main reasons that the issue of food insecurity is understood as important is due to the association between states of food insecurity and negative health outcomes for individuals. Broadly speaking, food insecurity acts as a constraint on food selection, which has limiting effects on the ability to access adequate dietary nutrients (Kirkpatrick & Tarasuk, 2008; Struble & Aomari, 2003). Some of the potential consequences of food insecurity have been identified as

malnutrition, the inability to achieve nutrient requirements resulting from either too little food or an imbalance of key nutrients, and either direct or indirect adverse effects on health and quality of life (Kirkpatrick & Tarasuk, 2004; Struble & Aomari, 2003; Vozoris & Tarasuk, 2003; Rose, 1999; Campbell, 1991). The American Dietetic Association (ADA) has stated that malnutrition and hunger have negative effects on cognitive development, growth, and general health, as well (Struble & Aomari, 2003). Food insecurity has also been identified as a factor in worsening disease and extending the length of hospital stays (Stuff et al., 2004).

Several scholars have determined that food insecurity has a significant positive relationship with only having poor or fair adult health status, elderly health status, and human infant and toddler health status outcomes (Stuff et al., 2004; Cook et al., 2004; Lee & Frongillo, 2001). In a study conducted using a two-stage stratified representative cluster sample in the Lower Mississippi Delta region found that adults in food insecure households were significantly more likely to report poor/fair health, in addition to scoring lower, on average, on the physical and mental health scale of the Short Form 12-item Health Survey (2004). This relationship held true even when controlling for income, gender, and ethnicity, with the study also finding that the interaction between food insecurity and race was very statistically significant in its negative correlations with health outcomes for non-Whites (Stuff et al., 2004). An analysis conducted by Lee & Frongillo of data from the (Third) National Health and Nutrition Examination Survey (NHANES)[3] conducted from 1988-1994 and the Nutrition Survey of the Elderly in New York State conducted in 1994 found that food insecure elderly persons were 2.33 times more likely to report fair/poor health status and had higher "nutritional risk" compared to their food secure

3 NHANES is comprised of a battery of large-scale studies run by the Centers for Disease Control and Prevention (CDC) aimed at gauging and measuring the health and nutritional status of individuals in the United States. It uses stratified, multistaged probability sampling techniques to achieve a nationally representative sample, and it is widely regarded as unique for combining twenty-four hour recall interviews with physical exams (CDC, 2014).

counterparts (2001). Finally, a cross-sectional study of health outcomes among human infants and toddlers by Cook et al., conducted at urban medical centers in five different states found that food-insecure children had odds of "fair or poor" health nearly twice as often and their odds of being hospitalized since birth was almost a third larger than that of food secure children (2004).

Other relevant studies point to specific morbidity outcomes associated with food insecurity. One study by Seligman et al. utilizing NHANES data from 1999-2002 found that after controlling for "sociodemographic" factors and physical activity level, participants experiencing severe food insecurity were approximately twice as likely than those without to have diabetes, an association that held true even when adjusting for body mass index (2007). Another study by Adams et al. utilizing data from the 1998 California Women's Health Survey – in which over 8,169 randomly selected women over the age of 18 were surveyed by phone – found that obesity was more prevalent in food insecure women at 31% versus food secure women at 18.8%, and that food insecurity with hunger was associated with increased risk of obesity for Asian, Black, and "Hispanic" participants, but not for "Non-Hispanic" Whites. This study supported an earlier finding by Townsend et al. in their analysis of data from the 1994-1996 Continuing Survey of Food Intakes by Individuals that food insecurity had an "unexpected and paradoxical association with overweight status" with a higher prevalence of this condition in food insecure women (Townsend et al., 2001, p. 1738). This increased risk of obesity and/or weight gain has also been found in a study involving children by Casey et al. that utilized NHANES data from 1999-2002 that found that controlling for ethnicity, gender, age and family poverty level, childhood food insecurity is associated with a child's being at risk for overweight status or greater, but not overweight status, as well as in a second study by Jyoti et al. utilizing data from the Early

Childhood Longitudinal Study-Kindergarten Cohort that found that children in food insecure households experienced greater average weight gain than their food secure counterparts (2006).

## Federal Food Assistance

### *Use of Federal Food Assistance in the U.S. and Michigan*

Families and individuals facing challenges procuring food and experiencing food insecurity leverage a number of strategies to mitigate these barriers and fulfill their needs. One of the important ways that some families and individuals navigate this is through participation in federal food assistance programs (Coleman-Jensen, 2013). Varying by size and target population, the 15 distinct food assistance programs run by the USDA form a publicly funded safety net for millions of people in the U.S. (Coleman-Jensen, 2013; Fox, Hamilton, & Lin, 2004). Nation-wide, about one in four Americans participated in at least one of the USDA's (domestic) food and nutrition assistance program at some point in the year 2013, and these programs account for almost 75% of the USDA's fiscal outlays for that year (Oliveira, 2014). The main and largest program is the Supplemental Nutrition Assistance Program (SNAP), which accounted for 73% of all federal food and nutrition programs, and unlike in more specifically targeted programs, SNAP eligibility is primarily tied to socioeconomic status as it relates to income and assets, making it more accessible to the general population than other, more targeted federal programs (Oliveira, 2014). An average of 47.6 million people participated in SNAP per month, the largest estimate to date, representing more than 2.5 times the participants per month measured in the year 2000 (Oliveira, 2014). In Michigan, 1.7 million people, or approximately one in five Michigan residents, received SNAP benefits in 2013 (Oliveira, 2014).

It is difficult to actually measure the effect of federal food assistance on food insecurity – mainly due to endogenous self-selection bias resulting from those who are food insecure being

more likely to self-select into receiving federal food assistance than those who are not (Ratcliffe, McKernan & Zheng, 2011; Kabbani & Kmeid, 2005). However, a study by Kabbani and Kmeid utilizing the Food Security Supplements of the Current Population Survey[4] from 1995 to 2001 found that participation in the National School Lunch Program is associated with lower odds of food insecurity for those households with school age children, and while their results for the Food Stamp Program – which has become the SNAP program – were not statistically significant, a "dose-response" analysis points to higher benefit amounts being strongly associated with lower odds of food insecurity for those households who had experienced hunger (2005). Another study by Ratcliffe, McKernan, & Zhang utilized an instrumental variables (IV) approach[5] to approximating the effectiveness of SNAP in reducing food insecurity, and they found that receiving SNAP benefits reduces the likelihood of being insecure by 30% and the likelihood of being very food insecure by 20% (2011). These results indicate that receiving federal food assistance benefits have a positive impact on food security status for participants. Additionally, the U.S. Census Bureau's Supplemental Poverty Measure analysis has found that SNAP participation kept nearly five million participants out of poverty in 2012, including 2.2 million children, suggesting that receiving federal food assistance benefits has other, positive effects on the resource utilization and economic status of participants (2013).

In terms of scale of SNAP as a program, benefits per person averaged to $133.08 per month in 2013 (Oliveira, 2014). While these funds provide much needed budgetary support to individuals and families needing to supplement their resources in order to obtain necessary foods, the "Thrifty Food Plan" that they are based on does not account for geographic variation

4 The Current Population Survey is a monthly, representative survey of over 50,000 households conducted by the U.S. Census Bureau (Kabbani & Kmeid, 2005).
5 Their instruments were comprised of state level SNAP program rules. These included: use of biometric technology, outreach spending, funding eligibility, and partial immigrant eligibility.

in the costs of foods and the monthly benefits and it has been criticized as inadequate – not enough to covering the true cost of foods for the entirety of a month (Schmeiser, 2012; Anderson, 2007; Schapiro, 2005; Townsend, 2001). Some scholars argue that this leads to a damaging cycle where participants use their benefits for the first majority of the month, but then they run out of benefits before the month is over (Schmeiser, 2012; Anderson, 2007; Schapiro, 2005; Townsend, 2001). These results continue to suggest that federal food assistance programs play an important role in mitigating food insecurity, but if we utilize SNAP as a case study amongst them, they may not suffice to fulfill all of the need of food insecure families for resources to reliably and consistently acquire foods. This creates a situation where those who are in need of food must seek out other methods of acquiring it, as the government provision of food assistance tends to fall short of needs (Poppendieck, 1999).

### *History of State-based Food Assistance and Connection of Federal and Emergency Food Assistance to Agricultural Commodities*

Historical analysis of governmental food assistance programs and patterns sheds light on the limitations of federal food assistance benefits, particularly because they emerge from the policy framework that created SNAP's "Food Stamp" Program predecessor. Most importantly, the historical context identifies a foundation that centered the needs of large-scale agriculture over those of participants. Globally, state-based, which in this case, means provided by the state/the federal government, food assistance programs initially originated from a combination of two concurrent forces in most countries: one, the production of surplus commodity foods due to government farm support programs, and two, the welfare state as connected to government provision of social support programs (Barrett, 2002). Despite the evidence from nutrition and economics that that the underpinned food subsidy schemes are relatively ineffective and costly

ways of enhancing food security, they persist in many countries, and scholars have pointed to this phenomena as largely domestic and political in nature in each (Barrett, 2002; Pinstrup-Andersen, 1993). Due to the pressing nature of food insecurity as a problem, and the connection between food assistance and the larger agricultural commodity system, the existence of food assistance programs and the many – sometimes opposing or perversely incentivized – forces invested in maintaining them can create an operating environment where their potential for effectiveness is negatively impacted (Barrett, 2002). Effectiveness of state-based food assistance programs is impeded by their relationship with surpluses of commodity foods produced through subsidies, as the nature of food available to program participants and the quantity of said food has often been a function of surpluses from the agricultural system more so than determined by client needs (Barrett, 2002).

The U.S. government has recently framed its food assistance programs as a demonstration of its commitment to "ensuring that its citizens never go hungry nor suffer the consequences of inadequate dietary intake" (Fox, Hamilton, & Lin, 2004). However, aspects of the history of federal food assistance in the U.S. points to a more complex combination of motivations and policies behind them. The Food Stamp Program began in 1939 as an initiative of President Franklin Roosevelt's New Deal policies, and with the exception of a gap between 1943 and 1958 due to World War II budget constriction, the program continued to grow, achieving nationwide coverage in 1974 (Barrett, 2002). The law first legislating the program stated that 30% of the receipts from U.S. customs could be used by the Secretary of Agriculture to foster exports of agricultural commodities and to "encourage the domestic consumption of such commodities or products by diverting them, by payment of benefits or indemnities or by other means, from the natural channels of trade and commerce" (Quoted in MacDonald, 1977, p. 643).

The latter portion of the legislation focused on allowing for surplus farm products to be distributed to families in need and to school children through their lunches – initiatives administered through the Federal Surplus Commodities Corporation (FSCC) (MacDonald, 1977). As the FSCC was housed within the Agricultural Adjustment Administration (AAA), the emphasis of the legislation was primarily on strengthening agricultural markets, not on feeding the hungry or on the quality or nutritional composition of the food available to participants (Barrett, 2002; MacDonald, 1977). The ability of food stamps to curtail farm surpluses in post-War programs continued to be a consideration in the renewal and ultimate expansion of the program (MacDonald, 1977). More recently, the connection between federal food assistance and subsidy-produced surpluses has declined, but this has simply represented a shift in the handling of surplus agricultural commodities, rather than their disconnection from food assistance. In fact, food Donation Programs (FDPs) now "primarily support food security interventions by private, non-profit agencies running food banks, soup kitchens, and the like, and thereby support many eligible individuals who do not participate in [federal food assistance] […and these] have been the primary outlets for government stocks accumulated through producer price stabilization and surplus removal programs" (Barrett, 2002, p. 2140).

Thus, in an examination of food assistance benefits and priorities, we must contextualize the way in which these programs were not originally grounded in problems of hunger and the needs of the hungry, and this is the policy background against which current insufficient benefits and advocacy for program expansion are contrasted. The history of the government's food assistance programs being more focused on eliminating surpluses and supporting farm incomes and less focused on feeding people who were hungry is an important context (Lipsky & Thibodeau, 1990; Lipsky & Thibodeau, 1998). Additionally, in understanding emergency food

assistance providers as a concurrent source of food for households and individuals in need, we must consider their connection, and that of the kinds of foods they have traditionally supplied, to the same governmental schematic of using food assistance as a vehicle for surplus elimination and control of market prices.[6]

Policy Environment

From a historical perspective, changes in federal food assistance policy have also affected the need for those experiencing food insecurity to access other means of obtaining food. The most significant example of this is the passing of the Personal Responsibility and Work Opportunities Act of 1996, which was characterized by reform of federal social welfare policies, most notably, the reduction in food assistance and other benefits for poor families (Sheely, 2012; Kuhn et al., 2006). Scholars have noted that this reduction in federal food assistance benefits for poor families posed difficulties in terms of their abilities to access other resources, a gap that was largely filled by supplemental or alternative provision of food to individuals and households by private, non-profit emergency food assistance organizations (Kuhn et al., 2006; Barrett, 2002; Burnham, 2001). Authors have also noted the particularly severe impact these reforms had on communities of color and low-income communities experiencing higher rates of food insecurity (Burnham, 2001).

Just prior to the beginning of 2014, several federal social policy changes have occurred that may also have similar impacts on households and individuals experiencing food insecurity, both in the short and long terms. The Emergency Unemployment Compensation program, a

6 Scholars have asserted that these domestic precedents have also been connected to a broader international food aid policies – and that these have also largely been a product of geopolitical forces and less so based in need. Scholars argue that the U.S. and other developed countries have selectively used food aid to offshore many different kinds of excess commodities, while also using food aid as a political reward to its allies (Barrett, 2002, p. 2147).

provider of extended benefits to the long-term unemployed, expired on December 31, 2013, and this may affect the number of people seeking short- and long-term food assistance (Rampell, 2013). Another notable change is that the 2009 Recovery Act's boost to SNAP federal food assistance benefits that had previously increased them as part of a government initiative to support the economy following the Recession ended on November 1, 2013 (Dean & Rosenbaum, 2013; Rampell, 2013). Escalation of local demand for food assistance and effects on food supplies in some stores have been already been noted in the media as of December, and some are linking these effects to the end of benefits (McVeigh, 2013). Finally, and most significantly, the recent passing of the Agriculture Act of 2014, more commonly known as the 2014 Farm Bill, included the reauthorization of the federal SNAP programs (USDA, 2014). However, SNAP program benefits were cut as a part of the reauthorization process – amounting to a total of $8.6 billion dollars in reduced benefits over the next ten years (Food Research & Action Center, 2013; Rampell, 2013). These changes would adversely affect 4% of beneficiaries of SNAP, or approximately 850,000 households (Food Research & Action Center, 2013). Federal policy shifts such as these can have a great impact on the social safety net, and may produce additional demand for emergency food assistance services.

Private Emergency Food Assistance Organizations

Federal food supports have failed to keep pace with the needs of households and individuals in the United States (Daponte, 2000). Emergency food assistance providers play an important function in creating a food source safety net for those families facing food insecurity. "Emergency food," the term, originally referred to a "household food emergency," but has now transitioned in meaning to that of a "societal emergency" – a "time-limited need for help" obtaining food (Poppendieck, 1999). This reflected a conceptual shift from provision of food to

those experiencing short-term lack of foods to a recognition on a system-level scale that federal programs inadequately served the immense need for ongoing or frequent support to households needing food (Daponte, 2000). A national network of providers based out of local communities emerged in response to these needs in their areas, partly due to encouragement from politicians placing the responsibility for provision of said services on private and not public sources and resources (Daponte, 2000).

The emergency food assistance network that has emerged is comprised largely of non-governmental (private) non-profit organizations that include several different program types, including, but not limited to, food banks, food rescue organizations, food pantries, meal programs and soup kitchens, and more (Briefel et al., 2003; Ohls et al., 2002; Eisinger, 2002; Poppendieck, 1999). Food banks have traditionally have received donations of food or excess food from corporations and distribute said food to direct service providers, while the less common food rescue programs redistribute perishable foods to direct service providers (Poppendieck, 1999; Daponte, 2000). Food pantries and soup kitchens typically obtain foods from food banks and other sources, relying heavily on donations and redistributing food to clients (Daponte, 2000; Poppendieck, 1999). Food pantries can be characterized as "organizations that distribute groceries (nonprepared foods) and other basic supplies for offsite use," and in general, "most have limits on how much food can be obtained at a given visit, and on how frequently people can receive food assistance" (Ohls, 2002). On the other hand, both "soup kitchens" and "meal programs" are defined within this study as "organizations that provide prepared meals onsite to recipients who do not reside on an agency's premises," where the food provided is "usually, but not always, cooked (some agencies may serve only sandwiches)" (Ohls, 2002).

Such organizations tend to operate at small scales on the neighborhood level and rely heavily on volunteers, which introduce constraints in the frequency, amount, and nature of foods provided to clients (Ohls et al., 2002; Eisinger, 2002; Daponte, 2000; Poppendieck, 1999). As a result, organizations are not able to offer services continuously, and may, as in the case of food pantries, limit how much support clients receive in order to maximize scarce organizational resources (Eisinger, 2002; Ohls et al., 2002). In practice, this constrained operational mode of most emergency food assistance providers mirrors the limitations of federal food assistance in that, generally, neither approach to food assistance currently provide all encompassing, extensive services for client participants in need. However, clients are not prevented from, and can use, both systems in tandem (Ohls et al., 2002; Poppendieck, 1999). In the first comprehensive government study of emergency food assistance networks conducted by Mathematica Policy Research, Inc. for the USDA, Ohls et al. argue that results of the study suggest that governmental and non-governmental food assistance may work together to ultimately supply more comprehensive assistance than either could separately within the current system (2002). For the purposes of this study, a detailed examination of the literature about measuring organizational capacity and effectiveness in emergency food assistance is discussed in the methodology.

*Use of Emergency Food Assistance in the U.S. and Michigan*

Estimates of the scale of emergency food assistance system published by the USDA have found that about 5,300 emergency kitchens provide over 173 million meals a year, while 32,000 food pantries distribute approximately 2.9 billion pounds of food per year, which can be estimated as about 2,200 million meals per year (Ohls, 2002). In Michigan, the Hunger in America 2010 study, conducted by Mathematica Policy Research, Inc. for Feeding America,

estimated that the Feeding America system, alone, provides emergency food for an estimated 1,173,700 different clients each year, with 96,400 individuals receiving emergency food assistance in ay given week (Mabli et al., 2010). This evidences the large scale of the emergency food assistance network in the state, as using the Hunger in Michigan data tells us that over one in ten people in Michigan receive emergency food assistance in a given year (Mabli et al., 2010). Of those who receive food assistance in this state, 75% have incomes below the federal poverty line, and 15% are affected with homelessness (Mabli et al., 2010). On the USDA food security scale, among all client households, 75% are food insecure, and 33% of clients have very low food security (Mabli et al., 2010).

### *Overview of Diversity, Use of Federal Food Assistance, and Health of Emergency Food Assistance Clients in Michigan*

Understanding a broad profile of diversity and reliance on federal food assistance benefits amongst emergency food assistance clientele in Michigan is also important to characterize the demography of the state's service recipients. In Michigan, large portions of the client households served through the emergency food network come from diverse backgrounds. The Hunger in America study found that among all client households served by emergency food programs, 49% are "non-Hispanic white," 42% are "non-Hispanic black," and 7% are "Hispanic," with the rest of individuals coming from other racial groups (Mabli et al., 2010). In terms of federal food assistance, the Hunger in America study also found that 58% of client households in Michigan are receiving benefits from SNAP, but that it is likely that more than this percentage are eligible, indicating under-enrollment (Mabli et al., 2010). Among households with children ages 0-3, 60% receive benefits from the Supplemental Nutrition Program for Women, Infants, and Children (WIC). Finally, in terms of health, the Hunger in America study also found that 24% of

emergency food assistance clients reported having at least one family member in poor health (Mabli et al., 2010).

This demographic overview of clients receiving emergency food assistance services in the state of Michigan shows that most of these clients are also receiving federal benefits, indicating that they are supplementing the assistance they receive through federal programs with emergency food assistance services from pantries, shelters, and other non-governmental non-profit organizations. The overview also displays that the groups that utilize emergency food assistance services in the state reflect the disproportionate rates of food insecurity in low-income and minority communities existing at the state and local levels. Overall, it highlights that food security and the demand for emergency food assistance must be respectively understood as differentially affecting and disproportionately demanded by populations that are simulatenously marginalized in a number of ways. This calls for analyses that place the realities in Michigan within structural causes of disparities that affect these groups as populations, moving beyond individual and household approach typical of assessing food insecurity.

Individual vs. Structural Framing of Food System Disparities

In seeking to understand food system disparities underlying food insecurity and the operating environment of emergency food assistance networks and food assistance, more broadly, it is critical to identify and address that the prevalence of arguments focusing on the individuals who are food insecure. These arguments isolate the experiences of individuals from broader causes of disparities. As such, an individual-scale approach must be complemented with an examination of structures underlying the negative health outcomes experienced associated with food insecurity in populations.

*Prevalence of Blame on Individuals in Understanding Disparities*

Communities that experience high levels of food insecurity also tend to experience disproportionately high negative health outcomes, as previously outlined (Alkon et al., 2013). Despite vast evidence of structural inequities in healthcare and damaging repercussions of the social construction of health (Evans et al., 2001; Rasanathan et al., 2010) poor choices on behalf of individuals are still often villainized in a large body of what was once the dominant scholarship, authorship promoting the argument that a lack of personal responsibility is the cause of ailing health (Alkon et al, 2013; Barry et al., 2011; Kirkland, 2011; Guthman, 2011; Saguy & Gruys, 2010). When this is applied to communities experiencing food insecurity, false generalizations and correlations emerge between demographic characteristics and dietary decision-making, fueling the concept – devoid of evidentiary support – that particular demographic groups are either lacking in the necessary education or the will to make changes that would contribute to optimal health.

*Emergence and Characterization of the "Food Desert" Narrative Response*

The concept of "food deserts" emerged as part of progressive thinking in response to this choice-based argument of personal responsibility, newly seeking to assign the cause of negative health outcomes in particular communities to the lack of proximate access to grocery stores and excess of fast food restaurants, gas stations, and liquor stores selling unhealthy foods (Alkon et al., 2013). These arguments suggest that a presence of healthy food outlets would resolve and improve issues in health outcomes (Powell et al., 2007; Zenk et al., 2005), the underlying notion being that consumers in underserved communities would buy healthy food if only it were available, which in this case, means if only it were nearby. Food desert concepts have become prevalent among governmental approaches to food access issues, as well, with the USDA

advertising its role at the forefront of food desert research and creating a food desert mapping tool (U.S. Department of Agriculture, 2012). The corollary concept within emergency food assistance has similar implications: that underserved communities simply need food, and if only it were made available to individuals, problems of hunger might be ultimately addressed. In the context of food insecurity and food access, this subtly furthers the form of only analyzing conditions on the individual level, more generally, the underlying assumption being that simple provision of healthy foods to individuals and households is enough to mitigate negative outcomes.

*Critical Flaws in Food Desert Narrative*

While real disparities in quality and availability of healthy food in certain establishments and areas exist, this market explanation oversimplifies the nuances of local food landscapes, focusing on some kinds of food sources over others (Alkon et al., 2013) First, the focus on grocery stores by many studies limits any analysis of food outlet availability due to excluding a range of viable sources for healthy foods in many communities, such as small, locally-owned establishments, such as bodegas, delis, and ethnic food shops, to name a few. Additionally, and importantly, by positing that members of underserved communities are "takers" of the available food in their immediate neighborhood food environment, the food desert narrative both suppresses the idea of community resourcefulness in alternative provisioning of foods (Alkon et al., 2013) and ignores those socioeconomic barriers to production of "healthy, affordable, culturally appropriate food" (Alkon and Agyeman, 2011, p. 12).

The premise of food desert ideology obscures other factors influencing the nature of barriers to accessing food in underserved communities. Despite acknowledged variation of food outlets amongst the food landscapes of areas named as food deserts (Short, Guthman & Raskin,

2007; Odoms-Young, Zenk & Mason, 2009), by using one blanket term, analysis serves to normalize disparate food desert areas into one concept, effectively homogenizing the populations that live in these areas by never speaking to the differences between their needs. While this food desert approach has functioned to broadly raise the issue of how characteristics of the built environment and spatial inequalities may be contributing factors to a lack of food access and food insecurity, there exists a need expand the framing to account for other important factors impacting an individual or household's ability to access food. For example, the literature of proponents of the food desert concept also speaks nothing of "land grabs" by corporate interests happening in named food desert areas following their assignment of that label (Holt-Giménez, Wang & Shattuck, 2011; Holt-Giménez & Wang, 2011) a phenomenon predominantly affecting low-income and immigrant communities of color who are suffering dispossession of their community lands (Minkoff-Zern et al., 2011).

*Resulting Issues of Presence/Absence and Individual-Scale Analyses*

The persistence and ubiquity of the presence/absence analysis without broader contextualization continues to place the focus on individual-level decision-making, not an assessment of individual's actual life conditions that may impact their food security, their criteria for food choices, their resourcefulness and collaboration to access the food that meets their criteria, their perceptions of food access in their communities, or how their experiences are situated within larger patterns of inequalities and their root causes (Alkon et al., 2013). This larger trend of individual or household-scale analysis affects provision of services aimed at mitigating food insecurity and increasing food access, as well, such as those supplied by emergency food assistance organizations, by isolating the problem of hunger from its larger, structural causes, and localizing it within individual lives and identities without context.

Ultimately, these approaches gathered together promote assumptions regarding the nature of food realities that can lead to problematic, standardized, and ineffective policymaking and program provisioning for underserved communities (Cummins & MacIntyre, 2002).

### *Shifting from Individual to Structural: Reframing Health Disparities Associated with Food Insecurity*

We can and should apply this critique of the presence/absence and individual level rationality in understanding the health disparities of concern in the area of food insecurity and food access, specifically. In particular, when noting the health disparities associated with those groups experiencing food insecurity, we can place these disparities in a broader, system-level context. Intake measures generally focus on individual consumption and do not address structural causes of systemic disparities in the health of populations. Instead, a number of scholars have pointed to the adverse health impacts of cumulative exposure to hardship as an alternate approach to that of individual behaviors to understanding racial disparities in health outcomes. For example, Arline Geronimus' characterization of *weathering*, or the "accelerated aging" hypothesis, points to social inequality leading to earlier and disproportionate declines in health status for black individuals, who face a large differential in health with white individuals that increases with age (Holzman et al., 2009). These individuals are faced with interpersonal and societal discrimination, violence, financial and housing instability, and a lack of social support, all of which contribute to excess stress and associated morbidity (Holzman et al., 2009).

In this context, we also must further problematize the traditional framing of racial and cultural identity as fixed or entrenched and seek to understand health disparities in light of identity as a dynamic, lived experience (Geronimus, 2013). For cultural minorities, negotiation of these contingencies of their social identity – particularly when belonging to or adopting

behaviors or signifiers of dominant versus their alternative cultures – could be both health-promoting and/or health-harming depending on the context (Geronimus, 2013; Kaestner, Pearson, & Geronimus, 2009; Finch, Frank, & Vega, 2004). Prolonged experiences of acculturation, which can encompass behavioral, psychological, and structural components of exposure within and to U.S. society as a cultural minority from another country, also contribute to situationally salient stress reactivity and increased allostatic (stress-activated) load (Geronimus, 2013; Kaestner, Pearson, & Geronimus, 2009; Finch, Frank, & Vega, 2004). Ultimately, a combination of chronic and acute exposure to stress hormones contributes to accumulation of high allostatic load, accelerated aging through weathering, and amplification of morbidity and mortality (Geronimus, 2013; Juster et al., 2010; Schulkin, Gold, and McEwen, 1998). Thus, while provisioning of food for families in need is important and is associated with negative health outcomes, it is also critical that in engaging with health outcomes for low-income communities and communities of color as related to the role of food insecurity and food access more broadly, these outcomes must be understood and situated within a discourse that examines structural causes of disparities.

## Individual vs. Structural Framing of Food Security Concept

### *Individual-Scale Limitations of "Food Security" Concept*

While this paper engages with the idea and measurement of food security, the concept of food security as it has been utilized by domestic actors has largely avoided integrating a structural analysis of hunger and inequality (Brown & Getz, 2011). Thus, the focus of the food security framework has been concentrated on "feeding people" instead of achieving systemic change in the power relations, "production relations and modes of governance that underpin food insecurity" (Brown & Getz, 2011). This limitation of the food security concept has also allowed

it to be conceived of as a problem at the household and individual scale that can be addressed through simple provision of food. It localizes analysis of the causes of food security at the individual scale, which connects to the broader patterns of individual blame prevalent in understanding associated health effects in certain communities as previously described. A number of scholars and activists have argued that individuals and groups, especially marginalized low-income communities of color, are not to blame for their own food insecurity or lack of food access – instead, there are structural underpinnings of the food system that perpetuate inequality at larger scales and this ultimately produces the differential experiences of individuals and households (Gottlieb & Joshi, 2013; Alkon & Agyeman, 2011; Brown & Getz, 2011).

## Food Justice and Expansion of Food Security Concept

### *Extending Structural Approach: Food Justice*

Structural approaches to understanding inequalities in the food system can be used to contextualize how the traditional concept of food security can evolve to incorporate qualitative aspects of foods relevant to the needs of clients. One important approach to framing food system analysis is "food justice," which utilizes a social justice lens to incorporate concepts of inequality into how we understand the food system. As defined by the community organization Just Food, food justice is "communities exercising their right to grow, sell, and eat [food that is] fresh, nutritious, affordable, culturally appropriate, and grown locally with care for the well-being of the land, workers, and animals" (Just Food quoted in Alkon & Agyeman, 2011). By approaching food system change from a justice framework, issues of the food system are conceptually linked to other social and environmental justice movements that address systemic inequalities (Gottlieb

& Joshi, 2013). Gottlieb and Joshi argue that in using this linkage, other social justice movements could incorporate food justice issues and vice versa, including those "concerned with community economic development, the environment, housing, or transportation" (2013). I would extend their analysis to issues of other human rights, healthcare access, income inequality, structural inequality on the basis of gender and/or sexual orientation, and a range of key areas of social disparities.

The shift in the meaning of emergency food assistance can be understood as a part of incorporation of food justice issues into food assistance. Historically, the aim of food assistance programs more broadly has been mitigation of food insecurity in its traditional sense, not addressing issues of nutrition or other qualitative aspects of food provisioning (Barrett, 2002). However, a number of groups and individuals have argued that the concept of food security should be expanded to encapsulate a broader idea of what kinds of foods people need. The American Dietetic Association has formally taken the position that access to "adequate amounts of safe, nutritious, and culturally appropriate food at all times is a fundamental human right," utilizing language that echoes the rights-based framework seen in the food justice definition used above (Struble & Aomari, 2003). The Community Food Security Coalition has also argued that food security should also include food that is "nutritionally adequate" and "culturally appropriate" (Hamm & Barrett, 2003). More broadly, it is critical to integrate the right and need of "underserved, marginalized, and diverse communities to produce, access, and consume healthy and culturally appropriate food" (Agyeman, 2013, p. 72). Situating these expanded notions of food security within the larger framework of food justice highlights the criticality of reframing the services provided to clients by emergency food networks to substantively include broader objectives than supplying of food to those in need.

Applying Reimagined Food Security Definition to Emergency Food Assistance

As emergency food assistance organizations work to support clients in need through provision of food, most of the existing research on the nature of their services from this perspective, and it is discussed within the methodology section of this study. This study will also focus on two aspects of a more justice-based notion of "food security" as it applies to the context of emergency food assistance services.

*Focus on Culturally Appropriate Services*

While literature exists that documents the prevalence of food insecurity in minority communities, there is not comprehensive literature available that discusses emergency food programming tailored to the specific needs of cultural, racial, and/or ethnic minorities. Much of the literature around service delivery that incorporates cultural appropriateness as a characteristic comes from the field of public health and health care. Examinations of provision of health care to minority patients have identified a number of potential barriers to utilization of health services – some of which exist at the patient level, while others exist at the provider level, medical system level, and/or broader societal level (Scheppers, 2006). It is important to note that these barriers vary amongst different minority groups, so what might be more of an obstacle for one group to accessing care may not be as much of a obstruction to another group (Scheppers, 2006). On the provider level, key potential barriers to care fall broadly into two realms: the nature of services and programs, in addition to the skills, knowledge, and beliefs of providers on the organizational and staff level (Scheppers, 2006). In the former group, two factors that have been identified by many scholars as having the potential to improve access for underserved communities in health include cultural and linguistic competence (Barr & Wanat, 2005; Anderson et al., 2003; Ngo-

Metzger et al., 2003; Betancourt, Green & Carillo, 2002). If we apply these concepts to emergency food assistance provision, the presence of bilingual or multilingual staff are important structural components of providing culturally appropriate services.

While literature on emergency food assistance does not essentially address culturally appropriate service provisioning, implications for incorporating cultural needs into food provisioning and food security are rooted in conceptions of food as something more than simply its nutritional content. If we are to strive for social justice within food systems work, which includes issues pertaining to emergency food provisioning, programs must anticipate and recognize that food is "heavily culturally situated" (Agyeman, 2013, p. 72). Further, food can also be understood as an "intimate commodity," "taken within the body and imbued with […] significance" (Winson, 1993 quoted in Agyeman, p. 69). In order to create emergency food services that truly address the needs of diverse populations, it is important understand the myriad of "foodways" present in their communities and cultures that connect the intimate nature of food with its cultural significance. Alkon et al., define foodways as "the cultural and social practices that affect food consumption, including how and what communities eat, where and how they shop and what motivates their food preferences" (2013, p. 127). In particular, this foodways concept originated in food studies as part of examining individual differences between groups when it came to customs around eating, mealtime, dietary choices, and cooking, particularly when describing groups by ethnicity (Diner, 2009; Sanjur, 1995; Brown & Mussell, 1984; Kalik, 1984), region of origin (Oliver, 1995; Gutierrez, 1992; Brown & Mussell, 1984; Kalik, 1984), or other demographic characteristics, such as socioeconomic status and occupation (Conlin, 1986).

The cultural lens through which we can understand food is particularly critical when engaging with services for minority and low-income populations. As Agyeman writes, "food and

'foodways' are fundamental to peoples' individual and collective identities, and these are even more to the fore in populations and other marginalized groups who are made invisible by, and in, the dominant culture" (2013, p. 69). In the 2013 paper, "Foodways of the Urban Poor," Alkon et. al. conducted five independent studies in Chicago and Oakland, finding that contrary to assumptions of dominant scholarship, most study subjects possessed a high level of familiarity and comprehension of healthy food, as well as cultural practices surrounding it (2013). Additionally, different groups experience food differently, with each having its own specific and unique ways of conceiving of the meaning of food within its own cultural "understandings, practices, performances, and auto topographies of food" (Agyeman, 2013, p. 72). Incorporating culture into food security is one step in the process of fostering social justice within emergency food provisioning. However, it is only through recognizing and seeking out knowledge in partnership with community members regarding the role of cultures, histories, and differences in their lived experience and food needs can relevant emergency food assistance programs be developed.

*Focus on Fresh Fruits and Vegetables: Nutritional Benefits and Health Impacts*

Traditionally, food banks and pantries, in particular, have focused on providing shelf stable food due to a number of factors, including logistical ease in terms of storage and distribution, as well as availability due to prevalence in donations and food sourcing from food banks, in addition to sourcing from the broader agricultural commodity system (Just Food, 2014; Food Gatherers, 2013; Evans & Clarke, 2011; Raheja, 2010; Barrett, 2002). However, the connection of food insecurity issues to concepts of rights, justice, and health, has raised the issue of provisioning different kinds of foods to clients (Evans & Clarke, 2011; Just Food, 2014; Food Gatherers, 2013, Evans & Clarke, 2011). In examining nutritional adequacy as a part of a

broader notion of food security, this study focuses on the role of fresh fruits and vegetables in emergency food provision due to their richness in nutrients, including vitamins, trace minerals, dietary fibers, antioxidants and other phytonutrients (U.S. Department of Health and Human Services, 2014; Lampe, 1999). A number of studies in the fields of epidemiology and medicine provide strong evidence of an association between high intake of fruits and vegetables, and benefits to health, including cardioprotective, cancer preventative, and immune system improving effects, as well as lowered risk of chronic diseases (Gibson, 2012; Lampe, 1999; Appel et al., 1997). Emphasizing the importance of fruits and vegetables to nutritional adequacy aligns with a multitude of public health initiatives centered around increasing fruit and vegetable consumption, especially those focused on low-income populations and minorities while aiming to reduce health disparities (U.S. Department of Health and Human Services, 2014; Herman et al., 2008; Pomerlau et al., 2005; Reniscow et al., 2001; Epstein et al., 2001; Reynolds et al., 2000; U.S. Department of Health and Human Services, 1990).

Like with food security, disparities in fruit and vegetable intake, as well as disease and morbidity occurrence, exist along socioeconomic and racial-ethnic lines. Global dietary trends have displayed that people across the world, including in developed countries such as the United States, are shifting toward diets high in hydrogenated fat and processed foods, as well as higher intakes of animal products, along with lower intakes of fiber, as well as fresh fruits and vegetables (Popkin, 2006; Drewnowski & Popkin, 1997; Popkin, 1993). These shifts have coincided with an increase of degenerative disease patterns dominating both developed and developing countries, the burden of which have fallen on poor, urban, and rural populations (Popkin, 2006). Low-income socioeconomic status on the household level, which has been associated with higher rates of food insecurity, has also been associated with low intake of fruits

and vegetables (Coleman-Jensen, 2011; Herman et al., 2008). Additionally, a study of NHANES III data by Dubowitz et al., highlighted that the differential intake levels that have been noted in between racial-ethnic groups – with whites having a higher average intake of fresh produce than black or Latino populations – are associated with the socioeconomic status of a household's neighborhood at the census-tract level (2008).

As fresh fruits and vegetables have been established as important parts of dietary intake due to their nutritional benefit and associated health outcomes, it is important to not only look at their intake, but also, the ability for people to access them. Several studies have shown that disparities in access to the fruits and vegetables, and their associated health-promoting nutrients, particularly fresh produce, also exist across community socioeconomic status and racial composition. Spatial and structural barriers to food access exist for low-income communities of color, which could play a role in why intake levels are lower in these groups, on average (Alkon et al., 2013; Alkon & Agyeman, 2011; Odoms-Young, Zenk, & Mason, 2009; Algert, Agrawal, & Lewis, 2006). These challenges, in combination with the higher rates of food insecurity experienced by minorities and low-income households and individuals, further support the need for inclusion of fresh fruits and vegetables within emergency food assistance provision.

# Chapter 3. *Study Methodology*

## I. Study of Emergency Food Assistance Providers in Michigan

a. Study Description

This study is based on cross-sectional data collected from an electronic survey of providers of emergency food assistance in the state of Michigan conducted in the early winter of 2014. The study recruitment occurred as a combination of direct contacting of emergency food assistance providers collected through snowball sampling via FoodPantries.org and Feeding America's database online database, as well as partnership with three food banks who recruited participants from within their agency networks: Food Bank of Eastern Michigan based in Flint, Michigan; Food Gatherers, Inc. based in Ann Arbor, Michigan; and Food Bank of South Central Michigan based in Battle Creek, Michigan. The survey was disseminated to recruited participants over the Internet and hosted on the Qualtrics Survey Software platform.

The potential pool of contacted participants consisted of 985 agencies when combining the collected agencies and those contacted through food bank partners and after eliminating redundancies. Of the agencies contacted, 85 organizations began taking the survey to varying degrees, and a total of 55 organizations completed the survey through the end submission page. Thus, the response rate for the survey sample's completion was 5.6%.

The impetus for this investigation is the result of a gap in the existing literature on various dimensions of emergency food assistance on implications of organizational attributes, including on measures of effectiveness and the nature of services provided. The survey contents were based on a combination of questions from Peter Eisinger's study of street-level food assistance providers in a tri-county area surrounding Detroit, Michigan – the only systematic academic study of organizational capacity and effectiveness of emergency food assistance

providers – modifications to measures in his method, and a range of questions based on qualitative survey methodology and various sources in the literature on characteristics of emergency food assistance organizations and service provisioning within the field (2002). The survey questions were pre-tested two times and reviewed by peers prior to dissemination.

In light of a broader definition of food security – one that includes access to *nutritionally adequate* and *culturally appropriate* foods as discussed in the literature – this study also investigates the composition of the food programs run by the emergency food assistance providers (Hamm & Barrett, 2003). The study complements Eisinger's capacity method with an analysis designed to investigate the characteristics of service provisioning in two additional ways. One, it explores the degree to which emergency food providers include fresh foods, and in particular, fresh fruits and vegetables, in their pantry and meal programs. Second, it expands the notion of the types of food analyzed to include program aspects tailored to cultural, ethnic, and or racial minorities as a measure of the degree to which culturally appropriate program services are being provided in these organizations. Finally, it examines the relationship between capacity, effectiveness, and these two specific types of program services.

Statistical analysis of the response data for the study was conducted utilizing Stata and SPSS, including bivariate and multivariate logistic regression, as well as other descriptive statistical measures and tests of statistical significance. Open-ended responses were hand coded to identify themes for analysis. Regional summary results of the study will be shared with food bank partners to contribute to their decision-making and knowledge about the nature of emergency food assistance operations in their area.

b. Limitations

Due to the study's use of partnership-based dissemination and snowball sampling, the sample of participating emergency food assistance providers is likely biased in several ways. First, as the survey was distributed electronically, this inherently biases the sample by limiting responses to those organizations that had the means or facilities to access the Internet, as well as a computer, in addition to the skill necessary to navigate an online survey. Second, as a number of the organizations included have relationships with food banks, this may correlate with other organizational attributes, including several of the institutional practices analyzed in this study, causing some parameters to suffer from endogeneity (though this concern is present regardless). Third, one of these attributes, maintaining computerized records, may also highly correlate with the ability to complete an electronic survey, so any resulting estimator of electronic database usage would potentially underestimate the effect of electronic database usage on our outcomes. Fourth, as completion of the survey was predicated on respondents' ability to take the time to participate in the study, this may also present a bias – those organizations experiencing time limitations may be less likely to participate in a survey. Further, though I attempted to mitigate time requirements by limiting the length of time required to complete the survey, this may have affected response percentages, as organizations experiencing time limitations may have self-selected out of the final participant group. Fifth, though efforts were made to establish strategic partnerships with food banks throughout Michigan, the study's three food bank partners were focused in the lower Central region, the Southeast, and the East. To adjust for this, I intensified following up with a number of possible respondents in the West and North, and while organizations from the North were ultimately well represented in the final sample, the West had the fewest from respondents amongst Michigan's regions.

Finally, all of the organizations that participated in the study have been in existence for two or more years. Thus, the study does not include representations of those organizations that operate for shorter periods of time and is not demonstrative of high turnover within the field – however, I attempted, unsuccessfully, to establish contacts for a number of former organizations that had closed their doors citing difficulties with persisting in providing emergency food assistance within their communities to potentially recruit participants for a second survey instrument, and I encountered many others in the process of using databases as a starting point for direct recruitment. This demonstrates the need for increased understanding of the factors that promote longevity and operational sustainability within emergency food provision, some of which may be structural in nature and related to external factors, such as the presence of accessible resource networks, impacts of social policy, and more. This analysis will focus mostly on internal dimensions of the sample of participating Michigan emergency food assistance providers who participated in this survey, but further research would ideally also engage those former organizations that shut down to deepen an understanding of why that ultimately occurred.

## II. Analytical Design

This study combines several modes of analysis, examination of a range of key variables by how they differ amongst select groups, implementation and modification of Eisinger's effectiveness and capacity profile methodology, linking of key variables and Eisinger method results, and expanding analysis to include both measures of fresh food and culturally appropriate service provisioning. Finally, the analysis examines the connections between these subjects to glean a deeper understanding of the factors that make emergency food assistance providers effective by traditional measures and to develop a portrait of how these measures relate to the ability of providers to supply fresh and culturally appropriate foods.

a. Peter Eisinger's Effectiveness Profile Method

In Eisinger's study of street-level emergency food providers, he builds a methodology to understand how these organizations are operationalizing their latent capacity to provision services effectively (2002). Eisinger defines organizational *capacity* as "a set of attributes that help or enable an organization to fulfill its missions," while *effective* organizations "tend to both have a broad array of capacity attributes and use or mobilize that capacity to fulfill their organizational missions" (2002, p. 117). Though there is no consensus in the literature on the precise measurements that best approximate either of these terms, this study utilizes Eisinger's working definitions based on elements drawn from studies of organizational capacity in other public and non-profit entities and his basic analytical framework at base. This facilitates some comparison between this study's Michigan-wide sample of providers of emergency food assistance and his tri-county Detroit-area sample of emergency food assistance providers.

It is critical to note here that *effectiveness* as utilized in this study refers to and will be approximated from an internal viewpoint – one that relies on observable programmatic outcomes – and one that may even be potentially uncorrelated to *effectiveness* as defined more broadly in some scenarios, which would encompass unobservable outcomes regarding the lives of clients and would require use of natural experiments, Instrumental Variables regression, or other forms of estimating causality in cases like this when controlled trials are not possible. Future research could explore any of these approaches, and ideally, would expand definitions of effectiveness and seek to understand them more comprehensively from the perspective of clients, as well as organizations. This would likely involve qualitative participatory research in partnership with clients receiving emergency food assistance services, something that was not possible within the scope of this study. However, this is an element of study foundationally critical to framing and

evaluating the broader *effectiveness* of emergency food service provisioning through a social justice lens.

b. Modification of Measures and Thematic Extension of Eisinger's Method

As Herman and Renz note in their examination of the general literature on effective organizations and the specific subject area of non-profit organizations in which this study operates, non-profit organizational effectiveness is complex and "will never be reducible to a single measure" (1999). This is one of the strengths of Eisinger's approach, as he builds a series of measures of effectiveness reflecting leading theories from the existing literature. Utilizing an array of measures will aid this analysis in building a multifaceted portrait of our Michigan sample of emergency food providers within the area of effectiveness, itself.

In this study, some of Eisinger's measures have been adjusted, as explained in the subsequent detailing of the specific portions of his model. Further, this study extends the scope of investigation to focus on assessing effective service provision in combination with examining the nature of the emergency food services provided. In particular, the investigation explores relating organizational attributes to the ability of emergency food providers to offer fresh fruits and vegetables, and/or demographically tailored services – in this case, programming aimed toward underserved populations such as cultural, racial, or ethnic minorities. What is the nature of effectiveness in this sample of Michigan emergency food assistance providers, and how do measures of effectiveness relate to an organization's provision of high-quality foods or demographically tailored services?

c. Theoretical Framework of Eisinger's Method

Eisinger draws on several areas within organizational effectiveness literature to develop four measures of effectiveness. The first subject area reflects a measure of effectiveness originating in a 1998 review by Foster of 21 studies of organizational effectiveness conducted over the prior 20 years – the "goal attainment" approach – which, at its most basic, frames effectiveness as a reflection of the degree to which an organization can achieve its goals. Eisinger notes, as Herman and Renz also point out, it is difficult to translate amorphous goals into measures of attainment. Further, all of the organizations included in the study reported manifold goals and priorities in their pursuit of their mission, which is consistent with the larger body of social enterprises (Evers, 2001). Amongst the multiple organizational priorities of street-level food providers in his study, he focuses on what he identifies as their central goal of aiding the hungry in attaining food. As all of the organizations included in this study are providers of emergency food to clients in need, this focus can also apply as a salient intersection of their goals.

A second area of work underlying Eisinger's measures involves what Foster and other organizational analysis scholars have historically called the "system resource approach," which focuses on effectiveness as a function of how well an organization can acquire and utilize resources to ensure organizational longevity (1998; Ostroff & Schmitt, 1993; Tsui, 1990; Molnar & Rogers, 1976; Yuchtman & Seashore, 1967). A third area expands on the work of Martin and Kettner in understanding effectiveness as a function of providing a certain *quality* of service that captures some of the more relational aspects of service provisioning (1996; 2009). This concept has become particularly important within public and non-profit literature based on social service

programs more broadly, and it has underscored the way that the field of non-profit management outlines service delivery (Kettner, Moroney, & Martin, 2012).

As a group, these three concepts – "goal fulfillment," "resource acquisition," and "quality service" form a foundation for Eisinger's measures and this study's analysis. Further, as emergency food providers are addressing a societal need whose structural origins lie in a related scope of critical issues of distributional injustices, inequality, and policy, measuring their effectiveness by understanding how well they are addressing said needs should not just be a function of numerical estimates. In particular, because the need for emergency food services is immense, no single organization can be measured as ineffective if they are not able to meet ever growing demands (Eisinger, 2002). As Eisinger notes, "organizational effectiveness […] lies, therefore, in the ability to meet self-defined goals and to manage or change organizational performance in response to external demands" (2002, 119). This study utilizes his original set of measures for effectiveness based on a combination of numerical approaches and qualitative, perception-based ideas that attempt to capture some self-conception of performance, as well.

### d. Measuring Effectiveness in Organizations Providing Emergency Food Assistance

#### *Measure 1 – Aligning Organizational Resource Supply with Client Demands*

Eisinger approximates the system resource approach to measuring effectiveness by comparing client demands on organizations to each of his organizations' sense of food donations (2002). These measures of effectiveness are based on capturing how well an organization is able to adjust its acquisition of food in response to its "client burdens," with the idea that congruence in trends between client needs and food acquisition demonstrates an organization operating effectively, either increasing its food supply when clients are in more need or decreasing it to minimize surplus and food spoilage as client needs decrease.

In building his method, he measured the average number of clients served at the time of his study to compared to the average number served at that time in the prior year, which demonstrates trends in client demand. He also asked survey respondents what they would say about whether donations in food to the organization had increased, decreased, or stayed the same in the past year of the study, which demonstrated a qualitative approximation of trends in food supply.

In this study, I modify Eisinger's first measure method in several ways. First, in assessing client demands on the organizations, I asked my sample of Michigan programs to provide client numbers for the year of 2013 and the year of 2012, allowing me to create a trend of clients served year-to-year for the entirety of both years. Secondly, based on an more contemporary picture of food sourcing for emergency food programs that includes food bank sourcing combined with donations, purchasing, and on-site production, I decided that capturing only food donations within the food supply measure would not adequately reflect sample's full scope of food acquisition. Thus, I utilized a measure of pounds of food distributed in 2013 compared to the same in 2012 – this better approximates the Michigan sample's aggregate food supply trends given their complex sourcing arrangements, which were confirmed in the survey results.

Finally, in conceptualizing how to understand organizational ability to adjust resources to reflect client demands, I incorporated the notion that securing financial resources is also important to understanding an organization's effectiveness in provision of emergency food to clients. This is largely due to the complex role of grant funding and general monetary donations in facilitating non-profit operational capacity (Alexander, 2000; Fredrickson & London, 2000). It also reflects the role of revenue diversification as an important resilience strategy for organizations in the non-profit sector – as some scholars have assessed that diversification helps

achieve greater financial stability than a single-source model where sheer reliance on donations can compromise the ability to adequately provide services over time (Carroll & Stater, 2009; Ryan, 2002; Froelich, 1999). To assess the ability of organizations in my sample to manage a supply of funds relative to client demand, I asked my sample to provide data on their programmatic operational budgets within 2013 and 2012. This allowed me to develop trend measurements in financial resources that I could also compare to client burdens. While some of the organizations' funds could also be used for functions other than administration or programming in emergency food services, and this represents a shortcoming of a total operating budget measure in this context, such a metric provides a rough estimate of the organization's ability to shift financial resources more broadly.

*Measure 2 – Perceptions of Goal Attainment*

Eisinger's second measure is based on the notion of goal fulfillment as it relates to the non-profit leader's perception of whether food donations were falling short of, meeting, or exceeding clients' needs (2002; Foster, 1998). I modified his measure and asked respondents to specify whether they thought their organization's food supply was falling short of, meeting, or exceeding the needs of the clients they serve to reflect my change in methods from looking at food donations alone to assessing food supply in aggregate as specified in the description of Measure 1.

In his study, his survey was administered to organization directors, and he does not detail if this is a reference to the titles or the administrative functions served by those representing organizations in his sample (or both). In my study sample, respondents all fulfilled program administration duties at their organizations, with the vast majority (n=51 or 93% of total) naming

their titles within variations of high-level managerial roles, such as Executive Director, Program Coordinator, President, Chairperson, Manager, and CEO. Thus, due to the similarity in administrative function and leadership role, I will approximate that their responses fulfill a comparable measure as the respondents in Eisinger's study.

None of Eisinger's respondents answered that their food donations were exceeding client demands, so he utilized this measure as a dichotomous dependent variable (where a perception of meeting client needs is coded as 1 and falling short of client needs is coded as 0). My study results varied slightly in that a small number of organizations (n=4 of the 38 who responded to this question, or 10.5% of respondents), so I will utilize this measure as both a dichotomous dependent variable as he did, as well as an ordinal scale point dependent variable (in the dichotomous variable, I aggregate those with a perception of meeting client needs and those with a perception of exceeding client needs and code them as 1, with a perception of falling short coded as 0).

*Measure 3 – Quality of Service: Turning Away Clients*

Measures 3 and 4 in Eisinger's method relate to the scholarship of Martin, Kettner, and other scholars in the area of quality service provisioning (2002; Martin & Kettner, 2009). Eisinger draws on the work of Poppendieck in establishing the first of the two measures when he argues that "street-level food organizations go to great lengths" to avoid having to turn people away (2002, p. 120). In Tiehen's examination of the emergency food assistance system, she also contends that "emergency food providers rarely turn people away due to lack of food" (2002, p.3). Effective organizations facing an inability to increase their food supply are able to mitigate the possibility of shortages through other means, such as limiting their hours of operation, the number of days per week they are open, or the frequency with which a client can access services

(Eisinger, 2002; Tiehen, 2002). Eisinger asked whether organizations had to turn away eligible clients "these days," and in my study, I asked organizations whether or not they had to turn away eligible clients in the entirety of 2013. This is used as a dichotomous indicator variable in his study and mine (never having to turn away eligible clients coded as 1 and having to turn away eligible clients coded as 0).

*Measure 4 – Quality of Service: Leveraging Federal Food Assistance Programs*

The final measure of organizational capacity included in Eisinger's method also relates to quality of service criteria, and it measures how organizations are able to "shift" some of their "burden for providing food" to federal food assistance programs (2002, p. 120). Though many emergency food assistance providers play an important role in provisioning of food to those in need, the federal government has traditionally also served as the primary programmatic source of food assistance to low-income and underserved communities, providing the majority of household benefits in the United States, with its largest program, SNAP, serving over 23 million households in 2013 (Tiehen, 2002, U.S. Department of Agriculture, 2014). An organization's ability to mobilize their resources to shift food provisioning to food assistance may be one way that they balance client demands with food supply.

Eisinger surveyed the organizations in his sample as to whether they provided help to clients in applying for federal food assistance, encouraged them to apply, or did neither of the two, then aggregated those organizations that provided assistance and encouragement into one group and built a dichotomous indicator (coded as 1 for the provision of assistance or encouragement and 0 for those organizations that provided neither). In my study sample, most of the respondents that answered this question either encouraged participants to apply or provided assistance with applying (n=37 of the 39 who responded to this question, or 94.9% of

respondents). Thus, I will build an indicator to split the group and analyze if there are differences between provision of assistance with applying and simple encouragement without programmatic provision (1 for assistance with applying and 0 for encouragement).

*Measure 5 – Goal Attainment and Quality of Service*

In this study, I am adding one measure to account for a combination of goal attainment and quality of service concepts. I asked study participants whether or not they had experienced a shortage of food within the last year – this becomes a dichotomous indicator like those in measures two through four (never experiencing a shortage coded as 1 and experiencing one or more shortages coded as 0). In asking about the experience of shortages, this demonstrates the actual instances when emergency food assistance providers experienced their food supply falling behind their client demand. As opposed to the indicator built from perception-based responses of whether resources are falling short of, meeting, or exceeding client demands, this measure, in effect, can be used as a point of comparison with the general sentiments around goal attainment from the respondents. Additionally, it can be compared to the indicator on whether or not the organizations had to turn any eligible clients away within the last year. In light of the literature on the lengths organizations may go to in the avoidance of denying clients services, this can tell us whether or not experiences of food shortages related to actually turning clients away.

e. Relating Effectiveness with Capacity in the Michigan Sample

The final portions of Eisinger's method consist of implementing a variety of independent variables within three areas: staffing or human resources, institutionalization, and external networks. My study incorporated his measures within these three areas to compare our samples in developing a portrait of the relationship between capacity and effectiveness.

*Staffing Measures*

Historically, emergency food assistance programs have relied on a largely volunteer workforce (Mabli et al., 2010; Kaufman, 2004; Tiehen, 2002; Tarasuk, 2001; Poppendieck, 1994). Eisinger's sample reflected the same trend, as did my study sample (2002). Eisinger used measures of mean number of paid employees and total number of volunteers per week per 100 clients as part of assessing staffing in his study. I will use these measures – except my volunteer variable is not a ratio and is a total number per week value – as well as a dichotomous indicator of the presence or absence of paid employees at an organization, to test the relationship of staffing characteristics with effectiveness measures.

*Institutional Measures*

A number of scholars have pointed to the importance of a range of organizational characteristics in understanding organizational capacity, and Eisinger created a set of indicator variables to measure for a set of these attributes and practices, which he loosely grouped under the concept of *institutionalization* (2002). Of these, functioning according to established formal rules or standard operating procedures has been shown to be an important vehicle through which organizations can establish patterns and programs, avoid the downfalls of ad hoc decision-making, and create the ability to adapt and be flexible through having an established baseline structure (Herman & Renz, 2009; Feldman & Pentland, 2003; Forbes, 1998). Operation via formal rules, as well as practices indicating technological capacity, such as the computerization of data records, practices involving human resource capacity, such as conducting intake interviews for clients, and practices related to regularity and systematic approaches to decision-

making and internal communication, such as holding regular staff meetings, are amongst the indicators tested in Eisinger's study and replicated in mine (2002).

Additionally, having a formal mission or vision statement also confers capacity by providing a clear sense of unifying purpose and organizational direction, and it has previously been linked to effectiveness and the ability to pursue innovation (Wang, 2008; McDonald, 2007; Baker & Sinulka, 1999). Further, another important component of organizational capacity is engagement in program evaluation, which has been utilized as a way for organizations to measure and improve their performance and program impacts, and thus, better understand their own goal attainment (Carman & Fredericks, 2008; Schuh & Leviton, 2008). Both Eisinger and I include an indicator for the presence of a formal mission and vision, and I add an indicator for engagement in program evaluation activities as a measure of capacity.

*External Help Network Measures*

Eisinger points to the difficulties inherent in operating a street-level food program, and many of these difficulties are consistent with provision of emergency food programming, more broadly, including establishment of stable sources of financing and food, as well as programmatic functions generally applicable to social service non-profits, such as training, recruitment, database management, computerization, facilities management, grant writing, and more (2002, p. 124). Seeking outside technical assistance is one way that organizations can improve their functioning in all of these key areas, and thus, can be seen as a measure of willingness to improve performance (Carman & Fredericks, 2010; Eisinger, 2002). Eisinger measures seeking technical assistance with an indicator in his study, and I include the same indicator in mine, as well. Additionally, I requested details from organizations on the types of technical assistance they were seeking to denote any relevant thematic trends.

f. Relating Effectiveness and Organizational Characteristics

To create a more detailed portrait of the sample's organizational characteristics as related to effectiveness outcome measures, I included a number of additional demographic characteristics in the study survey. Of the larger set, I am detailing a much smaller selection in this analysis of those that are most relevant to understanding effectiveness and the nature of program services. These include the sizes of the organizations by measures of client numbers and food supply distributed, as well as the length of organization operations. In examining total operating budget and aggregate food supply, to add nuance to these measures, respondents were asked for a breakdown of each by their sources (proportion from each source). Finally, data on basic staffing attributes is included, as well.

g. Analyzing Provision of Fresh Foods in Pantry and Meal Programs

As a reflection of an enhanced notion of food security that encompasses provision of nutritionally adequate food, as opposed to simply food with no qualitative guidelines, I expanded the analysis from only examining capacity and effectiveness of delivering emergency food assistance programs as a whole to one that also investigates provisioning of certain types of programs (Hamm & Bellows, 2003). In order to understand the nature of whole foods supplied by the emergency food assistance programs in this study, I asked questions about frequency of inclusion of fruits and vegetables, as well as other categories (meat, dairy, and eggs) within pantry bags and meal program prepared meals. Fruits and vegetables were categorized by preparation type – fresh, frozen, or canned – to illustrate how inclusion or frequency might vary based on this element. The key variables are indicators I recoded from grouped Likert responses measuring frequency of distribution, with high frequency provision of a specific kind of food – such as fresh vegetables in a pantry program – coded as 1 and low frequency provision of that

food coded as 0. These indicators are partnered with descriptive results and measures from the effectiveness and capacity analysis to focus on the following question: what is the relationship between organizational capacity, effectiveness, and the ability to provide fresh fruits or vegetables?

h. Analyzing Provision of Services Tailored to Cultural, Racial, and/or Ethnic Minorities

To reflect the other portion of new notions of food security – addressing the need for food that is culturally appropriate – I expanded my analysis further to include an understanding of program offerings tailored to cultural, racial, and/or ethnic minorities (Hamm & Bellows, 2003). I added an additional set of questions to my study survey to glean information from organizations on the nature of their provision or lack of provision of tailored services. One of the questions regards whether or not organizations are providing tailored services, and if they are not, requests their position on such provision. It also asked for reporting on the types of service offerings organizations were including, which were categorized into food features – compositional differences relating to provision of tailored foods – and program structure features, which include measures taken to improve program communications to address specialized needs of racially and ethnically diverse clients. Within the food features, organizations specified whether they stock pantry items specific to or tailored to – and/or whether meal program prepared meals including ingredients, food items, or dietary restrictions specific to or tailored to – the heritage of cultural, racial, and or/ethnic minorities in the communities they serve. I also asked whether or not programs supplying food vouchers provided any for ethnic grocery stores, but among the respondents in the sample, no organization featured this practice.

In considering which program structure features to prioritize, I drew from analyses of culturally appropriate program features within the related subjects of health access and care for underserved communities, the study of which has accelerated over the last two decades. This can provide another perspective comparable to the conversation emerging within food scholarship that has grown from grassroots work and resultant community food justice and community food security concepts (Short, Guthman, & Raskin, 2007; Hamm & Bellows, 2003). As discussed in the literature, studies regarding racial and ethnic health disparities have identified cultural and linguistic competence as having the potential to address differential health outcomes and improve programmatic access for underserved communities (Anderson et al., 2003; Betancourt, Green & Carillo, 2002). Further, lack of inclusion of multilingual program features and staff within services can serve to compromise the quality of services and present barriers to receiving adequate care for racially and ethnically diverse groups (Barr & Wanat, 2005; Anderson et al., 2003; Ngo-Metzger et al., 2003; Betancourt, Green & Carillo, 2002). Thus, the availability of bilingual or multilingual materials and presence of bilingual or multilingual staff have both been studied and identified as important elements of culturally appropriate service provision in health care. With this in mind, for the program structure category, the emergency food assistance providers in the study specified whether they use bilingual or multilingual signage, as well as whether or not they also have bilingual or multilingual staff.

Further, I asked organizations to provide additional examples of the types of program features they engage in to tailor their services to cultural, racial, and/or ethnic minorities. Some respondents added details about their specific program features that can provide examples of other ways tailored programs function within Michigan's emergency food assistance network. Together, these measures are a foundation for a cross-sectional portrait of culturally appropriate

program features in Michigan's emergency food assistance network. Combined with the other analysis in the study, they can help to explore: what is the relationship between organizational capacity, effectiveness, and provision of emergency food services tailored to cultural, racial and/or ethnic minorities?

# Chapter 4. *Results and Discussion*

## I. Michigan Emergency Food Assistance Providers: Select Descriptive Results

In reviewing the descriptive statistics of data reported by the 55 participating organizations in the study, immense variation within the sample group emerged along several variables. Heterogeneity of this kind reflects the diversity of operational scales occurring in the network of emergency food assistance providers throughout the state. However, it may also impede analyses that would benefit from scalar targeting of the sample to understand the way these relationships may vary by size of organization or how individual or clusters of organizational attributes and practices have substantially varying levels of impact in emergency food providers at different scales. Nevertheless, the sample provides one cross-sectional snapshot of the emergency food providers operating in Michigan within 2013 and 2012, and this data contributes to an understanding of organizational capacity and effectiveness in providing food assistance, as well as provision of fresh foods and services tailored to cultural, racial, or ethnic minorities.

Table 1. **Regional Distribution of Organizations in Michigan**

| *Region* | Frequency | Percent |
|---|---|---|
| North | 14 | 25.5% |
| Central | 10 | 18.2% |
| East | 12 | 21.8% |
| Southeast | 15 | 27.3% |
| West | 4 | 7.3% |
| Total n = 100% (55) | | |

As this is a statewide, spatially bounded study, I aimed to recruit respondents from throughout the entirety of Michigan. At the close of the study period, Michigan's regions had received well-distributed representation within the sample group of emergency food assistance organizations, with the exception of the West portion of the state, as displayed in Table 1. This

regional diversity is an asset in the dataset, as it brings in variation in the types of environments the organizations are operating within, as some regions represented are largely rural, while others are in suburban, and urban environments. This discussion does not examine potential programmatic differences between organizations in differing environments, but it is critical to acknowledge that organizational location may introduce omitted variable bias into any relational analysis of the nature of services provided by emergency food assistance organizations due to the different challenges and opportunities each of these settings present (Molnar et al., 2009).

Despite intentional efforts to recruit additional organizations to participate from the West portion of the state, the number of participants that completed the study from the West remained low. In future emergency food assistance research completed in Michigan, ideal recruitment would potentially involve a greater spatially representative diversity of partner food banks. Though I sought to accomplish pre-dissemination partnerships with food banks in all Michigan regions, as I discuss in my methods, the food banks that I formalized partnerships with were located in the Southeast, Central, and East regions in the state. While I successfully recruited 14 organizations in the North in the absence of a partner food bank, the presence of a partner food bank relationship in the West part of the state would likely aid any future recruitment in that region.

Table 2. **Emergency Food Assistance Providers: Self-Categorization by Primary Function**

| *Category* | Frequency | Percent |
|---|---|---|
| Food Pantry | 29 | 52.7% |
| Soup Kitchen or Meal Program | 9 | 16.4% |
| Shelter or Transitional Housing Provider | 5 | 9.1% |
| Community Center | 5 | 9.1% |
| Other Residential Provider | 3 | 5.5% |
| Other | 4 | 7.3% |
| Total n = 100% (55) | | |

A total of 55 emergency food providers located in Michigan participated in the study survey, and their self-categorization by primary function is described in Table 2. Of those, 52.7% (29) described their primary function as a food pantry, with others identifying as a soup kitchen or meal program – 16.4% (9), a shelter or transitional housing provider – 9.1% (5), a community center – 9.1% (5), and provider of other residentially based services – 5.5% (3). Two of the organizations reporting other primary functions listed variations of food distribution, a third was a Community Action Agency, and the last is a hybrid partnership model between community gardens, food pantries, and non-profit agencies. In examining these different types of emergency food providers by key measurement indicators, I found no statistically significant differences amongst the types of providers represented in Table 1. Thus, in the analysis, emergency food provision, itself, will be treated as the bounds of the sampling frame, and distinguishing characteristics amongst organizations will be measured across variables other than that of self-categorized organizational type.

All of the organizations in the sample who reported their legal status (n=51) classified themselves as non-profit agencies, with 88.24% (45) holding 501(c)(3) status and 11.76% (6) holding non-profit designation without formal 501(c)(3) status. Taken as a whole, these organizations represent one portion of the intricate assortment of non-profit agencies that provide emergency food assistance programs, which also includes some types of providers not represented in this sample, such as health clinics, colleges, and others. As none of the organizations that participated had a for-profit legal status, this analysis does not explore the impacts of for-profit business models within this sector, an area that presents a large gap in the literature. This is possibly to the small number of emergency food assistance providers operating with for-profit models; however, this may begin to shift within organizational analysis more

broadly as social entrepreneurship practice targeted toward issues of societal inequalities, including those within the food system, continues to evolve (Zahra et al., 2009; Peredo & McClean, 2008; Light, 2006).

Table 3. **Length of Organization and Food Program Operation (in Years)**

| | n | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Length of Organization Operation | 53 | 30.50 | 25.81631 | 2 | 155 |
| Length of Food Program Operation *(For only those organizations whose food program has not been their primary function)* | 26 | 19.11 | 17.63296 | 1.67 | 60 |

The organizations participating that reported on their length of operation varied widely in their longevity. The average respondent organization has been in operation for a mean of 30.5 years, with the most recently established organization operating for two years and the oldest organization operating for 155 years. For those organizations whose food program has not been their primary function, the average food program has been running for 19.1 years, with the most recently established food program running for 1.7 years and the oldest running for 60. Of the 53 organizations that provided their operation length, 69.8% (37) have been operating for more than 20 years, and another 24.5% (13) have been operating for between five and 20 years. Overall, all of the organizations in the sample have existed for multiple years, suggesting that they hold traits that would enable them to provide ongoing services and maintain resources at the very least sufficient to survival while operating with non-profit models. As I describe in my methods, an ideal analysis would engage organizations that did not successfully maintain operations to build an understanding of which factors were most difficult to cope with on an organizational level, as well as which ultimately contributed the most to the decision to shut down operations.

Table 4. **Estimated Number of Clients Served in Emergency Food Programming**

| *Total Clients 2013* | Frequency | Percent |
|---|---|---|
| 1 - 1,000 | 14 | 38.9% |
| 1,001 - 5,000 | 12 | 33.3% |
| 5,001 - 50,000+ | 10 | 27.8% |
| | | |
| *Total Clients 2012* | Frequency | Percent |
| 1 - 1,000 | 14 | 38.9% |
| 1,001 - 5,000 | 14 | 38.9% |
| 5,001 - 50,000+ | 8 | 22.2% |
| | | |
| Total n = 65.5% (36 of 55) | | |

One way to understand the scope of services delivered by the organizations in the sample is to track the number of clients served by each respondent emergency food assistance provider (Fox et al., 2004; Mosley & Tiehen, 2004; Eisinger, 2002; Youn et al., 1999). When estimating the total number of clients they served with their food programs in 2013 and 2012, respondent organizations covered many scales. These are grouped into categories in Table 4. Of those 36 organizations that provided their client numbers for 2013, a total of 14 organizations reported within a range of one to 1,000 clients; 12 organizations reported within a range of 1,001 to 5,000 clients; four organizations reported within a range of 5,001 to 10,000 clients; and six organizations reported numbers over 10,000 clients. In 2012, a total of 14 organizations operated reported within a range of one to 1,000 clients; 14 organizations reported within a range of 1,001 to 5,000 clients; two organizations reported serving within a range of 5,001 to 10,000 clients, and six organizations reported numbers over 10,000 clients. Thus, in general, in both 2012 and 2013, the client number scale distribution skews toward the smaller organizations, but the sample also includes a number of organizations operating at larger scale. In smaller scale steps, the more specific client number ranges reported by the participant organizations will form the basis of

understanding year-to-year trends in client demand within my analysis and will demonstrate the percentage of organizations that have experienced an increase between 2012 and 2013.

Table 5. **Annual Quantity of Food Supplied (in Thousands of Pounds)**

| | n | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Food Supplied in 2013 | 27 | 416.08 | 753.0509 | 1 | 3000 |
| Food Supplied in 2012 | 27 | 368.23 | 619.3118 | 1 | 2000 |

Another traditional tracking measure in emergency food provision is to assess food supply quantity in poundage (Fox et al., 2004; Mosley & Tiehen, 2004; Eisinger, 2002; Youn et al., 1999). Amongst the organizations in the study sample, those who reported their estimated total pounds of food supplied in emergency food assistance programs in 2013 and 2012 (n=27 of 55 or 49.1%) displayed a wide range of operational sizes by this scale. Of the largest five programs, three supplied over one million pounds of food each, one supplied over two million pounds, and one supplied three million pounds in 2013. The sample also included five programs that supplied between one and five thousand pounds each in 2013, near the other tail of the sample distribution. The mean quantity of food supplied by respondents in 2013 was 416,082 pounds while the mean in 2012 was 368,234 pounds, which indicates an aggregate increase of food provisioning amongst reporting organizations in the sample. In total, the 27 reporting organizations supplied 11,234,200 pounds of food in 2013 and 9,942,320 pounds of food in 2012 – an increase of 1.3 million pounds from 2012 to 2013.

While around half of the survey respondents were able to provide food poundage estimates, five organizations (n=5 of 55 or 9.1%) also stated that they do not track poundage, that poundage data is unavailable for their program, or that they were unsure of the actual amount of food in their supply distributed. This raises the point that use of pounds of food as a metric in isolation from other measures of evaluation presents some limitations due to its singular focus on

quantity, and that it both a difficult and not necessarily useful metric in isolation. When we only understand effective service delivery as a function of magnitude, other factors that have been identified as ways to look at effectiveness, such as the organization's ability to reach its goals, the quality of its service delivery, and more, are not captured. Unfortunately, while the survey assessed whether or not organizations conducted program evaluation, and four of the five aforementioned organizations do engage in evaluation, it did not explore the metrics organizations are utilizing to measure their programming, so we do not know what alternate tracking these five programs or the sample at large may be using to evaluate their service delivery.

Table 6. **Food Supply Sources by Proportion**

| | N | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Food Banks | 45 | 0.48 | 0.356244 | 0 | 1 |
| Purchases* | 45 | 0.33 | 0.3170675 | 0 | 1 |
| Donations* | 45 | 0.17 | 0.2446979 | 0 | 1 |
| On-site Production | 45 | 0.01 | 0.0747163 | 0 | 0.5 |

*Non-bank sources

To further understand the structure of food supplies distributed in emergency food assistance programming, it is necessary to disaggregate supply by the sources of the food ultimately delivered to clients. The emergency food assistance providers in this sample reflect a diverse landscape of food sourcing strategies. In Eisinger's study (2002), street-level food assistance providers in Detroit relied heavily on donations, and his measure is dependent on perceptions of changes in trends of food donations (which does not distinguish between food bank sources and other sources). The emergency food assistance providers in this study relied on a combination of acquisitions from food banks through purchasing and donations, purchases and donations from non-food bank sources, and a small amount of on-site production. One

respondent also reported obtaining a portion of their produce off-site, but did not identify whether their off-site source was internal to the organization or a partner source grew the produce.

Of the organizations who reported their food supply sources, 15.6% (n=7 of 45) obtained 90% of their food or greater from food banks, with two organizations (4.4%) obtaining 100% of their food from food banks. In contrast, 11.1% of the reporting group (n=5 of 45) obtained no food from food banks. Two organizations (4.4%) obtained over 90% of their food supply from non-bank donations, while 13 organizations (28.9%) did not obtain any food from food banks. Interestingly, five organizations (11.1%) obtain 85% of their food or greater through purchases. The mean quantity sourced from food banks was 47%, while, on average, purchases by respondents accounted for one third of their food supply, suggesting that purchasing plays a role in sustaining food acquisition for my sample respondents. This may also be due to respondent programs obtaining funds from grants (see Table 8), which can provide a source of money that organizations can possibly utilize for purchasing food. It may also reflect an increased use of purchasing as one strategy to bolster the proportion of fresh food obtained by programs, as traditional food drives and storage capacity has tended to favor shelf stable food (Just Food, 2014; Food Gatherers, 2013; Evans & Clarke, 2011; Raheja, 2010). Overall, the high percentage of food procured from food banks by organizations in this sample align with trends reported in the Hunger in America 2010 study, which stated that food banks are the most important source of food for emergency food providers, with food bank supplied foods making up 74% of that supplied by pantries, 45% supplied by kitchens, and 42% supplied by shelters (Mabli et al., 2010).

Finally, three of the reporting organizations reported that on-site production was a component of their food supply sourcing (6.7%). Of these, two organizations reported that small amounts of their food came from on-site production, 1% and 5% respectively. Notably, the third third organization reported that 50% of their food was sourced through on-site production. In a separate question, six of 45 reporting organizations (13.3%) stated that they have a farm or garden. Half of those with farms or gardens utilize them to produce some of the food for their emergency assistance programs. One would expect that the organizations with access to farms or gardens internal to their organization would also be more likely to source more of their food from on-site production due to benefits of scale and logistical advantages. In examining on-site sourcing proportions of the group with a farm or community garden and the group without, the group of organizations with a farm or garden sourced a larger proportion of their food from on-site production than the latter, on average (9.2% versus 0%). A two-tailed difference in means t-test between the two groups shows with 99% confidence that this difference is statistically significant ($p=0.004$, $\alpha = .01$).

Table 7. **Total Operating Budget (in Thousands of U.S. Dollars)**

| | n | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Budget in 2013 | 38 | $3,642.82 | $17,376.44 | $0 | $106,000 |
| Budget in 2012 | 37 | $3,643.16 | $17,151.33 | $0 | $103,000 |

For the 38 organizations that reported 2013 data and 37 organizations (one had 2013 data and no 2012 data) that reported their total operating budget, there was large variation in magnitude of financial resources. While one organization reported that they were operating entirely without a budget for both years, another organization operated at over $106 million dollars and $103 million dollars in 2013 and 2012, respectively. The median total operating budget for 2013 was $80 thousand dollars in 2013 and $70 thousand dollars in 2012 – 50% of the

organizations that provided 2013 data (n=19 of 38) operated in a range of under $60 thousand dollars in that year, while the upper 50% of those respondents operated in a range of $100 thousand dollars or more. In the latter group, eight organizations (21%) had budgets of $500 thousand dollars or more, while in the former group, nine organizations (23.7%) were operating in a range of $20 thousand dollars or less. In 2012, there were similar groupings at the top and bottom of the range of total operating budget. However, within the sample, a number of organizations had operating budgets that either grew or shrank between 2012 and 2013, and this change between years will form the basis of my analysis of financial resource trends to follow.

Table 8. **Budgetary Funding Sources by Proportion**

| | n | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Monetary Donations | 41 | 0.58 | 0.3600906 | 0 | 1 |
| Grant Funding | 41 | 0.27 | 0.3040108 | 0 | 1 |
| Memberships | 41 | 0.003 | 0.0156564 | 0 | 0.1 |
| Sales Revenue | 41 | 0.010 | 0.0413492 | 0 | 0.23 |

The heterogeneity of the organizations in the sample pool presents a challenge in understanding the impact that funding sources may have on programmatic outcomes. Of the organizations that reported funding proportions (n=41), the highest mean percentage for an operating budget funding source was in the area of monetary donations at 58.4%. Funds coming from grants represented the second highest mean percentage at 27.2%. A group of six organizations (14.6%) reported being funded entirely by donations while a group of two organizations (4.9%) reported being funded at over 99% by grants.

The diverse compositional mix of funding sources represented by this sample of emergency food assistance providers, who are all non-profit organizations, demonstrates the large role that grant funding plays in the pool of financial resources from which they draw to administer and operate their programs. Whereas reliance on monetary donations has traditionally

played a more singular role in many food assistance operational funds, this sample provides some data demonstrating that financial diversification is a strategy being employed by some emergency food providers. As scholars have shown that moving toward a diversified funding mix can confer greater financial stability in non-profit organizations, this may be contributing both directly and indirectly to organizational attributes that are important parts of the capacity to deliver services within the sample group (Carroll & Stater, 2009; Ryan, 2002; Froelich, 1999; Chang & Truckman, 1994).

Table 9. **Select Staffing Attributes**

| *Key Variables* | n | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Indicator: Has Paid Staff | 39 | 0.56 | 0.5023561 | 0 | 1 |
| # Full-time Paid Staff | 37 | 43.78 | 203.5842 | 0 | 1200 |
| # Part-time Paid Staff | 39 | 12.76 | 49.84685 | 0 | 300 |
| Total # Paid Staff | 36 | 58.10 | 258.1643 | 0 | 1500 |
| # Volunteers per Week | 36 | 63.25 | 178.8815 | 0 | 1000 |

Of the 55 organizations in the study, 39 provided data on the presence or absence of paid staff at their organizations. 56.4% of the organizations who provided data employ paid staff, with the mean number of mean full-time staff at 43.8 positions (median at 1, 75$^{th}$ quantile at 1), paid part-time staff at 12.8 positions (median at 0, 75$^{th}$ quantile at 6), and the total mean paid staff at 58.1 positions (median at 1, 75$^{th}$ quantile at 9). Of the 36 organizations who supplied their average number of volunteers per week in 2013, the total mean number of volunteers per week is 63.3 (median at 16, 75$^{th}$ quantile at 35). In total, the aggregate mean number of volunteers per week represented by organizations in my sample is 2,277.

These results confirm the findings within the Hunger in America 2010 study that demonstrated the large reliance on volunteers by emergency food assistance providers in Michigan – they found that 74% of pantry programs and 42% of soup kitchens have no paid staff

at all. In my sample, which groups pantry programs and soup kitchens, 43.6% of organizations had no paid staff. These results also confirm those obtained by Eisinger and otherwise described in the literature indicating the significant dependence on volunteer staff, though the mean number of staff in both categories is much higher in my study (43.8 positions versus 3.5 positions; 2002; Kaufman, 2004; Tiehen, 2002; Tarasuk, 2001; Poppendieck, 1994). Additionally, a slight majority of the organizations in my sample employ at least one paid staff person, whereas only 30% of his study's sample of street-level food assistance providers does (2002). However, the drastic difference in paid staff positions is partly due to the large scale of two organizations in my study that can be considered outliers on the staffing measure. Upon dropping the two largest organizations in terms of staff, the mean total number of paid staff value drops to 4.16 positions, on average, a figure much closer to Eisinger's average. In the group remaining, 10 organizations had nine or fewer paid staff members, while six organizations had between 10 and 20 paid staff members. Additionally, dropping these two outliers alters the mean volunteers per week figure to 24.32 volunteers per week. As a result of the skew in staffing attributes due to these outliers, I will omit their staffing data in the analysis of the relationship of staffing capacity variables to effectiveness outcomes.

Table 10. **Key Institution and External Assistance Attributes**

| *Key Variables (Indicators)* | n | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Intake interviews | 29 | 0.48 | 0.5085476 | 0 | 1 |
| Seek external technical assistance | 41 | 0.66 | 0.4800915 | 0 | 1 |
| Computer database of files | 42 | 0.88 | 0.3277701 | 0 | 1 |
| Has a formal mission or vision | 42 | 0.90 | 0.2971018 | 0 | 1 |
| Operates by formal rules | 41 | 0.83 | 0.3809488 | 0 | 1 |
| Conducts program evaluation | 41 | 0.85 | 0.357839 | 0 | 1 |
| Holds regular staff meetings | 42 | 0.81 | 0.3974366 | 0 | 1 |

Measuring a set of key institutional indicators provides an additional group of variables to illustrate organizational capacity in the study sample. The vast majority of the sample that responded, 90.5% (n=38 of 42) has a formal mission or vision, while 82.9% operate by formal rules (n=34 of 41), 85.4% conduct program evaluation (n=35 of 41), 81% hold regular staff meetings (n=34 of 42), and 88.1% utilize a computerized storage system for their files. Only 65.9% (n=27 of 41) seek external technical assistance and just less than half, 48.3% (n=14 of 29), conduct intake interviews with clients. These results differ from those in Eisinger's sample in several notable ways. A full 78% of the organizations in his sample conducted intake interviews, which is slightly higher than the percentage this sample, while only 11% of them utilized computerized records, a very different percentage than the majority demonstrated here. Finally, seeking technical assistance is a practice undertaken by only 23% of his sample pursued that practice.

Most organizations sought out technical assistance from one provider (n=8 of 17), but nearly as many obtained it from three providers (n=6 of 17) and three obtained it from two providers. Eight of the organizations that sought out technical assistance obtained three different kinds, while three organizations obtained two, and six received only one kind. As in this sample, in Eisinger's sample, most organizations sought out help from only one provider and a smaller number worked with more than one. Though the pursuit of external help presented the most diversity amongst the institutional indicator variables, there were not statistically significant differences across the budget size scale. However, in comparing the number of pounds of food distributed in 2013 by the group that seeks technical assistance – a mean of 620,974 pounds – versus the group that does not, who has a much lower mean of 67,755 pounds tells us that the programs distributing more also generally the ones seeking technical assistance. A difference-in-

means t-test tells us that we can say with 93% confidence that this difference is statistically significant ($p=0.064$, $\alpha = .03$).

The types of technical assistance pursued by organizations externally varied widely, with the most commonly mentioned relating to technological support (ranging from "computer assistance," to "Internet," "IT," "databases," "website maintenance," and "PC's," among others), and the second most common relating to financial management and procuring grants (including, but not limited to "cost containment," "fundraising," "funding source training," "grants," and "grant writing"). This differs from Eisinger's results, which did not include any technology requests amongst the technical assistance types reported by his sample organizations. The increase in percentage of computerized systems between Eisinger's study in data from 1999 and my study data from 2013 presents interesting findings when paired with technical assistance types. Relative to 1999, a much higher percentage of the food assistance organizations engage in computerized database usage in 2013, but the disproportionately high amount of technology support amongst types of technical assistance requested suggests that use and maintenance of said systems may require additional external help.

Overall, these results demonstrate a relatively high level of capacity within our sample pool along key institutional indicators. Indeed, the sample's near homogeneity along some of the factors may affect their use as parameters in predicting efficiency outcomes. For example, if the vast majority of the sample all participates in one practice – like having a mission or vision statement – the relationship between having a mission or vision and different outcomes on measures of effectiveness will be negligible or unclear. In spite of this, this set of institutional variables provides revealing information about the nature of institutional attributes and practices in emergency food assistance organizations, how they have changed since 2002, and how the

scale of program's food provision may affect to whether or not an organization pursues external assistance in the process of providing services and fulfilling their mission objectives.

### II. Adjusting Food and Budgetary Resources Supply to Client Demands

What is the ability of emergency food providers to adjust resources in light of client demand for their services? As described in the study methodology, participant organizations were asked to provide information on the number of clients served in 2012 and 2013, as well as food supply provisioning quantities and total operating budget in both years. This expands upon Eisinger's study method, which used a perception-based measure of donations to gauge food supply trends where this study uses changes in absolute quantities of aggregate food supply provided to better capture organizational resources as the connect with effectiveness of service provisioning. This study also investigated trends in funding resources as compared to client demands. Tables 11 and 12 demonstrate the results of the comparison in trends of client demand with food supply and funding to track whether organizations in the sample experienced either a state of congruence or stress between resource trends, food-wise and financially, and client demand trends.

a. Food-Client Congruence and Stress

Table 11. **Food Resources and Client Burdens: Congruence and Stress Patterns**

| Change in Estimated Annual Pounds of Food Distributed | Change in Estimated Annual Number of Clients | | | | | |
|---|---|---|---|---|---|---|
| | *Increased* | | *Stayed the Same* | | *Decreased* | |
| | % | (n) | % | (n) | % | (n) |
| *Increased* | 11.1% | (3)[a] | 40.7% | (11)[a] | 0% | (0)[a] |
| *Stayed the Same* | 7.4% | (2)[b] | 22.2% | (6)[a] | 3.7% | (1)[a] |
| *Decreased* | 7.4% | (2)[b] | 7.4% | (2)[b] | 0% | (0)[a] |
| Total n = 100% (27) | | | | | | |

Note: The data represents reported changes from 2012 to 2013 in estimated pounds of food distributed each year and estimated clients served each year. The total percent in congruence = 77.8% (21) and the total percentage stressed = 22.2% (6). 28 organizations were not included due to non-response for questions regarding 2012 or 2013 food and/or client data.
a. These numbers indicate congruence.
b. These numbers indicate stress.

A state of congruence indicates that food supply trend is moving in the same direction as client demands, demonstrating a high degree of both capacity and effectiveness on the organizational level by this measure. This is a measure that the organization is able to adapt its food sourcing and overall supply to keep pace with or surpass shifts in client demands. Of those organizations experiencing congruence in food-client trends, 11 organizations formed the modal case, reporting that food provided to clients increased while client numbers stayed the same. The second most common case consisted of organizations whose food supply stayed the same and their client demand stayed the same (n=6). Third most common were organizations experiencing both an increase in clients and an increase in food trends (n=3). There was only one organization of all 27 total that reported a decrease in client demand from 2012 to 2013, but this organization maintained its food supply at the same level both years, and thus, is the last case within the group experiencing congruence.

On the other hand, a stressed state demonstrates that food supply trends are being outpaced by client demands, and this measure would suggest that such organizations have relatively low capacity and low effectiveness in provisioning, as the organizations were unable to adjust their flow of food resources to demands for their services. Of those stressed, there was an even split of cases between three possible scenarios. Four organizations total reported that client numbers had increased while their food supply had either stayed the same (n=2) or decreased (n=2). Two organizations reported that their client numbers had stayed the same, but their food supply had decreased in that time.

The congruence and stress data is strictly based on trends in food supply and trends in client demands, and does not account for the magnitude of changes – for example, it does not tell us whether or not increases in an organization's client numbers and increases in an organization's food supply are proportionate, and whether or not the increases in client numbers have outpaced increases in food supply, for example. Thus, there may be a subset of the organizations experiencing congruence in their food supply that are actually functioning in a stressed state to a degree. To test this, as in Eisinger's method, I compared the congruence and stressed groups in their responses to the perception-based measure that on whether their resources are meeting or exceeding client needs versus falling short of client needs. Of the organizations that experienced congruence in food resources, 33.3% responded that their resource supply is falling short of client needs (7 of 21). This suggests that those 33.3% of organizations, despite a state of congruence that demonstrates an ability to maintain resource levels increasing when client demand is increasing, still experience some form of resource lack relative to the needs of clients. Of those who experienced a state of stress in food resources, the same percentage of organizations, 33.3% (2 of 6), stated that their resource supply is falling short

of needs. This lack of difference between the means of the two groups may point to understatement of their actual stress and overstatement of resources within the data.

As a second way to understand the role of magnitude in congruence and stress, I compared the two groups based on the indicator for whether or not they have experienced a food shortage within the last year, we find that of the group experiencing congruence in food and client trends from year to year, 42.9% have still experienced a shortage within the last year (9 of 21). We see, as expected, a higher percentage of those experiencing stress in food and client trends from year to year have experienced a shortage within the last year – 66.7% (4 of 6). However, this difference in means is not statistically significant, pointing, once more, to likely understatement of actual stress and overstatement of resources.

In comparing my study sample's patterns of congruence and stress with Eisinger's, some similarities and differences arise. In my study, 77.8% experienced food-client congruence and 22.2% experienced stress, versus in Eisinger's study, where 63% of organizations had food-client congruence and 36% had stress (2002). Amongst each group, my congruence results differ slightly from Eisinger's, whose modal case was that trends were increasing in both food supply and client demand, whereas my modal case was that trends in food increased and while client demand stayed the same. As opposed to Eisinger's modal case in stressed organizations, the situation where respondents stated their resources had stayed the same while client demand grew, my study results presented an even split between three stress scenarios.

b. Budget-Client Congruence and Stress

Table 12. **Budgetary Resources and Client Burdens: Congruence and Stress Patterns**

| Change in Estimated Annual Operating Budget | Change in Estimated Annual Number of Clients | | | | | |
|---|---|---|---|---|---|---|
| | *Increased* | | *Stayed the Same* | | *Decreased* | |
| | % | (n) | % | (n) | % | (n) |
| *Increased* | 12.5% | (4)[a] | 53.1% | (17)[a] | 0% | (0)[a] |
| *Stayed the Same* | 3.1% | (1)[b] | 12.5% | (4)[a] | 0% | (0)[a] |
| *Decreased* | 6.3% | (2)[b] | 9.4% | (3)[b] | 3.1% | (1)[a] |
| Total n = 100% (32) | | | | | | |

The data represents reported changes from 2012 to 2013 in estimated operating budget each year and estimated clients served each year. The total percent in congruence = 81.3% (26) and the total percentage stressed = 18.8% (6). 23 organizations were not included due to non-response for questions regarding 2012 or 2013 budgetary and/or client data.
a. These numbers indicate congruence.
b. These numbers indicate stress.

Much like with the food-client congruence and stress analysis, a state of congruence for an organization indicates here that the total operating budget trend is moving in the same direction as client demands, and also demonstrates a high level of capacity and effectiveness. This is a measure that the organization is able to adapt its funding sources to match or exceed changes in client demands. Of those organizations experiencing budget-client congruence, 17 organizations formed the modal case, reporting that funds for operations increased while client numbers stayed the same (the same modal case as the one in the food-client analysis). The second and third most common cases consisted of organizations whose funding and client demands persisted at the same level (n=4) and organizations whose funding and client demands had both increased (n=4). Third most common were organizations experiencing both an increase in clients and an increase in food trends (n=3). Only one organization of the 32 in this analysis experienced a different congruence pattern – its demands and funding both decreased between 2012 and 2013.

A budget-client state of stress gives us a corresponding indication of relatively low capacity and effectiveness, like in the food-client analysis. When we examine the organizations experiencing budget-client stress, the modal case consisted of those whose operating budget decreased while their client demand stayed the same (n=3). This was followed by two organizations that reported increases in client demand while their total budget decreased, and one organization reported increases in client demand while their budget stayed the same between 2012 and 2013.

The congruence and stress data for the budget measure, like the food data, is also strictly based on trends in financial resources and trends in client demands, and also does not account for the magnitude of changes – for example, in this case, it would not tell us whether increases in an organization's financial resources from year to year kept pace with increases in client demands. Additionally, it does not tell us whether these increases contributed to program factors that would improve meeting client demands or if they were spent in other ways. Thus, as with food-client congruence, there may be a subset of the organizations experiencing congruence in their financial resources that are still operating under stress at some level.

To test this, I repeated the comparison of variables in the food resource analysis, replacing food-client congruence with budget-client congruence. Of the organizations that experienced congruence in financial resources, 19.2% responded that their resource supply is falling short of client needs (5 of 26). This demonstrates that those 19.2% of organizations, despite budgetary congruence displaying an ability to keep funding levels increasing when client demand is increasing, still experience some form of resource lack relative to the needs of clients. However, of those who experienced a state of stress in food resources, 66.7% (4 of 6), stated that their resource supply is meeting needs. Put in other terms, in comparing the group experiencing

financial congruence to the group experiencing financial stress, 80.8% of those in congruence felt that their resources meet or exceed client needs, while only 33.3% of the latter did. A two-tailed difference-in-means t-test tells us that we can say with 98% confidence that this difference between the two groups is statistically significant ($p=.019$, $\alpha = .02$). This suggests that the ability to keep funding levels increasing and in congruence with client demands is important to ensuring that organizational resources are meeting client needs. In relating this to the findings on food congruence and meeting of client needs, budgetary resources can be leveraged to improve many different dimensions of program provisioning, including the nature of the program or quality, whereas food supply is partly a function of budgets. Thus, it may be more important to meeting or exceeding client needs for emergency food assistance providers to primarily keep their budget in congruence through funding increases than it is to ensure congruence in food resources by increasing food supply.

When we compare the budget congruence group with the budget stress group on the whether or not they have experienced a food shortage within the last year, we find that of the group experiencing congruence in financial and client trends from year to year, 42.3% have still experienced a shortage within the last year (11 of 26). As expected, and similarly to the food stress analysis, a higher percentage of those experiencing stress in food and client trends from year to year have still experienced a shortage within the last year – 66.7% (4 of 6). However, this difference in means is not statistically significant, likely demonstrating understatement of actual stress and overstatement of resources in this data.

c. Compound and Mixed Trends: Food-Client and Budget-Client Combined Trends

26 organizations total reported budgetary data, food distribution data by poundage, and clients served for both 2012 and 2013, and thus, these organizations appear in both the budgetary

and food resources and stress tables (Table 11, Table 12). Of the 26 organizations, only one organization of 26 (3.8%) experienced both food-client stress and budget-client stress. On the other hand, 17 organizations (65.4%) experienced both food-client congruence and budget-client congruence. 8 organizations experienced a mixed state between congruence and stress: 4 organizations (15.4%) were in a state of food-client congruence and budget-client stress and 4 organizations (15.4%) were in the reverse state of food-client stress and budgetary client-congruence. We can say that the group experiencing congruence in resource and client trends in both areas display a very high level of effectiveness on these measures in the sense that they are able to keep resource flow, at large, at pace with or exceeding client demands. The 8 organizations with mixed congruence display this ability in only one area, and not the other, which potentially dampens their service provisioning compared to the former group.

To assess whether or not a compound congruence does present any advantages – that is, for the 17 organizations experiencing both food-client congruence and budget-client congruence – I will repeat the analysis of comparing how their reported answers on resources falling short or meeting/exceeding client needs and never having to turn eligible clients away differed from organizations experiencing mixed congruence. To do so, I split the group that participated in both the food trends and budget trends analysis, building an indicator of compound congruence versus mixed congruence (coded as 1 and 0 respectively). In comparing the mean responses amongst the compound and mixed congruence groups, 82.4% of organizations experiencing compound congruence reported that their resources meet or exceed their client needs compared to only 37.5% of mixed congruence organizations reporting the same. A two-tailed difference-in-means t-test tells us that we can say with 97% confidence that this difference is statistically significant ($p=.025$, $\alpha = .03$). In looking at experiences with shortages, 64.7% of the compound

congruence group reported never having a shortage in the past year, while 25% of the group with mixed congruence had no shortages in the past year. A two-tailed difference-in-means t-test tells us that we can say with 93% confidence that this difference is statistically significant ($p=.068$, $\alpha = .07$). Thus, those organizations able to achieve an experience of compound congruence are highly effective by two other measures, as well, as they are statistically more likely to avoid shortages and meet or exceed client needs with their resources. This suggests that while maintaining budgetary trends and food supply trends in line with or exceeding client demands is important to effectively providing emergency food assistance, to achieve a high level of effectiveness, it is important to achieve congruence in both.

d. Trends Results: Comparison and Implications

Both Eisinger's study and this one examined food-client congruence, but only this study includes a budget-client congruence analysis, and thus, the latter does not have a point of comparison. However, the differences described in food-client results between Eisinger's study and mine could be due to the distinctions between our samples, or potentially, time period-specific changes related to the consequences of policy decisions. As this study is cross-sectional and not longitudinal, it does not account or control for fixed effects in the numerical analysis, but the topic of study timing and time-specific impacts can be discussed qualitatively. For example, Eisinger's study was prepared in 2002 using data from just before the end of the 1990s. His results could be capturing increases in demand for alternatives to federal food assistance program benefits connected to the Personal Responsibility and Work Opportunity Reconciliation Act of 1996, welfare reforms that decreased federal cash assistance to low-income populations as discussed in the literature review (Sheely, 2012). This study was conducted shortly after the end of the Emergency Unemployment Compensation program that provided some benefits to the

long-term unemployed and expired on December 31, 2013, as well as the after end of the 2009 Recovery Act's boost to SNAP federal food assistance benefits, which ran out on November 1, 2013 (Dean & Rosenbaum, 2013; Rampell, 2013). The loss of needed benefits to participants in those programs has already been reported to increase demand for emergency food assistance services at the local level across the country (McCartney, 2013; McVeigh, 2013). Additionally, this study period coincides with the signing of the Agricultural Act of 2014, better known simply as the 2014 Farm Bill, which has enacted a series of large cuts to SNAP federal food assistance benefits over the years to come as detailed in the literature review (Rampell, 2013). It may be too soon to have measured these changes within my study sample, but federal and state food assistance policies would possibly be captured in data trends measured further into the future.

In both studies, the majority of food assistance providers were able to maintain movement of resources that was congruent with demands for their services, while a minority experienced stress, and thus, most of the sample was operating from a place of relatively strong organizational effectiveness on this measure. However, federal policy changes and other factors limiting the ability of struggling individuals and households to access government food assistance in the years to come may amplify the general increases in demand for emergency food assistance already consistently measured from year to year (U.S. Conference of Mayors, 2013). Thus, it is unclear whether or not congruence patterns will persist in light of these indications that demand will increase for the services of emergency food assistance providers.

### III. Comparing Effectiveness Outcomes: Goal Attainment and Service Quality

How can effectiveness measures for emergency food providers tell us more about the ways that goal attainment and quality of service are connected for emergency food assistance providers? One approach is to compare responses based in perception of goal attainment – that

is, if the respondent organization leader feels that resources are falling short of versus meeting or exceeding client demands – to whether or not their organization actually experienced shortages within the last year. Additionally, we can examine how the experience of shortages compares to whether or not eligible clients were actually turned away.

A total of 28 organizations, 73.7% (n=28 of 38), reported that their resources are meeting or exceeding the needs of clients, while 10 reported resources falling short (n=10 of 38, 26.3%). In looking at reported shortages in the past year, 40% of respondent organizations had experienced shortages (n=16 of 40), while 60% (n=24 of 40) had no shortages. Of the 28 who reported that resources were meeting or exceeding needs, nine organizations, 32.1%, reported shortages within the past year. As we would expect, of the group who felt resources were meeting or exceeding client needs, 67.9% never had a shortage in the past year versus 30% of the group who felt resources were falling short of client needs. A difference-in-means t-test tells us that we can say with 96% confidence that this difference is statistically significant ($p=.038$, $\alpha = .04$). Thus, experiencing instances where the organization's food resources fell short of client demands is related to how the organizational leadership perceives goal attainment, but there is not a perfect correlation between the two. This implies that these organization leaders could have interpreted the notion of resources meeting or exceeding needs as a broader measure of effectiveness across all provided services, or that despite experiences of shortages, emergency food programs were still perceived to be meeting or exceeding the needs of clients overall or in other ways than the simple provision of food.

Of those who reported shortages, only 37.5% actually turned eligible clients away (n=6 of 16), aligning with the theme in the literature that turning clients away is something emergency food providers avoid, seldom turning clients away due to food shortage (Eisigner, 2002; Tiehen,

2002). Despite this, shortages affect the organization's service quality as measured by needing to turn clients away: 91.7% (n=22 of 24) of those who did not have shortages never turned a client away, while only 62.5% (n=10 of 16) of the group that had shortages said the same. A difference-in-means t-test tells us that we can say with 97% confidence that this difference is statistically significant ($p=.023$, $\alpha = .03$). Thus, the experience of shortages is correlated with also turning clients away, in spite of struggle to prevent having to do so.

## IV. Connections Between Capacity and Effectiveness

For emergency food assistance providers, how are features of their organizational capacity related to their ability to be effective at service delivery? As described in the study methodology, this analysis employs Eisinger's measures of effectiveness, the outcome I added regarding shortages, and a number of Eisinger's variables approaching organizational capacity from staffing, institutionalization, and external help networks with slight changes. Table 13 demonstrates the results of running the outcome efficiency indicators against these variables to determine bivariate logit coefficients. These results were limited by varying degrees of non-response to individual questions on the study survey. However, they still present data helpful to understanding the relationships between capacity variables and effectiveness outcomes.

Table 13. **Effectiveness Measures on Key Organizational Attributes (Bivariate Logit Coefficients)**

| *Variable* | *Resources Meet Client Needs* | *Never Turn Away Eligible Clients* | *Never Experience Shortage* | *Assist Clients Apply for Federal Food Assistance* |
|---|---|---|---|---|
| Number of paid staff | -0.143** | -.0448 | 0.002 | -0.0061 |
| Presence of paid staff | -2.438** | -1.099 | -0.511 | 0.894 |
| Number of volunteers/week | .0176 | -.0172** | -0.0034 | .0429* |
| Intake interviews | -0.711 | -0.573 | -0.981 | 0.811 |
| Seek external technical assistance | -0.377 | 0.0357 | -0.421 | 1.099 |
| Computer database of files | -0.448 | 1.135 | -1.15 | 1.261 |
| Has a formal mission or vision | *omit* | *omit* | -0.357 | -1.05 |
| Operates by formal rules | -0.716 | -0.519 | 0.0918 | -1.463 |
| Conducts program evaluation | *omit* | *omit* | -0.314 | -1.24 |
| Holds regular staff meetings | -0.944 | -0.519 | -0.665 | 0.0194 |

Individual coefficients are statistically significant at the 99%*** confidence level (*** $p<0.01$), the 95%** confidence level (** $p<0.05$), and the 90%* confidence level (* $p<0.1$).

Interestingly, both increases in the total number and the presence of paid staff (relative to the absence of paid staff) are negatively correlated to organizational leaders' perceptions of resources meeting or exceeding client needs (total paid staff: $p=.036$, $\alpha = .04$; paid staff presence: $p=.033$, $\alpha = .04$). For each decrease by one in the total number of paid staff members, the associated odds of organizational leaders perceiving that resources meet or exceed client needs *increase* by 2.15. Relative to not having paid staff members, the presence of paid staff members is associated with a *decrease* by 91.4% in the odds that leadership perceives resources meet or exceed client needs. Further, a higher number of volunteers per week is negatively correlated with never having turned eligible clients away ($p=.0.038$, $\alpha = .06$). Decreasing the number of volunteers per week by one volunteer is associated with a 1.73% *increase* in the odds that clients are never turned away.

In contrast, an increase in the number of volunteers for week is positively correlated with the ability to provide encouragement or tangibly assist clients with applying for federal food

assistance ($p=0.057$, $\alpha = .04$). Each increase of one in the total number of volunteers is associated with an increase of 4.3% in the odds that an organization provides encouragement or tangible aid to clients in applying for federal food assistance benefits. This could be due to increases in sheer capacity, and may suggest that having more volunteers may mean more people are available to provide a supplementary service such as this one.

Some of these results both deviate from what we might expect. In particular, the result related to changes in total number of paid staff and perception of resources meeting needs is the opposite of what Eisinger's sample data predicted, and intuitively, the same might be true for volunteer numbers. This could suggest something about a trade-off between the resources required to have paid staff versus those required for leaders to perceive flows are meeting client needs, or that having a higher number of volunteers does not necessarily contribute to avoiding turning people away, but the connection between these aspects is complex, particularly due to one measure being perception-based. Thus, these connections may not be well described by the sample data. Further, this also likely speaks to omitted variable bias in the estimators, as these are coefficients on independent parameter and no other variables are controlled.

Two organizational capacity variables were unable to be run in bivariate correlations with two outcome variables due to perfect prediction of the logit outcome, denoted by "omit" in the table. None of the respondent organizations who did not have a formal mission vision reported that resources were falling short of client needs within the last year (n=3 of 37 reported meeting or exceeding client needs) – numerically, this is likely due to the vast majority of organizations reporting having a formal mission or vision (90%, n=38 of 42), some of whom reported that resources were falling short of client needs (n=10 of 34). The same is true for having a mission or vision and having turned eligible clients away – none of the three organizations with no

formal mission or vision reported having done so, while eight of 28 organizations with formal missions or visions did. The variable measuring whether organizations conduct program evaluation or not suffered from the same scenarios: none of the six organizations who do not conduct program evaluation reported supply falling short of client needs, and none of those six reported having to turn clients away. This is likely also due to the vast majority of organizations reporting conducting program evaluation (85.4%, n=35 of 41).

## V. Modeling Capacity and Effectiveness

To complete the Eisinger methodology of analysis, I built logistic regression models relating capacity variables to effectiveness outcomes in order to control for the effects of independent variables as part of the regression. In attempting to construct models using the indicators for institutional practices, staffing, the length of organizational operation, and total operating budget (2013) as control variables and efficiency indicators as outcomes, as I predicted previously, the institutional indicator data for this sample presented obstacles. The indicators for having a formal mission or vision, operating by formal rules, engaging in program evaluation, and holding regular staff meetings could either (a) not be run together in the same regression due to multicollinearity or (b) needed to be omitted from the regression due to perfectly predicting outcomes, as discussed above. Finally, the variable for intake interviews was also omitted due to having no statistically significant effect on the outcome variable after a number of tests and the high quantity of cases it required dropping. Results of the final model are displayed in Table 14.

Table 14. **Results of Logistic Regressions of Effectiveness Indicators on Key Organizational Capacity Attributes and Other Control Variables**

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| ***Regressor*** | *Resources Meet Client Needs* | *Never Turn Away Eligible Clients* | *Never Experience Shortage* | *Assist Clients Apply for Federal Food Assistance* |
| Length of operation in years | -0.213* | -0.0339 | 0.0488 | -0.0332 |
| | *-0.112* | *-0.0653* | *-0.0324* | *-0.0436* |
| Operating budget 2013 in dollars | 0.0371* | 0.00404 | 0.00209 | 0.000435 |
| | *-0.02* | *-0.00329* | *-0.00303* | *-0.00218* |
| Number of paid staff | -1.157* | -0.0108 | 0.0439 | -0.179 |
| | *-0.647* | *-0.137* | *-0.159* | *-0.151* |
| Presence of paid staff | -30.35*** | -19.90*** | -2.738 | 1.77 |
| | *-9.133* | *-3.832* | *-1.772* | *-2.124* |
| Number of volunteers/week | -0.344* | -0.067 | -0.0143 | 0.0351 |
| | *-0.191* | *-0.0423* | *-0.0308* | *-0.0332* |
| Seek external technical assistance | 4.585 | 1.128 | -1.147 | 0.548 |
| | *-3.041* | *-1.481* | *-1.057* | *-1.14* |
| Computer database of files | 26.35*** | 19.87*** | -0.736 | 0.146 |
| | *-6.456* | *-2.322* | *-1.469* | *-1.394* |
| Constant | 7.248** | 0.93 | 0.823 | -1.122 |
| | *-3.689* | *-1.305* | *-1.543* | *-1.706* |
| ***Summary Statistic*** | | | | |
| n | 26 | 26 | 26 | 25 |

Robust standard error values are displayed in italics below coefficients. Individual coefficients are statistically significant at the 99%*** confidence level (*** p<0.01), the 95%** confidence level (** p<0.05), and the 90%* confidence level (* p<0.1). Some of the organizational capacity control variables included in the bivariate correlations in Table 13 are excluded here due to issues of multicollinearity and perfect prediction as raised in Section VII above.

In interpreting the results of the logistic model, we find a number of interesting and statistically significant relationships. Controlling for all else, the size of an organization's total operating budget from 2013 has a small, positive relationship with perceiving that resources meet client needs: with every dollar increase associated with an increase of 3.8% in the likelihood that an organization perceives that they are meeting client needs, but it did not have such a relationship with any of the other outcome variables measuring effectiveness (p=0.064, $\alpha = .03$).

This indicates that increases in the budget are correlated with leader perception of effective service delivery, but it does not necessarily relate to effectiveness in service delivery as measured otherwise.

On the other hand, controlling for all other variables, an providers' length of operation, in years, was negatively correlated with the perception outcome variable: every fewer year that an organization has operated is associated with an increase of 23.7% in the odds of perceiving their resources meet needs ($p=0.056$, $\alpha = .04$). Similarly, the number of volunteers per week and the number of paid staff at an organization both negatively correlate with the perception outcome variable: controlling for all else, each fewer paid staff member (each decrease by one staff member) at an organization is associated with an increase of over three times the odds that organization perceives that resources meet needs ($p=0.07$, $\alpha = .03$), while, controlling for all else, for each fewer volunteer per week (each decrease by one volunteer) at an organization is associated with an increase of 41% in the likelihood that an organization perceives that resources meet needs ($p=0.07$, $\alpha = .03$). However, neither of these control parameters had relationships with the other variables measuring effectiveness, drawing a distinction, once more, between the perception of resources meeting needs as related to increases in capacity as measured by paid staff size and volunteers per week. This suggests a potential complication of scale: as larger organizations may have more resources, but they may also have leaders who perceive that the organization's resources, themselves, do not meet their client needs as compared to their smaller counterparts.

The presence of paid staff had a strong negative correlation with the perception that resources meet client needs, as well as the likelihood of never turning away clients. Controlling for all else, we can say with 99% confidence that organizations that do not have paid staff are

over twenty times more likely than those with paid staff to perceive that their resources are meeting client needs ($p=0.001$, $\alpha = .01$), while, controlling for all else, we can also say with over 99% confidence that organizations that do not have paid staff are over 20 times more likely than those with paid staff to have never turned any eligible clients away in the last year ($p=0.00000021$, $\alpha = .01$). This suggests an interesting relationship between the presence of paid staff and both outcome variables: in the first situation, the perception of resources meeting needs is also correlated with not having the capacity conferred by paid staff – it could be that, like in the situation of having more paid staff and more volunteers per week, additional human resources capacity is linked to perceptions of resources falling short of the needs of client constituents. In the second situation, not having paid staff makes an organization much more likely to have never turned an eligible client away in the past year.

To further explore this latter finding, I compared the organizations with paid staff versus those who have no paid staff to see if they have a higher proportion of their budgetary funding coming from grants, which often have requirements on the ways that money is used, and this may include additional eligibility requirements for clients or other programmatic restrictions. Additional eligibility requirements would potentially constrain the number of people who would qualify as "eligible," and fewer eligible people could mean an absolute number decrease in the group to whom "never turning away eligible clients" would apply. Other programmatic restrictions might include unobserved reasons for turning eligible clients away. Organizations with paid staff had a higher average proportion of their operating budget coming from grants at 37.6% compared to 18.06% for those without paid staff, and a difference-in-means ttest tells us that this difference is statistically significant ($p=0.0585$, $\alpha = .04$). However, when we divide the organizations into two groups based on the presence of eligibility requirements versus none

(dummy indicator) or into two groups based on few eligibility requirements versus many (dummy indicator with under three in one group and three or more in another group), there was no difference for either comparison in mean likelihood of turning clients away.

The other most significant predictor in the regression model is the indicator for whether an organization is utilizing a computerized database system to manage files versus not using a computer database to do so. Utilization of a computer database was positively associated with both perceiving that resources meet client needs and never having turned away an eligible client in the previous year. We can say that with over 99% confidence, controlling for all else, compared to not doing so, organizations that used computer databases were over 20 times more likely to perceive that resources meet client needs (0.0000045, $\alpha = .01$) and over 20 times more likely to never have turned away an eligible client in the last year ($p<0.00000000001$, $\alpha = .01$). This indicates that of all of the capacity parameters included, utilization of a computer database is both associated with a perception measure of effectiveness and the included effectiveness measure based on quality of service. As described in the methodology, here we consider that emergency food assistance providers take great pains to avoid having to turn people away, and that they rarely do so due to lack of food as described by Poppendieck and Tiehen as utilized by Eisinger (2002). This finding has strong implications for computerized database usage, something that implies increased capacity due to its facilitation of systematic program tracking, as element of capacity most correlated with effective service delivery: achieving high quality of service as measured by never turning eligible clients away in the past year and the perception of goal attainment.

## VI. Provision of Services Tailored to Cultural, Racial, and/or Ethnic Minorities

Having established a profile of effectiveness and capacity for the emergency food providers in this study, it is critical to further expand the analysis by engaging with the nature of the programming and foods provided. As described in the literature, seeking to address food security must not only be about provisioning of food, but food that is *nutritionally adequate* and *culturally appropriate* (Hamm & Bellows, 2009). What are some of the ways that an organization's attributes relate to the nature of its provisioning of emergency food assistance – in particular, the ability or desire to offer services tailored to cultural, racial, and/or ethnic minorities? In the survey, I assessed such service provisioning with a question about whether or not respondent organizations currently provide emergency food programming tailored to cultural, racial, and/or ethnic minorities. This question also included a breakdown of the answers within those who do not currently provide such services, asking whether they were interested in doing so directly or if, alternatively, they refer clients to others. Further, it provided an option to specify that they do not currently provide such services and are not interested in doing so. The summary results of responses to the question are summarized in Table 15.

Table 15. **Provision of Emergency Food Programming Tailored to Cultural, Racial, and/or Ethnic Minorities**

| | Frequency | Percent |
|---|---|---|
| Yes, provides | 17 | 43.59% |
| No, but interested in directly providing | 4 | 10.26% |
| No, but refers clients to others | 4 | 10.26% |
| No, does not provide or refer; is not interested | 14 | 35.9% |
| Total n = 70.9% (39 of 55) | | |

Of the 39 respondents to this question, 43.6% (17) reported that they are currently providing tailored services and 56.4% (22) responded that they are not doing so. Among those

who are not currently providing such services, 18% (n=4 of 22) expressed that they are interested in providing tailored services directly, while another 18% (n=4 of 22) stated that they do not provide such services directly but do refer clients to others for tailored services (in independent response categories). However, a majority of those who do not currently provide tailored services – 63.6% (n=14 of 22) – did not express interest in doing so.

What are some of the differences between the organizations in each of the four response categories for this question? To see if the answers varied by scale of financial resources, I conducted a test of their 2013 total operating budgets by answer category, which shows that at least some of the groups have an approximately statistically significantly different mean operating budget from each other (Kruskal-Walls H with df of 3 approximating chi-square=8.916, p=0.03, $\alpha = .04$)7. If we divide the groups into those who currently provide tailored services and those who do not, the mean total operating budget for those who provide tailored programming is $8.9 million dollars while the mean total operating budget for those who do not is only $154.86 thousand dollars. Thus, on average, those who are provide tailored services within the sample also have more financial resources at their disposal. A difference-in-means t-test tells us that this difference in mean total operating budget is only very marginally significant (p=.127, $\alpha = .15$). Regardless, this has potential implications for the relationship between organizational capacity as a function of sheer financial resources and the ability this capacity may potentially confer on a program to tailor services.

To further explore the differences between those who provide tailored services and those who do not, I ran an analysis of their funding sources and compared them by proportion. Two significant differences arose. First, those organizations providing tailored services obtained a

7 Kruskal-Wallis results should be interpreted with caution here. As two of the response categories contain less than four respondents each, the KW-H statistic is imperfectly approximating the sampling distribution of Chi-square.

higher percentage of their funding from grants than those who did not, on average. Organizations providing services tailored to cultural, racial, and/or ethnic minorities sourced 42.1% of their funding from grants, while those who do not provide said services source a much lower average percentage from grants at 17.7%. Conversely, those organizations that do not provide tailored services obtained a higher percentage of their funding, on average, from monetary donations. Non-providers of tailored services obtained a mean of 65.8% of funding from monetary donations compared to the 46.9% mean percentage obtained from monetary donations by providers. Reliance on donations is a classic model of operations for emergency food assistance providers that has been described by scholars as more prone to volatility, while revenue diversification is associated with organizational stability (Carroll & Stater, 2009; Eisinger, 2002; Ryan, 2002; Froelich, 1999). The ability to plan based on incoming funds or pre-determined funding terms may confer critical benefits to organizations that obtain a larger proportion of their funds from grants.

If we examine only amongst those groups who do not currently provide tailored services along key demographic and analytical variables, there were no statistically significant differences between those who are not interested versus those who either provide referrals or who are interested in directly providing, suggesting that a lack of interest in providing tailored services may not be a function of organizational attributes in terms of resources, but could be connected to other characteristics not measured in this study, particularly those related to organizational culture and decision-making structure.

For the four organizations that were interested in providing programming tailored to cultural, racial, and/or ethnic minorities, I asked a follow-up question regarding why they were not currently offering such programming. The organizations specified three different reasons,

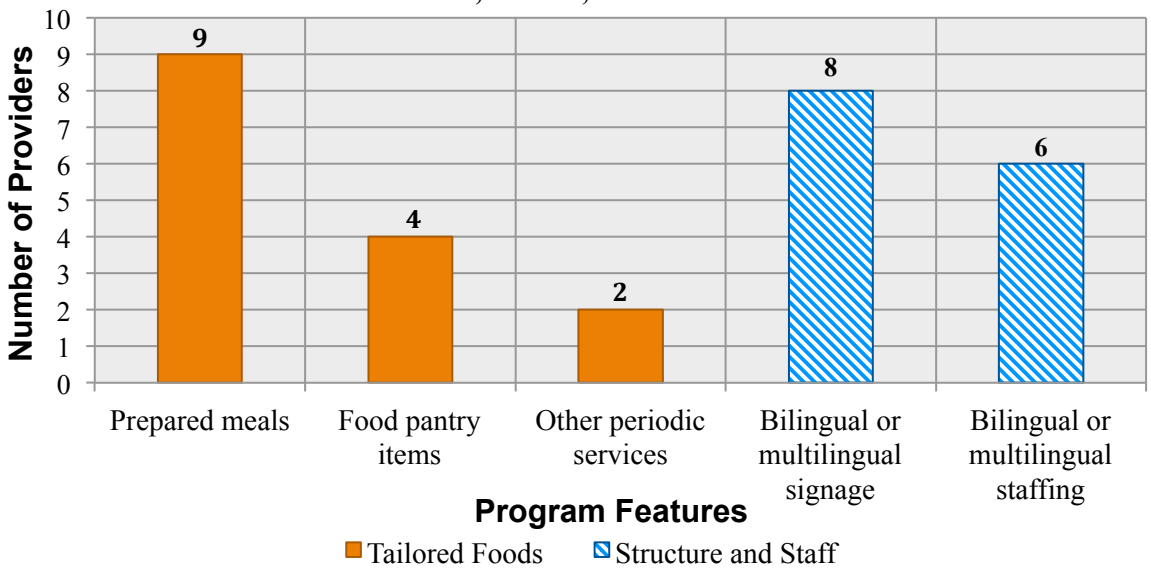
and responses to this question are displayed in Table 16. Two organizations cited staffing limitations: that they lack adequate personnel to develop program aspects tailored to culturally and ethnically diverse populations. One program cited a funding limitation. The final program stated a lack of availability of culturally appropriate foods. In a sense, by understanding the barriers faced by this small group of organizations with the interest in providing services, but the inability to do so, we can identify what factors might contribute to the ability to provide tailored services. While this is small selection of barriers to including tailored services within emergency food assistance programs, and they reflect issues of resources more broadly, whether related to finances, human resources, or the right kind of food supply availability.

Table 16. **Reported Barriers to Provision of Emergency Food Programming Tailored to Cultural, Racial, and/or Ethnic Minorities**

| | Frequency | Percentage |
|---|---|---|
| Lack of the necessary funding | 1 | 25% |
| Lack of adequate personnel to develop programming | 2 | 50% |
| Lack of availability of culturally appropriate foods | 1 | 25% |

In addition to requesting that organizations provide information on whether or not they have services tailored to cultural, racial, and/or ethnic minorities, I also investigated what kinds of services these organizations provide. As detailed in the methodology section, these included tailored foods, themselves, or features related to the nature of foods provided, as well as program structure and staff features. The primary results are displayed in Figure 1, which shows a breakdown of the number of providers who specified that they offer services in these categories. Some providers are represented in multiple categories – those that provide multiple services. Eight organizations provided only one type of tailored service while eight provided three types.

Figure 1. **Emergency Food Assistance Program Features Tailored to Cultural, Ethnic, or Racial Minorities**




Of the programs provided by the organizations in the study, nine organizations reported that their meal program included prepared meals with ingredients, food items, or dietary restrictions specific to or tailored to the heritage of cultural, racial, and/or ethnic minorities in the communities they serve. Four organizations reported stocking pantry items specific to or tailored to the heritage of cultural, racial, and/or ethnic minorities in the communities they serve. Eight organizations provide bilingual or multilingual signage and six have staffed bilingual or multilingual individuals. In requesting additional details regarding some of the programming, one site reported providing emergency food services for "newly resettled refugees," while another described hosting "ethnic dinners" and "doing heritage months" as part of their programming. A third organization mentioned integrating tailored services into a gardening program, stating, "one of our community gardens is run and organized by Hispanic leadership for Hispanic families." All of these different notions of what emergency food assistance programs can incorporate add nuance to the idea that emergency food provision should only seek to

address food security in the traditional sense of the word, and they expand ideas of food security to incorporate culturally appropriate features to emergency food assistance as part of addressing the diverse needs of clients who use their services.

To assess the nature of the client populations served by organizations in the study, I asked for the proportion of clientele belonging to cultural, racial, and/or ethnic minority groups. As a comparison of the diversity of organizational staff versus the clients being served, I also asked for the proportion on staff. The proportions are displayed in Table 17 and broken down in a scale of percentages. To highlight the skew in the distribution, the table displays the top 9% (91-100%) and the lower 10% (1-10%) in their own categories, as well as the number of organizations with under 50% and under 5% cultural, racial, and/or ethnic minorities on staff and as clients. Of the 40 organizations that provided their staff proportions, 72.5% of them (29) reported that the percentage of minorities on their staff was 10% or lower. In examining their responses, 52.5% of organizations (21) reported that minorities made up 5% or lower of their staff. In contrast, only 15 organizations – 41.7% – reported that minorities made up 10% or lower of their clients, and of those, eight organizations reported percentages of minority clients at 5% or lower. In general, the distribution shows that clients served by the emergency food assistance organizations in this study tended to have higher minority percentages than the organizations, themselves.

To compare how organizations with minority percentages and client minority percentages under 10% might differ from those with either higher staff or client percentages, I split respondents into two groups and created indicators for staff and client percentages: 10% or under coded as 1, 11% or above coded as 0. I utilized a dichotomous outcome indicator built from responses from the question regarding provisioning of services tailored to cultural, racial, and/or

ethnic minorities – with provision coded as 1 and no provision coded as 0 – to see if offering tailored services differed among those with minority percentages under 10% and those with higher percentages on staff and in clients served. Only 26.7% of those organizations that had 10% or lower minority clientele percentages offered services tailored to cultural, racial, and/or ethnic minorities, while 52.4% of those with over minorities making up over 10% of clients offered tailored services. A difference-in-means t-test tells us that this difference is just outside of marginally significant ($p=0.13$, $\alpha = .87$). In contrast, the diversity of the staff is statistically unrelated to the percentages or tailored program provision: 37.9% of organizations with staff minority percentages of 10% or less offer programming tailored to cultural, racial, or ethnic minorities, while 45.5% of the programs whose staff minority percentage is over 10% provide tailored programming. This indicates that in the present study sample, provision of tailored programming is slightly related to the diversity of clients, but is not related to the diversity of staff.

Table 17. **Cultural, Racial, and/or Ethnic Minorities: Percentages of Organization Staff and Clients**

| | *Organization Staff* | | *Clients* | |
|---|---|---|---|---|
| *Percentage* | Frequency | Percent | Frequency | Percent |
| 1 - 10% | 29 | 72.5% | 15 | 41.67% |
| 11 - 30% | 2 | 5% | 8 | 22.22% |
| 31 - 50% | 3 | 7.5% | 4 | 11.11% |
| 51 - 70% | 1 | 2.5% | 4 | 11.11% |
| 71 - 90% | 3 | 7.5% | 5 | 13.89% |
| 91 - 100% | 2 | 5% | 0 | 0% |
| | Total n = 72.7% (40 of 55) | | Total n = 65.5% (40 of 55) | |
| *Percentage* | Frequency | Percent | Frequency | Percent |
| Under 50% | 34 | 85 | 27 | 75 |
| Under 5% | 21 | 52.5 | 8 | 22.22 |

As a brief exploration of the connection of staff diversity and client diversity with budget-client congruence and food-client congruence, I compared the means of congruence between these two groups. Budget congruence was very slightly higher in the group with staff minority percentages at 10% or less, but there was no significance whatsoever in the difference of their mean versus that of the 11% or more group. In contrast, all six organizations with 11% or higher levels of minority staff experienced a state of food-client congruence, whereas only 71.4% of those organizations with 10% or fewer were in congruence. A difference-in-means t-test shows us that these differences are not statistically significant (p=.148), but the comparison is still notable. Finally, a comparison of the client groups showed essentially no difference in states of congruence or stress.

## VII. Connections Between Capacity, Effectiveness, and Tailored Service Provisioning

### Tailored Service Provisioning and Organizational Capacity

How can we understand the ability of organizations to provide services tailored to cultural, racial, and/or ethnic minorities as a function of capacity? First, we can examine provision of tailored services as related to the ability to adjust food and budgetary resources based on client demand. In comparing the indicator for tailored service provision, itself, to a state of budget-client congruence and stress, there was no statistically significant difference in the percentages of providers of tailored services between those groups who were experiencing stress and those who were not in either budget-client or food-client trends.

Second, we can utilize the indicator for providing versus not providing tailored services as an outcome measure against the parameters that make up the organizational capacity profile built previously, as described in Table 13. Running the outcome indicator against these

parameters gives us a set of bivariate logit coefficients that can highlight the relationship between these measures of capacity and provision of services tailored to cultural, racial, and/or ethnic minorities. As in several cases within the previous run of effectiveness outcomes on organizational attributes in Table 13, three variables in this set, having a formal mission or vision, conducting program evaluation, and holding regular staff meetings were omitted due to their perfect correlation with the outcome. Resulting coefficients are displayed in Table 18.

Table 18. **Provision of Tailored Services on Key Organizational Attributes (Bivariate Logit Coefficients)**

| *Variable* | *Provides Services Tailored to Cultural, Racial, and/or Ethnic Minorities* |
|---|---|
| Number of paid staff | 0.175** |
| Presence of paid staff | 1.908** |
| Number of volunteers/week | 0.0124 |
| Intake interviews | -0.993 |
| Seek external technical assistance | 1.225 |
| Computer database of files | 1.003 |
| Has a formal mission or vision | *omit* |
| Operates by formal rules | 1.555 |
| Conducts program evaluation | *omit* |
| Holds regular staff meetings | *omit* |

Of the coefficients emerging from the bivariate logit runs of the outcome variable of provisioning of services tailored to cultural, racial, and/or ethnic minorities versus not doing so on organizational attributes, it is clear that staffing features have the strongest relationship with this outcome. Increasing the number of paid staff is positively correlated with providing tailored services: each additional paid staff member at an organization is associated with an increase in the odds of providing tailored services by 19.12% ($p=.039$, $\alpha = .04$). Further, having paid staff is associated with 6.47 times higher odds that an organization provides services tailored to cultural, racial, and/or ethnic minorities than those who have no paid staff (in other words, the odds are

6.47 to 1 that an organization with paid staff offers tailored programming versus one that does not). Both of these results suggest that the ability to employ paid staff may have important implications for organizations in the provisioning of tailored programming. This is dissimilar to the presence of increased numbers of volunteers, which does not seem to have a relationship to whether or not an organization provides tailored programming. The importance of presence and quantity of paid staff versus volunteers in this area may be due to the differences in function and stability that paid staff provides or the expertise that paid employees can contribute to an organization (Eisinger, 2002).

Tailored Service Provisioning and Organizational Effectiveness

Is there a connection between organizational effectiveness as measured in this study and the provision of services tailored to cultural, racial, and/or ethnic minorities? I ran differences-in-means t-tests on each of the four effectiveness outcomes indicators: perception that resources meet or exceed client needs, never having turned an eligible client away in the past year, never having experienced a shortage in the last year, and encouraging or actually helping clients apply for federal food assistance. Though there were slight differences in means between the organizations measuring as effective and those not (each indicator at value 1 versus value 0), none of the differences were statistically significant. This could mean that achieving effectiveness by these measures is unrelated to the desire or ability to provide tailored programming. Further, it could also imply that the factors most important to achieving effectiveness by these measures are different than those most important to provision of emergency food assistance services tailored to cultural, racial, and/or ethnic minorities.

## VIII. Provision of Fresh Foods: Fruits and Vegetables

Are the organizational capacity attributes contributing to effective service provisioning also associated with providing fresh fruits and vegetables? To explore this, I utilized ordinal Likert values resulting from respondent ranks of how frequently they provide fresh fruits and vegetables in pantry or meal programs. I also asked organizations to rank frequencies for frozen and canned fruits and vegetables to compare provision of produce across categories. Figure 2 illustrates the responses for provision within pantry programs and Figure 3 illustrates the responses for provision within meal programs. Figure 4 illustrates responses for frequencies of meat, eggs, and dairy, in order to garner a sense of the overall distribution of other types of foods supplied by the emergency food assistance providers in the sample.

This analysis focuses principally on the provision of fresh produce within pantry and meal programs, and it separates between fresh vegetables and fresh fruits in these contexts. Within pantry program provision, only two organizations always supply fresh fruits within their pantry bags for clients and five organizations supply them sometimes (total n=7 of 20), while six organizations always provide fresh vegetables and three organizations provide them sometimes (total n=9 of 20). As described in the methodology, I created indicator variables separating the high and low provision of fresh fruits and vegetables. These organizations that provide them often or always are categorized as high-frequency providers, whereas the 13 providers who offer fresh fruits never, rarely, or sometimes, and the 11 providers who offer fresh vegetables never, rarely, or sometimes, are grouped as low-frequency providers. We can contrast these numbers with the reported provision of canned fruits and vegetables within pantry programs. For both canned fruits and canned vegetables in pantry programs, 50% of organizations provide them always, while 50% of organizations provide them often. If we were to create a frequency of

provision indicator for canned fruits or vegetables, all of the respondents would be categorized as high-frequency providers. This sharp juxtaposition both confirms the prevalence of shelf stable food in emergency food assistance programs and provides evidence of a shift toward more inclusion of fresh foods (Evans & Clarke, 2011).

Figure 2. **Fruits and Vegetables Included in Pantry Bags (by Frequency and Number of Providers)**

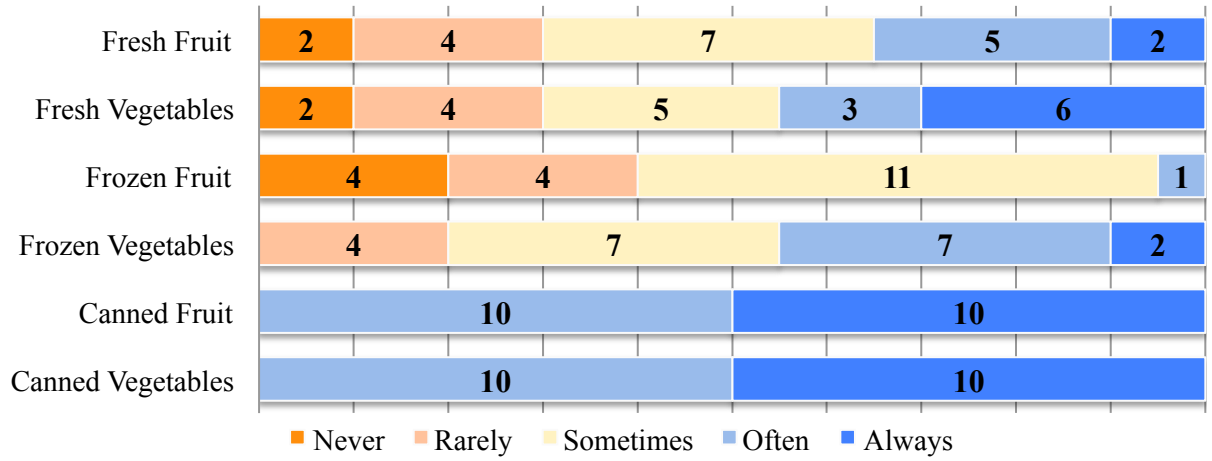
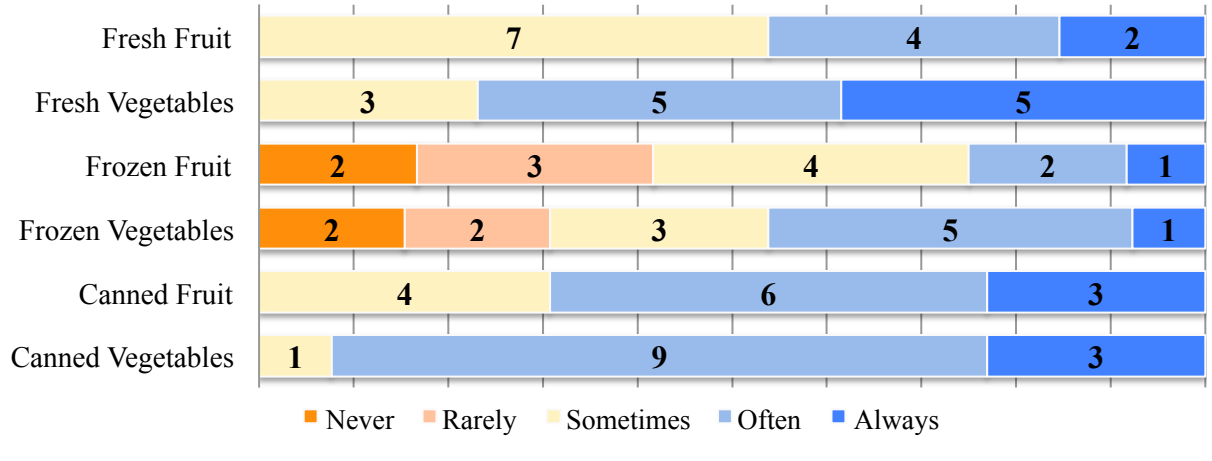



Figure 3. **Fruit and Vegetables Included in Prepared Meals (by Frequency and Number of Providers)**




There were some similarities and other differences between fresh produce provisioning in pantry and meal programs. The results for fresh fruits in meal programs were similar to those for

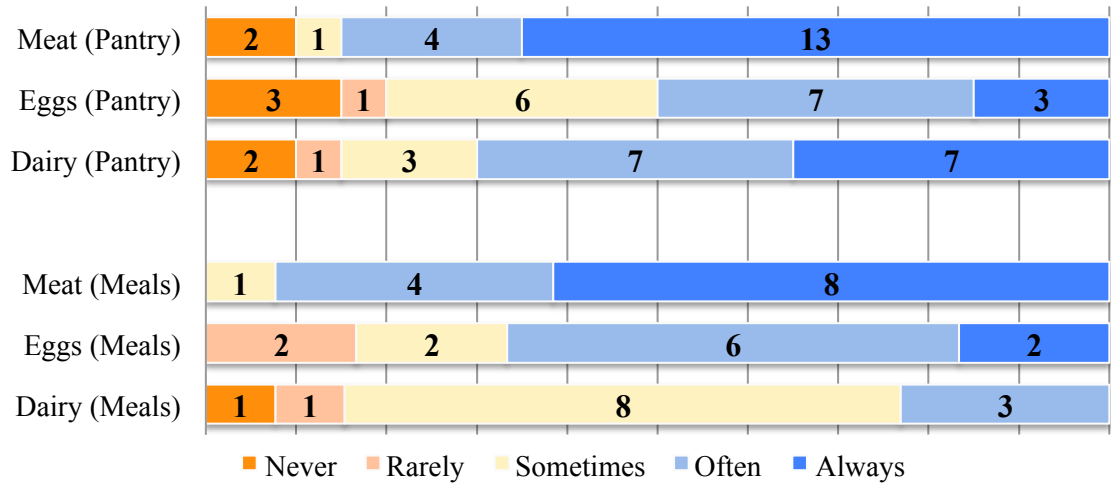
pantry programs in that two organizations reported that they always include fresh fruit in prepared meals and four organizations including it sometimes. As with the pantry programs, there was also greater provision of fresh fruits than fresh vegetables in meal programs. More organizations are categorized as high-frequency providers for fresh vegetables: ten total, with five always including fresh vegetables and five sometimes including them. Similar to food pantry programs, high-frequency provision of canned vegetables and fruits was also reported within meal programs, with nine high-frequency providers of canned fruit (three included always, six included sometimes) and 12 high-frequency providers of canned vegetables (three included always, nine included sometimes). As with the pantry program, though many organizations still frequently include canned fruits and vegetables as ingredients in prepared meals, a number of programs also now frequently incorporate fresh produce into the food provided to meal program clients.

A previous study of soup kitchen meals in New York City by Carillo, Chan, and Gilbride concluded that those prepared meals produced with mostly canned vegetables and fruits and with few fresh vegetables included had low micronutrient content, particularly folacin and vitamin C (1990). The authors assessed that soup kitchen dependence on donations was a source of inconsistency in meal quality and nutritional content, as those organizations had to rely on and incorporate unpredictable food items. To examine this within my sample, I compared the mean proportion of organizational food supply provided sourced from donations of meal programs supplying a high frequency of fresh vegetables versus those supplying a low frequency. Those programs supplying a low frequency of fresh vegetables within prepared meals obtained 21.6% of their food supply from donations, on average, while high-frequency providers obtained only

10.7% of their food supply from donations. However, a difference-in-means t-test did not find that these averages were statistically significant.

Notably, the nutrient analysis conducted by Carillo, Chan, and Gilbride also measured a high amount of protein within soup kitchen meals due to the common inclusion of meat, the reason they identified being that most coordinators in their sample believed that their clients, the majority of whom were men, needed high levels of protein – which contradicted a previous finding that soup kitchens primarily provide carbohydrates due to affordability. My study results confirm prioritization of meat in emergency food assistance programs. The provision of meat at a high-frequency was the modal case in both the pantry and the meals setting – of all of the types and preparations of foods reported as always being included in emergency food assistance, the highest number of organizations always provide meat (13 in the pantry setting and eight in meal programs).

Figure 4. **Meat, Eggs, and Dairy Included in Pantry Bags and Prepared Meals (by Frequency and Providers)**



## IX. Connections Between Capacity, Effectiveness, and Provision of Fresh Produce

Provision of Fresh Fruits and Vegetables and Organizational Capacity

As in the analysis of tailored services, how is an emergency food assistance provider's ability to supply fresh fruits and vegetables a function of organizational capacity? We can explore the ability to adjust food and budgetary resources based on client demand in connection to provision of fresh fruits and vegetables. In comparing the indicator for providing fresh fruits and vegetables at a high-frequency to a state of budget-client congruence and stress, there was no statistically significant difference in high-frequency fresh produce providers compared to their low-frequency provider peers.

Second, we can replicate the analysis conducted on tailored services by utilizing an indicator for high-frequency versus low-frequency provision of fresh produce within emergency food programming an outcome measure against the parameters that make up the organizational capacity profile built previously, displayed in Table 13. Running this outcome indicator against these parameters gives us a set of bivariate logit coefficients that can further illuminate the relationship between capacity attributes and high-frequency provision of fresh produce. As in several cases within the two preceding runs of effectiveness outcomes on organizational attributes in Table 13 and Table 18, four variables in this set were omitted due to perfect correlation with the outcome measure, and these included having a formal mission or vision, conducting program evaluation, utilizing a computer database, and holding regular staff meetings were omitted due to their perfect correlation with the outcome. Resulting coefficients are displayed in Table 19.

Of the coefficients resulting from the bivariate logit analysis, only one was statistically significant. Like in the results for tailored food provisioning, the organizational capacity

character related to provision of fresh produce is within human resources. An increase in the number of volunteers per week is negatively associated with high-frequency provision of fresh fruits and vegetables. For each decrease by one in the total number of volunteers per week, the associated odds that an organization provides fresh fruits and vegetables *increase* by 22.8%. This suggests that an increase in organizational capacity as related to sheer human resources may not always be positively associated with expanded service – in this case, high-frequency provisioning of fresh fruits and vegetables – as an outcome. It also denotes that greater complexity exists in the relationship between having more people on hand, the consistency of volunteers within programming, and achieving programmatic service delivery.

Table 19. **High-Frequency Provision of Fresh Produce on Key Organizational Attributes (Bivariate Logit Coefficients)**

| *Variable* | *Provides Fresh Fruits and Vegetables at a High Frequency* |
|---|---|
| Number of paid staff | 0.0414 |
| Presence of paid staff | 0.511 |
| Number of volunteers/week | -0.205** |
| Intake interviews | 1.504 |
| Seek external technical assistance | 0.223 |
| Computer database of files | *omit* |
| Has a formal mission or vision | *omit* |
| Operates by formal rules | 1.253 |
| Conducts program evaluation | omit |
| Holds regular staff meetings | omit |

Provision of Fresh Fruits and Vegetables and Organizational Effectiveness

Is there a connection between organizational effectiveness as measured in this study and high-frequency provision of fresh fruits and vegetables within pantry and meal programs? As in the previous examination of effectiveness variables and tailored service provisioning, I ran differences-in-means t-tests on each of the four effectiveness outcomes indicators: perception

that resources meet or exceed client needs, never having turned an eligible client away in the past year, never having experienced a shortage in the last year, and actually helping clients apply for federal food assistance. As with the prior analysis of tailored service provisioning, there were very slight differences in means between the organizations measuring as effective and those not (each indicator at value 1 versus value 0), none of the differences were statistically significant. This could mean that achieving effectiveness by these measures is unrelated to the desire or ability to provide fresh produce within meal programs, and it could also indicate that the factors most important to achieving effectiveness by these measures are different than those most important to successfully providing fresh produce.

## X. Dual Provision of Fresh Produce And Services Tailored to Cultural, Racial, and/or Ethnic Minorities

What is the likelihood that an organization frequently providing fresh produce as part of a pantry or meal program also provides tailored services for cultural, racial, and/or ethnic minorities? While portions of the literature on each of these areas speak to the importance of both culturally appropriate and nutritious food, no systematic studies seen to exist that examine patterns of provisioning across elements related to both aspects in the same sample pool. Running the indicator for provision of tailored services against the set of indicators for high frequency provision of fresh fruits and vegetables in pantry and meal programs is one way to analyze this. Table 20 illustrates the results for four high frequency categories of fresh produce provision.

Table 20. **Provision of Tailored Services on High-Frequency Provision of Fresh Produce (Bivariate Logit Coefficients)**

| *Indicators Variables: Provides High Frequency of Fresh Produce* | *Provides Services Tailored to Cultural, Racial, and/or Ethnic Minorities* |
|---|---|
| Fresh Fruit: Pantry | 2.120* |
| Fresh Veg: Pantry | 1.204 |
| Fresh Fruit: Meals | 1.609 |
| Fresh Veg: Meals | 0.693 |

*** p<0.01, ** p<0.05, * p<0.1

Though three of the categories had positive coefficients, they displayed no statistically significant relationships, while high frequency provision of fresh fruits in a pantry showed significant association at the 95% confidence level (p=.046, $\alpha = .05$). Compared to low or no provision of fresh fruits in a pantry program, those organizations that provided fresh fruits at a high frequency in their pantry programs have statistically higher odds of also providing tailored services – more than eight times the odds (odds ratio of 8.33). Notably, this is a very high odds ratio. This could be due to the possibility that there are factors that predict both provision of fresh fruits and culturally tailored services, and these aspects may be organizational capacity elements as included in this analysis, or they could be attitudinal in nature, centered around a general inclination toward or centering of a more expansive definition of food security, more broadly, within the context of emergency food provision. This finding points to the need for more research to be conducted to understand the complex relationship between the likelihood of providing fresh foods and the likelihood of providing services tailored to cultural, racial, and/or ethnic minorities within emergency food assistance, particularly due to the larger goal programmatic provisioning that encompass both.

## Chapter 5. *Conclusion*

This study built on the work of Eisinger to demonstrate the role that organizational capacity may play in an organization's ability to be an effective provider of emergency food assistance. Given the immense need for emergency food assistance in the state of Michigan, with over one in ten people being served through the emergency food assistance network, understanding what makes an organization an effective provider of services is of critical importance. Through budgetary and food supply congruence and stress analysis, it demonstrated the importance of the capacity to keep resource flows aligned with changes in client demand. It also showed that staffing characteristics had significant and complex relationships with perceptions of goal attainment through meeting client needs, effective quality of service as measured by never turning eligible people away in the past year, and effective quality of service through provision of assistance to clients with applying for federal food assistance benefits.

This research also encompasses the first systematic study of the relationship between capacity attributes and provision of fresh fruits and vegetables. It demonstrated the way in which organizational practices within emergency food provision are shifting from simple provision of shelf stable foods to also providing fresh produce and other fresh foods. In the past, emergency food assistance provider capacity, and the quality and nature of the food they provide, tended to be dictated by their reliance on donations of money and both donations of food and surplus commodity crop products. These results show that Michigan organizations are diversifying their funding sources by combining monetary donations with grants, and they are also varying the ways in which they obtain food to include purchasing, on-site production, and other methods. These changes in the sources of food supply and money for operations have important implications for organizational ability to provide services effectively and to introduce variation

in the kinds of food they are serving. In particular, it highlights how different attributes are linked to the ability to provide fresh fruits and vegetables at higher frequencies, and thus, increasing the nutritional adequacy of the food provided to clients.

This study is also the first to systematically examine provision of services tailored to cultural, racial, and/or ethnic minorities, who experience significantly higher rates of food insecurity compared to the general population, within emergency food assistance programs seeking to mitigate the problem of hunger. Further, it is the first to address the relationship between organizational capacity attributes and the ability to provide such culturally tailored services. In particular, it demonstrated that staffing capacity, both in number and the presence to have paid staff, more than any other characteristic examined, are important to an organization's ability to provide culturally tailored services. In this sample of Michigan providers, the study demonstrated that over 40% of emergency food providers were providing services tailored to cultural, racial, and/or ethnic minorities, which is another indicator that emergency food providers are shifting from the simple provision of food as dictated by dependence on monetary and food donations toward programming that is and can be more intentional in terms of content.

Ultimately, these findings speak to two things. First, they speak to expansions in the definition of food security to include nutritional adequacy and culturally appropriate food and that this reveals changing notions of how needs and rights related to food are more complex than simply having enough to eat. Second, it outlines how these crucial shifts are reflected in the transformation of the way emergency food assistance is delivered in the state of Michigan. Future research is needed to delve into more detailed examinations of assessing service delivery by engaging with the quality of fresh foods provided and the quality of tailored services. Future research is also direly needed that pursues measures of effectiveness that are exogenous to the

organization, itself, including partnerships with clients and community members to understand their experiences of service delivery and the factors that contribute most to quality service from the client perspective.

Finally, addressing the nature of emergency food assistance is critical to ensuring that those populations in need of food are receiving the services and food they require, the kinds that engage with their right to culturally appropriate and nutritious foods. This necessitates moving beyond expanded notions of food security to food justice, food sovereignty, and other movements that seek to reform the food system by challenging, critiquing, and transforming the existing structural dynamics within it that produce food insecurity. These encompass the complex causes of hunger that exist at broad scales, including high consumption of food by developed countries, poverty, extremely inequitable distribution of wealth and power, inequality of agency within the food system, the lack of democracy and self-determination in many food system choices for individuals and communities, unsustainable industrial agricultural practices, trade policies affecting the price of food on the global level, and the intersectionality of multiple oppressions along the lines of race, gender, sexuality, ability, age, and more, amongst other factors. It is primarily through ongoing pursuit of developing new and just socio-ecological relationships that a truly ethical food system can be achieved.

## *References*


Adams, E. J., Grummer-Strawn, L., & Chavez, G. (2003). Food insecurity is associated with increased risk of obesity in California women. *The Journal of Nutrition*, *133*(4), 1070-1074.

Alexander, J. (2000). Adaptive strategies of nonprofit human service organizations in an era of devolution and new public management. *Nonprofit Management and Leadership*, *10*(3), 287-303.

Algert, S. J., Agrawal, A., & Lewis, D. S. (2006). Disparities in access to fresh produce in low-income neighborhoods in Los Angeles. *American Journal of Preventive Medicine*, *30*(5), 365-370.

Alkon, A. H., & Agyeman, J. (2011). *Cultivating food justice: Race, class, and sustainability*. Cambridge, MA: MIT Press.

Alkon, A. H., Block, D., Moore, K., Gillis, C., DiNuccio, N., & Chavez, N. (2013). Foodways of the urban poor. *Geoforum*, *48*, 126-135.

Allen, P. (1999). Reweaving the food security safety net: Mediating entitlement and entrepreneurship. *Agriculture and Human Values*, 16(2), 117-129.

Allen, P. (2010). Realizing justice in local food systems. *Cambridge Journal of Regions, Economy and Society*, 3(2), 295-308.

Anderson, L. M., Scrimshaw, S. C., Fullilove, M. T., Fielding, J. E., & Normand, J. (2003). Culturally competent healthcare systems: a systematic review. *American Journal of Preventive Medicine*, *24*(3), 68-79.

Anderson, M. D. (2007). *Making healthy food more accessible for low-income people: Farm and Food Policy Project.* W.K. Kellogg Foundation and the Claneil Foundation, Farm and Food Policy Project. Retrieved from: http://www.farmandfoodproject.org

Appel, L. J., Moore, T. J., Obarzanek, E., Vollmer, W. M., Svetkey, L. P., Sacks, F. M., Bray, G. A., Vogt, T. M., Culter, J. A., Windhauser, M. M., Lin, P., Karanja, N., Simons-Morton, D., McCullough, M., Swain, J., Steele, P., Evans, M., Miller, E. R., & Harsha, D. W. (1997). A clinical trial of the effects of dietary patterns on blood pressure. *New England Journal of Medicine*, *336*(16), 1117-1124.

Baker, W. E., & Sinkula, J. M. (1999). The synergistic effect of market orientation and learning orientation on organizational performance. *Journal of the Academy of Marketing Science*, *27*(4), 411-427.

Banks, J., Marmot, M., Oldfield, Z., & Smith, J. P. (2006). Disease and disadvantage in the United States and in England. *Jama*, *295*(17), 2037-2045.

Barr, D. A., & Wanat, S. F. (2005). Listening to patients: cultural and linguistic barriers to health care access. *Family Medicine*, *37*(3), 199-204.

Barrett, C. B. (2002). Food security and food assistance programs. In Gardner, B. L. & Rausser, G. C., *Handbook of agricultural economics*: *Vol. 2B. Agricultural and food policy,* (pp. 2103-2190). Amsterdam: North Holland Publishing Co.

Barry, C.L, Jarlenski, M., Grob, R., Schlesinger, M. & Gollust, S.E. (2011). News media framing of childhood obesity in the United States from 2000 to 2009. *Journal of the American Academy of Pediatrics, 128*(1): 132-145.

Betancourt, J. R., Green, A. R., & Carrillo, J. E. (2002). *Cultural competence in health care: Emerging frameworks and practical approaches* (Vol. 576). New York: Commonwealth Fund.

Briefel, R. R., Jacobson, J., & Tiehen, L. (2003). *The emergency food assistance system: Findings from the client survey* (No. 26). US Department of Agriculture, Economic Research Service.

Brown, S., & Getz, C. (2011). Farmworker food insecurity and the production of hunger in California. In Alkon, A.H. & Agyeman, J. (Eds), *Cultivating food justice: Race, class, and sustainability*. Cambridge, MA: MIT Press, 478-507.

Brown, L. K. and Mussell, K. (Eds.) (1984). *Ethnic and regional foodways in the United States: the performance of group identity.* Knoxville: University of Tennessee Press.

Burnham, L. (2001). Welfare reform, family hardship, and women of color. *The ANNALS of the American Academy of Political and Social Science*, *577*(1), 38-48.

Campbell, C. C. (1991). Food insecurity: A nutritional outcome or a predictor variable?. *The Journal of Nutrition*, *121*(3), 408-415.

Carman, J. G., & Fredericks, K. A. (2008). Nonprofits and evaluation: Empirical evidence from the field. *New Directions for Evaluation*, *2008*(119), 51-71.

Carman, J. G., & Fredericks, K. A. (2010). Evaluation capacity and nonprofit organizations: Is the glass half-empty or half-full? *American Journal of Evaluation*, *31*(1), 84-104.

Carrillo, T. E., Gilbride, J. A., & Chan, M. M. (1990). Soup kitchen meals: an observation and nutrient analysis. *Journal of the American Dietetic Association*, *90*(7), 989-991.

Carroll, D. A., & Stater, K. J. (2009). Revenue Diversification in nonprofit organizations: does it lead to financial stability? *Journal of Public Administration Research and Theory*, *19*(4), 947-966.

Casey, P. H., Simpson, P. M., Gossett, J. M., Bogle, M. L., Champagne, C. M., Connell, C., Harsha, D., McCabe-Sellers, B., Robbins, J. M., Stuff, J. E., & Weber, J. (2006). The association of child and household food insecurity with childhood overweight status. *Pediatrics*, *118*(5), e1406-e1413.

Centers for Disease Control and Prevention (CDC). (2014). NHANES – National Health and Nutrition Examination Survey: About the National Health and Nutrition Examination Survey. Retrieved from: http://www.cdc.gov/nchs/nhanes/about_nhanes.htm

Chang, C. F., & Tuckman, H. P. (1994). Revenue diversification among non-profits. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, *5*(3), 273-290.

Coleman-Jensen, A., Nord, M., Andrews, M., & Carlson, S. (2011). *Household food security in the United States in 2010*. Washington, DC: U.S. Department of Agriculture, Economic Research Service.

Coleman-Jensen, A., Nord, M., Singh, A. (2013). *Household food security in the United States in 2013.* Washington, DC: US Department of Agriculture, Economic Research Service.

Cook, J. T., Frank, D. A., Berkowitz, C., Black, M. M., Casey, P. H., Cutts, D. B., Meyers, A. F., Zaldivar, N., Skalicky, A., Levenson, S., Heeren, T. & Nord, M. (2004). Food insecurity is associated with adverse health outcomes among human infants and toddlers. *The Journal of Nutrition*, *134*(6), 1432-1438.

Conlin, J.R. (1986). *Bacon, beans, and galantines: Food and foodways on the western mining frontier*. Reno, NV: University of Nevada Press.

Cummins, S., & Macintyre, S. (2002). "Food deserts"—evidence and assumption in health policy making. *BMJ*, *325*(7361), 436-438.

Daponte, B. O. (2000). Private versus public relief: Use of food pantries versus food stamps among poor households. *Journal of Nutrition Education*, *32*(2), 72-83.

Diner, H. R. (2001) *Hungering for America: Italian, Irish and Jewish foodways in the age of migration.* Cambridge: Harvard University Press.

Drewnowski, A., & Popkin, B. M. (1997). The nutrition transition: new trends in the global diet. *Nutrition Reviews*, *55*(2), 31-43.

Epstein, L. H., Gordy, C. C., Raynor, H. A., Beddome, M., Kilanowski, C. K., & Paluch, R. (2001). Increasing fruit and vegetable intake and decreasing fat and sugar intake in families at risk for childhood obesity. *Obesity Research*, *9*(3), 171-178.

Evans, S. H. & Clarke, P. (2011). Disseminating orphan innovations. *Stanford Social Innovation Review, 42-47.*

Evans, T., Whitehead, M., Diderichsen, F., Bhuiya, A., & Wirth, M. (2001). *Challenging Inequalities in Health: From Ethics to Action.* Oxford: Oxford University Press.

Evers, A. (2001). The significance of social capital in the multiple goal and resource structure of social enterprises. In Borzaga, C., & Defourny, J. (Eds.), *The emergence of social enterprise* (pp. 296-311). London: Routledge.

Executive Office of the President of the United States. (2013). *Supporting families, strengthening communities: The economic importance of nutrition assistance.* Washington, D.C.: Executive Office of the President of the United States. Retrieved from: http://www.whitehouse.gov/sites/default/files/docs/snap_report_-_final.pdf

Feldman, M. S., & Pentland, B. T. (2003). Reconceptualizing organizational routines as a source of flexibility and change. *Administrative Science Quarterly*, *48*(1), 94-118.

Finch, B.K., Frank, R., & Vega, W.A. (2004). Acculturation and acculturation stress: A social-epidemiological approach to Mexican migrant farmworkers' health. *International Migration Review*, *38*(1), 236-262.

Food Gatherers. (2013). *Annual Report 2011-2012.* Retrieved from: http://www.foodgatherers.org/files/fgar2012_pdf_-_final.pdf

Food Research & Action Center. (2013). Farm Bill 2014. Retrieved from: http://frac.org/leg-act-center/farm-bill-2012/

Forbes, D. P. (1998). Measuring the unmeasurable: Empirical studies of nonprofit organization effectiveness from 1977 to 1997. *Nonprofit and Voluntary Sector Quarterly*, *27*(2), 183-202.

Fox, M. K., Hamilton, W., & Lin, B. H. (2004). Effects of food assistance and nutrition programs on nutrition and health. *Executive Summary of the Literature Review, Food Assistance and Nutrition Research Report*, (19), 4. Washington, D.C.: United States Department of Agriculture, Economic Research Service.

Fredericksen, P., & London, R. (2000). Disconnect in the Hollow State: The Pivotal Role of Organizational Capacity in Community‐Based Development Organizations. *Public Administration Review*, *60*(3), 230-239.

Froelich, K. A. (1999). Diversification of revenue strategies: Evolving resource dependence in nonprofit organizations. *Nonprofit and Voluntary Sector Quarterly*, *28*(3), 246-268.

Geronimus, A.T. (2013). Jedi Public Health: Leveraging contingencies of social identity to grasp and eliminate racial health inequality. In L. Gomez & N. Lopez (Eds), *Mapping 'race' and inequality: A critical reader on health disparities research*, New Brunswick, NJ: Rutgers University Press.

Gibson, A., Edgar, J. D., Neville, C. E., Gilchrist, S. E., McKinley, M. C., Patterson, C. C., Young, I. S., & Woodside, J. V. (2012). Effect of fruit and vegetable consumption on immune function in older people: a randomized controlled trial. *The American Journal of Clinical Nutrition*, *96*(6), 1429-1436.

Graham, A., Condra, C. L., Gunby, J. D., Hutchcraft, L. S., & Sallee, J. N. (2010). Lack in the land of plenty: Predictors of household food insecurity in the United States. *Context Journal*, *3*.

Guthman, J., (2011). *Weighing In Obesity, Food Justice and the Limits of Capitalism.* Berkeley: University of California Press.

Hackler, D., & Saxton, G. D. (2007). The strategic use of information technology by nonprofit organizations: Increasing capacity and untapped potential. *Public Administration Review*, *67*(3), 474-487.

Hamm, M. W., & Bellows, A. C. (2003). Community food security and nutrition educators. *Journal of Nutrition Education and Behavior*, *35*(1), 37-43.

Herman, D. R., Harrison, G. G., Afifi, A. A., & Jenks, E. (2008). Effect of a targeted subsidy on intake of fruits and vegetables among low-income women in the Special Supplemental Nutrition Program for Women, Infants, and Children. *American Journal of Public Health*, *98*(1), 98.

Herman, R. D., & Renz, D. O. (1999). Theses on nonprofit organizational effectiveness. *Nonprofit and Voluntary Sector Quarterly*, *28*(2), 107-126.

Holt-Giménez, E., Wang, Y., (2011). Reform or transformation? The pivotal role of food justice in the U.S. food movement. *Race/Ethnicity: Multidisciplinary Global Contexts 5*(1). 83-102.

Holt-Giménez, E., Wang, Y., & Shattuck, A. (2011). "The urban and northern face of global land grabs." Paper presented at the International Conference on Global Land Grabbing, Brighton, UK, April 6–8.

Holzman, C., Eyster, J., Kleyn, M., Messer, L. C., Kaufman, J. S., Laraia, B. A., O'Campo, P., Burke, J.G., Culhane, J. & Elo, I. T. (2009). Maternal weathering and risk of preterm delivery. *American Journal of Public Health*, *99*(10), 1864-1871.

Just Food. (2014). Fresh food for all. Retrieved from: http://www.justfood.org/fresh-food-all

Juster, R.P., McEwen, B.S., & Lupien, S.J. (2010). Allostatic load biomarkers of chronic stress and impact on health and cognition. *Neuroscience & Biobehavioral Reviews*, *35*(1), 2-16.

Kabbani, N. S., & Kmeid, M. Y. (2005). The role of food assistance in helping food insecure households escape hunger. *Applied Economic Perspectives and Policy*, *27*(3), 439-445.

Kaestner, R., Pearson, J.A., Keene, D., & Geronimus, A.T. (2009). Stress, allostatic load, and health of Mexican immigrants. *Social Science Quarterly*, *90*(5), 1089-1111.

Kalik, Susan. (1984). "Ethnic Foodways in America: Symbol and the Performance of Identity." In Brown, L. K. and Mussell, K. (Eds.), *Ethnic and regional foodways in the United States: the performance of group identity.* Knoxville: University of Tennessee Press.

Kaufman, J. L. (2004). Introduction. *Journal of Planning Education and Research*, *23*(4), 335-340.

Kettner, P. M., Moroney, R. M., & Martin, L. L. (2012). *Designing and managing programs: An effectiveness-based approach.* Thousand Oaks, CA: SAGE Publications, Inc.

Kirkland, A. (2011). The environmental account of obesity: a case for feminist skepticism. *Signs 36*(2), 463–485.

Kuhn, B. A., Dunn, P. A., Smallwood, D., Hanson, K., Blaylock, J., & Vogel, S. (1996). Policy watch: The Food Stamp program and welfare reform. *The Journal of Economic Perspectives*, 189-198.

Lampe, J. W. (1999). Health effects of vegetables and fruit: assessing mechanisms of action in human experimental studies. *The American Journal of Clinical Nutrition*, *70*(3), 475s-490s.

Light, P. C. (2006). Reshaping social entrepreneurship. *Stanford Social Innovation Review*, *4*(3), 47-51.

Lipsky, M., & Thibodeau, M. A. (1990). Domestic food policy in the United States. *Journal of Health Politics, Policy and Law*, *15*(2), 319-339.

Lipsky, M., & Thibodeau, M. A. (1988). Feeding the hungry with surplus commodities. *Political Science Quarterly*, 223-244.

Mabli, J., Cohen, R., Potter, F., & Zhao, Z. (2010). *Hunger in America 2010: Michigan (9923) State Report.* Princeton, New Jersey: Mathematica Policy Research, Inc.

MacDonald, M. (1977). Food Stamps: An Analytical History. *The Social Service Review*, 642-658.

Martin, L. L., & Kettner, P. M. (2009). SAGE Human Services Guides, Book 71: *Measuring the performance of human service programs* (2nd ed.). Thousand Oaks, CA: SAGE Publications, Inc.

McDonald, R. E. (2007). An investigation of innovation in nonprofit organizations: The role of organizational mission. *Nonprofit and Voluntary Sector Quarterly*, *36*(2), 256-281.

Minkoff-Zern, L-A., Peluso, N., Sowerwine, J., & Getz, C. (2011). Race and regulation: Asian immigrants in California agriculture. In Alkon, A.H., & Agyeman, J. (Eds.) *Cultivating Food Justice: Race, Class, and Sustainability*. Cambridge, MA: The MIT Press.

Molnar, J. J., Duffy, P. A., Claxton, L. T., & Bailey, C. (2001). Private Food Assistance in a Small Metropolitan Area: Urban Resources and Rural Needs. *Journal of Sociology & Social Welfare*, *28*(3).

Ngo-Metzger, Q., Massagli, M. P., Clarridge, B. R., Manocchia, M., Davis, R. B., Iezzoni, L. I., & Phillips, R. S. (2003). Linguistic and cultural barriers to care. *Journal of General Internal Medicine*, *18*(1), 44-52.

Odoms-Young, A.M., Zenk, S., Mason, M. (2009). Measuring food availability and access in African-American communities: implications for intervention and policy. *American Journal of Preventive Medicine 36*(4S), S145–S150.

Ohls, J., Saleem-Ismail, F., Cohen, R., & Cox, B. (2002). *The emergency food assistance system-findings from the provider survey, Volume II: Final report* (No. 33797). U.S. Department of Agriculture, Economic Research Service.

Oliveira, Victor. (2014). *Food Assistance Landscape: FY 2013 Annual report,* EIB-120. Washington, D.C.: U.S. Department of Agriculture, Economic Research Service. Retrieved from: http://www.ers.usda.gov/ersDownloadHandler.ashx?file=/media/1282272/eib120.pdf

Oliver, S.L. (1995). *Saltwater foodways: New Englanders and their food, at sea and ashore, in the nineteenth century.* Mystic, CT: Mystic Seaport Museum.

Ostroff, C., & Schmitt, N. (1993). Configurations of organizational effectiveness and efficiency. *Academy of Management Journal*, *36*(6), 1345-1361.

Pascucci, M. A., Leasure, A. R., Belknap, D. C., & Kodumthara, E. (2010). Situational challenges that impact health adherence in vulnerable populations. *Journal of Cultural Diversity*, *17*(1).

Peredo, A. M., & McLean, M. (2006). Social entrepreneurship: A critical review of the concept. *Journal of World Business*, *41*(1), 56-65.

Pomerleau, J., Lock, K., Knai, C., & McKee, M. (2005). Interventions designed to increase adult fruit and vegetable intake can be effective: a systematic review of the literature. *The Journal of Nutrition*, *135*(10), 2486-2495.

Poppendieck, J. (1994). Dilemmas of emergency food: A guide for the perplexed. *Agriculture and Human Values*, *11*(4), 69-76.

Poppendieck, J. (1999). *Sweet charity?: Emergency food and the end of entitlement*. New York: Penguin Putnam Books.

Powell, L. M., Slater, S., Mirtcheva, D., Bao, Y., & Chaloupka, F. J. (2007). Food store availability and neighborhood characteristics in the United States. *Journal of Preventive Medicine, 44*(3).189-195.

Raheja, L. (2010, August 21). New York City food pantries linking those in need with local farm-fresh produce. *Grist*. Retrieved from: http://grist.org/article/food-new-york-city-food-pantries-going-green/

Rasanathan, K., Montesinos, E. V., Matheson, D., Etienne, C., & Evans, T. (2011). Primary health care and the social determinants of health: essential and complementary approaches for reducing inequities in health. *Journal of epidemiology and community Health*, *65*(8), 656-660.

Ratcliffe, C., McKernan, S. M., & Zhang, S. (2011). How much does the Supplemental Nutrition Assistance Program reduce food insecurity?. *American Journal of Agricultural Economics*, *93*(4), 1082-1098.

Resnicow, K., Jackson, A., Wang, T., De, A. K., McCarty, F., Dudley, W. N., & Baranowski, T. (2001). A motivational interviewing intervention to increase fruit and vegetable intake through Black churches: results of the Eat for Life trial. *American Journal of Public Health*, *91*(10), 1686-1693.

Reynolds, K. D., Franklin, F. A., Binkley, D., Raczynski, J. M., Harrington, K. F., Kirk, K. A., & Person, S. (2000). Increasing the fruit and vegetable consumption of fourth-graders: results from the high 5 project. *Preventive Medicine*, *30*(4), 309-319.

Rose, D. (1999). Economic determinants and dietary consequences of food insecurity in the United States. *The Journal of Nutrition*, *129*(2), 517S-520S.

Ryan, W. P. (2002). The new landscape for nonprofits. In Futter, V., Scion, J., & Overton, G. (Eds), *Nonprofit Governance and Management* (pp. 13-28). Chicago, IL: American Bar Association.

Saguy, A., Gruys, K., 2010. Morality and health: news media constructions of overweight and eating disorders. *Social Problems 57*(2), 231–250.

Sanjur, D. (1995). *Hispanic Foodways, Nutrition, and Health.* Boston: Allyn & Bacon.

Scheppers, E., Van Dongen, E., Dekker, J., Geertzen, J., & Dekker, J. (2006). Potential barriers to the use of health services among ethnic minorities: a review. *Family Practice*, *23*(3), 325-348.

Schmeiser, M. D. (2012). The impact of long-term participation in the supplemental nutrition assistance program on child obesity. *Health Economics*, *21*(4), 386-404.

Schuh, R. G., & Leviton, L. C. (2006). A framework to assess the development and capacity of non-profit agencies. *Evaluation and Program Planning*, *29*(2), 171-179.

Schulkin, J., Gold, P.W., & McEwen, B.S. (1998). Induction of corticotropin-releasing hormone gene expression by glucocorticoids: implication for understanding the states of fear and anxiety and allostatic load. *Psychoneuroendocrinology*, *23*(3), 219-243.

Seligman, H. K., Bindman, A. B., Vittinghoff, E., Kanaya, A. M., & Kushel, M. B. (2007). Food insecurity is associated with diabetes mellitus: results from the National Health Examination and Nutrition Examination Survey (NHANES) 1999–2002. *Journal of General Internal Medicine*, *22*(7), 1018-1023.

Shapiro, J. M. (2005). Is there a daily discount rate? Evidence from the food stamp nutrition cycle. *Journal of Public Economics*, *89*(2), 303-325.

Sheely, A. (2012). Devolution and welfare reform: re-evaluating "success". *Social Work*, *57*(4), 321-331.

Short, A., Guthman, J., & Raskin, S. (2007). Food deserts, oases, or mirages? Small markets and community food security in the San Francisco Bay Area. *Journal of Planning Education and Research*, *26*(3), 352-364.

Struble, M. B., & Aomari, L. L. (2003). Position of the American Dietetic Association: Addressing world hunger, malnutrition, and food insecurity. *Journal of the American Dietetic Association*, *103*(8), 1046-1057.

Tarasuk, V. (2001). A critical examination of community-based responses to household food insecurity in Canada. *Health Education & Behavior*, *28*(4), 487-499.

Townsend, M. S., Peerson, J., Love, B., Achterberg, C., & Murphy, S. P. (2001). Food insecurity is positively related to overweight in women. *The Journal of Nutrition*, *131*(6), 1738-1745.

Tsui, A. S. (1990). A multiple-constituency model of effectiveness: An empirical examination at the human resource subunit level. *Administrative Science Quarterly*, 458-483.

U.S. Department of Agriculture, Food and Nutrition Service. (2014). Supplemental Nutrition Assistance Program participation and costs (Annual summary data). Retrieved from: http://www.fns.usda.gov/pd/snapsummary.htm

United States Census Bureau. (2010). Current Population Survey, 2009: Food Security Supplement, ICPSR 29882. Retrieved from: http://www.icpsr.umich.edu/icpsrweb/RCMD/studies/29882?classification=RCMD.IV.

United States Census Bureau. (2013). Analysis of the 2012 Supplemental Poverty Measure. Retrieved from*: http://www.census.gov/hhes/povmeas/data/supplemental/index.html*

United States Census Bureau. (2013). *Current Population Survey, December 2012: Food Security Supplement.* Washington, D.C.: U.S. Census Bureau. Retrieved from: http://www.ers.usda.gov/ersDownloadHandler.ashx?file=/media/1183204/err-155-report-summary.pdf

United States Department of Agriculture. (2012). Food Deserts. Retrieved from: http://apps.ams.usda.gov/fooddeserts/foodDeserts.aspx

United States Department of Agriculture. (2014). The Agricultural Act of 2014. Retrieved from: http://www.usda.gov/wps/portal/usda/usdahome?navid=farmbill

United States Department of Health and Human Services. (1990). Healthy People 2000: national health promotion and disease prevention objectives-Nutrition Priority Area. *Nutrition Today*, *25*(6), 29-39.

United States Department of Health and Human Services. (2014). Healthy campaigns & resources - More Matters: Eat more fruits and vegetables. Retrieved from: http://www.foh.hhs.gov/calendar/morematters.html

United States Department of Agriculture, Economic Research Service. Tiehen, L. (2002). *Private Provision of Food Aid: The Emergency Food Assistance System*. Retrieved from: http://ddr.nal.usda.gov/handle/10113/47333

Vozoris, N. T., & Tarasuk, V. S. (2003). Household food insufficiency is associated with poorer health. *The Journal of Nutrition*, *133*(1), 120-126.

Wang, C. L. (2008). Entrepreneurial orientation, learning orientation, and firm performance. *Entrepreneurship Theory and Practice*, *32*(4), 635-657.

Winson, A. (1993). *The intimate commodity.* Toronto, Canada: Garhyamond Press.

Youn, A., Ollinger, M., & Kantor, L. S. (1999). Characteristics of mid-Atlantic food banks and food rescue organizations. *Food Review*, *22*, 45-51. Washington, DC.

Yuchtman, E., & Seashore, S. E. (1967). A system resource approach to organizational effectiveness. *American Sociological Review*, 891-903.

Zahra, S. A., Gedajlovic, E., Neubaum, D. O., & Shulman, J. M. (2009). A typology of social entrepreneurs: Motives, search processes and ethical challenges. *Journal of Business Venturing*, *24*(5), 519-532.

Zenk, S. N., Schulz, A. J., Israel, B. A., James, S. A., Bao, S., & Wilson, M. L. (2005). Neighborhood racial composition, neighborhood poverty, and the spatial accessibility of supermarkets in metropolitan Detroit. *American Journal of Public Health, 95*(4). 660-667.

# PART 3

## Can Farmers' Market Managers Help Ameliorate Food Insecurity through the Acceptance of Federal and State Food Assistance Program Benefits?

*by Kenneth Johnson*

# Can farmers' market managers help ameliorate food insecurity through the acceptance of federal and state food assistance program benefits?

**Kenneth Johnson**

*University of Michigan*

Food security can be defined in many ways; however, this study defines it as all people at all times have enough food to sustain an active and healthy lifestyle (Coleman-Jensen & Nord, 2013). Despite having a $15 trillion gross domestic product (GDP), 14.5% (17.6 million) of U.S. households fit the criteria of food-insecure (Coleman-Jensen & Nord, 2013). The U.S. has established safety nets to assist low-income individuals in accessing healthy foods and the Supplemental Nutrition Assistance Program (SNAP)—the largest program in the domestic hunger safety net—helps millions of low-income individuals and families on an annual bases (Supplemental Nutrition Assistance Program (SNAP), 2013). However, the number of food insecure households have continued to grow (see figure 1). In the past decade and a half, farmer's markets around the country have burgeoned (see exhibit 2) to 8,144 markets—up from 1,755 in 1994—providing access to healthy foods to urban and rural inhabitants (Farmers Markets and Local Food Marketing, 2013). More and more Americans are seeing the benefits of markets as a potential source for healthy local foods. Furthermore, markets are seeing the benefits of accepting SNAP and other federal and state assistance food benefits as a mutually beneficial proposition: both vendors and SNAP eligible customers win. However, this win-win scenario only happens when market managers make the deliberate and concerted effort to actively accept food assistance program benefits. In 2009, less than .01% of the $49.9 billion in SNAP dollars were used at farmers' markets, and it appears that little has changed in five years. This signifies the tremendous potential for growth for markets if the right marketing strategies are implemented to attract this significant consumer segment (Young C. , 2011). The impetus for this research is to explore the efforts of market managers to determine if markets that participate in federal and state nutrition assistance programs are more financially viable than markets that do not.

**Introduction-Food Assistance Programs**

The Supplemental Nutrition Assistance Program (SNAP, formerly known as Food Stamps) has been described as "the cornerstone of the nation's nutrition safety net" (Landers, 2007). Although the main goal of SNAP benefits is to allow low-income individuals the opportunity to gain access to healthy foods, it also increases household income. In the past decade, the program has provided many benefits to the people that are in need. For example, in fiscal year 2004, SNAP benefits allowed 9% of the recipients of the benefit to escape from poverty (Landers, 2007). In fiscal year 2006, the government dispersed approximately $30 billion in benefits to over 12 million households (Landers, 2007). In 2010, SNAP accounted for more than $2.8 billion dollars in sales, according to the USDA Food and Nutrition Service (Montri, Segar, Chung, & Mino, 2011). In July 2013, 1.7 million (or approximately one-in-five people) were counted as participating in the SNAP Program in Michigan alone—approximately 4% of the total U.S. SNAP recipients in the U.S. (Supplemental Nutrition Assistance Program, 2013). These numbers show the need and the support that low-income individuals are receiving in order to connect people with healthy foods. However, this is only one half of the equation—demand. According to a study conducted by The Urban Institute in Washington, D.C., receiving SNAP benefits reduces food insecurity by approximately 30% (Ratcliffe & McKernan, 2010). The researcher goes on to state that based on their statistical analysis, the SNAP program should continue and even be expanded based on the fact that there is evidence that SNAP benefits reduce food insecurity. With that said, the second part of the equation must be addressed—supply/access. Where should low-income—urban and rural—individuals spend their SNAP (and other food benefits) dollars when there has been an exodus of small local-grocers relegated by massive chain grocers that are no longer in walking distance to their domicile?

Recently, there has been a growing movement of farmers' markets in the US, which brings a new channel for delivering healthy foods to underserved communities. Recent studies have found that the most customers shop for groceries at locations that are *most* convenient to them; therefore, farmers' markets draw patrons primarily from the neighborhoods where they are located (Young C. , 2011). Based on the aforementioned data, it appears that farmers' markets may be an effective conduit to connect low-income people with healthy foods.

**Why Farmers' Markets can Address Food Insecurity**

According to a food access study conducted in 2007, the majority of supermarkets tend to be located in suburban areas whereas the majority of low-income individuals reside in rural and urban areas (Anderson, 2007). The study goes on to state that the supermarkets located in rural and urban areas face higher operating costs, and these costs are passed to the consumer raising prices by approximately 4% compared to suburban supermarkets (Anderson, 2007). The boutique supermarkets in urban areas face higher operating costs, therefore, those prices are past to the consumer whereas large supermarket chains tend to be located in suburbs creating an accessibility issue for low-income people (Anderson, 2007). This revelation demonstrates the need for farmers' market managers to engage their community to educate the consumer about the healthy and *affordable* options at their "doorstep." Farmers' markets have the ability to address the price disparity; however, the *perceived* price disparity must be articulated by market managers through effective outreach and marketing. According to research conducted by the Project for Public Spaces (PPS), with support from the Robert Wood Johnson Foundation and in partnership with Columbia University, they found that approximately 60% of farmers market shoppers in low-income neighborhoods, in their sample set, believed their market had better prices than their grocery store (Project for Public Spaces, 2013). A study conducted by health

researchers in 2006 found that benefits for low-income families often run low by month's end and low-income individuals spend a higher percentage of their wealth on food than their food secure counterparts (Anderson, 2007). According research conducted by the USDA, 90% of SNAP benefits are used by the third week of the month causing many SNAP recipients to turn to food banks for food during the last week in the month for at least six months of a year (USDA, 2014). With this in mind, farmers' markets have the ability to help reduce food costs for low-income people all while increasing their customer base. From a marketing perspective, the benefits that a market provides are valued by this customer segment.

Continuing on the topic of price, a study conducted by researchers at Washington State University found that fresh and local fruits and vegetables are disproportionately purchased and consumed by food secure households. According to their research, they proposed 3 reasons: "price perception; differences in social and cultural norms; and lack of knowledge about the benefits of fresh, local food and the true costs of the conventional food system" (McCracken, Sage, & Sage, 2012). Against popular belief, "[s]everal studies have reported that prices at farmers' markets are lower (by 10 to 28%) than those at nearby grocery stores because of cost savings to farmers from selling directly to consumers (Young C. , 2011). This exemplifies the value of farmer's markets to low-income individuals.

**Farmers' Markets Address Food Deserts**

Another barrier faced by low-income individuals in trying to access healthy foods is transportation. In a survey conducted on low-income individuals in the city of Philadelphia, researchers found that approximately one-third of low-income individuals shopped within one mile of their home (Young C. , 2011). In a study conducted in Minnesota, most food categories had lower availability in low-income neighborhoods with an emphasis on fresh fruits and

vegetables, which were 50% less likely to be found in "poor neighborhoods" (Anderson, 2007). In addition, this study realized that 25% of SNAP recipients had moderate or no access to supermarkets (Anderson, 2007). Researches in Washington found that over 40% of food purchased in the U.S. was provided by the top five retail food companies—Wal-Mart, Safeway, Ahold, Kroger, and Albertson's (McCracken, Sage, & Sage, 2012). As stated earlier, these food retail giants are not present in urban areas because of the lack of square footage available and the higher operating costs or in very rural places due to a lack of demand. "Local grocery stores that once served small communities are being replaced by larger chain stores that are farther away (McCracken, Sage, & Sage, 2012). These troubling statistics again show the importance of farmer's markets in both urban and rural communities.

There has been research conducted demonstrating how markets are filling the void of relegated small scale grocers. A study conducted in Washington identified 64 urban food desert tracts—defined as urban areas as census tracts with poverty levels over 20 percent that are farther than one kilometer walking distance from a food source—throughout the state. Of those 64 tracts, 25% of those tracts are within 1 kilometer of a farmers' market (McCracken, Sage, & Sage, 2012). The study also took a macro look at food deserts in the U.S., and they found that "[o]f the nearly 70,000 food desert residents in the 2000 census living below the poverty line, 23 percent are now less than 1 kilometer from a farmers' market (McCracken, Sage, & Sage, 2012). According to a 2011 study looking at the effects of farmer's markets in low-income communities, they found that farmers' markets provide important bonds between city residents and the agriculture community (Young C. , 2011). This demonstrates the need for markets to participate in food assistance programs. Moreover, these numbers show the dire need and the

market opportunity of market managers to deliver healthy foods to low-income people through the acceptance of food assistance program benefits.

Although we commonly think of food deserts and food insecurity as urban problems, there are many individuals that do not have adequate access to healthy food options in rural areas of the U.S. Washington State University researchers altered the definition of food deserts for urban populations to more accurately reflect the food systems of rural communities using a distance of 10 miles or more from a large grocery store (McCracken, Sage, & Sage, 2012). The study, focused on Washington, discovered 17 food deserts in rural areas. However, they determined that "[i]including farmers' markets improves food access for 13 out of the 17 rural food deserts tracts (McCracken, Sage, & Sage, 2012). This discovery demonstrates the success of farmers' markets in both rural and urban settings.

**The Role of the Market Manager**

Farmers' markets are a complex system positioned to serve farmers, consumers and the community where they are sited. However, due to this complexity, farmers' markets face several challenges, which many managers may not have the training to address (Eggert & Farr, 2009). Farmers markets and market managers have a very significant task in front of them; however, most market managers have little to no training to perform the day-to-day operations of a farmers market (Eggert & Farr, 2009). A study conducted on 50 farmers' markets in Oregon found that 47% of market managers had two or fewer years of experience (Stephenson, G. et. al, 2007). Furthermore, markets today are an entrepreneurial hotbed, and farmers' markets need to deploy entrepreneurial approaches with a strong focus on marketing (Hinrichs, 2004). Market managers are at the epicenter of local food systems acting as the nexus between small farmers and consumers. These complex systems play a vital role in civic agriculture—defined as a

system made up of economic and personal relationships in a community—by "integrating production, processing, distribution and consumption to enhance the economic, environmental and social health of communities" (Stephenson, G. et. al, 2007). The role of market manager is a unique position that operates on both the demand side (customers) as well as the supply side (vendors) from an economic standpoint.

One of the many roles of a farmer's market manager is vendor recruitment. This is critical because recruiting vendors that represent the community in which the market serves is critical to addressing food security and satiating the needs of low-income individuals. Finding farmers to offer customers the level of diversity they expect and desire is perhaps a market manager's biggest challenge (Eggert & Farr, 2009). For example, in a study conducted on farmers' markets in California, researchers found that the "increasing Latino and Asian populations distinctive food preferences generates market opportunities for farmers' market vendors" (Hinrichs, 2004). The point is further supported by a case study conducted in Davis, California. The author of the case study stated that "[f]armers of color can fulfill the culturally specific foodways of particular customers" (Alkon & McCullen, 2010).

> *One Chinese American Davis customer revealed that she goes to the market in part to buy produce from the Hmong vendors there because they grow varieties of greens that she likes to eat. If that farmer did not attend the Davis Farmers Market, the customer told the second, she would have to drive half an hour to get the same produce.*

In order to be successful in this arduous task, managers must understand their customer base and have sufficient numbers of farmers and choices to satisfy that customer base (Eggert & Farr, 2009). This deliberate task of recruiting market vendors can be time intensive; however, it has the potential to increase the overall profitability of the market.

Growing Hope, a Michigan based nonprofit focused to support healthy food access through their farmers' market, makes a deliberate effort to provide a venue for farmers, urban market gardens, and other entrepreneurs to support the health of their community. Their positive growth in food assistance and other low-income programs at their market has led them to advise other markets to help them replicate their success (Growing Hope, 2013). Connecting low-income city residents and local agriculture as a way to improve community food security is an effective approach according to the Sustainable Food Center (Feenstra, 2010). The author of the piece refers to the "intentionality" associated with this approach to address food insecurity and these actions expand the concept of a local food system to the poor, which can be regarded as an opportunity (Feenstra, 2010). From a marketing standpoint, farmers' market provide unique benefits—lower prices, proximity, sense of community, freshness, etc. These benefits must be aligned with segments of the market that value these benefits. Market managers are responsible for targeting the desired segments and then selecting, developing, and communicating the chosen positioning to their clientele. Thus far, from the author's research, markets have yet to take such a deliberate approach to reaching their customers; therefore, farmers' markets, on balance, are not as effective or viable as they could possibly be.

**Why Markets Fail and How They Can Succeed**

Despite the growth in farmers' markets across the U.S., many markets fail. A problem that many markets face insufficient income to support market operations, which causes smaller markets to enter a downward spiral in which they cannot attract additional customers because they do not have sufficient vendors but cannot attract additional vendors because they do not have sufficient customers (Stephenson, G. et. al, 2007). Researchers from Oregon State University identified five factors that most significantly affect farmers' markets viability: small

size, a high need for products, low administrative revenue, a volunteer or low paid manager and high manager turnover (Stephenson, G. et. al, 2007). Farmer's markets that have a paid manager appear to do better, according to the research and the financial incentive appears to be a major topic from the review. This point is corroborated by the Farmers' Market Federation of New York. In their 10 principles of a successful farmers' market, they state that a market manager should be a paid position—even if it is a part-time role (Farmers' Market Federation of New York, 2005). Understanding these important factors and "understanding how and why markets fail is an important step in improving the viability of farmers' markets," according to Oregon State Researcher (Stephenson, G. et. al, 2007). Furthermore, understanding how and why markets fail may present opportunities for markets to be more viable and corroborate the hypothesis that farmers' markets that make a deliberate and concerted effort in accepting federal and state food assistance benefits increase their revenue, therefore, increasing their overall viability.

Although the fact remains that many markets fail, there have been efforts to increase the viability of markets. The Farmers Market Coalition (FMC), a nonprofit which was founded in 2006 with a mission to improve and strengthen farmers markets and "improve their ability to serve farmers, consumers, and communities," conducted a study on the Farmers Market Promotion Program (FMPP) (Miller & Roper, 2011). The FMPP offers grants to improve and expand farmers' markets and other direct producer to consumer market opportunities. During fiscal year 2012, over $9 million dollars in FMPP grants were awarded all over the country and the State of Michigan had 30 awardees totaling $1.5 million between 2006 through 2012 (Farmers Markets and Local Food Marketing, 2013). According the FMC, "more than three quarters of grantees used some portion of grant funds to reach out to participants in federal

nutrition programs" (Miller & Roper, 2011). In fact, it was stipulated in the 2008 Farm Bill that "no less than 10 percent of the funds for the FMPP [would] be used to support the use of electronic benefit transfers (EBT) for federal nutrition programs (food stamps and WIC) at farmers markets and community-supported agriculture enterprises" (Miller & Roper, 2011). The government support, looking specifically at local food systems as a conduit to addressing food insecurity, demonstrates the value to not only farmers' markets, but also the value in marketing healthy locally produced foods to low-income individuals. The FMC report makes a final conclusion that raising awareness of the opportunities for low-income patrons at farmers' markets is key; these activities most often have the ability to shift demand and create a mutually beneficial proposition: markets and vendors increase their revenue all while reducing food insecurity by providing healthy foods to low-income individuals.

Michigan's Double Up Food Bucks (DUFB) program will be explored as another option for markets to capture value through incentivizing low-income individuals to shop at their market. "The initiative offers grant funding for Michigan farmers markets to double the purchasing power for customers using federal food assistance dollars at their local farmers market" (DeWitt, 2013). Since its inception four years ago, Rachel Chadderdon Bair, Program Director of Double Up Food Bucks, stated that 80% of DUFB participants say that are eating more fruits and vegetable and 80% of farmers/vendors participating in DUFB claim that they are selling more produce and making more money as a result of the program (DeWitt, 2013). Downtown Ypsilanti's Famer's Market saw a 35% increase in EBT dollars from 2011 to 2012, and the market attributes their success "to a full season of the new Double Up Food Bucks program, and increased awareness of the program" (Growing Hope, 2012).

**Farmers' Markets looking at Low-Income Residents as a new Customer Segment**

Farmers' markets are addressing the serious problem of food insecurity; however, they are also finding financial value and a new customer base by marketing to low-income individuals. A study in Washington found that markets that were located in "food deserts" had at least triple the income generated by low-income senior (known as Senior Project FRESH in Michigan) and Women, Infants, and Children (WIC) vouchers than markets that were not located in "food deserts" (McCracken, Sage, & Sage, 2012). In the state of Michigan, farmers' markets have found value in accepting several federal and state food assistance benefits—SNAP, WIC Project FRESH, and Senior Project FRESH. However, despite the potential value to markets, "SNAP redemption at farmers' markets are a distant third in terms of revenue generation for farmers" (Young C. , 2011). In 2009, SNAP usage at farmers' markets accounted for less than .01% of the total in SNAP redemptions of the entire $49.9 billion spent, according to the USDA (Young C. , 2011).

Although many markets and vendors have discovered the multiplier effects of inviting low-income individuals to patronize their markets, some "scholars argue that farmers markets, and the alternative agrifood movement … inhibit the participation of people of color and constrain the ability of those food systems to meaningfully address inequality" (Alkon & McCullen, 2010). According to demographic, 33% of SNAP recipients are African American and 19% are Hispanic (Snap To Health, 2013). However, these two races make up less than 30% of the U.S. population. Based on these statistics, not only is it a socially correct practice to create an inviting atmosphere for all demographics, it also poses a huge value if this segment is targeted properly. From a study conducted in North Berkley California, the author writes that most farmers' markets exist to "build community with both growers and eaters" (Alkon & McCullen,

2010). However, the market that the study examines has few or no ethnic diversity in their patrons. The authors attest that what they examined and observed in their study can be applied to "other affluent, highly educated areas" around the country (Alkon & McCullen, 2010). Bottom line: Of the people that have received food benefits in their lifetime, 53% are Black and Hispanic Americans compared to 15% of Whites, according to a recent Pew Research Study (see exhibit 4) (Morin, 2013). This means that if farmers' markets plan to address food insecurity, race and inclusion are factors that must be considered.

As stated in earlier paragraphs, due to FMPP grants, EBT activities increased (e.g. EBT machine usage, outreach to ethnic minorities or low-income groups, vendor education of food assistance benefits, and staff training on implementation of SNAP EBT) (Miller & Roper, 2011). Furthermore, according to the Farmers Market Coalition and their 2013 report, "[a]mong the 158 responding grantees, 81 percent (128) observed an increase in the socioeconomic diversity of their shopper base since receiving the FMPP award" (Miller & Roper, 2011). This reports demonstrates an interesting point: When markets are given additional funds, outreach—specifically to minorities and low-income individuals—increases. This indicates that one potential limiting factor in diversifying a markets' customer base (both racially and socioeconomically) is based primarily on available capital to use on marketing and not on any endogenous factors of markets themselves. "Conventional wisdom says you need a carrot and a stick to change behavior, meaning you need both incentives and disincentives. What [the Fair Food Network has] shown is that you just need a better tasting and more affordable carrot" (DeWitt, 2013).

**One-tenth of a Percent of the Food Insecure**

The pervasive movement to "eat local" has reached a fervor in America. However, can this address the food needs of our burgeoning population? Farmers' markets play an important role in our food system; however, this system cannot feed the country, or the world alone. Traditional food systems (i.e., agribusiness) has its role the same as non-traditional food systems (e.g., farmer's markets, urban gardens, community supported agriculture, etc.) has a role in the competitive landscape.

According to a study conducted by Michigan State University, they found that the top three factors in order of importance of why one would shop at a farmer's market was top quality products, minimum chance of food borne disease, and the products at farmers' markets support local farms (Conner, David et al. , 2010). In addition, they found that the segment of people who were white and had higher incomes placed lower importance on convenience; however, Latinos and part-time workers were more likely to place a higher value on the convenience factor (Conner, David et al. , 2010). It can be assumed that all consumer segments want and value many factors the same when shopping for produce: quality, good value, welcoming atmosphere, etc.; however, location/convenience is one of the factors that the researchers from MSU found was related to race. Therefore, it can be assumed that non-traditional food systems fill two specific needs based on demographics: people that want to feel connected with the food by supporting local farms and people that are food insecure that don't have access to healthy foods and value convenience. In turn, farmer's markets are able to remain viable if they are able to capture demand from these two segments.

The Farmers Market Coalition states that the annual SNAP redemption at Farmers Markets in Michigan in 2012 was $1,530,319 dollars (Roper & Miller, 2013). According to a

study conducted by the Leopold Center from June through August 2009, they found that an average vegetable basket at farmers' markets ( at a cost $.13 less than it would cost at a mainstream supermarkets) consisting of string beans, cabbage, cucumbers, onion, tomatoes, sweet corn, squash and zucchini costs $1.25 per pound (McCann, 2009). Taking this basket of vegetables averages to approximately 2.5 cups. Next, according the Dietary Guidelines for Americans, the average person should consume approximately 4.5 cups of fruit and vegetables daily (Marie, 2013). Finally, the State of Michigan had 1,760,433 people enrolled in SNAP, according to July 2013 data (Supplemental Nutrition Assistance Program, 2013). With the aforementioned data, the conclusion can be made that only approximately 1,830 food insecure people or .1% of people receiving SNAP benefits in Michigan were able to gain enough produce to meet their dietary requirements on an annual basis from farmers' markets (see table 1). This means two things: farmers' markets cannot address food insecurity alone. It will take a concerted effort by all parties that participate in this food space—traditional and non-traditional. Second, there is tremendous value at farmers' markets because only a small percentage of the food insecure individuals are patrons of farmers' markets, yet there are billions of dollars that are being used in other locations to purchase food.

**Does SNAP Alone Promote Healthy Habits**

The Food and Nutrition Act of 2008 defines eligible food for SNAP benefits as any food or food product for home consumption, and the list precludes alcoholic beverages, tobacco products, hot food and any food sold for onsite consumption (USDA, 2012). However, soft drinks, candy, cookies, snack crackers, and ice cream are considered food items and are therefore eligible items to be purchased with SNAP dollars (USDA, 2012). On the surface, it would seem that it is the right of the SNAP recipient to be able to purchase "junk food" with their SNAP

dollars because these foods in moderation are acceptable. However, one must remember that the statistics described in earlier paragraphs that people in low income areas are more likely to live in locations that have less healthy options, which creates the potential for a SNAP recipient to use a disproportionate amount of their monthly SNAP benefits on "junk foods." According to a report by FNS, "food stamp recipients are no more likely than higher income consumers to choose food with little nutritional value; thus the basis for singling out low-income food stamp recipients and restricting their food choices is not clear" (USDA - FNS, 2007). What is clear from the research and literature is that access to healthy foods for low-income individuals does exists. Is it a leap to purport that because of this fact, low-income individuals are more likely to buy "junk food" with their SNAP benefits due to inconvenience and lack of access to healthy options? Does this present another reason why farmers' markets can play a tremendous role in addressing food insecurity?

In order to address the healthfulness of SNAP benefits, a pilot program named Healthy Incentives Pilot (HIP) was run November 2011 through December 2012. The goal of the $20 million program was to determine if incentives—$.30 for every SNAP dollar spent—would increase the sale of prescribed healthy foods (e.g., most fruits and vegetables—in general, eligible fruits and vegetable must not have any added sugars, fats, oils, or salts) (USDA, 2014). In July 2013, the USDA reported interim findings on the pilot and they found that on average, households spent $12.13 (or less than 10% of SNAP benefits) on targeted fruits and vegetables. The questioned must be asked, how was the other 90% of SNAP benefits spent? Perhaps, the $20 million HIP program is not addressing the *true* problem—access. And perhaps, the $20 million could be awarded as federal grants to farmers' markets in order to increase marketing efforts and outreach to low income individuals as a way to increase healthy purchasing habits.

Let's return to the original question: Can farmers' market managers help ameliorate food insecurity through the acceptance of supplemental nutrition assistance program (SNAP) benefits? From the literature reviewed in previous paragraphs, it has revealed several interesting points that will assist in future research dedicated to answering this question. Farmers' market managers are the focal point and have the ability to create a vibrant market when certain criteria is satiated. Markets that receive adequate funding, from grants or other revenue sources, tend to have the foresight and recognition of the value in marketing to low-income and minority individuals. Markets that received funds that allowed market managers to manage their markets effectively allowed them to explore new revenue sources, therefore, making their markets more sustainable and viable. The question still remains though—does the deliberate actions taken by market managers to accept federal and state food assistance benefits increase the markets financial wellbeing? The author hypothesizes that markets that accept SNAP, WIC and other food benefits are more viable than markets that do not.

## Research Design and Methodology

### Methods

The data presented here is one segment of a larger research project that is examining food insecurity in the state of Michigan. The data were collected in November and January 2014. Both quantitative and qualitative research methods were used including a survey questionnaire administered via email and interviews. The research method conducted for this study was threefold: an in-depth evaluation of current and past research to determine gaps in research analysis; survey distribution to collect data on Michigan farmers' markets specifically; and assessment and analysis of survey results to determine if hypothesis is statically significant.

To gather information from farmers' market managers, the survey questionnaire concentrated on only Michigan Farmers' Markets that were in operation and part of Michigan Farmers Market Association's (MIFMA) list serve. Creation of the survey questionnaire was developed from meetings with the project team, literature review, and with the help of farmers' market managers. The MIFMA list serve has approximately 300 farmers' markets listed and an average of 54 market managers participated in the survey. There are approximately 95 markets in Michigan that accept SNAP Bridge Cards. The primary objective of the research was to assess how food assistance benefits affect farmers' markets viability and to examine the relationship between the acceptance of food assistance benefits and the markets' overall financial viability.

**Limitations**

The participants are biased towards those farmers markets who are affiliated or have connections with MIFMA. This list comprises of over 1,000 members who are self-selected to participate in this industry group. It was assumed that this sample set of survey participants represents a comprehensive set of farmers' markets in Michigan.

**Analysis Methods**

Quantitative data from the survey questionnaire were organized and analyzed using statistical regression analysis. When all survey responses were collected, the data was entered and analyzed using Excel and SPSS software. The analysis of survey results consisted of primarily calculations of descriptive statistics, observed trends and frequency of response distributions, and independent sample t-tests.

**Main research question**:

How does **participation** in federal and state food assistance programs affect farmers' markets financial **viability**?

**Sub-questions**:

1. How does the **effort** of farmers' market managers affect the **participation** of low-income food insecure patrons at farmers' markets?
2. How does the **effort** of farmers' market managers affect the financial **viability** of a farmers' market?

**Hypotheses**:

If farmers' markets accept SNAP, WIC and other state and federal food assistance benefits then farmer's market will be more financially viable than markets that do not because food assistance benefits increase sales and demand

**Data Analysis and Results**

Using MIFMA's comprehensive database of Michigan Farmers' Markets, the surveyor was able to make contact with approximately 80% of Michigan's farmers' markets. A diverse group of markets were surveyed from all parts of the state—both urban and rural. The data exposed the nascent movement of farmers' markets with 37% of the 54 responses stating that the market had existed for five years or less. Along this same vein, 39% of surveyed markets saw growth in the number of patrons they served on an average market weekend from over the past three years.

**Market Mangers**

As stated earlier, the impetus of the study was determine the role of market manager's and their ability to help ameliorate food insecurity through specific actions and leadership. Market managers have an extremely taxing job controlling demand of patrons and recruiting and retaining the supply of foods that customers want and the supply of vendors that can provide that food. Although the survey revealed that 49 of the respondents had outside help—a board of directors, a committee, market volunteers, government, or some other form of help—in guiding decisions about their market, one-third of market managers surveyed held the position for two years or less. The question must be asked: "Do new managers, defined as a manager with 2 year or less experience, generate less revenue than markets with more seasoned manager?" According to the data, market managers earn an additional $4,730 in revenue with each additional year of experience (see table 2). This is a clear signal that experience matters in managing markets effectively.

Market managers are in an interesting position—responsible for both supply of foods and creating demand by customers. However, nearly one-third of market managers don't gather any information about their market's customers and 30% of market managers do not consider the nearest community's culture or demographic makeup when recruiting market vendors (see table 8 for how markets gather information about their market's customers). On the supply side, 42% of market managers do not take any deliberate actions to recruit and retain the vendors/farmers who are responsible for providing the goods to satiate customer demand (see table 9 for a list of farmer/vendor recruiting strategies).

**Training**

Another aspect of preparation of market manager was explored by asking: "Did you receive formal training for your position?" 52% of market managers surveyed had received some training for the position. 93% of the trained had received their training from the MIFMA's certification program. The certification offers acknowledgement to market organizers and vendors that the market manager is a trained professional. 103 market managers have been certified thus far, and MIFMA's Farmers Market Manager Certificate Program is the only program in the nation that recognizes market managers as professionally trained (Shreve, 2014). The Michigan Farmer's Market Association has been a tremendous resource to many market managers in the State of Michigan.

Although all market managers stated that they received some form of assistance in decision making, 55% of market managers identified that they were responsible for determining stall fees. The reason why this topic is of importance is because stall fees are the primary means of revenue generation for 53% of markets in the survey. The analysis of the data shows that for every dollar increase in seasonal stall fees results in a $132 increase in market revenue. In addition, every dollar increase in daily stall fees results in a $1,570 increase in market revenue. Therefore, the pricing of stall fee, both daily and seasonal, has the potential to generate significant value to the market (see table 3). If priced to low, significant value is left on the table. New market managers or untrained market managers may be leaving value on the table that could be used for projects that help the overall financial viability of their markets.

**Does Accepting Food Benefits Increase Market Revenue**

One of the most complex facets of managing a market is how to facilitate the acceptance of state and federal food assistance benefits (i.e., SNAP, WIC, DUFB, etc.). Although some may believe this is a small portion of a market manager's job, this can be a burdensome task for an overworked and potentially underpaid manager. One market manager reported that operating a wireless point of sales device was a huge labor expense working through government red tape. MIFMA's certification prepares market managers to successfully navigate the complexity of dealing with government programs. It is clear that understanding how to accept food benefits supports addressing food security; however, does the acceptance of food benefits—both state and federal—increase bottom line performance, therefore, increasing the viability of a market? From the data collected there was no statistical significance between the two dependent variable in question, revenue and profit, and the amount of income generated by SNAP, DUFB, WIC Project FRESH, and Senior Project FRESH. What this means is that although markets are generating income from food benefit programs, this income is not correlated with the markets overall revenue or profitability.

**Variable Stall Fees**

One potential solution in order to create a correlation between income generated from state and federal food benefits and revenue/profitability is to implement a variable stall fee policy which would allow market managers to share in the revenue of the farmers. This variable stall fee, opposed to fixed stall fees, would allow markets to benefit from the increased revenue generated from food assistance dollars. As farmers/vendors make more money from low-income patrons, it would benefit the market as well. This would allow markets to have more capital to

invest in marketing and other projects that would help drive more sales and help both vendors and the market overall. Currently, farmers/vendors benefit from state and federal food benefits because a new segment can patronize their stalls; however, the market is not directly impacted from this increase in sales.

The survey revealed that 100% of the surveyed managers implemented a stall rental policy that was independent of sales made by the stall rental—both daily and seasonally. Anecdotally, one market manager responded that "Our vendors are private people and do not want to tell the market their financial business." The argument could be made that if this information was required to be shared with market managers and the market required X% of sales revenue of vendors, the overall health of the market could be increased through effective reinvestment projects (e.g. marketing, investment in property and equipment, etc.). The current model for revenue generation for markets has two main avenues: either stall fees (53% of respondents) or grants (17% of respondents).

However, there can be issues with too much reliance on grants as a significant portion of income. First is the timing of when an awarded grant should be recognized as earned income and if a grant should be planned into the budget before the grant is awarded. The associated risk with grants can leave farmer's markets overextended, or worse, insolvent with no cash flow to cover payables. Seeing the responses from the survey present the efficacy of a variable vendor fee based on a percentage of his or her sales. It would present a mutually beneficial scenario: markets will generate more revenue which can be reinvested into the market stimulating more demand, which helps farmers/vendors have more business. For example, 77% of markets have some sort of marketing budget ranging from $70 to $10,000. However, 100% of markets should have some portion of the budget allocated to marketing and outreach. The variable vendor fee

strategy would help facilitate this opportunity. From the data collected, markets that have a marketing budget are able to make a 14% return on each of their marketing dollars (see table 4). The data reveal the value in marketing; however, not all markets have allocated funds and many could put more money into this effort.

**State and Federal Food Assistance Benefits**

90% of the surveyed markets participated in at least one state or federal food assistance benefit program such as SNAP, WIC, Double Up food Bucks, etc. Significant revenue was generated from sales made with SNAP, DUFB, WIC, and Senior Project FRESH/ Senior Market FRESH dollars; however, only 76%, 79%, and 78% of markets participated in DUFB, WIC, and Senior Project FRESH/ Senior Market FRESH respectively. The survey showed that fewer markets participate in these programs and that they generate less money than SNAP, on balance. There does appear to be opportunities in order to increase these number though. Based on the survey, only 43% of market managers established partnerships with WIC clinics, social service offices, public health departments, or health clinic (see table 5 for goals of partnerships with WIC clinics). There are over 80 WIC clinics that are present in every county in the State of Michigan—to include seven WIC clinics in the Upper Peninsula so there are significant opportunities for these partnerships to be established (MDCH, 2014). The survey also exposed some of the costs that market managers had to pay in order to run a wireless point of sales device; however, the cost associated with the device versus the revenue it generates shows a positive net present value representing a great investment opportunity.

**Effort**

Engaging the low-income segment is a difficult task and many market managers are making the effort in order to address the many problems revolving around food systems. In order to measure market manager's "effort" in addressing food insecurity, four specific questions were asked: what strategies have you used to increase the number of ethnic minority vendors; what strategies have you used to increase the number of low-income vendors; what strategies have you used to increase the number of ethnic minority customers; and what strategies have you used to increase the number of low-income customers. The answers varied and some had no strategy for the aforementioned questions (see table 7). In terms of vendor recruitment strategies, 46% of market manager have no strategy to increase the number ethnic minority vendors or low-income vendors. However, the number improves if you ask market managers if they have a strategy to increase ethnic minority customers (75% have a strategy) or low-income customers (88% of market managers have a strategy). But, many of the strategies are inchoate and lack the thought to be truly effective strategies (see table 7).

17% of respondents said their primary means of revenue generation was grants; however, only 7.5% of market were awarded federal grants. From a policy perspective, the Farmer's Market Promotion Program is an effective program that needs to be continued. Markets have significantly benefited from the program and the overall efficacy of the federal grants have been proven. Although grants should not be the sole source of market viability, they do provide an additional benefit to address food security and the research proves its overall effectiveness. However, based on our survey results, more federal grants should be awarded.

**Recommendations**

The data reveal quite interesting findings. There are several opportunities for market managers to more effectively run their markets. One key component to this is recognizing that low-income individuals that receive state and federal food benefits are an attractive segment ($70 billion in SNAP benefits available) that should be reached. Despite the overall lack of experience held by the majority of market managers, 81% of respondents that answered the question with regard to education had either a bachelor's or master's degree, yet approximately one-third of those respondents don't receive a paid salary as the manager of their farmer's market. What is the motivation for managers to perform such time consuming and often difficult tasks for no pay despite having scholastic credentials that command a middle income salary? One can deduce from the research that market managers do this job not for the pay but for the love of food and the desire to connect people with it. Taking an active and deliberate approach—facilitated through new revenue generation mechanisms (i.e., variable vendor fees)—has the potential to help managers reach more people through increased marketing budgets.

Training and experience are both important topics in the success of farmers' markets. The State of Michigan is lucky to have the Michigan Farmers Market Association who provide training to rising market managers; however, other states are not this lucky. MIFMA has had new market managers travel from out of state to take their courses which shows the need for other states to create and implement similar programs. In addition, the training gives market managers the tools necessary to earn the additional $4,730 in revenue with each additional year of experience (see table 2). It is recommended that other states adopt a similar model of MIFMA and start similar training programs.

Federal grants appear to be fledgling with only 7.5% of markets in Michigan receiving any federal funding. Federal grants specifically for farmers' markets should be increased with stipulations that require markets to use the money for outreach to low-income SNAP, WIC and other federal food benefit recipients. For example, the $20 million used for the HIP would have been more effective in the hands of market managers—similar to an FMPP grant. HIP failed to address the true problem facing the food insecure, which is accessibility. Putting federal money in programs such as HIP or any projects that don't address the true problem fail in their prudency. Farmers' markets address the accessibility issue and federal grants could help markets increase their marketing budgets, which would, in turn, increase market revenue. This fact was proven by this research. In addition, as it currently stands, SNAP is not a perfect system and the HIP program put a spotlight on the inefficiencies of SNAP. Even with the incentive to spend money on healthy fruits and vegetables, less than 10% of the surveyed benefits were spent on fruits and vegetables. Why? Because the acceptable channel for delivery of healthy foods has not been cultivated. Farmers' markets, on balance, are a repository of healthy food options. Therefore, one can deduce that if more food insecure people frequent farmers' markets, then they would be exposed to healthier options increasing the SNAP dollar expenditure on healthy foods from its current state at 9% of monthly expenditure. However, this only happens if farmers' markets have adequate resources for marketing, thus, the reason for increased federal grants aimed at marketing efforts to low-income SNAP recipients.

**Conclusion**

The research shows the potential for farmers' market managers to help ameliorate food insecurity through the acceptance of federal and state food assistance program benefits; however, there is still significant work that needs to be done. Market managers need to continue to explore

new strategies to reach new consumers in order to *truly* make their markets sustainable. Policy makers need to ensure that the money currently be used for food benefits is addressing the true drivers causing food insecurity. In addition, the analysis presented in this paper shows that economic growth does not have to compete with social impact. In fact, the recommendations outlined in this paper point farmers' markets in a direction to create an economically, socially, and environmentally sustainable local food system through the power of business.

## Tables

*Table 1*

| | | | | | |
|---|---|---|---|---|---|
| $1,530,319 ($ SNAP at Farmers' Markets) | 1 pound (lbs) / $1.25 | 1,202,655 (lbs) | | | |
| 1,202,655 (lbs) | 2.5 (cups) / 1 (lbs) | 3,006,638 total cups consumed with SNAP per person / 4.5 cups daily x 365 days | | 1830 persons served / 1,760,433 SNAP Recipients | ~.1% |

*Table 2 (Years of experience effect on revenue)*

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .634[a] | .402 | .367 | 24426.926 | .402 | 11.415 | 1 | 17 | .004 |

a. Predictors: (Constant), How many years

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | -2961.552 | 8506.298 | | -.348 | .732 | -20908.272 | 14985.167 |
| | How many years | 4730.102 | 1399.998 | .634 | 3.379 | .004 | 1776.364 | 7683.841 |

a. Dependent Variable: Market Revenue

*Table 3 (Stall fee effect on Revenue)*

***Seasonal Stall Fee***

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .813[a] | .660 | .612 | 16352.309 | .660 | 13.615 | 1 | 7 | .008 |

a. Predictors: (Constant), What is the stall fee for a season?

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | -12262.027 | 9083.698 | | -1.350 | .219 | -33741.559 | 9217.505 |
| | What is the stall fee for a season? | 132.660 | 35.953 | .813 | 3.690 | .008 | 47.644 | 217.676 |

a. Dependent Variable: Market Revenue

***Daily Stall Fee***

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .902[a] | .814 | .791 | 11424.773 | .814 | 34.974 | 1 | 8 | .000 |

a. Predictors: (Constant), What is the stall fee for daily use?

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | -8868.960 | 5232.078 | | -1.695 | .128 | -20934.153 | 3196.232 |
| | What is the stall fee for daily use? | 1570.594 | 265.576 | .902 | 5.914 | .000 | 958.175 | 2183.012 |

a. Dependent Variable: Market Revenue

*Table 4 (Marketing effect on Revenue)*

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .547[a] | .299 | .252 | 18937.062 | .299 | 6.400 | 1 | 15 | .023 |

a. Predictors: (Constant), How much is spent on marketing each season?-Dollars spent on marketing

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 | (Constant) | 1163.724 | 6848.479 | | .170 | .867 | -13433.463 | 15760.910 |
| | How much is spent on marketing each season?-Dollars spent on marketing | 7.517 | 2.971 | .547 | 2.530 | .023 | 1.184 | 13.851 |

a. Dependent Variable: Market Revenue

*Table 5 (Goals of the partnerships established between markets and WIC Clinics*

| # | Answer | | Response | % |
|---|---|---|---|---|
| 1 | Yes | | 18 | 43% |
| 2 | No | | 23 | 55% |
| 3 | Other (please specify) | | 1 | 2% |
| | Total | | 42 | 100% |

| |
|---|
| Distribute Senior Project Fresh coupons and educate seniors on nutrition |
| to increase consumption of whole foods |
| to get more people to come down to the market. |
| Promote WIC project fresh at local WIC office |
| to get more projest fresh and wic participants to participate |
| to provide on site sales at their building for WIC project fresh |
| increase use of benefits at GBFM |
| To Spread the word about food assistance programs accepted at the market |
| To increase usage / access to the market for customers |
| to create access to local food to mothers and children |
| To increase usage of the Project FRESH coupons and make the customers more comfortable with the process |
| communication |
| collaboration to benefit the community with healthy food access |
| To increase awarness of the programs available here a t the market |
| Education, distribution and redemption of coupons |
| Promote healthy lifestyles and community inclusion |

*Table 6 (Gathering information about market's customers)*

| # | Answer | | Response | % |
|---|---|---|---|---|
| 1 | Focus Groups | | 0 | 0% |
| 2 | Interviews | | 7 | 16% |
| 3 | Surveys (mail, telephone, on-line, etc | | 23 | 53% |
| 4 | None gathered | | 14 | 33% |
| 5 | Other (please specify) | | 8 | 19% |

| Other (please specify) |
|---|
| on-site surveys |
| dot surveys |
| Listen to customers, local gossip, Facebook. |
| Market attendance counts |
| social media |
| our market hosts count each week to determine if they are from within the city limits or outside (trying to reach people within 1 mile radius specifically). Also have done an economic impact study using the SEED tool from New Orleans' Market. |
| Rapid Market Assessment |
| On-site counts, on-site surveys |

*Table 7 (Strategies)*

| What, if any, strategies have you used to increase the number of ethnic minority vendors? |
|---|
| Worked with The Conservation Fund to identify potential vendors as they spend time working with minority farmers. |
| When I search for vendors, I make it a point to encourage minority vendors to apply. As a market, we do many things to support vendors that disadvantaged in any way. |
| We recruit vendors to add variety to the market so any ethnic group selling their cultural food would be recruited. |
| we have carnival day, we are open during the festivities in our Village, we color pumpkins and trick or treating, we have different safety things at the market, and farm bingo |
| we attend markets in minority neighborhoods, Juneteenth Celebration, minority market manager |
| Visiting other area markets, visiting ethnic restaurants, and local community kitchens. |
| Pursue ethnic prepared foods (Indian, Mexican, and Mediterranean) |
| Personal contact and invitation |
| Outreach to local Casa Latina (in Ypsilanti) and outreach to potential new vendors in surrounding communities (Jackson, Manchester, etc.). |
| is part of our mission statement to value diversity of both vendor and customer base, but it is difficult to recruit ethnic minority vendors. |
| I ask my current vendors to recommend other vendors. |
| Festivals, cooking demo. nothing to target any specific ethnic minority |
| Explored multiple languages for applications. |
| building relationships with community members, learning about institutional racism and racial identity development |

| What, if any, strategies have you used to increase the number of low-income vendors? |
| --- |
| Worked with The Conservation Fund to identify potential vendors as they spend time working with low-income farmers; use word of mouth to recruit |
| We've worked to reach out through the local Faith in Action non-profit about our market opportunities. |
| Starting micro-business classes in the spring 2014 to encourage more participation by low income and minority groups at our farmers market. |
| I ask my current vendors to recommend other vendors. |
| Recruiting from the community in which the market is located. |
| Almost all our vendors are low income so I don't need to recruit. However, low daily booth fees and rules encourage new vendors to try selling at our market. |
| Outreach/recruitment by market manager to community kitchens and provide opportunities through the cottage food law. |
| Recruiting and asking for SNAP participation |
| Word of mouth, face to face. |
| we raise money for nonprofit organizations, and we do offer a seasonal fee of 62.00 savings of like 40.00 |
| voucher distribution at food banks and community centers |
| We try to keep rental costs low and offer payment options. Also, seasonal stall rent is not due until august. |
| As a market, we do many things to support vendors that disadvantaged in any way. We offer tent, table and chair rentals too help those that are starting out and can't afford to buy equipment up front. |
| Community kitchens and word of mouth. |

| What, if any, strategies have you used to increase the number of ethnic minority customers? |
| --- |
| Advertising targeted specifically to communities of color (i.e. fliers, newspaper ads, radio ads, etc.) |
| We have put up posters in Spanish at local grocery stores and non-profits. |
| Senior Day, Jazz Concerts and Children Activities |
| we offer free kids crafts, free bouncer, free entertainment and free coking demos used to increase all customers not just ethnic... |
| Supplemental Food Programs, Advertising in neighborhoods, Training of volunteers to welcome all, Spanish speaking manager |
| flyers, posters, and word of mouth (less focus on online/twitter marketing) |
| All customers receive a punch card and is punched for each item purchased. When full put into a drawing for a market tote full of items from all the vendors. Drawing once a month. |
| Highlighted variety of products at the market and promoted inclusiveness. |
| flyers handed out at local schools, local extended stay hotels |
| We have seen an increase in ethnic minority customers with the introduction of the Double Up Food Bucks Program. |
| we do children activities and offer bingo for the adults - we send our flyers home with the school folders |
| We offer Burmeese cooking classes and a community garden directly across from our market |
| Tour boat cruises are next to our market, so we see people from around the world. |
| Two newspaper ads in May. |
| Partnering with local organizations. Presentations, tabling at events. |
| prizes, contest, cooking demos, and events that are culturally diverse |
| partnered with the local tribe to provide Market Bucks to their health center and casino employees this year (most native American). |
| we try to make our market accessible to all people by encouraging multiple modes of transportation, and accepting multiple forms of payment |
| We partnered with Centro Multicultural La Familia in holding a Cinco De Mayo event to create awareness within the Hispanic community |
| Special activities on given days, drawings, music, children activities |
| Increased culturally appropriate foods and vendors |

| What, if any, strategies have you used to increase the number of low-income customers? |
| --- |
| Use of fliers and word of mouth by human service providers (i.e. DHS, Federally Qualified Health Center, Health Department, Michigan Works) |
| We've reached out through Faith in Action, put up posters in local community centers, affordable housing locations, and provided free bus service to the market for SNAP customers. |
| Senior Day discounts and promotion of SNAP |
| free activities listed above, distribute DUFB and Bridge Card info to local food bank and local library. |
| Several of our vendors have a following. Small town, word of mouth and newspaper column. |
| we offer coupons to our customers to save them money and the market pays the vendor back for the coupon |
| provided a market at the DHS/WIC offices as well as social media promotion of DUFB |
| We provide programs such as free canning classes and canning kits to individuals with bridge cards and free bags of produce for bridge card holders once a year. |
| SNAP, WIC FRESH, Senior FRESH |
| We work to increase the number of low-income customers through partnerships with various organizations in the community who work directly with those folks. We encourage Double Up Food Bucks mailers which are extremely effective, and do our best to spread the word about food program use at the market. |
| Two newspaper ads in May. |
| voucher system, back to school backpack give away |
| We have implemented public assistance benefits and also branded the market SMART Bus route with a sunflower to denote the market route. |
| Marketing targeting at assistance centers, libraries, and low-income housing buildings |
| SNAP, Senior project fresh, and WIC targeted promotions. Speaking at senior centers, pantry sites, and WIC offices. |

*Table 8 (Gathering information about market's customers)*

| # | Answer | | Response | % |
|---|---|---|---|---|
| 1 | Focus Groups | | 0 | 0% |
| 2 | Interviews | | 7 | 16% |
| 3 | Surveys (mail, telephone, on-line, etc | | 23 | 53% |
| 4 | None gathered | | 14 | 33% |
| 5 | Other (please specify) | | 8 | 19% |

| Other (please specify) |
|---|
| on-site surveys |
| dot surveys |
| Listen to customers, local gossip, Facebook. |
| Market attendance counts |
| social media |
| our market hosts count each week to determine if they are from within the city limits or outside (trying to reach people within 1 mile radius specifically). Also have done an economic impact study using the SEED tool from New Orleans' Market. |
| Rapid Market Assessment |
| On-site counts, on-site surveys |

*Table 9 (Recruiting Strategy)*

| Recruiting Strategy Description |
| --- |
| Each year, we assess the vendor mix and compare to our customer surveys, relative to how our vendors match the needs of the community. We also try to strike a balance of vendors similar to the "Choose My Plate" guidelines for healthy eating. |
| I try to fill in needs. So if we need a honey vendor, I will talk to my vendors to see who might be a good fit. Word of mouth works best especially working through vendors and Market Managers. |
| Partnerships with urban agriculture and local food culture. |
| Local first with a pursuit of "vendor balance" and trying to prevent duplication of products. More prepared foods in the winter. |
| visit other markets that meet on non-competing days, and talk to vendors about joining our market in addition to ones they already participate in. |
| Going to local farmers and asking if they would like to be part of the farmers market, offering them 1/2 off the first 2x they come and we involve their input |
| Market incentives for attendance |
| I work though our current vendor. I provide market data to prospective vendors. |
| Seeking vendor balance for a one stop shop. Preference for homemade/homegrown and close geographic area. Emphasis on produce through the entire winter. Key areas emphasized (meat and bread) by board. Never more than %20 craft vendors. |
| Check other farmers markets to see if we can find a fit; Invite other vendors that we find; Don't collect a vendor fee first year to see if they like market |

## Figures

*Figure 1*

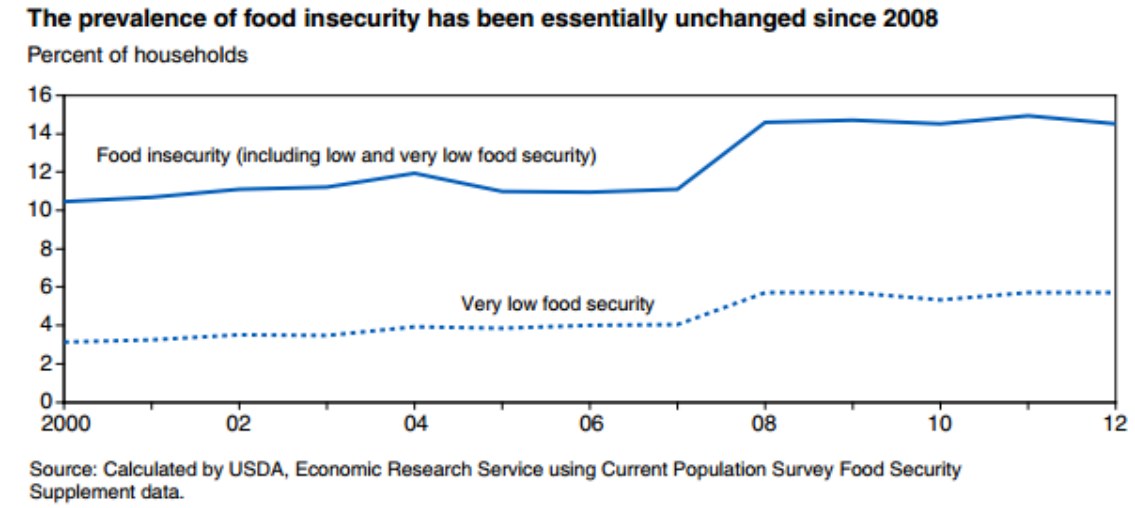



*Figure 2*

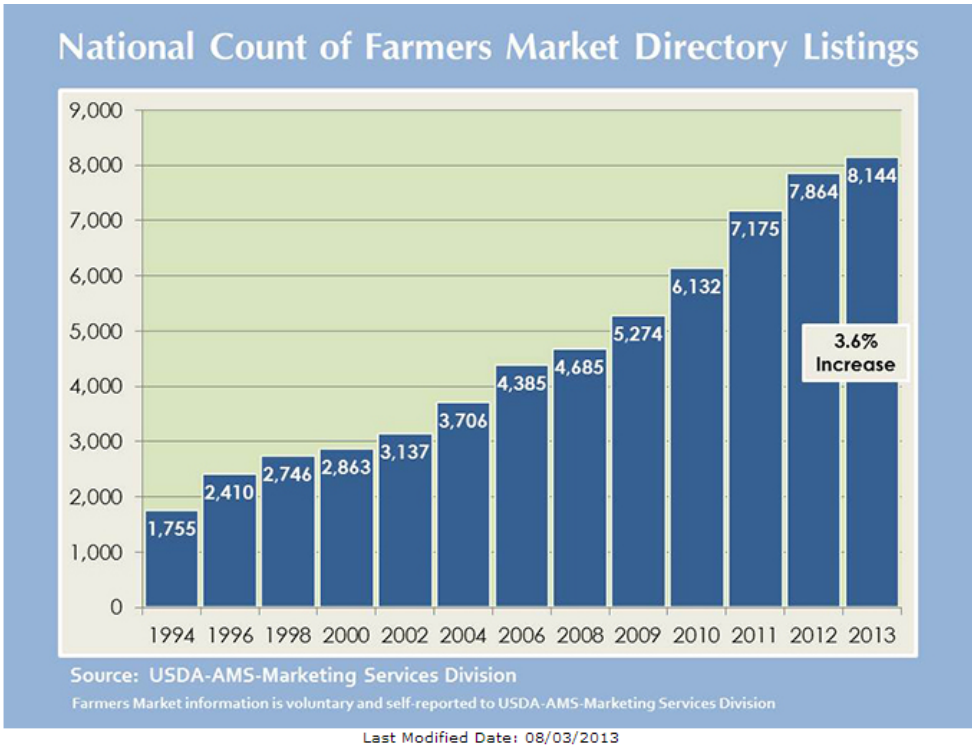
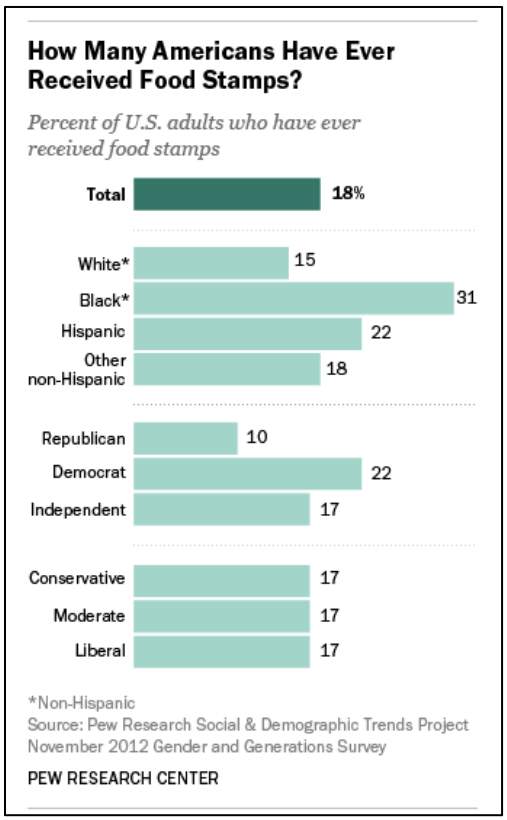
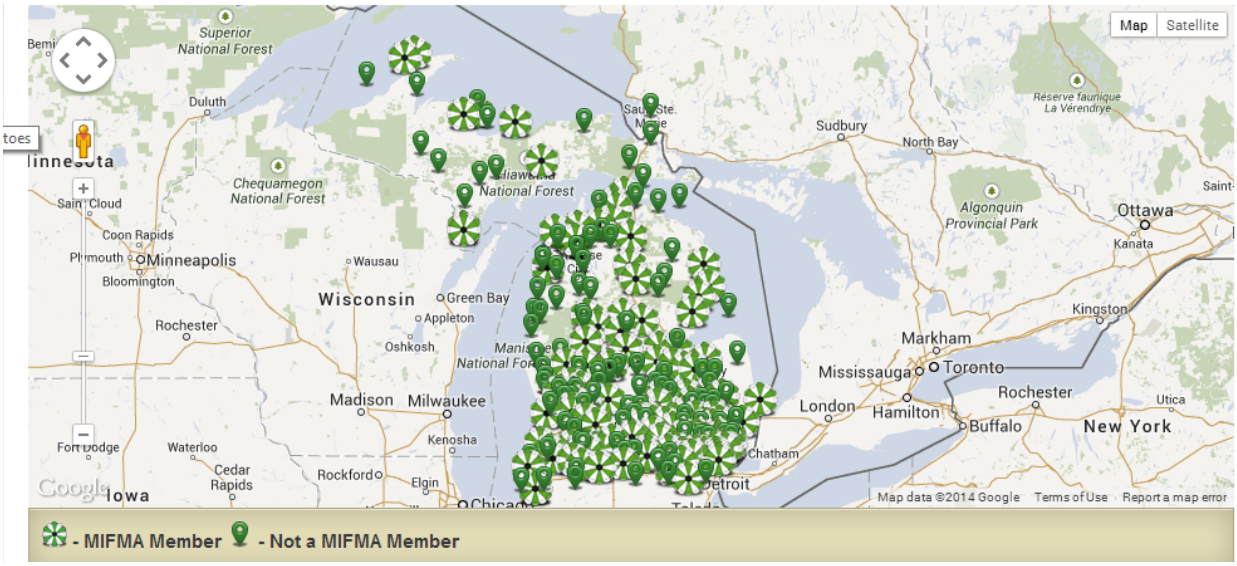


*Figure 3*




*Map 1*




*Source: Michigan Farmer's Market Association*

**Bibliography**


Alkon, A., & McCullen, C. (2010). Whiteness adn Farmers Markets: Performance, Perpetuations...Contestations? *Antipode*, 937-959.

Anderson, M. D. (2007). *Making Healthy Food More Accesible for Low-Incom People: Farm and Food Policy Project.* W.K. Kellogg Foundation and the Claneil Foundation.

Borron, S., & Petersen, H. (2007). *Making Healthy Food More Accessible for Low-Income People: Farm and Food Policy Project.*

Coleman-Jensen, & Nord, M. (2013, September 4). *Food Security in the U.S.* Retrieved from USDA Economic Research Service: http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us.aspx#.UmZ9AVDrzxQ

Conner, David et al. . (2010). *Locally Grown Foods and Farmers Markets: Consumer Attitudes and Behaviors.* Lansing: Michigan State University.

DeWitt, S. (2013, October 5). *Food Hero: Fair Food Network's Double Up Food Bucks Program*. Retrieved from Foodtank: http://foodtank.org/news/2013/10/food-hero-fair-food-networks-double-up-food-bucks-program

Eggert, D., & Farr, J. (2009). *Farmers Market Manager Training Manual.* New York: Farmers Market Federation of New York, 2009.

Farmers' Market Federation of New York. (2005). *10 Priciples of a Successful Farmers' Market.* New York: Farmers' Market Federation of New York.

*Farmers Markets and Local Food Marketing*. (2013, August 03). Retrieved from USDA Agriculture Marketing service: http://www.ams.usda.gov/AMSv1.0/ams.fetchTemplateData.do?template=TemplateS&leftNav=WholesaleandFarmersMarkets&page=WFMFarmersMarketGrowth&description=Farmers%20Market%20Growth%5D

*Farmers Markets and Local Food Marketing*. (2013, August 1). Retrieved from USDA: Agricultural Marketing Service: http://www.ams.usda.gov/AMSv1.0/FMPP

Feenstra, G. W. (2010). Local food systems and sustainable communities. *American Journal of Alternative Agriculture*, 28-36.

*Food Security*. (2013). Retrieved July 30, 2013, from World Health Organization: http://www.who.int/trade/glossary/story028/en/

Growing Hope. (2012). *Downtown Ypsilanti Farmers Market.* Ypsilanti: Growing Hope.

Growing Hope. (2013). *Ypsilanti Farmers Markets*. Retrieved July 31, 2013, from Growing Hope: http://www.growinghope.net/ypsilanti_farmers_markets

Hinrichs, C. (2004). Social Learning and Innovation at Retail Farmers' Markets. *Rural Sociology*, 31-58.

Landers, P. S. (2007). The Food Stamp Program: History, Nutrition Education, and Impact. *Journal of the American Dietetic Association*, 1945-1951.

Lin, B.-H. (2012, July 05). *Food Consumption and Nutrient Intakes*. Retrieved from USDA Economic Research Service: http://www.ers.usda.gov/data-products/food-consumption-and-nutrient-intakes.aspx#.UmqMcFDrzxQ

Marie, J. (2013, October 23). *How Many Fruits and Veggies Should You Eat a Day?* Retrieved from Healthy Eating: http://healthyeating.sfgate.com/many-fruits-veggies-should-eat-day-3324.html

McCann, N. (2009, December). *Is Local Food More Expensive*. Retrieved from Leopold Center: http://www.leopold.iastate.edu/sites/default/files/pubs-attachments/handout.pdf

McCracken, V., Sage, J., & Sage, R. (2012). Do Farmers' Markets Ameliorate Food Deserts? *Focus*, 21-26.

MDCH. (2014, March). WIC Agency List. Michigan, United States of America: Michigan Department of Community Health.

Miller, S., & Roper, N. (2011). *Farmers Market Promotion Program: grant activities and impacts 2006-2011.* Kimberton: Market Umbrella.

Montri, D., Segar, A., Chung, K., & Mino, R. (2011). *Accepting Bridge Cards at Michigan Farmers Markets.* Lansing: Michigan State University Extension.

Morin, R. (2013, July 12 ). *The politics and demographics of food stamp recipients*. Retrieved from Pew Research Center: http://www.pewresearch.org/fact-tank/2013/07/12/the-politics-and-demographics-of-food-stamp-recipients/

Project for Public Spaces. (2013). *Farmers Markets as a Strategy to Improve Access to Healthy* . New York: Institute for Social and Economic Research and Policy (ISERP).

Ratcliffe, C., & McKernan, S.-M. (2010). *How Much Does SNAP Reduce Food Insecurity?* Washington D.C.: The Urban Institute.

Roper, N., & Miller, S. (2013, February 15). *Slow adn steady: Farmers Market SNAP ales Continue to Expand*. Retrieved from Farmers Market Coalition: http://farmersmarketcoalition.org/snap-sales-up-in-2012

Shreve, A. (2014, 03 27). *MIFMA's Farmers Market Manager Certificate Program Surpasses 100 Certified Market Managers*. Retrieved from MIFMA: http://mifma.org/2014/03/mifmas-farmers-market-manager-certificate-program-surpasses-100-certified-market-managers/

*Snap To Health*. (2013, October 23). Retrieved from SNAP: Frequently Asked Questions: http://www.snaptohealth.org/snap/snap-frequently-asked-questions/

Stephenson, G. e. (2007). Im getting desperate: what we know about farmers' markets that fail. *Renewable Agriculture adn Food Systems*, 188-199.

Stephenson, G. et. al. (2007). Im getting desperate: what we know about farmers' markets that fail. *Renewable Agriculture and Food Systems*, 188-199.

*Supplemental Nutrition Assistance Program (SNAP)*. (2013, October 22). Retrieved from Whitehouse.gov: http://www.fns.usda.gov/snap

*Supplemental Nutrition Assistance Program.* (2013, October 17). Retrieved from http://www.fns.usda.gov/pd/29snapcurrpp.htm

USDA - FNS. (2007). *Implications of Restricting the Use of Food Stamp Benefits - Summary*. USDA - Food and Nutrition Service.

USDA. (2012, December 20). *United States Department of Agriculture Food and Nutrition Service*. Retrieved from SNAP: Eligible Food Items: http://www.fns.usda.gov/snap/eligible-food-items

USDA. (2014, April 2). *HIP: Healthy Incentives Pilot (HIP) - Basic Facts*. Retrieved from United States Department of Agriculture-Food and Nutrition Service: http://www.fns.usda.gov/hip/healthy-incentives-pilot-hip-basic-facts

USDA. (2014, April 4). *SNAP (Food Stamps): Facts, Myths and Realities*. Retrieved from Feeding America: http://feedingamerica.org/how-we-fight-hunger/programs-and-services/public-assistance-programs/supplemental-nutrition-assistance-program/snap-myths-realities.aspx#_edn10

Young, C. (2011). Farmers' markets in low income communities: impact of community environment, food programs and public policy. *Community Development*, 208-220.

# PART 4

## Examining the Link between Social Missions versus Actions to Promote Food Security in Michigan

*By Connie Yu*

# Examining the Link between Social Missions versus Actions to Promote Food Security in Michigan

**CONNIE YU**
**University of Michigan, School of Natural Resources and the Environment**

## Abstract

In the past two decades, local and regional food sales in the U.S. have grown significantly. This trend was coupled with an expanded focus for local food advocates to include economic and community benefits. Through an empirical analysis of farms' mission statements and their respective actions that indicate commitment to creating social benefits; this paper explores whether the link between having a social mission and acting to develop social value exists and how strong this link may be. The data presented are part of a larger study to find ways to help Michigan improve food security. The identified group of small farmers in Michigan account for nearly one third of the state's agriculture sector. If these farms were able to leverage its wide spread geographic presence, albeit somewhat fragmented, and each commit to creating social benefits, the result would be an overall improvement in food security for the state of Michigan on average. The findings suggest that among small farmers, about half of them have mission statements that promote and represent a combination of the following: sustainable products, quality food, environmental stewardship, family business, organic methods, and community building. However, the findings for correlation and association between intent and direct actions that would generate social benefits, was weak. The concepts of social enterprises, social value, mission statement impact, and local farm goals provide a framework for understanding the motivations behind organizations with a social mission and the connection to actual impact. This research provides further insights on how farms with or without social missions can be improved to contribute to address food insecurity and other community development efforts. As advocates seek to further promote local farms and associated produce as a solution to food insecurity, it is critical to motivate farms who are a primary stakeholder in communities to consider its role and responsibility to start addressing community needs beyond economic viability.

## Introduction

### Problem Statement

When a recent poll of 1,001 United States (U.S.) registered voters were asked about their attitudes of the nature of the food and fuel supply, 6 in 10 Americans responded that they know someone personally who has struggled to afford food (Gerzma, 2013). This study highlighted that at least 57% of respondents across income levels, genders, age groups, and geographic locations[1] personally knew someone who has struggled to afford food in the past 5 years (Gerzma, 2013). In Michigan, these statistics ring true as almost 59% of all Michigan residents live in what is considered "underserved areas" with limited access to healthy food (Craig, 2009). More specifically, the two-year data from 2005 to 2007 show that almost 12% of Michigan residents are food insecure (Nord et al., 2008). The percentage of Michigan residents who are food insecure is commensurate with the percentage of Americans who live in a state of food security as approximately 50 million cannot always meet their basic food needs. Michigan's food access issue mirrors the country's food access issue on a smaller scale, and if solutions for Michigan's food system could be developed, then a model system could be used and scaled for the millions in America who also suffer from food insecurity.

### Rise of food movement and market place innovations

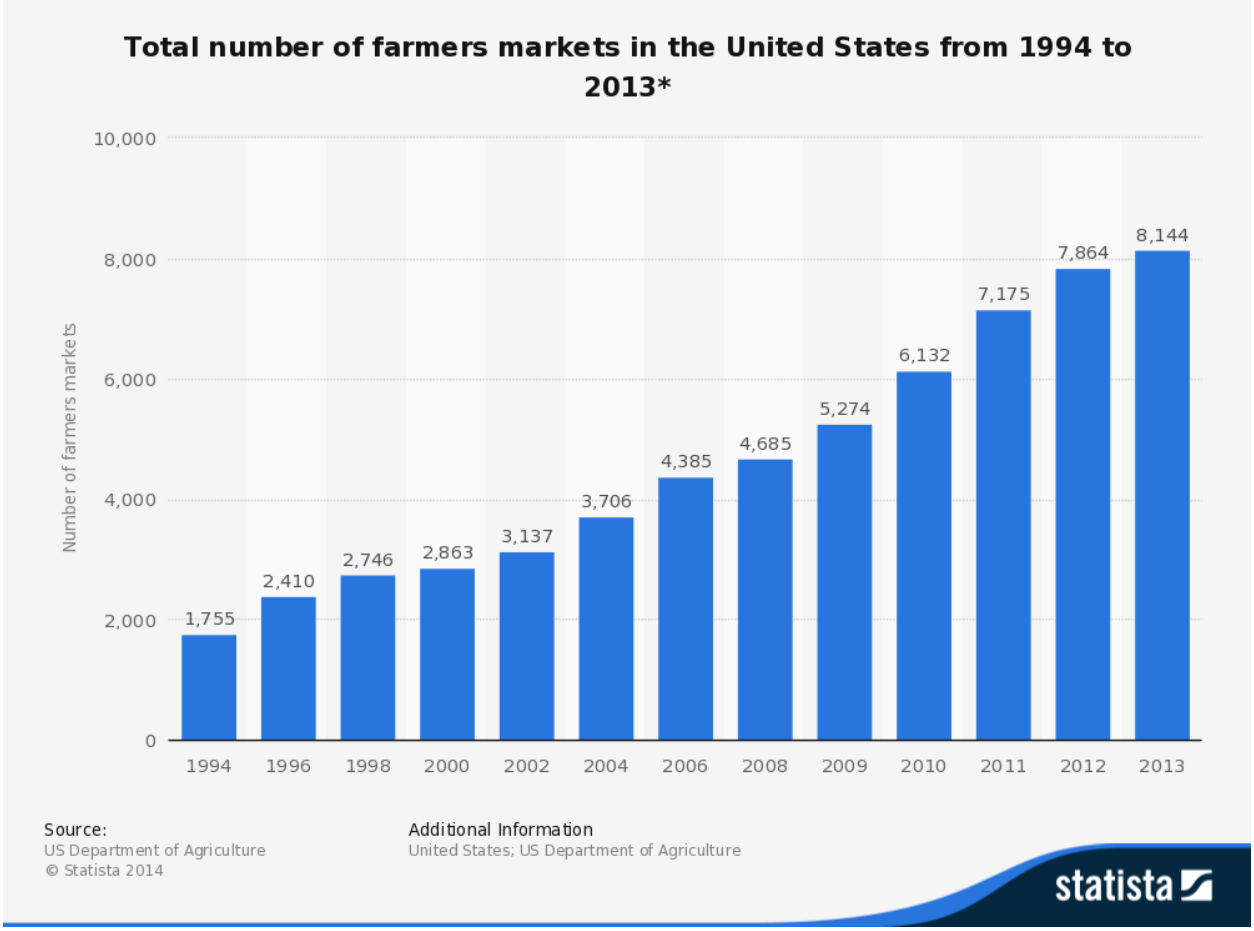
As a nation, the last 20 years in agriculture has experienced significant increased presence of local and regional food. According to a recent United States Department of Agriculture (USDA) report, "the sale of local foods in the U.S. totaled nearly $5 billion in 2008" (Low and Vogel, 2011). Outlets such as grocery stores, restaurants, and institutions reported purchasing approximately $2.7 billion of local farm products. A large part of the remaining sales

[1] Geographic locations refer to the three types of population density – City, Suburb, and Rural.

were generated through direct market channels such as farmer's markets, community supported agriculture (CSAs), and farm to school programs. The number of farmer's markets increased from 1,755 in 1994 to 8,144 in 2013 (USDA – Economic Research Services, 2013). CSAs increased 66 times to more than 4,000 outlets by 2007, with a total of 12,500 participating farms (USDA Ag Census, 2007). In 2009, school meal programs that use local farms as food suppliers reached almost 3,000 in 2009, an increase from 400 in 2004 (National Farm to School Network, 2010).

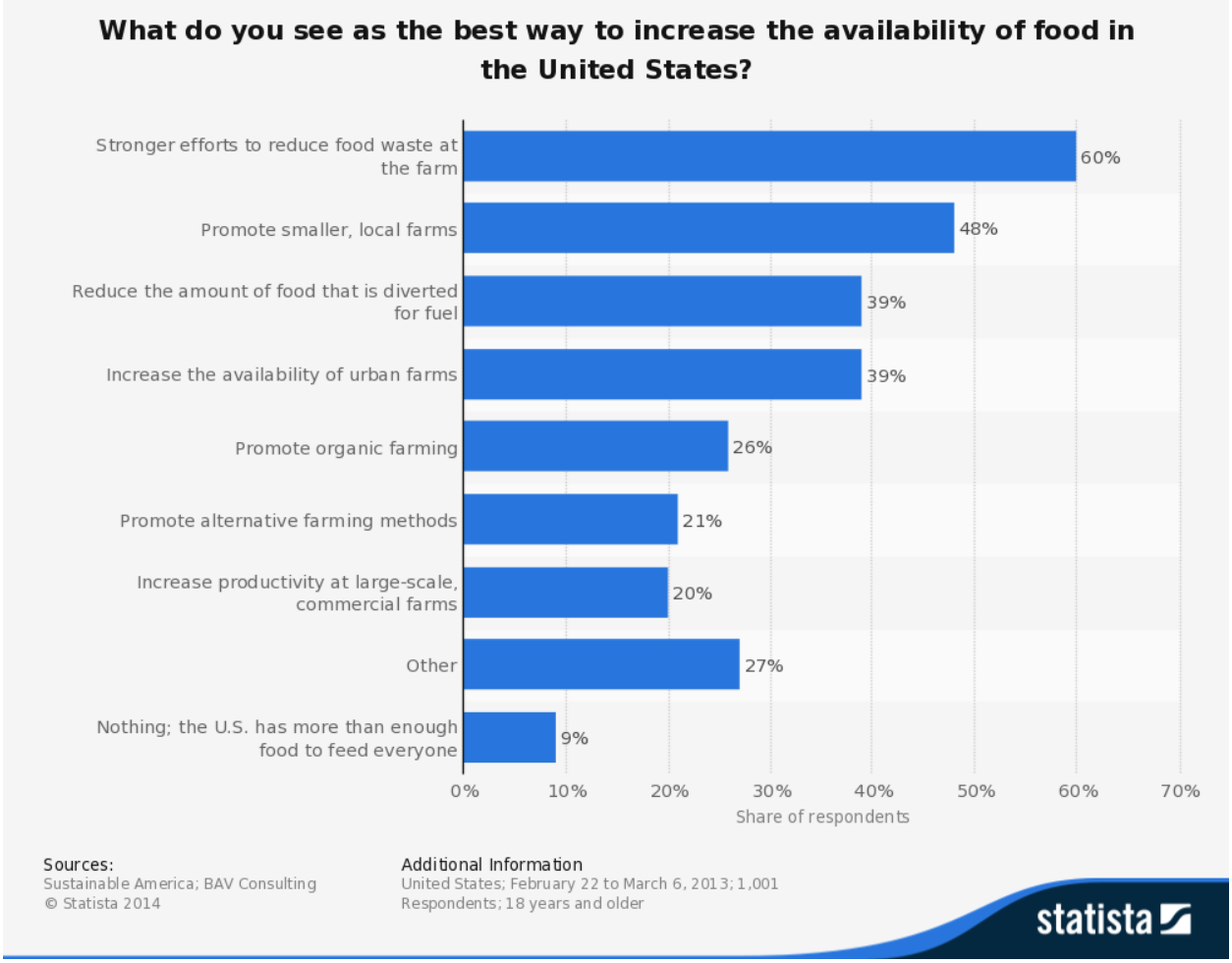
Rather than understand the mechanisms behind this trend and phenomena, recognition of the trend is enough to look forward to understand where the future of this momentum with local farms and food products will continue. It seems that the popularized case for local food commerce in the U.S. encompasses a wider spectrum of goals to include economic and community benefits beyond environmental benefits (Pirog and Bregendahl, 2012). The wider community benefits cover education, health and wellness, community building, economic development, environmental justice, promotion of organic / sustainable agriculture, and promotion of a healthy lifestyle.

Figure 1




Based on a Food / Fuel Public Poll of 1,001 respondents in the U.S. conducted in 2013 by BAV Consulting on behalf of Sustainable America, 48% chose promoting smaller, local farms the best way to increase food availability in the U.S. 39% of people surveyed chose increasing the availability of urban farms as a way to increase food availability. It is clear that momentum for alternative food network organizations are increasing and that people are demanding that smaller local farms be a part of the solution as opposed to large industrial – scale food production. If this is what the public sees as important to solving food insecurity, how do the stakeholders in food network promote initiatives and sustainable efforts? What are the mechanisms to encourage more local small farms to be effective at reducing food insecurity?

Figure 2



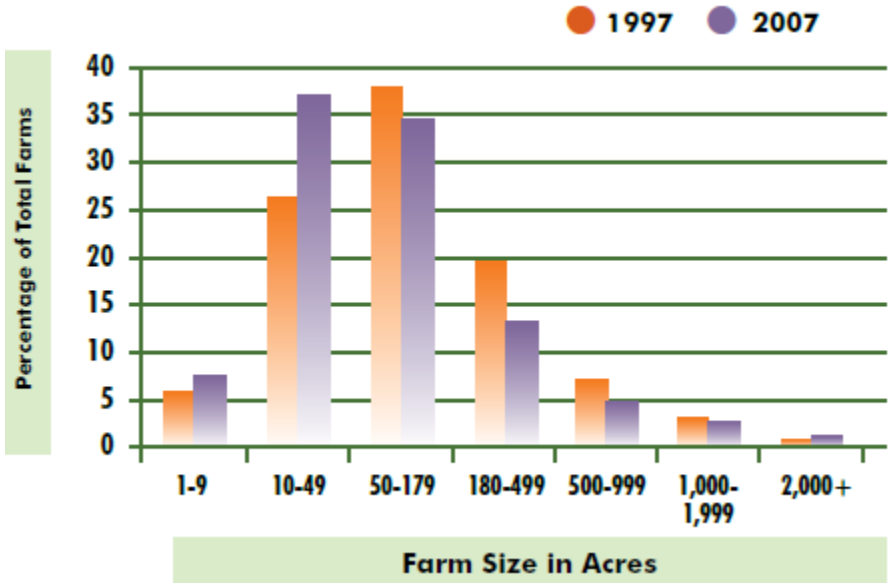

In conjunction, the focus on food and the associated benefits, security, politics, production, and consumption has attracted a higher level of interest amongst the general public. As part of the research on food access and possible solutions, local small-scale farmers seem a likely contender in helping to improve food access given its proximity, embeddedness, and some of its shared goals with the community.

Background of current farming in the U.S. & Michigan

Given the state of nearly 50 million Americans live in a state of food insecurity, it is important to understand what current farming looks like for Michigan with respect to the rest of

farming in the U.S. A total of 56,000 farms in 2007 stretch a total span of 10 million acres in Michigan, accounting for approximately 29% of the state's land, yet boasts the second most diverse agriculture productivity after California. In terms of size trends, mid-sized farms are losing ground (by nearly 10%), while small acreage (1-49 acres) farms have increased in percentage of all farms by nearly 13%. Please see figure below for the trend in Michigan Farm Size from 1997 to 2007.

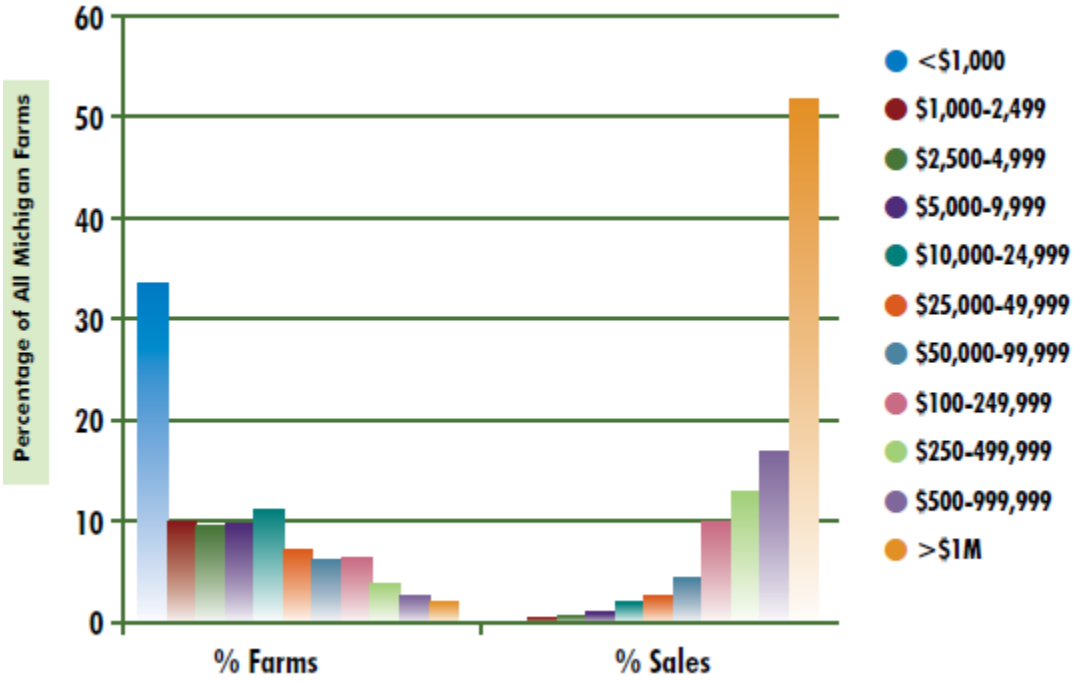
Figure 3




*Source: MI Farm Viability Report, 2011*

Given the size trends for Michigan farms, it is also important to understand the relative distribution of income of the farms to farm size. The figure below demonstrates that despite the significant increase in small farms, the actual income generated by approximately 30% of Michigan farms only accounts for less than 1% of overall sales.

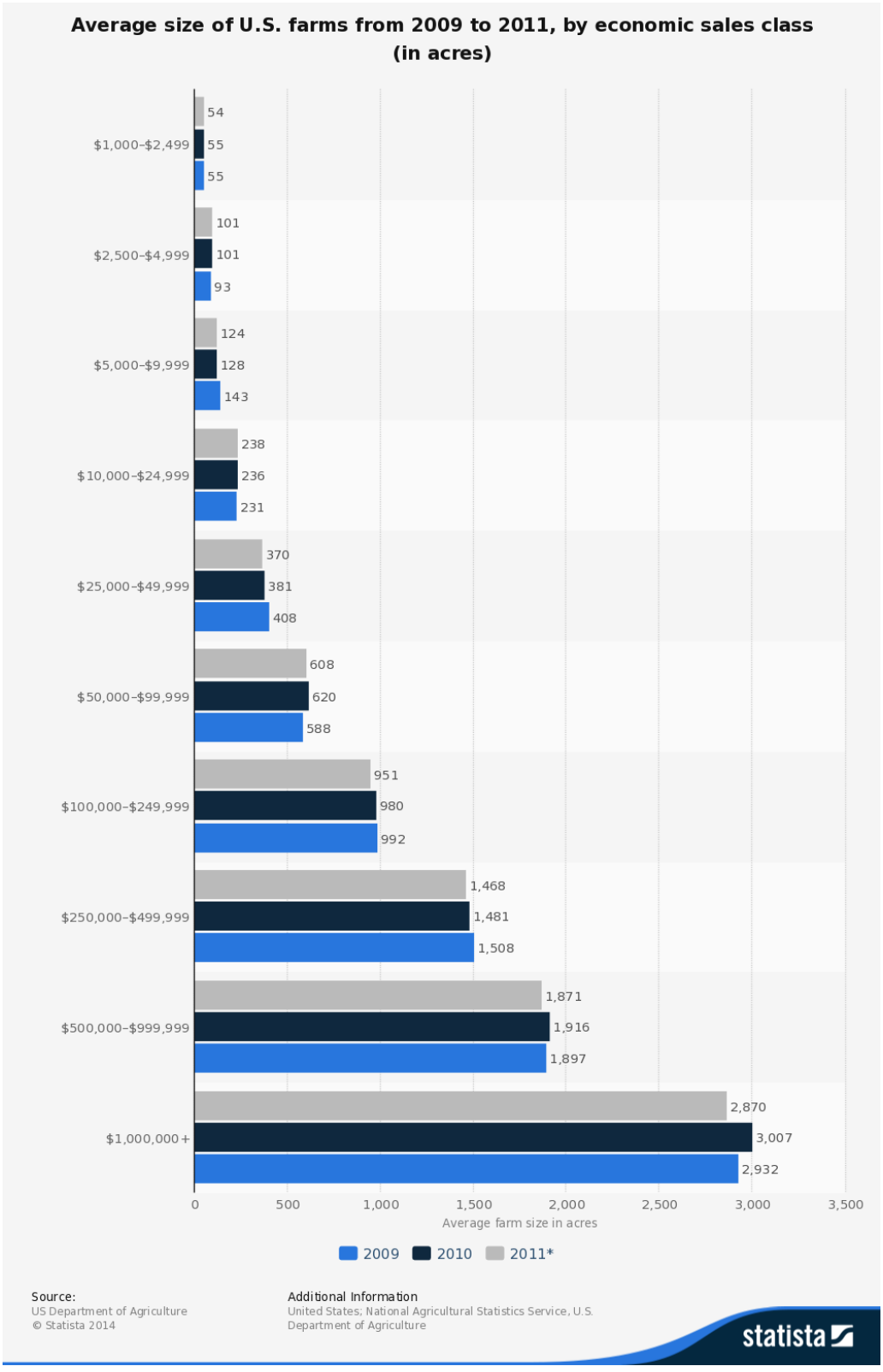
Figure 4




*Source: MI Farm Viability Report, 2011*

This highlights the skewed agriculture income generated by the large-sized farms and also a formidable attempt for more small farms to become viable and contribute to the agriculture needs of Michigan. Michigan's farming trends seem to have built a significant number of small farmers who could satisfy the product demands and perhaps be part of the solution to improve food security. The chart below is a comparison of farm sizes in all of U.S. relative to income generated. The U.S. agriculture industry is much more evenly incremental in its income level increases including the number of farms, and size of average farm.

Figure 5


Average size of U.S. farms from 2009 to 2011, by economic sales class (in acres)
$1,000–$2,499
54
55
55
$2,500–$4,999
101
101
93
$5,000–$9,999
124
128
143
$10,000–$24,999
238
236
231
$25,000–$49,999
370
381
408
$50,000–$99,999
608
620
588
$100,000–$249,999
951
980
992
$250,000–$499,999
1,468
1,481
1,508
$500,000–$999,999
1,871
1,916
1,897
$1,000,000+
2,870
3,007
2,932
0
500
1,000
1,500
2,000
2,500
3,000
3,500
Average farm size in acres
2009
2010
2011*
Source:
US Department of Agriculture
© Statista 2014
Additional Information
United States; National Agricultural Statistics Service, U.S. Department of Agriculture
statista

**Defining local micro-scale farms**

Given the specific distribution and types of farms in Michigan, it was important to segment the Michigan farms to a micro-farm level in order to understand the granularity of a certain set of farms. As aforementioned, one-third of Michigan farms generate less than $1,000 in annual revenue, however, farms 49 acres and under account for approximately 42% of total farms in Michigan as of 2007. This landscape represents extreme fragmentation in Michigan's agriculture sector. It is notable to understand that although fragmented, these small-scale farmers are numerous and fairly spread out within Michigan. The advantage of the high number of among the extent of the fragmented farmers in Michigan who make up a large percentage of farms overall is that once a specific set of best practices have been formed, the scalability of it to a majority of farms is relatively straight forward. There's several ways to define local, urban, small-scale farming and what it translates to in the communities. The goals of these farms as well as people's perception of them can also vary from ecological sustainability, social justice democracy, better nutrition, food security, freshness, and quality. Scale is a socially constructed term since there is little that is inherent from scale itself (Born and Purcell, 2006). Thus, the outcomes of being local vary widely and depend on the underlying goals people target.

Assumptions about local farms and community food networks

Historically, local farming was a key component of food sheds that described a "geographic area and the foods that can be grown within it, but also the social and cultural elements of a community" (Feenstra, 1997). The early tie-in of local-scale to ecological, social justice, and community evolved for some scholars such as Kloppenburg et al. in 1996 to a more cautious view of advocating local scales purely to be local (Born and Purcell, 2006).

As alternative food networks of community-based farmers have grown, research has also shown that they do not always result in an evenly distributed positive outcome. Some farmers

are poorly supported despite being a part of the same network. In fact, the increase in demand for locally grown foods in urban areas "does not necessarily enable all farmers to consistently make a living from season to season" (Jarosz, 2007). The details of farmers' struggles are detailed in a later section of the paper.

There are differing opinions in the field regarding several common beliefs about small-scale, urban, local farmers. First, there is discussion around the physical geography of proximity (miles) to its consumers and its perceived social missions or agenda or lack thereof (Hinrichs et al. 1998, Feenstra, 1997). It should be noted that local food's nearby cousin "regional foods (network)" is often used to mean "foods whose qualities are attributed to a distinctive geographic origin (Kneafsey, 2010). Second, there is discussion around the actual benefits of direct marketing to consumers and selling face-to-face to customers to create sense of social connection, reciprocity and trust (Hinrichs, 2000).

Part of the direct marketing definition of local farming is constrained by proximity and the distance traveled by farmers. Certain farmer's outlets or food co-operatives have strict rules over the distance traveled for products. It is important to make the distinction that localization is not synonymous to sustainability. Food miles is often associated with a lower carbon footprint, however, this measure encapsulates all green-house gas emissions and not just food miles (Morgan et al., 2010).

To cater to the characteristics of Michigan farms, the USDA definitions for farm sizes were adjusted to reflect meaningful cut offs in farm sizes. For example, USDA defines a small farm as a farm with sales less than $250,000 per year. However, based on the Michigan Farm Viability report, about one-third of all farms in Michigan generate less than $1,000 in sales (Cocciarelli et al., 2011). The $1,000 cutoff actually falls under USDA's definition of a farm as

a place that generates at least $1,000 of agricultural products is sold or would be sold. Another trend is the average Michigan farm size decreasing from 215 acres to 179 acres in 2007 (Cocciarelli et al., 2011). By 2007, farms in Michigan smaller than 50 acres accounted for 44.5% of all farms in Michigan (Cocciarelli et al., 2011). Thus, for this study, the focus was on these micro-farms less than 50 acres in size to understand the characteristics within the most fragmented segment and to see if these local, smaller farms could contribute to improving food access.

**Overview of social enterprises and mission statements**

In the context of micro farms in Michigan and their potential to improve food access in Michigan, it is crucial to look at the potential social benefits of this potentially embedded solution for its local communities. One way these micro farms can contribute to providing society value beyond its economic contribution to the food market is to deliver social benefits to its consumers, and greater body of stakeholders. At the core, improving food access for under-served communities is housed in the cross-section between food producers and the consumers which can be considered to be community economic development efforts (CED).

Food access falls into the realm of community economic development. Giloth (1988) argues that CED serves as (i) a response to market and public sector failures in local communities, (ii) a response to the inability of the state to respond effectively on behalf of those affected by market failures, and (iii) a response to the inability of public and private institutions to develop acceptable solutions to the problems of poverty and neighborhood decline (Giloth, 1988). Given that food insecurity falls into several of the above categories, the solution may be developed within the community economic development arena. According to Wallace, CED's goal is to promote socio-political relations that promote distinctive social commitments and

values that support economic vitality (Wallace, 1999). This frames the discussion about how local micro farms can act as a key CED player since the farms would operate exactly as any other commercial establishment – an exchange of goods and services for monetary return, but additionally and complementary with a charitable intention.

Of the different organizations that fall in with CED efforts, the boundaries between state and market become blurred lines. According to Wallace, "where social welfare policy is disintegrating, opportunities for some innovative policy approaches to contend with socio-political and economic problems through social purpose enterprises represent an effective model for policy makers on a local level" (Wallace, 1999). This is where the blurred lines exist in between the spheres of economic constraints and society benefits and goods that are necessary for sustainable functioning communities.

At the crux of the movement towards more effective social benefits, the key concept is recognizing the link between societal well-being and the mechanisms in which it can be created. Beyond conventional value creation as defined by the last few decades of narrowed focus on short-term financial performance, the idea of shared value which incorporates societal needs as been revisited and popularized by renowned business strategist and professor at Harvard University Michael E. Porter. Based on Porter (2011), shared value:

*"is not about economic needs, nor is it about "sharing" the value already created by firms – a redistribution approach. Instead, it is about expanding the total pool of economic and social value"*

Capitalism is somewhat redefined with the concept of shared value to better connect companies' success with societal improvement as it opens up many new ways to serve

customers' needs, gain efficiency, create differentiation, and expand markets (Porter, 2011). Given the great recession of 2008 and subsequent backlash against the capitalist system as a major cause of social, environmental, and economic problems, this has paved the way for the rise of CED, social enterprises, and organizations serving public (Porter 2011). The hope is that these social enterprises can mend the widened gaps between state and market dynamics.

In the midst of CED efforts, the concept of social entrepreneurship and social enterprises has gained popularity while taking on several different meanings (Dees, 1998). People's understanding of social enterprises range from a social purpose enterprise that functions as a for-profit subsidiary operated by non-profit organizations that are mainly concentrated in urban communities to not-for profit ventures, hybrid organizations mixing not-for-profit and for-profit elements, mission-oriented organizations, and the list goes on. However, the crux of social enterprises that differs from pure business and profit maximizing organizations is that the core purpose of the organization is mission-related impact not wealth or business value creation. For businesses, they are measured subject to market disciplines. For social enterprises, the market principles do not do an effective job of valuing social improvements, public goods and externalities, and benefits for people who cannot afford to pay (Dees, 1998).

According to Dees, key tenements of social enterprises include the following:

- *Adopt a mission to create and sustain social value (not just private value),*
- *Recognize and relentlessly pursue new opportunities to serve that mission,*
- *Engage in a process of continuous innovation, adaptation, and learning,*
- *Act boldly without being limited by resources currently in hand, and*

- *Exhibit a heightened sense of accountability to the constituencies served and for the outcomes created.*

The first component to a social enterprise of adopting a mission to create and sustain social value can mean that a mission statement be present or that the organization is clear on its core mission and which social value it seeks to contribute to. When the idea of social enterprise is applied to the farm sector, the last point that defines social enterprises "exhibit a heightened sense of accountability to the constituencies served and for the outcomes created" relates to a farm's level of embeddedness in the community from a physical standpoint which is also tied to its viability through its sales channels. This is partly because of a farm's physical locale and the constraints in the nature of its products as perishables. Thus the link of local embeddedess for farms is high, and if combined with an explicit mission to provide positive societal value, then farms with a social mission could be suited for addressing food insecurity.

Within social enterprises, to understand how mission statements impact organizations and what function it serves, the most prevalent usage of mission statements that have been studied is with for-profit firms. The purpose of mission statements acts as a compass for companies forming its overarching thesis, such as why does the company exist; what is its purpose; what is the firm trying to accomplish? A clear vision of these aspects captures the essence of an organization and highlights its unique and long-term purpose (C.K. Bart, 2001). The extent that a mission statement guides an organization encompasses not only the overarching strategy and direction of the organization, but also intends to motivate and in turn, control the behaviors of members of the organization toward the common goals (Campbell, 1989). Thus, the potential impact a mission statement can have on organizations is significant. According to C.K. Bart, for mission statements to be effective, it must have appropriate rationale, contain sound content,

have organizational alignment and bring about sufficient behavioral change in the desired direction (C.K. Bart, 2001). Thus, mission statements are at the beginnings of capturing intent of an organization and also direct its ability to galvanize its members towards a shared goal.

**Snapshot of mission-focused farms**

To examine the concepts of shared value, CED efforts, social enterprises, and social missions in practice, a review of existing farms that have positive social benefit intent begins to answer the question if mission-focused farms – designed with the intent of improving food security, actually does what it sets out to do? Few studies have been performed on farmer's intent and correlated actions that demonstrate a mission. A large part of the literatures that study locally grown food, organic food movements, and community supported agriculture, have resulted in mixed reviews on if the social value is actually generated and whether these efforts are not a culmination of just finding additional market outlets for products – ultimately satisfying operational profits rather than a social benefit (Guthman, 2006; Pole and Gray, 2013).

One study that positively highlights farmer's social goals and ultimately linked intent with direct action deals with farm's participation in farm to school programs. Betty Izumi, D. Wynne Wright and Michael W. Hamm's research on motivations behind farmers' participation in school programs hinges on the basic premise that small- and mid-size family farmers can gain access to stable and reliable market outlets by developing direct relationships with schools (Izumi et al., 2010).

However, in reality, the study points out that there are additional challenges in the food procurement process for schools based on the intense budget and time pressure of school services in addition to additional logistics for procurement including labor and equipment needs. For

farmers, the low-volume sales and logistical issues associated with delivery timing, lack of storage, and lack of loading docks make the business rationale for selling to schools weak (Izumi, B.T., 2008). Then why do schools still procure directly from farmers and interest continues to grow? It was found that for six organic farmers in California, the primary motivation to participate in school food distribution was to serve children healthful foods and educate them about agriculture (Izumi et al., 2010). In addition, it was found that while farmers do sell products to schools to diversify their marketing strategies, farmers wanted to contribute to social benefits through direct action (Izumi et al., 2010). More specifically, the social benefits could be described as localism based on a "strong sense of symbolic community" by providing products to the local schools. Therefore, certain farms it seems to be motivated by a social benefit aspect be it a sense of localism stemming from embeddedness or ways to commit to alternative food outlets. It is uncertain which social benefits farmers will choose to participate in and how those decisions are made. However, the beginning efforts of farmers being motivated to general social value could reside in the form of a mission statement.

Here are profiles of two mission-focused farms in Michigan who exemplify a farm with a strong, clear vision to achieve its intended social benefit goals.

<u>Tilian Farms</u>

*Pontiac – Ann Arbor Township*

- Mission - To facilitate farm business development by providing infrastructure, support and programming to reduce barriers for new farmers while strengthening the food system in southeast Michigan.
- Year founded: 2010

- Members: 3 graduated farms; steering committee; partnerships with USDA; partners with Michigan State University (MSU)
- Program – Tilian runs an Incubator Farm Program. It provides land, equipment and resources for new farm businesses. In addition, Tilian supports incubator farmers through multiple strategies including: a mentorship program comprised of experienced farmers and other business leaders; facilitating connections with local businesses and institutional produce buyers; identifying financial resources for beginning farmers; and assisting farmers with the transition to their own land.
- Impact and results: Since Tilian's inception, three farms – Seeley Farm, Green Things Farm, and Bending Sickle Farm – have completed the incubator program and are now farming independently in Michigan. A fourth incubator farm is currently working with Tilian, Honest Eats Farm.

Growing Hope

Ypsilanti – Washtenaw County

- Mission: Helping people improve their lives and communities through gardening and healthy food access. Growing Hope fosters learning, improves nutrition, encourages self-reliance, and promotes positive community futures. (Growing Hope, About Us)
- Year founded: 1999, the garden site was started and in 2003, Growing Hope was incorporated as a 501c3 nonprofit organization
- Members: 12 individuals are on the board of directors and staff members
- Program and impact: Growing Hope uses a partnership model to revitalize and instill agriculture capabilities in its members. Its efforts are rooted in outreach

and building community by being the technical assistant, program coordinator, general resources for other non-profits, public agencies, and educational institutions (Growing Hope, About Us). In terms of results and impact, Growing Hope's support of the Ypsilanti Farmers Market has helped the farmers market achieve $21,000 in sales to low-income customers using food stamps and related low-income assistance programs. This translated to approximately 20% of 2009 annual sales. Also in 2013, Growing Hope supported two farmers markets which generated $279,000 in revenues for 80 local vendors. Among other achievements in 2013, Growing Hope inspired 757 youth members pre-kindergarten through grade 12 to learn how to grow, harvest, and prepare healthy foods. Most of this youth group consisted of mostly those from low-income households.

**Methods**

The potential benefits of using a mission statement with a farm to alter its created shared value are of primary interest in this study.

To test my primary hypothesis that having an explicit mission to provide social benefits have a positive relationship with micro-sized farms' ability to improve food security, I conducted a survey to target those farmers who sell to farmer's markets and through direct selling - CSA channels. These channels were chosen as it highlights farmers who are most likely to contribute to feeding the direct communities where the farm is located. The survey consisted of 27 questions that asked about the farm's organizational information, the historical performance, the selling channels, mission statement and goals of the farm, donation basis, participation in local food movements and programs, and rationale for its actions. The demographics of the owner

were not surveyed as this study focuses on the constructs of farms as potential profit generating social enterprises.

The survey was created and administered using the Qualtrics online program which collects survey responses digitally. Thus respondents only received the survey through website means and were required to have access to the internet. This requirement for access to the internet was not expected to skew the data as internet usage and access are generally abundant when the survey was distributed.

Before finalizing survey questions, the survey was pre-tested in October 2013 by a representative from Fair Food Networks and a manager of the Michigan Farmers Markets Association (MIFMA). Minor feedback was incorporated into the final set of survey questions. The survey was sent out via email through the MIFMA list serve. Each recipient was asked to fill out the online survey to further research about small local farms in Michigan with the goal of finding ways to improve food security. The initial live survey was sent out the week of December 2, 2013. Thereafter, a reminder was sent every two weeks through the same MIFMA list serve address. The survey was left open until February 7, 2014.

Participant selection

The majority of the data was collected from farmers who were part of MIFMA, totaling approximately 1,000 farmers and farmers' market managers. Of this list serve, approximately half are farmers and vendors. The participants of MIFMA were invited to participate in the online survey via email. The email to invite survey participants was sent to the MIFMA list serve by MIFMA Manager of Programs and Partnerships. It was recommended by MIFMA that survey

response rates would be higher if sent by the MIFMA manager versus myself who is not a participant of the farmers and farmers' market manager groups.

Limitations

The participants are biased towards those farms that are affiliated or have connections with MIFMA. This list comprises of over 1,000 members who are self-selected to participate in this industry group. It was assumed that this sample set of survey participants represents a comprehensive set of farmers in Michigan who fit the micro-scale farm definition. Outside of the MIFMA list serves of farmers, there were few other farmers' organizations that had the email contact information of as many farmers as easily accessible to this study. There could be more farmers who were left out of the survey who do not have access to internet services. Also there may have been duplicate entries from the various survey data gathering sources. These overlaps were adjusted in the data analysis

Analysis methods

When all survey responses were collected from both survey channels, the data was entered and analyzed using Excel, SPSS software, and Qualtrics. The analysis of survey results consisted of primarily calculations of descriptive statistics, observed trends and frequency of response distributions, likert scales, open response word clouds, independent sample t-tests, and one-way ANOVAs to demonstrate differences in means and some correlations, where statistically significant.

**Results**

Demographics of Farm Respondents

Table 1

| How many acres is your establishment in total? (please include all sites you own and operate) | | | |
|---|---|---|---|
| Farm acreage | Frequency | Valid Percent | Cumulative Percent |
| 1-4 | 13 | 32.5 | 32.5 |
| 5-10 | 8 | 20 | 52.5 |
| 11-24 | 6 | 15 | 67.5 |
| 25-49 | 6 | 15 | 82.5 |
| 50-120 | 5 | 12.5 | 95 |
| 121+ | 2 | 5 | 100 |
| Total | 40 | 100 | |

Overall, 40 complete surveys were collected out of the 65 surveys that were at least clicked on to open. This represents an approximate response rate of 12% of the 500 farmers and vendors on the MIFMA list serve who were contacted. Of the 40 survey respondents, slightly over half owned and operated farms that were 10 acres or smaller in size. This sample size represents the micro-sized farms that this study examines regarding micro-farms' ability to improve food access. 82.5% of the sample size owned and operated farms that were less than 50 acres. Thus, the results of the below analysis and discussion are skewed towards micro-sized farms and would not necessarily be generalizable among the same-sized farms and especially not farms greater than 50 acres.

Table 2

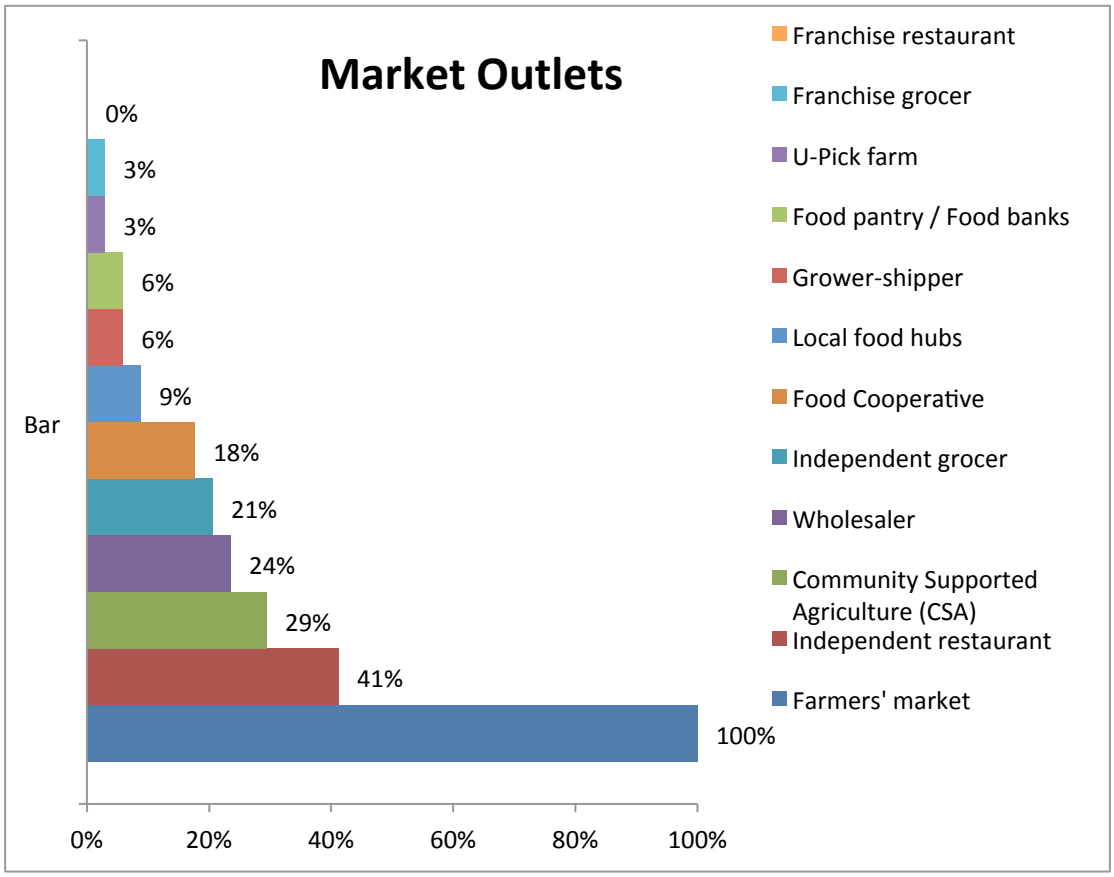
| How long have you been farming at your current location? (In number of years) | | | |
|---|---|---|---|
| Years at current farm | Frequency | Valid Percent | Cumulative Percent |
| 0-2 | 5 | 13.5 | 13.5 |
| 3-5 | 11 | 29.7 | 43.2 |
| 6-9 | 7 | 18.9 | 62.2 |
| 10-15 | 7 | 18.9 | 81.1 |
| 16-25 | 3 | 8.1 | 89.2 |
| 26-85 | 4 | 10.8 | 100.0 |
| Total | 37 | 100.0 | |

Of the 37 respondents who reported how long they have been operating and owning their farm, approximately 43.2% of farms were five years or younger. This highlights the skewed data that's been gathered to be relatively newer farms or newly owned farms. This combined with the size of the farms, results in a sample pool that is skewed on the less than 50 acres farms that have been in existence with its current owners for five years or less.

Table 3

| How long have you been farming at your current location? (In number of years) * How many acres is your establishment in total? (please include all sites you own and operate) Crosstabulation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | How many acres is your establishment in total? (please include all sites you own and operate) | | | | | | |
| Years at current farm | | 1-4 | 5-10 | 11-24 | 25-49 | 50-120 | 121+ | Total |
| How long have you been farming at your current location? (In number of years) | 0-2 | 3 | 1 | 0 | 1 | 0 | 0 | 5 |
| | 3-5 | 4 | 3 | 2 | 0 | 1 | 0 | 10 |
| | 6-9 | 2 | 2 | 1 | 2 | 0 | 0 | 7 |
| | 10-15 | 1 | 0 | 2 | 2 | 2 | 0 | 7 |
| | 16-25 | 2 | 0 | 0 | 0 | 1 | 0 | 3 |
| | 26-85 | 0 | 1 | 0 | 1 | 0 | 2 | 4 |
| Total | | 12 | 7 | 5 | 6 | 4 | 2 | 36 |

Figure 6




For all 34 respondents for the questions of where products are sold, 100% of them sell at farmer's markets, and then the next distribution outlet that people sold to was independent restaurants equaling 41.2%. The high response rate for independent restaurants was an unexpected result, whereas the sample population was collected from the MIFMA network which directly pools farmers, who sell to or are associated with farmer's markets, therefore a 100% response rate for farmer's market as a selling outlet. The next outlet that had the most responses for sales was community supported agriculture at 29.4%. Following the CSAs, the wholesaler outlet had eight responses and account for 23.5% of total responses.

In addition to the specific outlet distribution, the distance proximity in product distribution was nearly all within a 50-mile radius to the farms. The two tables below demonstrate the local distribution network that survey respondent's use confirming the direct local market channels that micro-sized farmers tend to use. From this, it shows that the potential for social benefits to be generated through product distribution in the local areas surrounding the physical location of the farms is feasible and perhaps already occurring due to simpler logistics.

Table 4

| **What percentage of your revenue is generated from sales channels within 25 miles radius from your farm?** | | | |
|---|---|---|---|
| Percentage of Sales | Frequency | Valid Percent | Cumulative Percent |
| .00 | 11 | 27.5 | 27.5 |
| 20.00 | 1 | 2.5 | 30.0 |
| 25.00 | 4 | 10.0 | 40.0 |
| 50.00 | 3 | 7.5 | 47.5 |
| 65.00 | 1 | 2.5 | 50.0 |
| 70.00 | 1 | 2.5 | 52.5 |
| 75.00 | 1 | 2.5 | 55.0 |
| 78.00 | 1 | 2.5 | 57.5 |
| 90.00 | 4 | 10.0 | 67.5 |
| 100.00 | 13 | 32.5 | 100.0 |
| Total | 40 | 100.0 | |

Table 5

| What percentage of your revenue is generated from sales channels within a 25 to 49 miles radius from your farm? | | | |
|---|---|---|---|
| Percentage of sales | Frequency | Valid Percent | Cumulative Percent |
| .00 | 23 | 57.5 | 57.5 |
| 9.00 | 1 | 2.5 | 60.0 |
| 10.00 | 2 | 5.0 | 65.0 |
| 20.00 | 2 | 5.0 | 70.0 |
| 25.00 | 2 | 5.0 | 75.0 |
| 35.00 | 1 | 2.5 | 77.5 |
| 40.00 | 1 | 2.5 | 80.0 |
| 50.00 | 2 | 5.0 | 85.0 |
| 75.00 | 3 | 7.5 | 92.5 |
| 100.00 | 3 | 7.5 | 100.0 |
| Total | 40 | 100.0 | |

Intent of Farm's operations towards social benefit

A comparison of farms with and without a mission statement tallied to 46% with and 54% without. This was useful to later drill down to what the mission statement was for the 19 respondents as well as understand the extent of the mission statement being documented and publicly shared. Only 10 of the farms that responded positively about having a mission statement also had the mission statement documented and shared publicly. As noted from studies about the effect of having a mission statement for organizations, it "answer some fairly simple yet critically fundamental questions for every organization, such as: why do we exist; what is our purpose; what are we trying to accomplish?" In addition, a mission statement as aforementioned is supposed to capture the essence of the purpose of an organization as well as provide a guideline to motivate the members of the organization towards a shared goal.

Based on the split of respondents with a mission statement and without one, the analysis could look at whether having a mission statement as guidelines correlated with the actual efforts to carry out the specific components of the mission statements that were recorded.

An equally important observation was the farms' efforts toward creating social benefit without having the structure or a mission statement. If the survey documented actions towards creating social benefit regardless of a mission statement or not, then perhaps the hypothesis of a social mission for the surveyed farm population is not a necessary component. The results of this survey are not necessarily generalizable across all farms in Michigan or from this particular demographic of farms. However, it proves an interesting hypothesis against the arguments that tout mission statements as integral for organizations to create social benefits.

Overall 19 respondents had a mission statement, which represents 46% of total respondents. When asked about the farms' specific mission statement, 16 people shared their farm's mission statement.

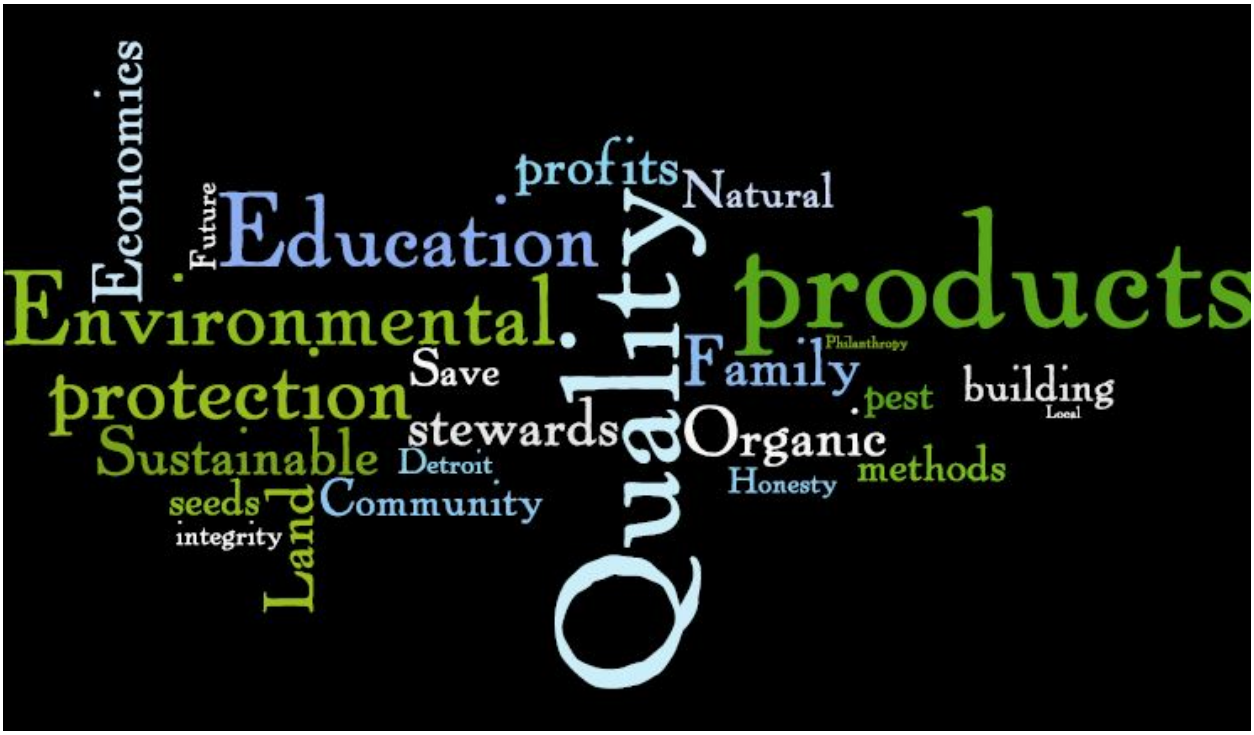
Table 6

| Goal | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Quality products | 10 | 16.9% | 16.9% |
| Education | 6 | 10.2% | 27.1% |
| Environmental protection | 6 | 10.2% | 37.3% |
| Sustainable | 4 | 6.8% | 44.1% |
| Family | 4 | 6.8% | 50.8% |
| Land stewards | 4 | 6.8% | 57.6% |
| Organic | 4 | 6.8% | 64.4% |
| Economics and profits | 4 | 6.8% | 71.2% |
| Community building | 3 | 5.1% | 76.3% |
| Save seeds | 3 | 5.1% | 81.4% |
| Natural pest methods | 3 | 5.1% | 86.4% |
| Future | 2 | 3.4% | 89.8% |
| Honesty / integrity | 2 | 3.4% | 93.2% |
| Detroit | 2 | 3.4% | 96.6% |
| Local | 1 | 1.7% | 98.3% |
| Philanthropy | 1 | 1.7% | 100.0% |
| Total | 59 | | |

From the diagram and frequency of words shown below in Figure 7, the most mentioned mission statements involved quality products, education, environmental protection, sustainable, family, land stewards, organic, economics and profits, and community building. These top goals that were mentioned account for a total of 75% of all responses for farms' mission statements. The top three categories of quality products is directly related to the farm's viability whereas, the

second and third categories education and environmental stewardship could be argued as having differing degrees of social benefit and less so directly connected to the farms' viability.

Figure 7




Sustainability, family, stewards of the land, organic products, and economic and profits were equally represented as the fourth most frequent stated goals for farms' mission statements. The surprising results of economics or profits as being only the fourth most frequently mentioned goals alongside three other goals may hint at the basic notion for farmers to be profitable at a minimum, and perhaps the above and beyond economic viability, is how farmers view a mission statement. From the previous literature written about the purpose of creating social benefits, for business enterprises, the social value is created either of equal primary importance or a close second goal as the organization's mission (Dees, 1998). Thus, perhaps the reason for economics or profits ranking fourth in frequency demonstrated the farms' understanding that without the

economic viability of the farms' primary function of turning a sustainable profit, social benefits cannot be achieved and thus the economic and profitability goal is implicit in the course of business.

Beside the pervasiveness of certain goals mentioned in the survey, the intensity of answers for each topic should be a key component towards ascertaining the relevance and ultimately, the predictive nature to generate social benefits. If having a mission statement could be one of the deciding factors in creating social value, then the logical next step is to ensure that policy includes this in economic development programs or training devices for farmers who can then apply this towards improving food access.

A total of 17 to 18 responders from the sample set of 40 (representing approximately 45% of total responders) detailed their ranking on how important particular social benefits were to the mission of their farms. Nine different metrics were used to log social benefit: (i) Hunger relief, (ii) poverty, (iii) job skills, (iv) environmental justice, (v) community building, (vi) environment improvement, (vii) environmental education, (viii) promotion of organic or sustainable agriculture, and (ix) nutritional education. The results of this question of social goals of the farm and relative relevance between goals maps out the different aspects highlights the intent of the farms values and belief systems.

Table 7

| Goals for Farm's Mission | Percentage of respondents who ranked goals as **Highly Relevant** to the farm's mission | Percentage of respondents who ranked goals as **Low to No Relevance** to the farm's mission |
|---|---|---|
| Promotion of organic / sustainable agriculture** | 88.9 | 11.1 |
| Environmental education* | 88.2 | 11.8 |
| Community building* | 72.2 | 27.8 |
| Nutritional education / promotion of healthy lifestyle** | 72.2 | 27.8 |
| Environment improvement / urban greening** | 66.7 | 33.3 |
| Advocate / environmental justice** | 64.7 | 35.3 |
| Hunger relief* | 50.0 | 50.0 |
| Jobs / skills training* | 35.3 | 64.7 |
| Poverty relief* | 29.4 | 70.6 |

*N = 17; ** N = 18

It was expected that promotion of organic and / or sustainable agriculture would rank highest on the farm goals relevancy with 88.9% of respondents marking it as high relevance. Being that the sample size consisted of farmers who owned farms, (as opposed to farmers who identified with the occupation but did not own a farm) the product promotion of increasing overall awareness of organic or sustainable products directly contributes to their economic viability. Thus, when economic factors have positive externalities for society, the combined win-win scenario propels this solution over others. The other high scoring social goals dealt with education (environmental and nutritional, 88.2% and 72.2%, respectively). The other goal that struck a chord with farms' goals was community building. The top four highly relevant goals: promotion of organic / sustainable agriculture, environmental education, community building,

and nutritional education tend to be focused on education and local community effort outside of the direct economic potential gains regarding the promotion of organic / sustainable agriculture.

Poverty relief exhibited the lowest relevance for a farm's goal which was partly expected since the nutritional sustenance and food does not directly contribute to income levels that determine poverty levels. However, the poverty relief goal could be tied to efforts towards food recovery actions such as donating to food banks or product donations.

**Discussion and Conclusion**

Mismatch of intent versus actions reported

Given the extent of intent of the surveyed group of farms and their missions, it is expected that it correspond with direct actions that would correspond with those stated missions. After analysis of the data, the results were low showing little evidence of correlation or association by running Chi-squared tests between the intent focused questions and the observed actions. For example there was little relationship between importance of the following goals with the amount that was donated in the marketplace: hunger relief, poverty relief, community building, promotion of organic / sustainable agriculture, and nutritional education / promotion of healthy lifestyle. At first, it is possible that donation of products is just not prevalent for micro-sized farms. However, upon further investigation, by looking at a different indicator for actions that exemplifies the stated social values, the results still lacked any correlation or association. The indicator of distribution outlets that are considered more challenging to sell into and ones that provide services to the underserved populations included schools, hospitals, elderly care facilities, religious establishments, food bank, food pantries, soup kitchens, and head start programs. When these outlets were coupled with the selling of different pricing levels such as donations, reduced price, average price, and above market price, it was expected that perhaps

there would be correlation with different price levels. The results differed and there still was no correlation between the set of social benefit goals and the market outlets at all price tiers.

This demonstrates that for this set of farms, there is a mismatch in intent of social missions and the eventual actions of these entities. This could be a function of economic viability as a hurdle before being able to directly take action towards furthering a social mission. However, half of the respondents had operating incomes more than $1,000 and less than $10,000 for 2012 and one quarter of the farms had operating incomes above $10,000 for 2012. Thus the hypothesis that economic viability needs to be achieved first is not very convincing as a reason preventing the farms to follow through on generating social benefits. It could be that a certain level of income needs to be sustained over a longer term before social benefit action is of top priority for farms. Operating results beyond 2012 were not requested so testing the length of economic viability with the potential of executing upon the stated social benefit missions. It is also important to understand the relationship and priority between economic viability and social benefit goals as nearly three quarters of Michigan farms produce relatively small amounts of products and subsequent low farm income (Cocciarelli et al., 2011). In fact, almost 12% of Michigan farms fall into the USDA ERS category of "Farming Occupation – Lower Sales (Less than $100,000 in annual sales)" (Cocciarelli et al., 2011). This could begin to explain a possible hurdle rate of income farms need to generate before being able to commit direct action towards their social benefit missions.

The lack of correlation between intent and actions could also be a function of the efficacy of the mission statements and social benefit goals of the farms. C.K. Bart et al. noted that overall the mission statement's role in creating social impact is more indirect than expected (C.K. Bart et al., 2001). He stated that there is a host of intermediary variables that need to happen in order for

a social mission to have actual impact on an organization in order to make the mission to performance connection (C.K. Bart et al.). Performance, here, was assumed to mean satisfying the goals of the mission statements. The lack of connection between mission statement and actual direct actions for the surveyed farms supports the published literature that highlights mission statements, when well-conceived and managed, they are supposed to harness the organization members' energies and resources toward those goals (C.K. Bart, 2001). However, there are many factors that lie in between the mission and the end goal. According to C.K. Bart, the mission statement must have the proper rationale, contain sound content and have organizational alignment in order to bring about the desired behavioral changes.

In the end, it is encouraging that 46% of surveyed had a mission statement, but then again, having a mission statement did not necessarily lead to direct actions of distributing product to market outlets that provide social benefits or donation of product amounts, or selling to underserved communities specifically. Possible areas of further study in order to assess if small farms in Michigan can contribute to food security include understanding the relative importance of economic viability to social benefit goals. Also similar to C.K. Bart's suggestion of employee commitment and satisfaction due to a mission statement, the next step could be a study on the specific mission statement's effect on employee commitment and satisfaction (C.K. Bart et al., 2001). This could begin to answer the question on what types of mission statements are needed to galvanize action toward creating social value for farms. The potential for micro-sized and small farms in Michigan to contribute to improving food security exists by the sheer number of farms and the increased trend of consumers preferring buying local food and the trend of more farmers markets and CSAs. The right setup just needs to be discovered and tried in the marketplace before scaling up the social benefits that micro-sized and small farms can provide.

**References**


About Us - Growing Hope. (n.d.). News + Features. Retrieved , from http://www.growinghope.net/about

Anderson B, Lyon-Callo S, Boivin M, Monje S, Imes G. (2009). Overweight and Obesity in Michigan: Surveillance Report. Michigan Department of Community Health, Bureau of Epidemiology, Chronic Disease Epidemiology Section.

Austin, J., Stevenson, H., & Wei-Skillern, J. (2006). Social and Commercial Entrepreneurship: Same, Different, or Both?. Entrepreneurship: Theory & Practice, 30(1), 1-22. doi:10.1111/j.1540-6520.2006.00107.x

Bart, C. K., Bontis, N., & Taggar, S. (2001). A model of the impact of mission statements on firm performance. Management Decision, 39(1), 19-35. Retrieved from http://search.proquest.com/docview/212063247?accountid=34476

Born B., Purcell M. (2006). Avoiding the local trap: Scale and food systems in planning research. Journal of Planning Education and Research, 26 (2), 195-207.

Cocciarelli, S., Smalley, S. and Hamm, M. (2011) Farm Viability and Development: Michigan Good Food Work Group Report No.4 of 5. K. Colasanti (ed.) East Lansing, MI: C.S. Mott Group for Sustainable Food Systems at Michigan State University. Available from www.michiganfood.org.

Connelly S., Markey S., Roseland M. (2011). Bridging sustainability and the social economy: Achieving community transformation through local food initiatives. Critical Social Policy, 31 (2). 308-324.

Craig, R. G. (2009). Economic Impact of New or Expanded Retail Food Store Developments by Using PA 231 and Other Tools to Promote Healthy and Affordable Food Options in Michigan. Michigan Department of Agriculture.

Dees, J. G. (1998). The meaning of social entrepreneurship. Comments and suggestions contributed from the Social Entrepreneurship Funders Working Group, 6pp.

Feenstra, G. (1997). Local food systems and sustainable communities. *American Journal of Alternative Agriculture,*12 (1), 28-36.

Feenstra, G. (2002). Creating space for sustainable food systems: Lessons from the field. Agriculture and Human Values, 19(2), 99. Retrieved from http://search.proquest.com/docview/214184286?accountid=34476

Germeza, J. (2013, March 1). Sustainable America - Food / Fuel Poll. sustainableconsulting.com. Retrieved February 1, 2014, from http://www.sustainableamerica.org/resources/presentations/

Guthman, J., Morris, A. W., & Allen, P. (2006). Squaring Farm Security and Food Security in Two Types of Alternative Food Institutions*. Rural sociology, 71(4), 662-684.

Hinrichs,C. (2000). Embeddedness and local food systems: notes on two types of direct agricultural market. *Journal of Rural Studies*,16 (3), 295-303. doi:10.1016/S0743-0167(99)00063-7.

Hinrichs, C. (2003). The practice and politics of food system localization. *Journal of Rural Studies,*19, 33-45.

Izumi, B. T., Wynne Wright, D., & Hamm, M. W. (2010). Market diversification and social benefits: Motivations of farmers participating in farm to school programs. *Journal of rural studies*, *26*(4), 374-382.

Jarosz, L. (2008). The city in the country: Growing alternative food networks in Metropolitan areas, *Journal of Rural Studies*, 24 (3), 231-244. doi:/10.1016/j.jrurstud.2007.10.002.

Kneafsey, M. (2010). The region of food: important or irrelevant?. *Cambridge Journal Of Regions, Economy & Society,* 3(2), 177-190.

Low, S. A. and S. Vogel. (2011). Direct and Intermediated Marketing of Local Food in the United States. Economic Research Service (ERR-128). *U.S. Department of Agriculture, Economic Research Service*. Retrieved from http://www.ers.usda.gov/Publications/ERR128/ERR128.pdf.

Morgan, K., & Sonnino, R. (2010). The urban foodscape: world cities and the new food equation. *Cambridge Journal Of Regions, Economy & Society*, *3*(2), 209-224. doi:10.1093/cjres/rsq007.

Nord M, Andrews M, Carlson S. (2008). Household Food Security in the United States, 2007: U. S. Department of Agriculture, Food Assistance & Nutrition Research Program.

Pirog, R., & Bregendahl, C. (2012). Creating Change in the Food System: The role of regional food networks in Iowa. Leopold Center for Sustainable Agriculture at Iowa State University. Retrieved at: http://foodsystems. msu. edu/uploads/file/resources/creating-change. pdf.

Pole, A., & Gray, M. (2013). Farming alone? What's up with the "C" in community supported agriculture. *Agriculture and Human Values*, *30*(1), 85-100.

Porter, M. E., & Kramer, M. R. (2011). Creating Shared Value. Harvard Business Review, 89(1/2), 62-77.

Pyysiäinen, J., & Vesala, K. M. (2013). Activating farmers: Uses of entrepreneurship discourse in the rhetoric of policy implementers. *Discourse & Communication*, *7*(1), 55-73.

Wallace, S. L. (1999). Social entrepreneurship: The role of social purpose enterprises in facilitating community economic development. Journal of developmental entrepreneurship, 4(2), 153-174.

Winter, M. (2003). Embeddedness, the new food economy and defensive localism. *Journal of Rural Studies,* 19 (1), 23-32. doi:10.1016/S0743-0167(02)00053-0.

# PART 5

## Addressing Food Desserts in Michigan through Farmers' Markets

*by Stephen Ahn*

# Addressing Food Deserts in Michigan through Farmers' Markets

Stephen Ahn

**Abstract**

*The U.S. Department of Agriculture, in a 2009 report to Congress, looked into the issue of food deserts and possible means to address them. One recommendation was to utilize community-level intervention, including farmers' markets. This report looks into the viability of doing so – specifically whether any particular demographic of Michigan farmers would be willing to sell their products in underserved Michigan communities. Farmers were surveyed and the resulting analysis is included in this report, in addition to reviews of literature covering farmers' markets and their use in tackling food deserts. The resulting data indicates that newer farmers may be the most willing to sell in underserved communities. This may be due to the waitlist to enter existing farmers markets, especially the more popular ones.*

## Introduction

The U.S. Department of Agriculture was directed, in the Food, Conservation, and Energy Act of 2008, to conduct research into areas with limited access to affordable and nutritious food and outline recommendations to address them. Community-level intervention, which includes farmers' markets, was suggested as a possible method. Farmers' markets have been growing in popularity amongst consumers and farmers. Consumers seem to be attracted to interacting with the farmers and knowing where their food comes from while farmers are enjoying the ability to meet the consumers and find additional markets for their products. In certain areas, farmers' markets operate in underserved communities and accept Supplemental Nutrition Assistance Program cards as a means of payment. However, the growing number of farmers' markets masks the number of farmers' markets that are failing. Farmers are becoming more aware of the risk posed in selling in new areas, much less underserved areas where foot traffic and money spent may be perceived to be lower than in wealthier communities. This report looks to identify what type of Michigan farmers may be most willing to sell in underserved communities.

## Literature Review

### *Food Deserts– background information*

Recently there has been much discussion raised around the issue of food deserts in the United States. The United States Department of Agriculture (USDA) defines food deserts as "urban neighborhoods and rural towns without ready access to fresh, healthy, and affordable food (USDA 2009, pg. 1)." Food deserts differ from food insecurity, which was described at The World Food Summit of 1996 as the lack of access to sufficient, safe, nutritious food to maintain a healthy and active life. An urban resident in a food desert has to travel over a mile to

purchase fresh produce, while those in rural food deserts have to travel over ten miles (USDA, 2009). Instead, people in food deserts may find it easier to purchase their food from closer locations such as fast food restaurants, convenience/liquor stores, drugstores, or even gas stations. Unfortunately, these foods are usually processed, pre-packaged, and high in calories, fat, and sugar. Furthermore, many of these food insecure areas are in economically depressed neighborhoods where people may have to rely on public transportation or walk to access fresh food, increasing the likelihood of an unhealthy diet based on closer options. In a study examining the eight Michigan cities' food prices of fast food restaurants in food deserts (Leschewskia and Weatherspoon, 2014), five cities researched were also part of USDA's research into food security in Michigan (Dearborn, Flint, Grand Rapids, Lansing and Warren). Flint, Lansing and Grand Rapids are three of the largest Michigan cities in both studies with areas characterized as food deserts.

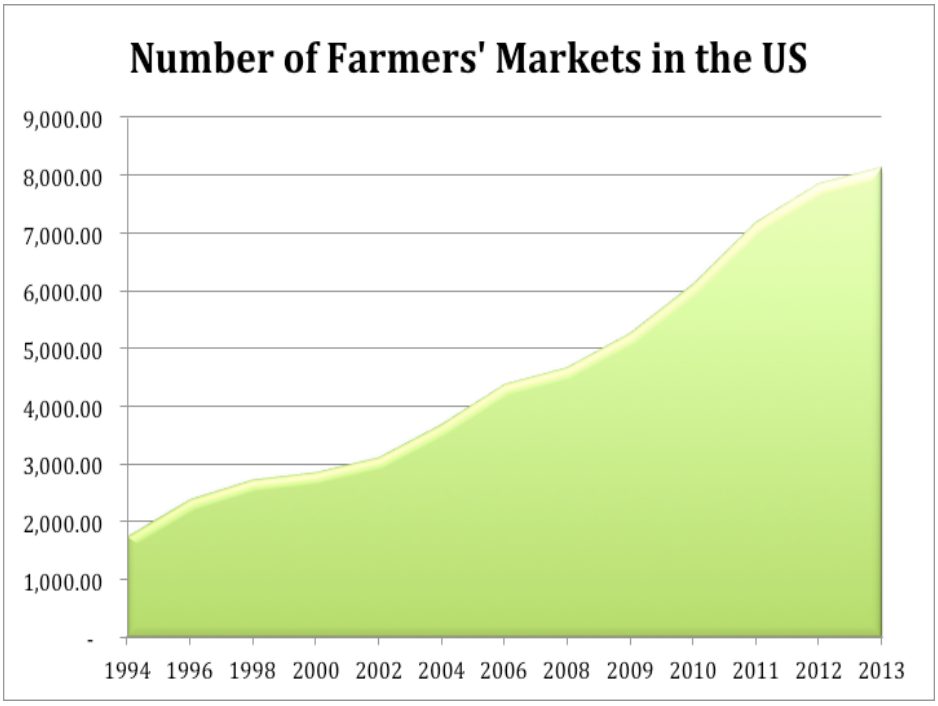
***The case for farmers' markets***

To address food deserts, the USDA's report to Congress recommended community-level intervention to address food deserts, including farmers' markets. The report specifically states that "these options for improving the food environment are often less expensive, require less space, and can be quicker to implement than programs that encourage new store development (USDA, 2009, pg. 107)." This paper will look into this possibility.

Markets have existed ever since people started trading. Initially producers used to sell their goods themselves but it became more common for merchants and other middlemen to sell other people's wares. Americans have mostly shopped in grocery stores for their fresh produce but in 1970 there were only about 340 farmers' markets operating in the country. However, the passage of the Farmer-to-Consumer Direct Marketing Act of 1976 made direct marketing a

legitimate activity of the USDA's Cooperative Extension Service, allowing county agents to work with farmers and community members to organize markets (Brown, 2001). Since then, farmers' markets have grown in popularity; according to the USDA, in 1994 there were 1,755 farmers' markets but in 2013 there are 8,144 farmers' markets – a compounded annual growth rate of about 8.4% (figure 1). The dramatic rise in the numbers of farmers' markets both nationally and in Michigan further suggests the growth in demand for local food (Conner, Montri, Montri & Hamm, 2009).

*Figure 1 - Growth of Farmers' Markets in the United States, 1994 - 2013*




Source: www.ams.usda.gov

The increase in farmers' market popularity is seen in part by changing consumer preferences. Surveys indicate that, over the past two decades, consumers have become increasingly interested in healthier diets, improved flavor in foods, preserving local agriculture and open space, and supporting the "family farm" (Jolly, 1999). Produce from farmers' markets is seen as fresh and healthy as it comes directly from the farm. It is perceived to be better for the

environment as well since the food travels less and there is less packaging. Consumers also appreciate the opportunity to interact with the producers of their food directly (Bullock, 2000).

Farmers benefit from farmers' markets by supplementing their income. By selling directly to the consumer, they can charge a higher price as they are bypassing the middleman. They also get to diversify their skill sets by developing their business expertise, and it can provide to be a great learning experience by networking and sharing best practices with other farmers (Bullock, 2000). Farmers' markets are especially invaluable for smaller producers. A California study found that smaller farms were more dependent farmers' markets, with 80 percent of the participants selling through them and 54 percent using them exclusively. In addition, the researchers observed, "a large percentage of small direct marketers believed that they really had no choice but to market directly to consumers if they wanted their farm to survive" (Kambara and Shelley, 2002). The USDA states that 85% of farmers' markets are economically self-sustaining. Additionally, gross returns to producers from farmers' market sales generally 200% to 250% higher than sales to wholesalers/distributors (Wilkinson and Seters, 1997).

Farmers' markets are a potential resource to address food deserts. While there may be concern that underserved communities may not be able to generate enough foot traffic and revenue to support a farmers' market, analysis in Philadelphia shows that even very low income areas would be able to do so. Analysis also shows that these markets either make fresh fruit and vegetables available where they weren't before, or make them available at much lower prices. While it is harder for farmers' markets to succeed in poorer areas, there are those that succeed and are very successful. Furthermore, to help make locally grown fresh produce available and affordable to low-income families, the USDA has a major voucher scheme aimed at those

considered 'nutritionally at risk.' They are only usable at farmers' markets, which are then redeemed by the farmers for cash (Bullock, 2000). The USDA also had a $4 million initiative to increase support of Supplemental Nutrition Assistance Program (SNAP) cards, the successor to the federal food stamp program, in farmers' markets (Hoyer, 2013). The Farmers' Market Coalition reports that at least 100 new markets opened since 2005 are in food deserts. Since more markets are accepting SNAP cards, it is seen as providing an essential service to communities that lack access to health foods (Gordon, 2011).

Western Michigan is an example of farmers' markets accomplishing this. A study of Michigan and Grand Rapids indicated Michiganian consumption of fruits and vegetables was lower than that of the rest of the country (Cyzman, Wierenga & Sielawa, 2009). A community coalition in Grand Rapids, Active West Michigan, launched two initiatives: Community and School Gardens as well as Farmers' Markets. Steps were taken to address the concerns of farmers – security, awareness for fresh food, and food traffic. Additionally, farmers that were interested more in a social impact rather than high margins were actively targeted as well. While the gardens were used to promote the consumption of fresh produce, the farmer's markets were used to provide access to fresh produce for the community. The six locations chosen for farmers' markets were successful, with Active West Michigan sustaining their program and expanding their food environment interventions (Cyzman, Wierenga & Sielawa, 2009).

***Farmers' market challenges***

Despite the many successes of farmers' markets, there are some areas of concern. According to a study of Oregon farmers' markets by the Oregon State University (Stephenson, Lev & Brewer, 2008), during the period between 1998 and 2005, 62 new markets opened and 32 did not reopen. The study provided insights into why the markets failed: small size, need for

farm products, low administrative revenue, if the market manager was a volunteer or paid a low salary, and high manager turnover.

The majority of the markets that closed were categorized as small or micro markets. While there were larger markets that closed, it is possible that they grew smaller as the vendors left, which is a contributing factor to markets closing (Stephenson, Lev & Brewer, 2008). It is unclear which comes first – customers leaving due to insufficient produce or variety, or vendors leaving due to insufficient customers. Either way the cycle continues until the market shuts down due to lack of involvement from either the customers or producers.

*Table 1: Classification of Farmers' Market Size based on Number of Vendors*

| Market Size Category | Number of Vendors |
|---|---|
| Micro | 5-8 |
| Small | 9-30 |
| Medium | 31-55 |
| Large | 56-90 |

Source: Stephenson, Lev & Brewer, 2008

The variety and quantity of products is seen as another factor that determines whether a market is successful or not. All of the markets that closed indicated a need for more produce (Stephenson, Lev & Brewer, 2008). A large selection of items is vital to bring in customers to the farmers' market. This is linked to the first issue – the number of vendors participating in the market.

Another factor that is related to the size of the market is administrative revenue. Farmers' markets cover costs by charging vendors a fee for the stall they set up. This fee could be a flat fee, or in some cases, a percentage of daily revenue. While there are grants that help cover these administrative costs, once these grants are end the farmers' market may find themselves operating at a loss and are forced to shut down (Stephenson, Lev & Brewer, 2008).

Because of low administrative revenue, many of the market managers are either

volunteers or paid low wages. This leads to the other factor – high manager turnover. Without consistent management that can handle the administrative tasks of the market and focus on attracting more customers and vendors, the farmers' market is unable to grow, leading back to the initial problem arising from a small sized market. They do not attract customers, which does not attract vendors, which leads to a shortage of products, which again leads to a shortage of customers (Stephenson, Lev & Brewer, 2008). This downward spiral is difficult to get out of, leading to the closure of the market.

The increasing number of farmers' markets is a growing concern for farmers. As more farmers' markets start in neighboring areas, it decreases the customer base for each market. This forces the farmers to increase the number of farmers' markets they need to set up in which increases their costs and the time spent away from their farms (Gordon, 2011). In certain areas, farmers state that the number of farmers' markets has outstripped demand, which cuts into their profits. Stacey Miller, the director of the Farmers' Market Coalition, states that the growth has been beneficial for many communities, especially those with little to no access to fresh produce. However, she acknowledges that some markets have been saturated (Zezima, 2011). While certain Farmers' Market Federations have attempted to dissuade farmers' markets from starting near existing farmers' markets, they could not order them from doing so due to state law. In one example, a new market was established two miles from another and sales in the first one dropped by more than 30% (Zezima, 2011).

If shoppers are stretched over too many markets, the ability for farmers to make the minimum required daily sales to be profitable becomes more difficult. In a survey performed in King County in Washington (Kinney, Lindahl, Creahan & Richey, 2010), farmers stated they expected a minimum income of $600 per market day in order to consider operating in a market.

Considering the small margins on produce, this can be a challenging task. Research suggests that the average customer spends about $18 per visit to a farmers' market (Schmitt & Gomez 2008, Otto 2010). To reach their goal each vendor would need 35 purchasing customers each market day.

According to a National Public Radio (NPR) interview (Allington, 2013), many economists believe that farmers' markets are not good economic models. Many of the farmers who supply local markets are barely getting by. The interviewee states that the margins on fruits and vegetables being too small to cover costs and provide a meaningful income. She states that 25 acres of fruits and vegetables is enough to supply the needs of 5,000 people and generate $35,000 in total labor income. While a producer may be able to supplement their income farming one or two acres using hand tools, at ten acres a tractor might be needed, driving up costs. She states that the one universal truth in farming is that some people make money and others don't. It may mean exploring the selling of produce at channels other than only farmers' markets (Allington, 2013).

Small farmers face additional challenges. They take a big risk when starting to sell at farmers' markets. If the farmers' market closes down, the failure can be devastating to the farmers who planned their entire harvest around it. They also need to develop strong agricultural infrastructure to be able to respond to consumer demand. Other small farmers face issues such as access to irrigation affecting their ability to grow higher margin produce. The Hmong farmers in King County, Washington do not have access to irrigation which forces them sell low margin flowers as it consume less water (Oberholtzer & Grow, 2003).

Because of the challenging nature of the environment in which they operate, farmers need to ensure they are operating as efficiently as possible. The best way to do so is to utilize business

toolkits. Farmers should keep financial records and run reports, such as budget deviation analysis, so they can keep track of their financial progress and goals.

Spreadsheets make budget development easier to manage and there are numerous free or low cost enterprise budget software readily available. Calculating project costs and returns for produce grown in a production period can be used to evaluate options before resources are committed. It can aid in determining break-even yields and prices as well as calculate potential returns on an investment. Enterprise budgets also provide critical input for whole farm planning, including the potential income for a particular farm, the size of farm needed to earn a potential return, and anticipated cash flows during the year (Doye & Sahs, 2009). These tools will help farmers make decisions and reduce operational risk.

## Research Design and Methodology

*Research Sample Collection*: To gather data, an online survey was and distributed to farmers. The farmers' email addresses were obtained through Michigan's website listing farmers' markets (http://www.michigan.org/farm-markets/). Additional emails were obtained by going to Detroit's Eastern Market and the Ann Arbor's Kerrytown Farmers' Market manager forwarded the survey to her 160 farmers.

*Survey creation:* The survey was created in Qualtrics. The questions asked detailed demographic, operational, and behavioral questions. The demographic questions included categories such as age, education completed, ethnicity, household income, years of farming experience, etc. Operational questions included aspects such as whether farming was the primary occupation and how much off-farm work supplemented household income, operations in farmers' markets, and channels in which the farmers sold their products. Behavioral questions

included interest in selling in underserved communities, record keeping, and the importance of access to resources.

*Survey Pretest*: Prior to being sent out, the survey was submitted to peer and farmer review. Of the two farmers that reviewed the survey, one was a farmer in Vermont and the other a Michigan farmer and alum of the University of Michigan Ann Arbor School of Natural Resources and Environment.

*Survey Distribution:* The survey was sent to approximately 400 farmers in two parts, 250 directly by email in the initial survey and 160 through forwarded emails, which contained a link to the second survey. The two surveys were identical, but due to Qualtrics's limitation of one open survey at a time, the initial survey was closed to allow processing of the data while the second survey was sent to the farmers in the Kerrytown farmers' market. The survey was sent to the obtained email addresses through Survey Monkey, with a request for the recipients to forward the email to others interested in participating as well. The initial survey was kept open from December 2013 until mid-January 2014, and mid-January until the end of January for the second survey. Every three weeks a reminder was sent out to the farmers that did not open the link, for a total of two reminders over the two-month period. A total of 32 responses were collected (12.5% response rate) – the majority through the online survey collection and only one in the second survey sent to the Kerrytown market.

*Analysis Methods*: Once the surveys were closed, the data was analyzed through SPSS and Excel. The responses were analyzed through cross tabulations to examine whether correlations existed between a farmer's willingness to sell in underserved communities and his/her demographics or behavior.

## Findings and Data Analysis

*Years of farming experience*

Upon analyzing the survey results, the greatest indicator of a farmer's willingness to sell in underserved communities was the number of years they had experience in farming (figure 2). Those with less than 10 years of farming experience were the most willing to sell in underserved communities (90% of respondents). Interestingly, those with 10-19 years of experience were the most unwilling to sell in underserved communities. This may be because the 1-9 years group are just starting out and looking to find additional sales channels, while the 10-19 years group have already established their channels and are looking to serve stabilize their operations. Eighty percent of the 1-9 experience group had the majority of their household income generated through non-farming activities (off-farm work), which may also indicate that this is a group that is just starting their farming operations and relying on a second source of income to support the household.

Additionally, Table 2 shows that the majority of the survey respondents who were willing to sell in underserved communities also had the smallest farm sizes (less than 10). This indicates that most new farmers have smaller farms, and they are looking for new sales channels.

*Figure 2 - Years of Farming Experience vs. Willingness to Sell in Underserved Communities*

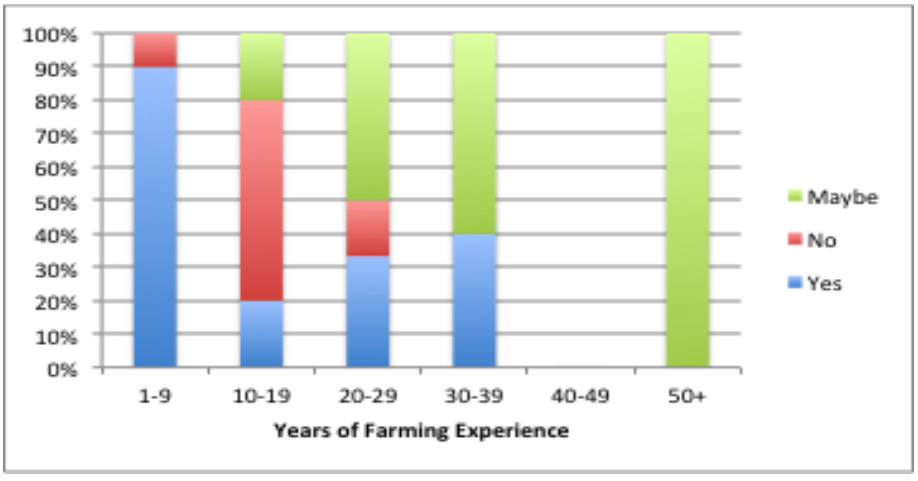


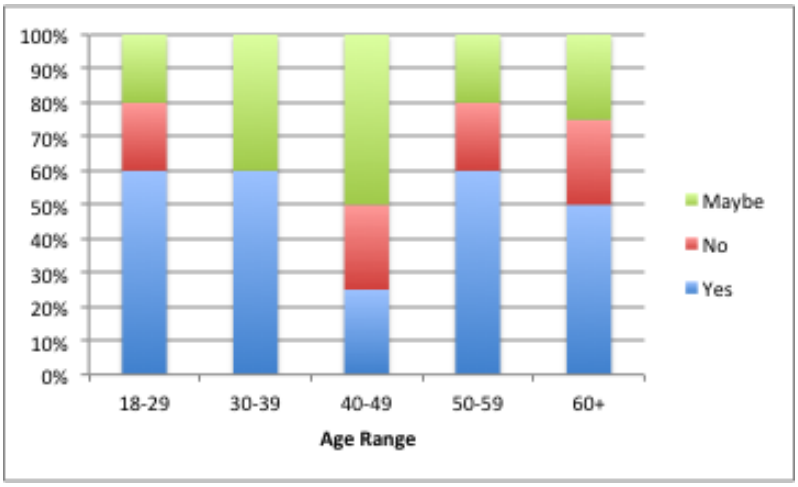
*Table 2 - Years of Farming * Farm Size * Willingness to Sell in Underserved Communities*

| Would you be willing to sell products in lower-income, underserved neighborhoods? | | | Farm Size (Acres) | | | | Total |
|---|---|---|---|---|---|---|---|
| | | | 1-10 | 11-50 | 100-150 | 200+ | |
| Yes | Years of Farming | 1-9 | 7 | 1 | 0 | 1 | 9 |
| | | 10-19 | 0 | 0 | 1 | 0 | 1 |
| | | 20-29 | 1 | 1 | 0 | 0 | 2 |
| | | 30-39 | 0 | 1 | 1 | 0 | 2 |
| | Total | | 8 | 3 | 2 | 1 | 14 |
| No | Years of Farming | 1-9 | 1 | 0 | 0 | 0 | 1 |
| | | 10-19 | 2 | 1 | 0 | 0 | 3 |
| | | 20-29 | 0 | 1 | 0 | 0 | 1 |
| | Total | | 3 | 2 | 0 | 0 | 5 |
| maybe | Years of Farming | 10-19 | 1 | 0 | 0 | 0 | 1 |
| | | 20-29 | 1 | 2 | 0 | 0 | 3 |
| | | 30-39 | 1 | 0 | 0 | 2 | 3 |
| | | 50+ | 0 | 0 | 0 | 1 | 1 |
| | Total | | 3 | 2 | 0 | 3 | 8 |
| Total | Years of Farming | 1-9 | 8 | 1 | 0 | 1 | 10 |
| | | 10-19 | 3 | 1 | 1 | 0 | 5 |
| | | 20-29 | 2 | 4 | 0 | 0 | 6 |
| | | 30-39 | 1 | 1 | 1 | 2 | 5 |
| | | 50+ | 0 | 0 | 0 | 1 | 1 |
| | Total | | 14 | 7 | 2 | 4 | 27 |

*Farmer's Age and Education Level*

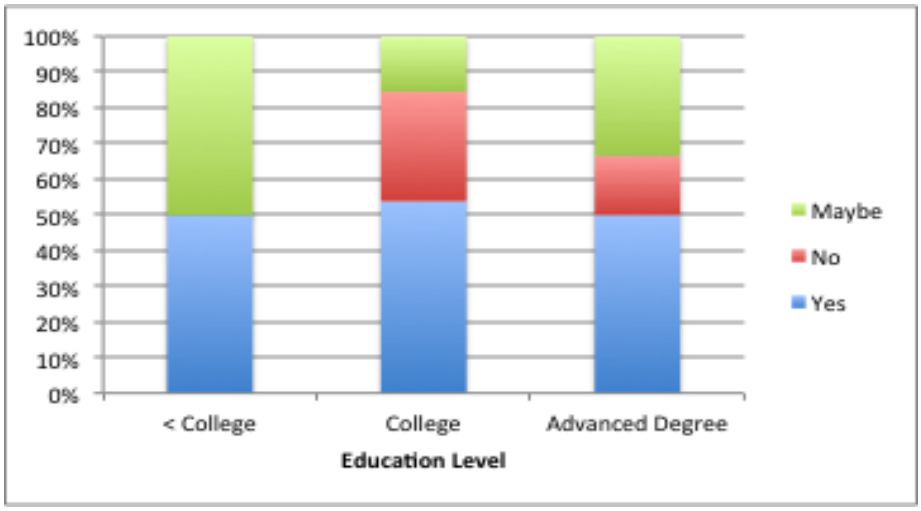
In terms of age, the respondents willing to sell in underserved communities were evenly distributed, with the exception of the 40-49 group (Figure 3). There is no conclusive result that age group was a good indicator of increased willingness to sell in underserved communities.

*Figure 3 - Age Range vs. Willingness to Sell in Underserved Communities*




As with age, there was no conclusive finding to indicate that a farmer's education level is an indicator to determine an increased willingness to sell in underserved communities (figure 4). Those willing to sell in underserved communities were equally distributed in education level.

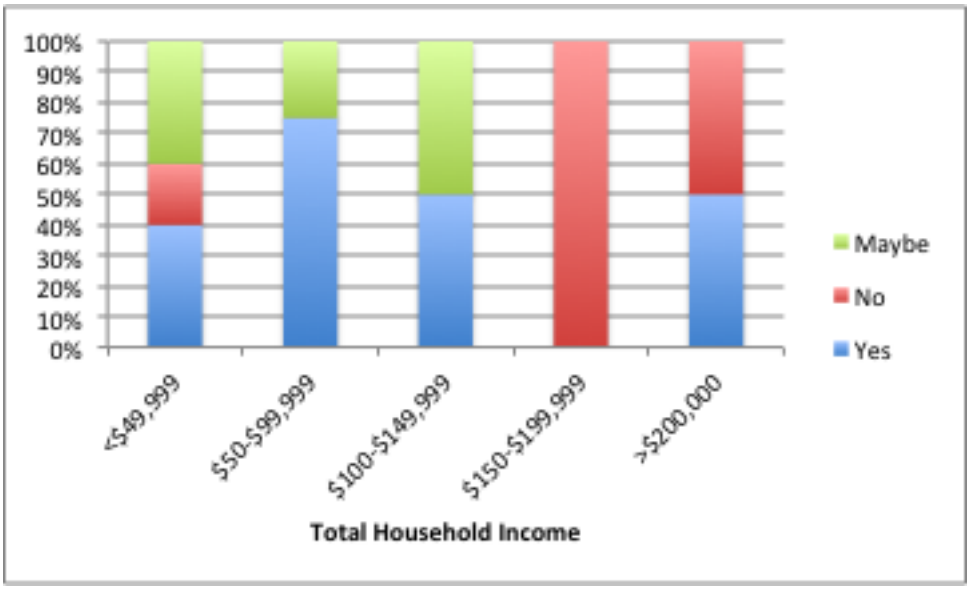
*Figure 4 - Education Level vs. Willingness to Sell in Underserved Communities*



*Total Household Income and Percentage of Income from Off Farm Work*

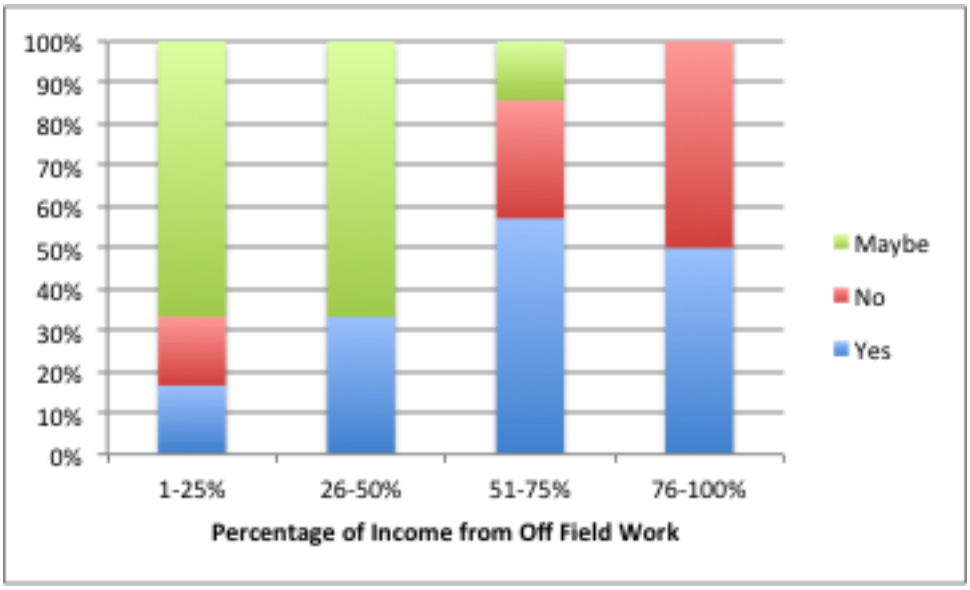
Respondents with a lower total household income appear to be more willing to sell in underserved communities (figure 5). This may indicate that farmers are looking to increase their income through any available means. The majority of the respondents had a median household income of $150,000 or less.

*Figure 5 - Median Household Income vs. Willingness to Sell in Underserved Communities*




Seventy-five percent of the respondents interested in selling in underserved communities relied more on off-Farm work for income than from farm related activities (greater than 50% from off farm work). This may indicate that farmers that are more looking to grow their farm activities are more open to selling in underserved communities to boost their income (figure 6).

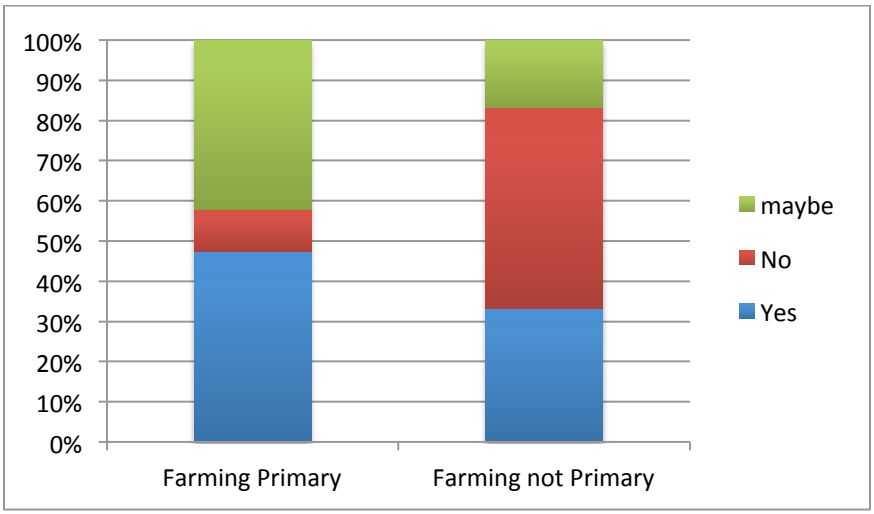
*Figure 6 - Percentage of Income from Off Field Work vs. Willingness to Sell in Underserved Communities*




*Farming as Primary Occupation and Selling in Farmers Markets*

There was no major distinction between farmers that were willing to sell in underserved communities and whether farming was the primary occupation (Figure 7). However, the farmers that were unwilling to sell in farmers' markets tended to not have farming as the primary occupation. This may be due to the effort needed to sell in underserved communities. With farming not the primary source of income, the effort may not be worth it for these farmers.

*Figure 7 Farming as Primary Occupation vs. Willingness to Sell in Underserved Communities*




Additionally, farmers that operated in fewer farmers' markets appear to be more willing to sell in underserved communities (Figure 8). However, those that did not sell in farmers' markets at all were also unwilling to sell in underserved communities. This may be due to these farmers selling their products through other channels than a market.

*Figure 8 - Number of Farmers Markets Operated In vs. Willingness to Sell in Underserved Communities*

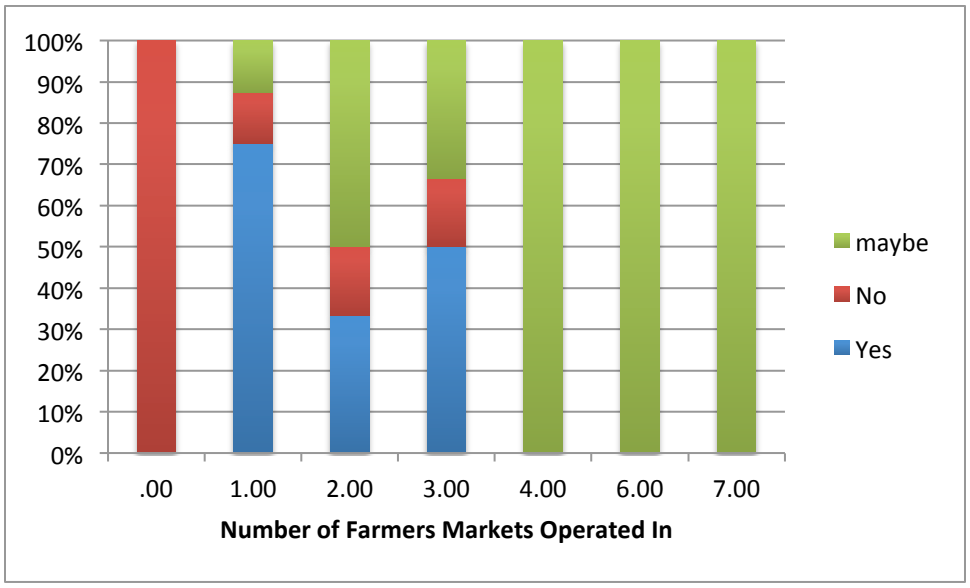
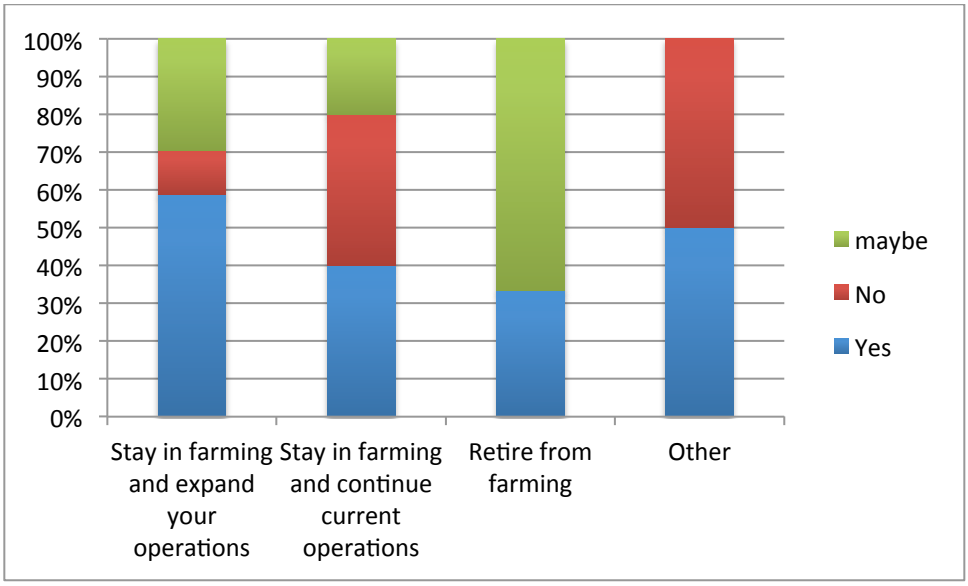


*Figure 9 - Future Plans vs. Willingness to Sell in Underserved Communities*




*Future Plans*

Lastly, it appears that newer farmers that were looking to sell in underserved communities were the ones looking to expand their operations over the next few years (Table 3). This reinforces the point that new farmers are looking for additional distribution channels, and that selling in underserved communities is one viable option to do so.

*Table 3 - Years Farming * Future Plans * Willingness to Sell in Underserved Communities*

| Would you be willing to sell products in lower-income, underserved neighborhoods? | | | In the next 5 years, which of the following are you most likely to do? | | | | Total |
|---|---|---|---|---|---|---|---|
| | | | Stay in farming and expand your operations | Stay in farming and continue current operations | Retire from farming | Other (please specify) | |
| Yes | Years Farming | 1-9 | 7 | 1 | 0 | 1 | 9 |
| | | 10-19 | 1 | 0 | 0 | 0 | 1 |
| | | 20-29 | 2 | 0 | 0 | 0 | 2 |
| | | 30-39 | 0 | 1 | 1 | 0 | 2 |
| | Total | | 10 | 2 | 1 | 1 | 14 |
| No | Years Farming | 1-9 | 0 | 0 | 0 | 1 | 1 |
| | | 10-19 | 1 | 2 | 0 | 0 | 3 |
| | | 20-29 | 1 | 0 | 0 | 0 | 1 |
| | Total | | 2 | 2 | 0 | 1 | 5 |
| maybe | Years Farming | 10-19 | 0 | 0 | 1 | 0 | 1 |
| | | 20-29 | 2 | 1 | 0 | 0 | 3 |
| | | 30-39 | 2 | 0 | 1 | 0 | 3 |
| | | 50+ | 1 | 0 | 0 | 0 | 1 |
| | Total | | 5 | 1 | 2 | 0 | 8 |
| Total | Years Farming | 1-9 | 7 | 1 | 0 | 2 | 10 |
| | | 10-19 | 2 | 2 | 1 | 0 | 5 |
| | | 20-29 | 5 | 1 | 0 | 0 | 6 |
| | | 30-39 | 2 | 1 | 2 | 0 | 5 |
| | | 50+ | 1 | 0 | 0 | 0 | 1 |
| | Total | | 17 | 5 | 3 | 2 | 27 |

*Table 4 - Age * Future Plans * Willingness to Sell in Underserved Communities*

| Would you be willing to sell products in lower-income, underserved neighborhoods? | | | In the next 5 years, which of the following are you most likely to do? | | | | Total |
|---|---|---|---|---|---|---|---|
| | | | Stay in farming and expand your operations | Stay in farming and continue current operations | Retire from farming | Other (please specify) | |
| Yes | Age | 18-29 | 3 | 0 | 0 | 0 | 3 |
| | | 30-39 | 3 | 0 | 0 | 0 | 3 |
| | | 40-49 | 1 | 0 | 0 | 0 | 1 |
| | | 50-59 | 1 | 2 | 0 | 0 | 3 |
| | | 60+ | 2 | 0 | 1 | 1 | 4 |
| | Total | | 10 | 2 | 1 | 1 | 14 |
| No | Age | 18-29 | 0 | 0 | 0 | 1 | 1 |
| | | 40-49 | 1 | 0 | 0 | 0 | 1 |
| | | 50-59 | 0 | 1 | 0 | 0 | 1 |
| | | 60+ | 1 | 1 | 0 | 0 | 2 |
| | Total | | 2 | 2 | 0 | 1 | 5 |
| maybe | Age | 18-29 | 1 | 0 | 0 | 0 | 1 |
| | | 30-39 | 2 | 0 | 0 | 0 | 2 |
| | | 40-49 | 1 | 0 | 1 | 0 | 2 |
| | | 50-59 | 1 | 0 | 0 | 0 | 1 |
| | | 60+ | 0 | 1 | 1 | 0 | 2 |
| | Total | | 5 | 1 | 2 | 0 | 8 |
| Total | Age | 18-29 | 4 | 0 | 0 | 1 | 5 |
| | | 30-39 | 5 | 0 | 0 | 0 | 5 |
| | | 40-49 | 3 | 0 | 1 | 0 | 4 |
| | | 50-59 | 2 | 3 | 0 | 0 | 5 |
| | | 60+ | 3 | 2 | 2 | 1 | 8 |
| | Total | | 17 | 5 | 3 | 2 | 27 |

Recommendation:

There are many risks farmers face when operating in a new farmers' market. With a lack of established customers, there may be fewer farmers willing to sell in these markets. However, customers want a variety of farmers and products to draw them to the markets and a lack of farmers will draw in fewer potential customers. It becomes a downward spiral until there are no longer enough farmers or customers to support the market, forcing it to collapse. Thus farmers' market managers need to ensure they draw the right mix of farmers willing to take the risk in operating in a new market. It is especially more difficult if the market is targeting underserved communities, where it may be perceived that the local community will not provide enough sales or foot traffic for the farmers to be successful. For this reason, if market managers hope to establish farmers' markets in underserved communities, they should approach new farmers with less than 10 years of farming experience. This is the group most willing to take the risk in underserved communities. Additionally, to ensure success, market managers should get the local underserved communities to come out to these farmers' markets. This can be accomplished by replicating the success of community organizations such as Active West Michigan and organize large community events with the farmers' markets (family activities, health services, educational booths). By doing so, they can ensure a high volume of foot traffic, which will hopefully convert to increase sales for the farmers while providing more people with access to fresh food.

Limitations of the Study:

The limitations to the data collecting process was that only a handful of the farmers' markets listed on Michigan's website had email addresses. Additionally, this was by no means a comprehensive list of all farmers in Michigan. The sample was biased towards farmers that

actively reached out to the website to be included in the database. Additionally, the data may be skewed towards farmers operating in well-established farmers' markets in Southeast Michigan (Ann Arbor and Detroit). The survey responses may be different from farmers operating in more newer or rural markets. Furthermore, the survey would not include farmers that do not have access to the Internet as it was distributed online.

Conclusion

The growing number of farmers' markets indicates there is a large demand for these markets for both the consumers and farmers. However, farmers also have economic concerns to be aware of – particularly low sales that may cause a farmers' market to fail. This risk is amplified in underserved communities, where it may be perceived that there will not be enough consumers that can afford to purchase the farmers' products. Unfortunately, if there are no farmers, then there will be no consumers to go to the farmers' market. Thus it is important to find farmers that will be willing to take this risk. The results from this study indicate that the farmers most willing to sell in underserved communities are relatively new farmers. This may be due to the difficulty for new farmers to enter existing, successful farmers markets. With the growing popularity of farmers markets, new farmers may be looking for increased channels to sell their products. New market managers looking to start new farmers' markets in underserved communities should approach new farmers to set up in their markets. Alternately, market managers can take steps to address the farmers' concerns of selling in underserved communities to persuade them to sell in underserved communities.

Works Cited and Referenced:

**Works Cited and Referenced:**


Allington, A. (2013, March 18). Local food may feel good, but it doesn't pay. *NPR*. Retrieved from http://www.npr.org/2013/03/18/174665719/local-food-may-feel-good-but-it-doesnt-pay

Bingen, J., Serrano, A., & Howard, J. (2003). Linking farmers to markets: different approaches to human capital development. *Food Policy*, *28*, 405-419. doi: 10.1016/j.foodpol.2003.08.007

Bitler, M., & Haider, S. (2010). An economic view of food deserts in the United States. *Journal of Policy Analysis and Management*, 30(1), 153-176. DOI: 10.1002/pam.20550

Brown, A. (2001) Counting farmers' markets. *Geographical Review* 91(4): 655–674.

Bubinas, K. (2011). Farmers markets in the post-industrial city. *City & Society*, *23*(2), 154-172. doi: 10.1111/j.1548-744X.2011.01060.x.

Bullock, S. (2000). The economic benefits of farmers' markets. *Friends of the Earth Trust*. London, England Retrieved from www.foe.co.uk/resource/briefings/farmers_markets.pdf

Carney, P. A., Hamada, J. L., Rdesinski, R., Sprager, L., Nichols, K., Liu, B., Pelayo, J., Sanchez, M. A., & Shannon, J. (2012). Impact of a Community Gardening Project on Vegetable Intake, Food Security and Family Relationships: A Community-based Participatory Research Study. *Community Health*, 37(4), 874-881. doi:10.1007/s10900-011-9522-z

Conner, D., Montri, A., Montri, D., & Hamm, M. (2009). Consumer demand for local produce at extended season farmers' markets: guiding farmer-marketing strategies. *Renewable Agriculture and Food Systems*, *24*(4), 251-259. doi: 10.1017/S1742170509990044

Cyzman, D., Wierenga, J., & Sielawa, J. (2009). Pioneering healthier communities, west michigan a community response to the food environment. *Health Promotion Practice*, *10*(9), 146-155. doi: 10.1177/1524839908331269

Doye, D., & Sahs, R. (2009). Using enterprise budgets in farm financial planning. Informally published manuscript, *Oklahoma Cooperative Extension Service*, Oklahoma State University, Stillwater, OK, Retrieved from http://pods.dasnr.okstate.edu/docushare/dsweb/Services/Version-11113

Estabrook, R. (2012, March 20). There's more to fixing food deserts than building grocery stores. *NPR*. Retrieved from http://www.npr.org/blogs/thesalt/2012/03/20/149000673/theres-more-to-fixing-food-

deserts-than-building-grocery-stores

Foord, K. (n.d.). *The economics of the farmers' market*. Informally published manuscript, University of Minnesota Extension Service, University of Minnesota Extension Service, Retrieved from mfma.le3.getliveedit.com/files/282.pdf

Gordon, S. (2011, September 3). Growth or glut? a thousand new farmers' markets in 2011. *Indiana Public Media.* Retrieved from http://www.indianapublicmedia.org/eartheats/growth-glut-thousand-farmers-markets-2011/

Hoyer, M. (2013, July 07). Closing snap's food-voucher gap at farmers' markets. *USA Today*. Retrieved from http://www.usatoday.com/story/news/nation/2013/07/13/food-vouchers-farmers-markets/2473191/

Jolly, D. 2002. Farmers' markets: Trends and prospects. *Small Farm News* 3: 1,4–5. http://sfp.ucdavis.edu/files/144176.pdf

Kambara, K. M. and Shelley, C.L. (2002) The California Agricultural Direct Marketing Study. *USDA AMS and California Institute of Rural Studies*. Davis, CA.

Kinney, K., Lindahl, J., Creahan, K., & Richey, J. (2010). Farmers' market report. *King County Department of Natural Resources and Parks, Water and Land Resources Division*. Retrieved from website: http://www.kingcounty.gov/environment/waterandland/agriculture.aspx

Leschewski, A. & Weatherspoon, D. (2014). Fast Food Restaurant Pricing Strategies in Michigan Food Deserts. *International Food and Agribusiness Management Review, 17(A), 147-170.*

Oberholtzer, L., & Grow, S. Winrock (2003). Producer-only farmers' markets in the mid-Atlantic region: A survey of market managers. *Henry A. Wallace Center for Agricultural & Environmental Policy.*

Otto, D. Iowa Department of Agriculture and Land Stewardship, (2010). Consumers, vendors, and the economic importance of Iowa farmers' markets: An economic impact survey analysis. Retrieved from website: http://www.iowaagriculture.gov/Horticulture_and_FarmersMarkets/pdfs/FarmersMarketEIS2009.pdf

Schmitt, T. M., & Gomez, M. I. (2008). *Determinants of vendor success in farmers' markets: Evidence from upstate New York*. Unpublished manuscript, Department of Applied Economics and Management Cornell University, Ithaca, NY,

Stephenson, G., Lev, L., & Brewer, L. (2008). When things don't work: Some insights into why farmers' markets close. Informally published manuscript, *Oregon State University Extension Service*, Oregon State University, Corvallis, OR, Retrieved from

http://extension.oregonstate.edu/catalog/pdf/sr/sr1073-e.pdf

Trauger, A., Sachs, C., Barbercheck, M., Brasier, K., & Kiernan, N. E. (2009). ‘‘our market is our community’’: women farmers and civic agriculture in pennsylvania, usa. *Agriculture and Human Values*, *27*, 43-55. doi: 10.1007/s10460-008-9190-5

United States. Department of Agriculture. Economic Research Services. (2009). *Access to Affordable and Nutritious Food: Measuring and Understanding Food Deserts and Their Consequences* Washington, D.C.

Wilkinson, F and Van Seters, D, (1997). *Adding value to our food system: economic analysis of sustainable community food systems.* Logan, Utah State University

Zezima, K. (2011, August 20). As farmers' markets go mainstream, some fear a glut. *NY Times*. Retrieved from http://www.nytimes.com/2011/08/21/us/21farmers.html?_r=3&

# PART 6

## Sustainable Techniques in Community Gardens and Urban Farms

*by Ima Otudor*

**Ima Otudor**
**University of Michigan**
**School of Natural Resources and Environment**

## Sustainable Techniques in Community Gardens and Urban Farms

***Abstract***

Food Access and Security in Michigan are subject matters that involve many interlinking variables. In this project we will be aiming to understand what food security in Michigan looks like which will include such overarching topics as barriers to food access, availability of stores that sell desirable, wholesome produce. One factor that can address the issue of food security and food access in Michigan is community gardens. As building lasting and efficient areas for urban agriculture can be one part of the solution for increasing food security, research to better understand garden and farm practices is necessary. In addition, as community gardens and urban farms can often be aimed towards underserved and/or low-income neighborhoods, ways to implement and maintain such organizations will be studied. The main research questions will be to understand the best practices for sustainability in community gardens and small urban farms. The information gathered through this research will help to identify barriers to initiating sustainable development practices within gardens and farms and ways that the communities that surround these organizations can provide assistance. Costing-out garden procedures and helping to define where useful community partnerships can be made -such as utility companies providing mulch for compost- will provide further data about best practices. These objectives will help to make low-cost, efficient, sustainable, and productive community gardens a reality for sites within the grant in which such a space is found. In looking at the wider scope of the project, the gardens will be a way to provide healthy, inexpensive, and culturally desirable food to communities that have limited food security.

## *Introduction*

Food security has long been an important topic in the United States. Given its importance, it is necessary to address food security in a variety of ways. Access to nutritious and low-cost food should be a necessity for households across the nation. One way to address access to healthy and inexpensive food in underserved communities is to implement urban agriculture techniques. Since urban agriculture is a wide-ranging topic I will be focused on ways urban agriculture can be connected to economic, environmental, and social dimensions of sustainability. This is important because urban agriculture can have many beneficial implications for the future of food security.

## *Literature Review*

This literature review will be concerned with sustainable practices being undertaken at urban farms and community gardens. I will focus on the following questions: (1) what are the best practices for sustainability; (2) what are the barriers to implementation of these practices; and (3) how and what partnerships can be made in the communities that surround these organizations?

### *Food Security*

Food Security in the United States has been an important issue for decades. In 2012, 85.5 percent of households in the United States were food secure. These households were able to have steady and dependable access to enough food to meet their daily dietary needs, whereas the remaining 14.5 percent of households were food insecure and had limited access to adequate food (Coleman-Jensen et al., 2013). According to the World Health Organization (WHO), food security is defined as having adequate quantities of food available on a reliable basis, having

adequate resources to procure the foods necessary for a nutritious and balanced diet, and appropriate use of food based on knowledge of nutrition and dietary needs, in addition to access to basic water and sanitation needs. The above definition takes into account three pertinent dimensions of food security, food access and food use (WHO, 2013). The American Institute of Nutrition compiled a conceptual definition of food security. The definition states that food security exists when all members of a community have access to sufficient amounts of food to live a healthy lifestyle. The Institute further states the food security should also include two things: easily available, well-balanced, and nutritious foods and the ability to obtain the necessary foods in societally proper ways (without having to use methods of coping such as looting, scavenging, and food banks (Cook and Frank, 2008). One community group, the Detroit Black Community Food Security Network, defines food security as "all members of a community having easy access to adequate amounts of affordable, nutritious, culturally appropriate food" (Simon, 2011). This definition is particularly important as it brings in aspects of culture and community that is usually missed in other definitions. In practice, programs such as community gardens, food buying cooperatives, and food recovery programs can supplement federal food assistance programs while also providing support for strong community development. By invoking "community" in the concept of food security, researchers and community members are making sure to not leave out institutional, economic, social and otherwise systemic issues that contribute to inequitable food systems (Kantor, 2001).

*Food Access*

An important part of food security, food access has been used as a measurement of food availability in neighborhoods around the United States. Inadequate access to healthy food whether it be through higher food prices at closer stores, lack of stores that carry nutritious and

affordable products, lack of transportation or other barriers has led to a higher incidences of diet-related diseases in such neighborhoods (Ver Ploeg et al., 2009). Research has shown that "racial/ethnic disparities in food deserts, income/socio-economic status in food deserts, multiple factors associated with cost, access to supermarkets and healthy food, store type, and differences in chain versus non-chain stores" are several factors that contribute to food access around the nation (Walker et al, 2010). Much of the current research on food access focuses on food outlet and supermarket availability in a given area with results often showing a dearth of options in lower income and minority neighborhoods (Powell, et al, 2007; Walker et al, 2010). For instance research from Powell, et al. (2007) showed racial inequalities in availability of chain supermarkets in African American neighborhoods. The study, which was conducted using census data from around the U.S., found that African American neighborhoods had approximately half of the chain supermarkets when compared to White neighborhoods. This is important because the researchers found that chain supermarkets tended have lower food prices and better quality foodstuffs than the other food outlets looked at in the study –non-chain supermarkets, small grocery stores, and convenience stores. In Asian American neighborhoods there were also a limited amount of chain supermarkets but a higher number of non-chain supermarkets and grocery stores which likely indicate the prevalence of culturally specific food products that can be found in smaller, independent grocery stores and supermarkets (2007: 192-193).

As Kantor (2001) outlines, food access disparities are a reality in many neighborhoods across the nation, thus finding low-cost ways to solve the problem of food security is of interest to several communities. As people in lower socio-economic status neighborhoods often have decreased access to low-cost, quality food products, increasing access takes precedent. In addition to federal programs that help community members obtain food such as the

Supplemental Nutrition Assistance Program (SNAP) and various food banks, initiatives that increase self-sufficiency are very effective in increasing food access (Nash, 2012). A few programs shown to increase community food access are food buying cooperatives, farm-to-school initiatives, food recovery programs, and community gardens. These programs work in several ways to allow community members higher access to healthy foods. For example, food buying coops allow members to pool resources to obtain food in bulk at reduced costs while food recovery programs give to emergency food providers foods that would ordinarily be thrown away. These programs have been shown to increase community food access all the while creating and strengthening bonds between community members, farmers, and other key food access players (Kantor, 2001).

*Food Sovereignty*

Food sovereignty is an important issue when it comes to the national food system. The topic had its beginnings in developing countries where small food producers were facing issues of land control, food access, and production practices. The organization La Via Campesina brought the idea of food sovereignty to the public in 1996 during the World Food Summit. It is commonly defined as people having the right to shape all aspects of the food system in their communities with a focus on just decision-making, farming practices, human health, and the environment (Patel, 2009). Lower income communities in the United States have been shown to model food activism on similar grounds (Block, Chávez, Allen, and Ramirez, 2012). From a community standpoint, food sovereignty is an important issue in low income communities because there is more to the narrative than the common idea of unhealthy food choices being widespread among lower-income residents. Both Conroe (1999) and Block, et al (2012) show in their research that community residents are very much aware of the state of the food system in

their area. When discussing issues related to food community members range from understanding disparities in the food system, to committing to community action, and/or to being in the process of mobilizing to make sure there is active change taking place in communities (Conroe, 1999; Block et al, 2012). In many cities these behaviors often culminate in grassroots activism focused on the betterment of the local area food system and/or the establishment of some form of urban agriculture in the affected neighborhoods (Conroe, 1999).

*Urban Agriculture*

Urban agriculture, which is food production in densely populated areas using techniques such as rooftop farms, greenhouses, and community gardens, has always been a source of nutritious and low cost food. In recent years, the increasing interest in local food and knowing the origin of many of the contents of one's kitchen has led to a rise in urban agriculture (Exploring Urban Agriculture, 2013). The idea of reducing the distance traveled for food, limiting reliance on food found outside of a specific area's geographical region, and overall increasing sustainability of the local food system is often located in population centers in which there are already healthy and low-cost options for food (Alkon and Agyeman, 2011). Though many techniques can be important in helping community members utilize urban agriculture and further improve the state of the food system in their neighborhoods, the audience motivated by local foods tends to be unaware of the exclusivity and alienation that "local food" can bring. Food sovereignty and food access often pertains to low-income communities and/or communities of color in which availability of fresh, safe, low-cost, and nutritious food is extremely limited (Alkon and Agyeman, 2011). Focusing on local food is often the concern of firmly middle class to upper middle class, white neighborhoods where there is no shortage of food outlets offering a multitude of products at varied price ranges –in short, no problems with the availability of food

or concerns about food deserts (Alkon and Agyeman 2011; Block et al 2012). Emphasis on increasing access, making sure the communities voice their concerns about food disparities, and subsequently taking action can lead to a positive feedback loop of activism and reduced food inequities. In order for urban agriculture to fulfill the needs of all people involved, there must be a commitment to meeting the desires of all communities without marginalizing minority communities and/or communities in which members are on the lower end of the socio-economic spectrum (Alkon and Agyeman, 2011). Regardless of income, people of all backgrounds can agree that community gardens and urban farms are positive institutions in their area food system. Whether begun in order to increase access to culturally relevant foods, limit the food miles traveled, or to make safe and healthy food available to food insecure communities, community garden and urban farms play an important role in urban agriculture (Gvozdas, 2008; Alkon and Agyeman, 2011).

Community gardens and urban farms have always existed as a way to easily and inexpensively access nutritious food, however the image of these establishments has changed over time. Agriculture in America has taken many forms. During the periods before industrialization, agriculture was an integral part of the American landscape with farming being a major part of daily life. In the early nineteenth century the advent of industrialization led to farming on a larger scale to meet the needs of growing urban populations. Larger scale food production meant that food production became more centralized to ease transport and trade of goods throughout the nation; however it also meant that there were people who participated in the agricultural system (Hodgson et al, 2011). Financial depressions such as the Panic of 1893 and more concentrated city populations contributed to a major urban agriculture program that focused on using vacant lots in cities such as Philadelphia and Detroit to grow food. This

program later was expanded to address food shortages during the early twentieth century. Urban gardens and farms were seen as a way to supplement food supply and boost morale during times of rationing such as World Wars I and II and the Great Depression (Lawson, 2005; Smith and Hurtz, 2003).

Though prevalence of victory gardens waned in the decades post-World War II, urban agriculture would continue to appear throughout the United States. During the 1970s, gardens received a boost in interest due to increasing food prices and more attention being paid to environmental concerns. In addition, the petroleum shortage during the same period led to increased effort into the general public becoming more self-reliant (Lawson, 2005). During the 1980s and1990s gardening projects became increasingly associated with recreation and increasing community betterment as opposed to associations with civic duty of earlier decades. Additionally urban agriculture was often seen as an answer to urban decline that was occurring in cities across the United States. In their current form, urban agriculture establishments such as urban farms and community gardens are often connected with grassroots food activism in marginalized communities. In addition, community agriculture spaces are also a way to increase greenery in areas of urban neglect. In each of these glimpses at the urban food system over the years, it remains constant that these spaces are used to have a constant source of accessible food (Alkon and Agyeman, 2011; Hodgson et al, 2011; Lawson, 2005; Smith and Hurtz, 2003).

*Sustainability*

What does sustainability mean in the context of urban agriculture? At the most basic level, sustainability, which has long been defined as "meeting the needs of the present without compromising the ability of future generations to meet their own needs," can mean communities discourage overconsumption of good and services that contribute to pollution and hazardous

waste while promoting urban greenery, green businesses and technology, and general ecological awareness (Bruntland, 1987). However in order to be comprehensive in the meaning of "sustainability", the definition should look at social dimensions as well as economic and ecological dimensions (Alkon and Agyeman, 2011). Ecological sustainability focuses on ecosystems being able to adapt to environmental changes, economic sustainability focuses on environmental capital and businesses taking steps to mitigate the disconnect between economic activity and the environment, and social sustainability focuses on the equitable integration of natural systems and humans (Cabezas 2003). However, for underserved communities, the definition of sustainability often includes food security, reduction of systemic disparities regarding land, safety, and food, and the inclusion of cultural and traditional food awareness (Roseland, 1997; Alkon and Agyeman, 2011). Combining these aspects of sustainability within the context of urban agriculture allows such organizations to efficiently meet the needs of community members while allowing for long-term environmental and financial viability in their organizations (Alkon and Agyeman, 2011).

*Techniques for Sustainability and Efficiency:*

When working in urban gardens and farms, there are an array of techniques that can increase overall sustainability. Rainwater catchment systems, composting, and green houses and/or hoop houses are some of the more common techniques that generally promote environmental awareness (Gittleman, Librizzi, and Stone, 2010). However there are also more innovative methods of improving efficiency and sustainability such as using recycled materials for garden/farm tools, using insects as pest control and using partnerships with local businesses and organizations in order to gain access to useful materials at low-to-no cost (Otudor, 2013). In communities in which there are land vacancy concerns, agricultural sustainability can often

include an element of land tenure. In such situations the status of the land can often play a role in the longevity of organizations with the status of the land ranging from owned to open-space use to land banks and even land donation (de Wit, n.d.). In addition to briefly touching on land tenure, my research will be looking at the following techniques:

- Beekeeping
- Culturally-desired crops
- Community partnerships
- Composting
- Crop rotation
- Greenhouses and Hoop houses
- Intercropping
- Weed control
- Tillage
- Organic Gardening
- Native/Local species planting
- Rainwater collection
- Raised beds
- Pest Control
- Use of Recycled materials
- Other techniques

Currently, few research articles discuss sustainability in the context of urban agriculture. Interpretations vary from gardening without chemicals, to small-scale farming, to the term seemingly only appearing as a 'buzz word' (Wagner, 2013; Wilkerson, 2011; The News & Observer, 2009). One article surveyed members of a Canadian garden group and outlined 82 tips for practicing sustainable gardening. Techniques listed help address practices such as repurposing materials, wildlife and pollinators, saving water and energy, and composting methods. Some techniques listed include using free old tarps from nearby lumber stores to help with weed control, using a under-house cistern in addition to rain water barrels to maximize the amount of water captured, and making relationships with schools, grocery stores, senior citizens homes, and hair dressers to gather up compostables (Stonebrook, 2011). However given such

information, there do not seem to be many academic or peer-reviewed articles that discuss sustainability and urban agriculture. Consequently, this paper will catalog the sustainable urban farming and gardening practices being utilized by Michigan food organizations.

*Partnerships*

Collaborative efforts amongst organizations who share a common goal can play a significant role in increasing sustainable efforts. Since community gardens and urban farms often focus on helping communities through strengthening food security or act as social cohesion amongst community members, such organizations are great for community collaborations (Misur, 2010). Molnar et al (2010) note that connections made between communities and local institutions of higher education have promoted innovative ways to address sustainability. Earlier efforts at partnerships included service learning and extension services that connected university students with faculty, governmental bodies, and other resources that led to increased engagement on environmental and agricultural issues within communities. Current efforts include projects that connect communities to universities and organizations that attempt to address issues such as urban renewal and reducing energy usage (Molnar, Ritz, Heller, and Solecki, 2010). Garden or farm partnerships with businesses and organizations in the surrounding communities often address a need each partner may have. For example, the Agrarian Adventure, an Ann Arbor area non-profit grassroots organization that focuses on educating students about healthy food and communities, local agriculture, and the environment, partners with several local businesses and organizations. Their program areas include Farm-to-School Initiatives, Community Outreach, Organic Food Production in Schools, and several others ("About Agrarian Adventure," 2013).

*Barriers*

Once community gardens and urban farms are implemented, there are often logistical and garden management obstacles to address. Lack of knowledge about certain agricultural methods, high overhead costs, and lack of sufficient labor are possible occurrences that need to be addressed for successful garden or farm organization (Nugent, 2000; Poltorak, 2011). Additionally, there may be policy barriers that create a barrier for use of certain techniques within the garden or farm. For example in Bay City, Caledonia, and Redford, Michigan there is legislation that prohibits beekeeping (Flottum, 2010). For my research, I outlined the more common barriers to garden and farming techniques such as methods being cost prohibitive, time intensive, labor intensive, or having policy barriers. I also looked at problems found for each method within the literature. Table 1 outlines barriers unique to each method, some methods aren't listed because the associated barriers were the more common ones listed previously –time intensive, cost prohibitive, etc.

**Table 1. Sustainable Practices in Urban farms & Community Gardens- Associated Barriers**

| **Method:** | **Barrier(s):** |
|---|---|
| Community partnerships | Identifying potential partnerships; logistics of establishing partnerships; making joint decisions |
| Composting | Not enough material to compost with; complaints about and/or problems with vermin and/or the smell of the compost |
| Crop rotation | Land parcels divided in a way that makes rotation difficult |
| Greenhouses and Hoop houses | Difficult to set up; structure takes up too much space; Complaints about use; aesthetics |
| Intercropping | Competition between crops; harvesting intercropped crops is a challenge |
| Weed control | Weeds grow back quickly; removal techniques not effective |
| Tillage | Size of crop field(s) |
| Organic Gardening | Higher costs of organic crops; organization is attempting to maximize crop yields; difficulty in getting and/or maintaining certification |
| Native/Local species planting | More demand for non-native crops; unsure of what plants are native; seasonality |
| Rainwater collection | Not enough water collected to meet organizations' needs; water collected has contaminants |
| Raised beds | Can cause soil compaction |
| Pest Control | Unsure where to acquire beneficial insects |
| Use of Recycled materials | Materials require a lot of maintenance |

(Flottum, 2010; Nugent, 2000; Otudor, 2013; Poltorak, 2011; Lithourgidis et al, 2011)

***Methods***

My research will be concerned with sustainable practices used at urban farms and community gardens. I will focus on the following questions: 1. What are the most commonly used practices for sustainability? 2. What are the barriers to implementation of these practices? 3. Which organizations are more likely to adopt these practices and what are there organizational characteristics? 4. How and what partnerships are/ can be made in the communities that surround these organizations?

Hypotheses:

$H_1$: Composting is likely to be commonly practiced within surveyed organizations.

$H_2$: Rainwater collection is more likely to be commonly practiced within surveyed organizations.

$H_3$: Greenhouses and/or hoop houses are more likely to be commonly used within surveyed organizations.

$H_4$: High practice-adopter organizations are more likely to have been established for longer than 5 years.

$H_5$: High practice-adopter* organizations are more likely to own the land that they use.

$H_6$: High practice-adopters are more likely to be located in middle income neighborhoods.

$H_7$: Partnerships are more likely to be made with organizations that have been established for more than 5 years.

$H_8$: Partnerships are more likely to be made with organizations that have more volunteer employees.

*High practice adopter organizations are organizations surveyed that use three or more practices from the list in Table 1.

***Methods:***

Research Sample Collection: I used a dataset of 227 urban farms and community gardens collected by a graduate research assistant at the University of Wisconsin-Madison. I also collected 79 emails of garden and farms organizations using Google web searches. The organizations were picked from cities all around Michigan to ensure that I captured organizations across Michigan. Contact information was gathered into an excel database.

Survey Creation: My research questions addressed sustainability within urban farms and community gardens. In order to address my research objectives, I developed a survey containing 46 questions that looked at sustainable techniques on urban farms and community gardens. The survey underwent two rounds of peer and advisor review. The survey was then uploaded to Qualtrics, an online survey creation and distribution tool. The survey was sent to two University of Michigan master's students for pre-testing from October 7th to October 29th 2013. Both of these students were affiliated with agriculture organizations on campus –the garden at the Ginsberg Center and the University Campus Farm. The survey was finalized on November 8th 2013.

Survey Distribution: The survey was distributed using MailChimp. After contact info for each organization was uploaded to the website, an email was sent to everyone on the list. The first email was sent November 13th 2013 with weekly reminder emails following until January 23rd 2014. There were approximately 35 email bounces out of the whole list. The survey was closed January 29th 2014.

Statistical Analysis: Survey results were analyzed using SPSS and Microsoft Excel.

***Analysis***

*Demographics:*

*Region*

**Table 2. Regional Location of Surveyed Organizations**

| | Frequency | Valid Percent |
|---|---|---|
| Central | 29 | 46.0 |
| North | 6 | 9.5 |
| South | 18 | 28.6 |
| West | 10 | 15.9 |
| | n=63 | |

A large portion, approximately 46 percent, of the organizations that responded to the survey were from the central Michigan area. This included cities such as Lansing, Portage, Saginaw, and Battle Creek. Almost 29 percent were from southern Michigan which included cities such as Ypsilanti, Ann Arbor, Detroit, and Dearborn. Approximately 16 percent of the surveys were from western Michigan which included cities such as Grand Rapids, Benton Harbor, and Muskegon. The smallest portion of respondents came from northern Michigan, with only 6 respondents –or 9.5 percent of the total responses. The northern Michigan area included cities such as Ironwood, Manistee, and Suttons Bay.

*Years Established*

**Table 3. Years Surveyed Organizations Have Been Established**

| Response | Frequency | Valid Percent |
|---|---|---|
| 1-5 years | 34 | 54.8 |
| 6-10 years | 13 | 21.0 |
| 11+ years | 15 | 24.2 |
| | n=62 | |

A majority of the garden and farm organizations surveyed had only been established for 5 years or less. Twenty-one percent of the organizations had been established between 6 and 10 years, and the remaining 24 percent had been established for 11 or more years, this includes organizations ranging from 12 to 50 years.

*Land Size and Status*

**Table 4. Size of Organization's Land**

| Response | Frequency | Valid Percent |
|---|---|---|
| 1 or fewer acres | 23 | 54.8 |
| 5-10 acres | 14 | 33.3 |
| 11+ acres | 5 | 11.9 |
| | n=42 | |

Of the organizations who answered questions about the size of the land on which they grow crops, most of them had one or fewer acres. About 33 percent had between 5 and 10 acres, while only 5 organizations had 11 or more acres. However there were 21 organizations which chose not to answer the question. The average land size was 13.3 acres. However this value is due to four of the organizations having much larger acreage at 45, 70, 150, and 160 acres. When those organizations were taken out the average acreage drops to 2.2.

When asked about land status the most common response was that the land was owned by the organization. However, a large percentage replied "other" which followed with a description of the land status. Self-reported land status ranged from answers such as municipal-owned to private-ownership, to public school owned. Ten percent of surveyed organizations received their land as donations. Other options included leasing, renting, vacant land use, and from land banks.

*Race, Gender, & Age*

**Table 5. Race of Surveyed Organizations' Leadership**

| Response | Frequency | Valid Percent |
|---|---|---|
| White | 45 | 71.4 |
| Black | 6 | 9.5 |
| Asian | 1 | 1.6 |
| Multiethnic | 7 | 11.1 |
| Not-applicable or No response | 4 | 6.3 |
| | n=63 | |

A majority of the organizations were headed by persons of European descent. Ten percent were headed by people of African descent and eleven percent of the surveyed organizations had multi-ethnic leadership. In addition the organizations were pretty evenly split between male and female leadership at 37 percent and 38 percent, respectively. Approximately 25 percent of the organizations consisted of mixed-gender leadership. Forty four percent of the

organizations' leadership were between 40 and 59 years old. Interestingly 19 percent of the organizations gave age ranges when asked about the age of their leadership. Ages spanned from 7 to 82 years old, with most ranges being in the 40s and 50s.

*Income*

**Table 6. Income of Surveyed Organizations' Leadership**

| Response | Frequency | Valid Percent |
|---|---|---|
| None or Not-Applicable | 9 | 17.3 |
| $1-$24,999 | 12 | 23.1 |
| $25,000 - $50,999 | 20 | 38.5 |
| $51,000+ | 11 | 21.2 |
| | n=52 | |

Roughly 32 percent of the gardens and farms had leadership whose income put them at firmly working to middle class (Thompson and Hickey, 2005). Additionally 32 percent of surveyed organizations did not know enough about the leadership or did not feel comfortable answering the question, as is often expected with inquiries about income.

*Practice Frequency*

**Table 7. Summary of Sustainable Practices Performed In Surveyed Organizations**

| Sustainability Practices | n | **Practice Used** | | **Practice Not Used** | |
|---|---|---|---|---|---|
| | | # Orgs | % Orgs. | # Orgs. | % Orgs. |
| Organic Gardening | 58 | 48 | 82.8 | 10 | 17.2 |
| Culturally desired crops | 58 | 42 | 75.9 | 16 | 24.1 |
| Composting | 58 | 41 | 70.7 | 17 | 29.3 |
| Raised Beds | 58 | 40 | 69 | 18 | 31 |
| Use of recycled materials | 58 | 38 | 65.5 | 20 | 34.5 |
| Crop rotation | 58 | 33 | 56.9 | 25 | 43.1 |
| Community Partnerships | 58 | 32 | 55.1 | 26 | 44.8 |
| Low/No tillage | 58 | 32 | 55.1 | 26 | 44.8 |
| Native/Local plants | 58 | 27 | 46.6 | 31 | 53.4 |
| Green Houses/hoop houses | 58 | 22 | 37.9 | 36 | 62.1 |
| Rainwater collection | 58 | 18 | 31 | 40 | 69 |
| Intercropping | 58 | 17 | 29.3 | 41 | 70.7 |
| Beneficial Insects | 58 | 17 | 29.3 | 41 | 70.7 |
| Innovative weed control | 58 | 13 | 22.4 | 45 | 77.6 |
| Beekeeping | 58 | 10 | 17.2 | 48 | 82.8 |

Organizations were able to write in answers if they performed other techniques that were not listed in the survey. Written responses included drip irrigation, natural pest remedies, vertical gardening, and allowing beneficial insects to thrive by not spraying for mosquitos.

*Breakdown of Practices:*

*Beekeeping*

Many of the organizations surveyed did not make use of beekeeping, however 11 percent stated that either there were beekeepers nearby or that they planned on keeping bees in the

future. Approximately 13 percent of the organizations felt that beekeeping was too time intensive for their organization to practice. The top barriers to beekeeping included having policies that prohibit its use and it being unknown as an option for the organization, which both had 11 percent of organizations to state that these were barriers to the practice. Thirty-eight percent of surveyed organizations wrote in other reasons for challenges with beekeeping that included no initiative from anyone in the organization, perceived danger and liability with use of bees, and a focus on other priorities.

*Deciding on Crops*

When making decisions on which crops were grown in the garden, it was likely to be decided upon by farm and garden program participants or community residents at approximately 40 and 24 percent, respectively of organizations making planting decisions this way. Organizations felt that crops being grown in season and crops that the program participants want were important factors for influencing which crops were grown in the garden. Crops that are culturally-desired by the surrounding community was seen as not as important by 51 percent of organizations who answered the question. Also unimportant as an influencing factor was crops that the garden or farm leadership wanted. Other influencing factors included crops that would do well at farmer's markets, CSA member requests, and type of crop i.e. non-GMO, heirloom, open-pollinated, etc.

*Partnerships*

A majority of the organizations surveyed had partnerships with nearby businesses and other organizations. Partnerships ranged from receiving discounts on tools to cooking classes at area food stores to schools and community centers providing space in which to garden. The logistics of establishing partnerships was found to be the top challenge of community

partnerships. Long-term maintenance of partnerships, identifying potential partnerships and making joint decisions followed close behind as additional community partnership challenges.

*Composting*

A majority of the organizations surveyed, 41 percent, utilized composting. A further 10 percent planned on composting in the future. It seemed as if since many of the organizations composted, there weren't many barriers to its use. However a few organizations identified the practice as being time consuming and there not being enough materials with which to compost as challenges with its use.

*Weed Control*

Weed control is a fairly commonplace agricultural practice, so it was included in this survey to reveal if there were innovative ways that it was performed. The survey revealed that most of the weed control was done by hand-pulling and mulching. Weed mats such as plastic sheets or layers of newspaper were used by 29 percent of surveyed organizations. Intercropping, which is when multiple crops are grown together to minimize competition from weeds (Lithourgidis et al, 2011) was used by 29 percent of organizations. The top challenge with weeding among surveyed organizations was weeds growing back quickly. Another common challenge was that large parcels of land made weeding difficult.

*Crop rotation*

A majority of the organizations made use of crop rotation to some extent. It varied as many organizations had programs in which the gardener decided amongst themselves if they would rotate crops in their specific plots. There weren't many challenges identified with crop rotation, with 37 percent of the organizations stating that there were no challenges with crop

rotation. However approximately 24 percent of the organizations answered that one challenge was that land parcels were divided in a way that makes rotation difficult.

*Intercropping*

Though intercropping was included as an option for weed control, it is also an agricultural practice that has other uses in addition to weed control (Lithourgidis et al, 2011). In contrast to 18 organizations using intercropping as weed control, 26 organizations, 41 percent, stated that they generally practiced the technique. The most common challenges found with use of intercropping were difficulty due to planting logistics and no knowledge of the technique. However both of these challenges were low in frequency with approximately 13 percent and 11 percent, respectively.

*Greenhouses/Hoop houses*

Greenhouses and hoop houses were used by 32 percent of the organizations. The main barrier was that organizations found greenhouses and hoop houses to be too costly to set up. Twenty-one percent of organizations answered that the structures take up too much space, which makes sense as there were several gardens and organizations that had small parcels of land. Interestingly, a few organizations wrote in that such structures could lead to illicit activity.

*Tillage*

Approximately 70 percent of surveyed organizations practiced low- or no tillage. The main reasons for low-to-no tillage were environmental concerns and the size of the crop field. Several organizations wrote in that practicing standard tillage was impractical in some way (soil type isn't conducive, use of raised beds, etc.).

*Agricultural Methods*

The most commonly used agricultural method was organic planting with 62 percent of surveyed organizations practicing such planting. Though many organizations practiced organic

planting, only18 percent were certified organic. Many organizations answered that they planted with no genetically modified organisms (GMOs) and limited use of pesticides and synthetic fertilizers. 18 organizations answered that they utilized conventional agricultural methods and 13 organizations answered that they grew GMOs. Challenges with chosen agricultural methods included difficulty gaining and maintaining certification with almost 20 percent of surveyed organizations stating that they experienced such barriers. Other challenges include higher cost leading to limits on use of organics, organics being labor intensive, and compliance with/enforcing of organics among organizations with many gardeners being difficult. There were several organizations, approximately 21 percent, who answered that there were no challenges to organic gardening or farming.

*Local/ native crops*

A majority of the organizations surveyed planted local or native crops to some extent with 59 percent of organizations responding as such. The main challenges to growing local or native crops was found to be more demand for food plants that may not have been native, planters being unsure what plants are native or local, and no community demand for such crops.

*Water source and rainwater collection*

Most of the organizations obtained their water from a public utility. Twenty-two percent obtained water from an on-site well and 8 percent either brought water in from an outside source or collected rain water. It follows that 35 percent of organizations did not collect rainwater. Organizations that did collect rainwater had collection techniques that made use of rain barrels, gutter collection, above-ground cisterns, and a few with building-integrated collection. Challenges to rainwater collection include systems for collection being difficult to set up, not enough water collected for organization's needs and rainwater collection being seen as a costly process.

*Raised beds*

Sixty-eight percent of surveyed organizations made use of raised beds. The main challenge with its use was that raised beds required high initial costs with 32 percent of organizations marking this answer. Twenty-four percent of surveyed organizations stated that there were no challenges with the use of raised beds. These answers revealed that this was a very common practice that was well-integrated within the structure of the surveyed organizations.

*Recycled materials*

When asked about use of recycled materials, 60 percent of surveyed organizations stated that such materials were used. Materials used included fencing, newspaper, cardboard, tire planters, wood pallets and other wood products, used tools, and several more. Several organizations, 32 percent, found that there were no challenges with use of recycled materials. However 14 percent of surveyed organizations identified access to recycled materials as being a challenge to using this practice.

*Beneficial insects*

Only 29 percent of surveyed organizations made use of beneficial insects as pest control. Challenges to use of this technique include no knowledge of beneficial insects and being unsure where to get such insects, with 22 and 16 percent, of organizations answering as such, respectively.

*Other techniques*

Approximately 51 percent of the organizations stated that they made use of other sustainable practices not listed in the survey. There was some slight overlap in written answers reflecting previously listed practices –such as composting, crop rotation, and weed control. However some innovative techniques were written out such as using compost tea application,

drip line irrigation, and pheromone disruption for pest control which reduces the need for spraying.

*Organizational Characteristics*

Organizations that had been established for 11 or more years had high rates of beekeeping, planting of culturally desired crops, community partnerships, composting, crop rotation, low/no tillage, organic gardening, use of raised beds, and use of recycled materials. Organizations that had been established for 5 years or less had high rates of planting culturally desired crops, community partnerships, composting, intercropping, low/no tillage, organic gardening, use of raised beds, and use of recycled materials. Median established organizations, those established between 6 and 10 years had high rates of planting local/native crops, organic gardening, crop rotation, composting, and planting of culturally desired crops.

Organizations that owned their land were more likely to practice all techniques except rainwater collection. Organizations that did not own their land often stated that the businesses, schools, or individuals associated with the land did not agree with some practices and felt that a practice such as beekeeping introduced a liability.

Organizations that had one or fewer acres were more likely to perform composting, low- to no- tillage, organic gardening, use of raised beds, use of recycled materials, and have culturally desired crops. Organizations that were on the larger side with 11 or more acres were more likely to perform beekeeping, crop rotation, use of greenhouses and/or hoop houses, organic gardening, and use beneficial insects.

Partnerships with businesses were more likely to occur in neighborhoods that the organizations reported were a mix of low to middle income. Also, organizations that were in communities that were low to middle income responded that logistics of establishing partnerships and identifying potential partnerships were challenges encountered in having

partnerships with local businesses and other organizations. This reflected the common response received from all of the organizations regarding this question.

Contrary to the hypothesis that partnerships were more likely to occur in organizations where there were more volunteer staff, the number of volunteers did not seem to affect whether or not organizations participated in community partnerships. In fact, the number of volunteers was pretty evenly split between organizations that did and did not have community partnerships no matter if the organization had no volunteers, a few volunteers, or more than twenty volunteers.

***Discussion:***

The most common sustainable techniques practiced among all organizations were found to be culturally desired crops, composting, organic gardening, and use of raised beds and recycled materials. This is in contrast to the hypothesized common techniques of composting, rainwater collection, and use of greenhouses and hoop houses. The results could be as such because many of the organizations had smaller acreage and were established for shorter periods of time. These characteristics would mean that efficient techniques that make use of existing resources would need to be used; thus composting and recycled materials are utilized. In addition, many of the organizations were community gardens which often feature raised beds so as to make garden management easier, maximize limited space, and protect plants from foot traffic ("Raised Bed Vegetable Gardening," 2013).

Organizational characteristics were evident as a factor for techniques performed. For example organizations who owned their land appeared to be high practice adopters. This is likely because such organizations would have less pushback since there was no outside entity over land

ownership when adopting practices such as beekeeping. For example many organizations who owned land also were already receiving water from a public utility.

There were a few other factors of interest that could show more correlation between using specific practices and organizational characteristics, however because of time constraints these factors were not explored in depth. Going forward, this research could be broadened by including seed saving in the list of sustainable practices. It would be beneficial to see how seed saving and seeds banks play a role in urban agriculture and how organizational characteristics affect the practice. Additionally, a larger sample size and in depth quantitative statistical analysis would help to show possible correlations between demographic information and characteristics about surveyed organizations. Organization-reported neighborhood demographics were reported which be useful to explore if the reported demographics represented the reality of the neighborhoods. Accuracy of organization-reported neighborhood demographics against historical Census information could offer insights into social aspects of urban agriculture.

The results from this research put forth helpful insights into agricultural techniques that are of benefit to the natural environment, help reduce and reuse farm and garden resources, and show ways agricultural organizations and communities come together to form mutual relationships. These factors are useful as they frame the environmental, economic, and social dimensions of sustainability which cannot be overlooked in the discourse around urban agriculture. Bringing together urban agriculture and sustainability allows organizations to meet the needs of community members while also allowing for long-term environmental and financial viability. Ultimately, this shows that urban agriculture, sustainability, and food access are all intertwined.

**References**


About Agrarian Adventure. (2013). *Agrarian Adventure*. Retrieved, from http://www.agrarianadventure.org/?q=about

Alkon, A. H. and Agyeman, J. (2011). *Cultivating Food Justice: Race, Class, and Sustainability*. Cambridge, MA: MIT Press.

Block, D. R., Chávez, N., Allen, E., and Ramirez, D. (2012). "Food Sovereignty, Urban Food Access, and Food Activism: Contemplating the Connections Through Examples from Chicago." *Agriculture and Human Values* 29: 203–215.

Bruntland, G. (ed.), (1987), *Our common future: The World Commission on Environment and Development.* United Nations, Oxford University Press.

Cabezas, H., C. Pawlowski, et al. (2003). "Sustainability: ecological, social, economic, technological, and systems perspectives." Clean Technologies and Environmental Policy 5(3-4): 167-180.

Coleman-Jensen, A., Nord, M., and Singh, A. (2013). *Household food security in the United States in 2012.* ERR-155. Report prepared for the United States Department of Agriculture by the Economic Research Service.

Conroe, S. (1999). Community food security--ensuring food access locally. *Human Ecology Forum, 27*(1), 14-16. Retrieved from http://search.proquest.com.proxy.lib.umich.edu/docview/213826851?accountid=14667

Cook, J. T. and Frank, D. A. (2008), Food Security, Poverty, and Human Development in the United States. *Annals of the New York Academy of Sciences*, 1136: 193–209. doi: 10.1196/annals.1425.001

de Wit, J. (n.d.). Revitalizing Blighted Communities with Land Banks. Retrieved from http://www.umich.edu/~econdev/landbank/

Exploring urban agriculture. (2013). *Resource, 20*(2): 4-5. Retrieved from http://search.proquest.com.proxy.lib.umich.edu/docview/1319833698?accountid=14667

Flottum, K. (2010, August 9). No Buzz Zones: 90+ U.S. Cities and Towns Where Beekeeping Is Still Illegal [Web log post]. Retrieved from http://www.thedailygreen.com/environmental-news/blogs/bees/illegal-urban-beekeeping-0602

Gvozdas, S. (2008, Aug 14). Urban Gardens Gain Ground. *The Sun*. Retrieved from http://search.proquest.com.proxy.lib.umich.edu/docview/406207274?accountid=14667

Hodgson, K., Campbell, M. C., & Bailkey, M. (2011). What is urban agriculture? *Planning Advisory Service Report,* (563), 9-34. Retrieved from http://search.proquest.com.proxy.lib.umich.edu/docview/860137217?accountid=14667

Kantor, L. S. (2001). Community food security programs improve food access. *Food Review, 24*(1), 20-26. Retrieved from http://search.proquest.com.proxy.lib.umich.edu/docview/200309210?accountid=14667

Lawson, L. (2005). *City Bountiful: A Century of Community Gardening in America.* University of California Press

Lithourgidis, A.S., Dordas, C.A., Damalas, C.A., and Vlachostergios, D.N. (2011). Annual intercrops: an alternative pathway for sustainable agriculture. *Australian Journal of Crop Science* **5** (4): 396–410.

Misur, S. (2010, Oct 11). Community garden stems from partnership. *McClatchy - Tribune Business News*. Retrieved from http://search.proquest.com.proxy.lib.umich.edu/docview/757138474?accountid=14667

Molnar, C., Ritz, T., Heller, B., Solecki, W. (2010). Using Higher Education-Community Partnerships to Promote Urban Sustainability. *Environment: Science and Policy for Sustainable Development* 53(1): 18-28.

News & Observer, The (Raleigh, NC) (2009, May 30). Community gardens promote cooperation, sustainability at Duke. (Final ed.), A3. Retrieved October 25, 2013, from NewsBank on-line database (Access World News).

Nielsen, A. (2012). Growing community in the courthouse community garden. *Voices, 38*(1): 3-10. Retrieved from http://search.proquest.com.proxy.lib.umich.edu/docview/1317656318?accountid=14667

Nugent, R. (2000). The impact of urban agriculture on the household and local economies. In S. Gündel, N. Bakker, M. Dubbeling, U. Sabel-Koschella, A. N. Salm, and A. Waters-Bayer. (Eds.), *Growing Cities, Growing Food: Urban Agriculture on the Policy Agenda* (pp. 67-98). Feldafing: Deutsche Stiftung für internationale Entwicklung.

Otudor, I. (2013). *DBCFSN Sign Posts.* [Photograph].

Patel, R. (2009). "Food sovereignty." *The Journal of Peasant Studies.* 36(3): 663-706.

Poltorak, A. (2011, December 7). Obstacles to Urban Agriculture [Web log post]. Retrieved from http://www.theurbancanopy.org/2011/12/07/obstacles-to-urban-agriculture/

Powell, L. M., Slater, S., Mirtcheva, D., Bao, Y., and Chaloupka, F. J. (2007) Food store availability and neighborhood characteristics in the United States, *Preventive Medicine*,

44(3): 189-195, ISSN 0091-7435, Retreived from http://www.sciencedirect.com/science/article/pii/S0091743506003343

Raised Bed Vegetable Gardening. (2013). *Quick Crop | The Veg Growers Website*. Retrieved from https://www.quickcrop.co.uk/blog/raised-bed-vegetable-gardening-2/

Roseland, M. (1997). Dimensions of the eco-city. *Cities.* 14(4): 197-202

Simon, C. A. (2011, Feb). Food security, food access, food justice. *Michigan Citizen*. Retrieved from http://search.proquest.com.proxy.lib.umich.edu/docview/854898644?accountid=14667

Smith, C., and Kurtz, H.(2003), "Community Gardens and the Politics of Scale in New York City." *Geographical Review*, 93(2, April): 193-212.

Stonebrook, S. (2011, Oct). 82 Sustainable Gardening Tips. *Mother Earth News.* 54-57,59-61. Retrieved from http://search.proquest.com.proxy.lib.umich.edu/docview/903285246?accountid=14667

Thompson, W. & Hickey, J. (2005). *Society in Focus*. Boston, MA: Pearson

Ver Ploeg, M., Breneman, V., Farrigan, T., Hamrick, K., Hopkins, D., Kaufman, P., … Tuckermanty, E. (2009, June). *Access to Affordable and Nutritious Food: Measuring and Understanding Food Deserts and Their Consequences.* U.S. Department of Agriculture. (Administrative Publication No. AP-036). Retrieved from http://www.ers.usda.gov/publications/ap-administrative-publication/ap-036.aspx#.Un2yF_mshcZ

Wagner, J. (2013, Sep 02). Community garden's goal: Education, sustainability. *Palm Beach Post*. Retrieved from http://search.proquest.com.proxy.lib.umich.edu/docview/1429158915?accountid=14667

Wilkerson, A. (2011, Apr 21). Growing camaraderie: Oklahoma's community gardens cultivate sustainability, interaction. *Journal Record.* Retrieved from http://search.proquest.com.proxy.lib.umich.edu/docview/863720457?accountid=14667

World Health Organization. (2013). Food Security. Retrieved from http://www.who.int/trade/glossary/story028/en/

# Conclusion

Our analyses of the various aspects of food access described within the paper provide a broad narrative of the topic. This report provides a look into various aspects of Michigan food security and presents the findings from multiple studies. The research is presented in the hopes that a better understanding of this multifaceted food system will contribute to addressing access to healthy and affordable food in Michigan. This complex problem will require an equally complex solution. For example, school lunches are an excellent opportunity to provide children with fresh local foods. However, to accomplish this, support is needed from multiple levels including, the legislative level. Emergency food assistance services are shifting to include fresh and culturally appropriate foods - examining the factors that allow for comprehensive services for underserved communities will be critical moving forward. Farmers' markets provide an excellent opportunity to connect farmers looking for additional sales channels and consumers looking for, but lacking access to, fresh food. Market managers should look to approach farmers that are either missions driven or allow the processing of SNAP cards to ensure the proper incentives exist for farmers to come to market, which in turn should draw customers. Additionally, a grassroots approach in urban farms and community gardens would also ensure access to fresh foods. The organizations that sustain these efforts need also need to be supported with policy and community involvement. The varied topics discussed within this paper have current and future implications that can help contribute to the overall narrative of food access, food security, the food system in Michigan, and ultimately the food system nationwide.