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Matching missions: hunger relief programs and impact of food donation partners in Northwest Arkansas

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Matching Missions:

Hunger Relief Programs and Impact of Food Donation Partners in Northwest Arkansas

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Executive Summary

In 2012 and 2013, Arkansas ranked first in the nation in food insecurity in both categories of "low food secure" (21.2%) and "very low food secure" (8.4%) (Lilley, 2013; Coleman-Jensen, 2014). Additionally, the number of households that are food insecure is increasing instead of staying steady or decreasing.

In order to help address food insecurity in NWA, The Cobblestone Project developed a hunger relief donation partner, *The Farm*, which has provided thousands of pounds of food to hunger relief programs in NWA (Cobblestone Project, 2013). Often, however, both hunger relief programs and donation partners lack staffing resources to assess the impact of their donations to programs (J. Graves, 2013) (Cobblestone Project, 2013). Therefore in spring 2014, *The Farm* partnered with University of Arkansas to:

- Better understand the demographics and need of hunger relief organizations
- Calculate the impact of donations to hunger relief organizations in terms of numbers of meals created and numbers of people served
- Assess satisfaction from hunger relief recipients regarding the quality, quantity and diversity of the commodities received by hunger relief organizations
- Explore ways that *The Farm* can positively impact the ability of hunger relief organizations to meet their goals of reducing hunger in NWA

To meet these objectives, a series of three surveys (introduction survey; survey after donations; and final assessment survey) was developed and targeted to 13 hunger relief organizations that *The Farm* serves. Of those 13 responded. Data analyses produced the following results.

Demographics and needs of hunger relief organizations: Statistical tests showed that there were no significant differences in demographics served (age and gender) between

organizations that put different values on hunger relief in their mission statements. Additionally, there was no significant difference between the number of people served and the functional type (pantry, soup kitchen, in-house) of the organization.

The impact of donations: In 2014, *The Farm* donated 12,598 pounds of fresh produce contributing to 34,205 servings at various hunger relief organizations across NWA. 100% of organizations believed donors would find impact statistics from academic studies (such as this) as well as those developed by the hunger relief organizations themselves relevant.

Satisfaction regarding the quality, quantity and diversity of the commodities donated: Organizations highly value being able to feed their clients fresh produce However, there is a difference usefulness in produce that is easily prepared with known recipes and for large amounts of people. This survey showed bell peppers, cabbage, potatoes, zucchini, tomatoes, and lettuce to be considered most beneficial.

Based on these results, the following recommendations are made: 1) continue donating to a variety of organizations, 2) focus plantings on crops deemed most useful and 3) continue to collect impact data.

Results from this study may be used to: 1) help summarize the performance of hunger relief programs in NWA in 2014, and 2) to expand the case study to include other hunger relief organizations and food donating organizations across the US. Finally, this study could serve as a baseline for comparison to a future study that examines how changes in donation partners' efforts (type of food delivery and quantity of food delivery) can impact performance of hunger relief programs.

Introduction

Arkansas ranks first in the nation in food insecurity (Lilley, 2013). Although Northwest Arkansas (NWA) is known for its economic prosperity, 19.3% of residents in Washington County live in poverty, which is 4.8% higher than the national average (19.3%) (USDC, 2014a). For example, mean per capita income was estimated at $22,508 for the 2005-2009 time period in Washington County, Arkansas whereas the most recent census has placed mean per capita income at $22,170 (The Central Arkansas Library System, 2014; USDC, 2014b). In real 2010 dollars, per capita income has fallen from $22,508 to $20,840. As income declines, the need for nonprofit food aid increases. In response, there has been an increase in non-profit organizations taking active roles in hunger relief programs and many of these programs in NWA include providing direct hunger relief in their mission statements (Rousseau, 2007; Shah, 2007).

In order to help address food insecurity in NWA, The Cobblestone Project developed a hunger relief donation partner, *The Farm*, which has provided thousands of pounds of food to hunger relief programs in NWA (Cobblestone Project, 2013). As population and hunger needs continue to rise in NWA, *The Farm's* role in food donation is growing larger. *The Farm* relies on volunteers, donations, and grants to operate and donate food. Because food insecurity continues to grow, evaluation of the donation program is valuable and necessary so that *The Farm* may continue to attract volunteers, donors, and grantors to maintain or even extend its hunger relief initiatives.

Often, however, both hunger relief programs and donation partners lack staffing resources to assess the impact of their donations to programs (J. Graves, 2013) (Cobblestone Project, 2013). Therefore in spring 2014, *The Farm* partnered with University

of Arkansas to examine the objectives of, and customers served by, hunger relief organizations and *The Farm's* impact on these organizations' ability to meet their objectives. The purpose of this study was to better understand the demographics and needs of the hunger relief organizations to which *The Farm* donates produce and to explore ways that *The Farm* can positively impact the ability of hunger relief organizations to meet their own goals of reducing hunger in NWA.

Background and Literature Review

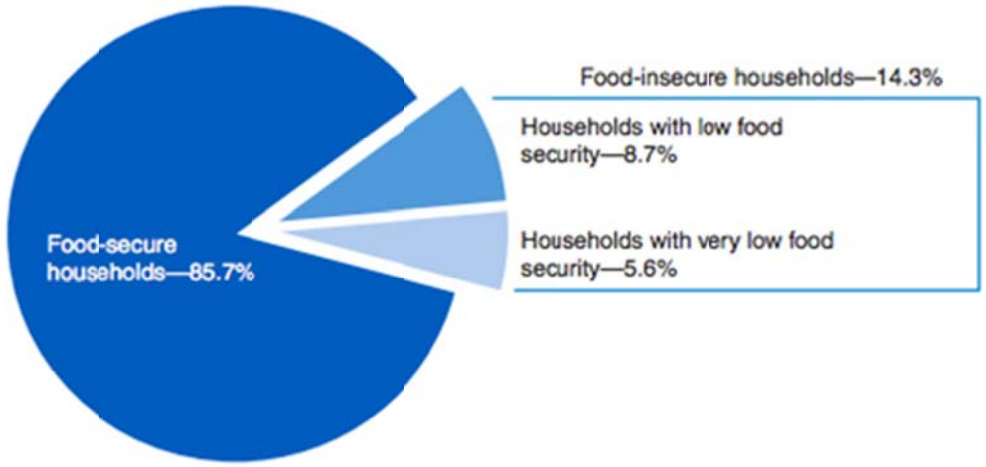
A. Food Insecurity in the United States

According to *The Magnitude of Hunger*, there are two definitions of hunger (Bickel and Carlson, 1998). The first is the medical condition of severe malnutrition to describe the condition of third world countries; the second definition, relevant to the United States, refers more to the social condition of those living in food insecurity (Bickel and Carlson, 1998). The United States Department of Agriculture's (USDA) Economic Research Service (ERS) defines food security as "access by all people at all times to enough food for an active, healthy life" (Coleman-Jensen, 2014).). Since 1995, the USDA has reported through the ERS the food security conditions in the United States. Households that are food insecure are either labeled as "low food insecure" or "very low food secure" and households are categorized based on the number of food insecure conditions they experience throughout the year. These conditions include households whose members: 1) worry food would run out, 2) for which food bought does not last, 3) cannot afford balanced meals, 4) cut size or skip meals, 4) have cut or skipped meals in 3+ months, 5) eat less than they feel they should, 6) are hungry but do not eat, 7) lose weight, 8) do not eat whole day, and/or 9) have not eaten whole day, 3+ months. Almost 15% of US households do not meet "food secure" conditions (Figure 1). A "low food secure" household generally reports having experienced five or less of the qualities in their household and have a reduced quality diet. A "very low food secure" household reports that their eating patterns have been disrupted because of inadequate resources for food at some point during the past year. A "very low food secure" household without children experiences at least six of the food insecurity characteristics and a

"very low food secure" household with children experiences at least eight characteristics, including conditions of both adults and children in the household.

The most recent report by the ERS showed that 14.3% of all US households were food insecure at one point during the year in 2013 (Coleman-Jensen, 2014). This means that in 2013, 2.8 million households were unable to provide enough food for their children to live active and healthy lives. This percentage included 15.8 million children and 33.3 million adults. Figure 1 shows the most recently reported status of food security in the United States.

Figure 1 US Households by Food Security Status, 2013 (Coleman-Jensen, 2014)

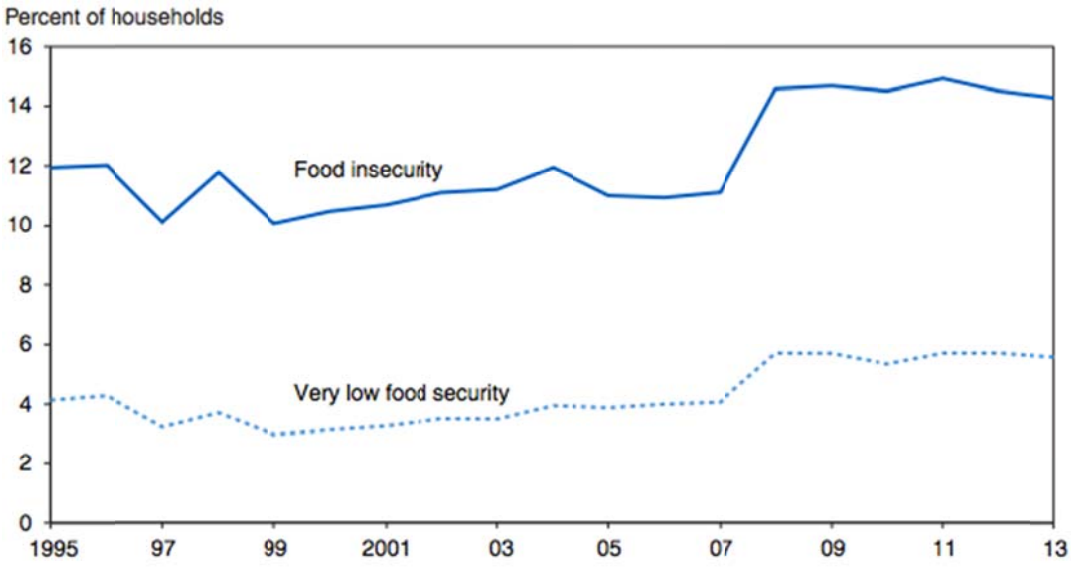


Source: Calculated by USDA, Economic Research Service using data from the December 2013 Current Population Survey Food Security Supplement.

The percentage of households that were food insecure in 2013 did not show a statistically significant change from 2012 (14.5 %) (Coleman-Jensen, 2014). There was also an insignificant decline in the percentage of food insecure households that have children between 2012 and 2013 (from 10% to 9.9%). Additionally, the percentage of households classified as having very high food insecurity has not significantly changed between 2012 and 2013 (remaining at 5.7%). As a general trend, food insecurity either slightly declined or remained steady between 1995 and 2007

but saw an increase between 2007 and 2008 and has remained at that higher level since, as shown by Figure 2. The ERS reports these numbers with a 90-percent confidence level (Coleman-Jensen, 2014).

Figure 2 Trends in Food Insecure US Households, 1995-2013 (Coleman-Jensen, 2014)



[1]Prevalence rates for 1996 and 1997 were adjusted for the estimated effects of differences in data collection screening protocols used in those years.

Source: Calculated by USDA, Economic Research Service based on Current Population Survey Food Security Supplement data.

Populations that are most vulnerable to food insecurity as defined by the ERS include households near or below the Federal poverty line, households in large cities and rural areas, households with children headed by a single woman or single man, and Black- and Hispanic-households. In particular, households headed by women who have children and low-income households are most vulnerable to food insecurity (Coleman-Jensen, 2014).

B. Food Insecurity in Arkansas

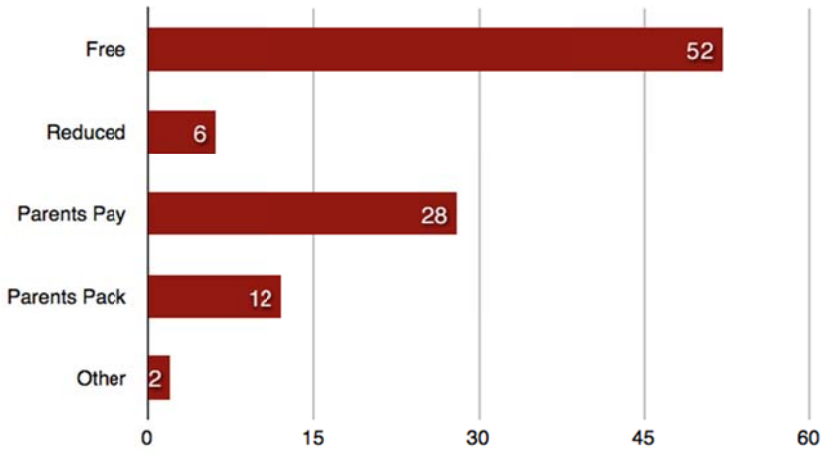
In 2012 and 2013, Arkansas ranked first in the nation in food insecurity in both categories of "low food secure" (21.2%) and "very low food secure" (8.4%) (Lilley, 2013; Coleman-Jensen, 2014). Additionally, the number of households that are food insecure is increasing instead of staying steady or decreasing. The ERS averages change in the years between 2001-2003, 2008-2010, and 2011-2013. Between the 2001-2003 and 2011-2013 averages, food insecurity in Arkansas increased by 5.7% which was significantly above the national average of 3.6% (Coleman- Jensen, 2014). Over 30% of Arkansas households that have children struggle to provide food for an active and healthy lifestyle. Additionally, Arkansas's elderly are particularly stricken by food insecurity with 24.3% of elderly individuals over the age of 60 reporting their household as food insecure, the largest percentage in the United States (Reynolds, 2013). These percentages translate into over 560,000 people in Arkansas, of which over 200,000 are children, not having enough food to lead a healthy and active life. While food insecurity is not limited to the Arkansas Delta, Lee, St. Francis, Desha, and Crittenden counties in particular (all of which are located in the Eastern Delta) experience extreme food insecurity with over 25% of households reporting to have been food insecure at one point in 2013 (Gundersen et.al, 2012).

C. Food Insecurity in NWA

Although known for economic prosperity, NWA also experiences food insecurity. Benton county, home to some of the world's largest businesses, barely falls below the national average with 13.7% of households reporting to be food insecure at one point in 2013. Neighboring counties including Washington (16.8%), Madison (15%), and Carroll (14.7%) were all above the national average. In Benton County, 24.2% of children are food insecure yet only

65% of those children who are food insecure are eligible for federal assistance. In Washington county 27.7% of children are food insecure yet only 72% of those children who are food insecure are eligible for federal nutrition assistance (Gundersen et.al, 2012). Additionally, household income levels have decreased since 1990 with Washington County alone seeing a 10% decrease in resident making a living wage (Fitzpatrick, et al., 2008). In NWA, 58% of students qualify for free and reduced meal programs as seen in Figure 3 (NWA Food Bank, 2013) (Fitzpatrick, 2012).

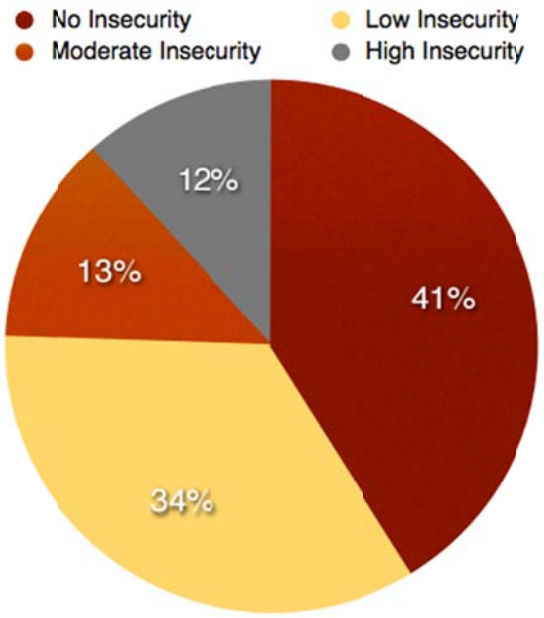
Figure 3. Paying for Lunch Among Owl Creek Students: Grades 5-7 (Fitzpatrick, 2012)



Additionally, a recent study by the Community and Family Institute at the University of Arkansas surveyed 334 students and 174 adults in a local school to better understand the food security landscape among 5th-7th graders. Thirty percent of students reported high to moderate food insecurity, 40% of parents reported high to moderate food insecurity, 27% of parents said they were unable to eat as much as they should at times (Fitzpatrick, 2012). Figure 4 shows a general landscape of food insecurity among parents as reported by one school (Fitzpatrick,

2012). As the number of people earning an income above the poverty level declines, the need for nonprofit food aid increases.

Figure 4. Food Insecurity Among Owl Creek School Parents

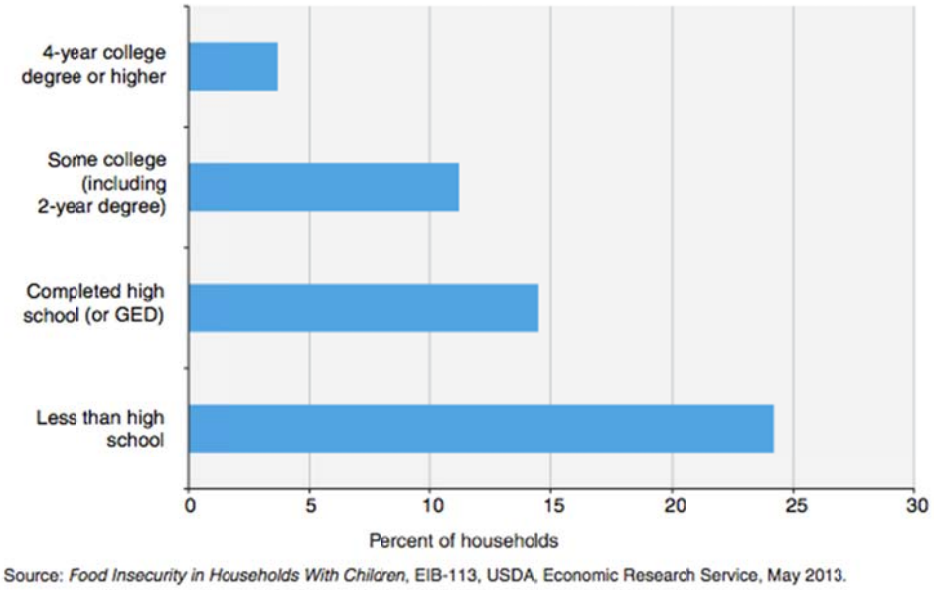


D. Impacts of a Food Insecure Household

The USDA reports that food insecurity amongst households is rarely chronic but is usually reoccurring (Coleman-Jensen, 2014). Another article calls the food insecurity situation in the United States "transient rather than persistent over multiple years" (Ryu and Bartfeld, 2012). Therefore, it is unexpectedly common for children, especially those in kindergarten through 8th grade, to experience food insecurity, even though it may be short-lived, at some point during this time frame. Children who experience food insecurity are more likely to be hindered in their health and educational development. Health-wise, children who experience food insecurity while growing up are more likely to develop chronic conditions such as asthma or anemia, experience oral health problems, experience health conditions that require hospitalization, have stunted growth, and be unable to fully engage in daily life (Nord, 2009). Also, food insecure

children may develop physical and intellectual impairments that will stay with them for the rest of their lives. In their educational development, children living in a food insecure household are more likely to experience behavioral challenges including hyperactivity, aggression, anxiety, mood swings, and bullying (Feeding America, 2014a). Additionally, these children cannot learn as quickly and are less likely to have high academic achievements. Naturally, being impaired in early health and educational development means that children who grow up without enough food for an active and healthy life will be less competitive in obtaining a job later in life. Eventually, this disability leads to a cycle of food insecurity (Cook and Jeng, 2009). ERS shows that a lack of education leads to a household being more vulnerable to food insecurity, as seen in Figure 5. Even transient food insecurity can negatively impact children for the rest of their lives, creating a cycle of food insecurity (Oliveira, 2014).

Figure 5 Prevalence of Food Insecurity Among Children, by educational attainment of most educated adult in household, 2010-11 average (Oliveira, 2014)



Source: *Food Insecurity in Households With Children*, EIB-113, USDA, Economic Research Service, May 2013.

E. Addressing Food Insecurity in the United States

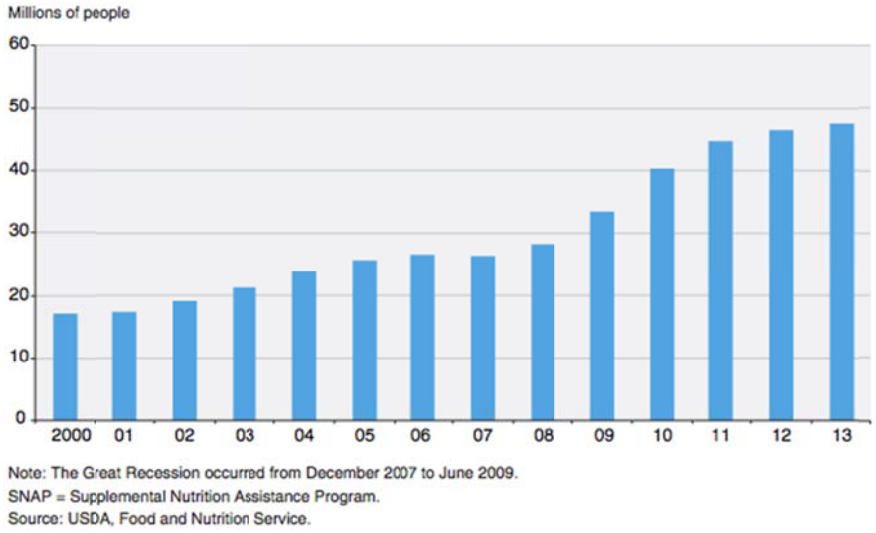
In response, there has been an increase in all levels of government and non-profit organizations taking active roles in hunger relief programs. Different models (cash, food and vouchers) for hunger relief have been heavily disputed over time. In a study by the International Food Policy Research Institute, it was found that all three models will significantly improve quality and quantity of food consumed by those who are food insecure (Hidrobo, et al., 2012). Generally, providing food (either through meals or raw produce) will increase the number of calories consumed and providing cash will increase diversity in recipients' diets. Those who are given food as hunger relief are less likely to purchase more expensive, lower-calorie foods at the grocery store. Food transfers are particularly critiqued because they fail to increase the dietary diversity of those who are food insecure since this is an important role for improving health. The

hardest types of food to increase in food insecure households with food transfers are vegetables, eggs, and milk and dairy; cereals are the easiest. Vouchers and cash transfers have more consistent impacts across poverty levels. However, food transfers have increasingly higher impact the poorer the household. Additionally, food transfers have been criticized as economically inefficient with high implementation costs relative to the other two relief models. Yet, programs that provide vouchers and cash have been criticized for their leniency compared to programs that provide direct relief. Additionally, vouchers lead to a larger percentage of the transfer being spent on food compared to cash transfers. After analysis, the authors of this study made it clear that each model will benefit those who are food insecure and reiterated the importance of these conclusions not being generalized across all hunger relief efforts. Instead, depending on the goals of a hunger relief organization, the different models' benefits should be considered when framing a hunger relief plan (Hidrobo, et al., 2012; Gentilini, 2007).

While low-income houses are particularly vulnerable to food insecurity, 29.6% of food insecure households have incomes that are 185% of the poverty level. Therefore, the USDA's Center for Nutrition Policy & Promotion has developed an educational website that includes a "Healthy Eating Index," "Food-a-Pedia," "Nutrient Content of the US Food Supply," and several other pages to give the US population resources to make wiser decisions about their food, whether they are above or below the poverty line. Additionally, there are food aid programs available through the federal government. These programs reach approximately 1 in 4 Americans (USDA). Encompassing 72% of the USDA outlays in 2013 ($108.9 billion), food aid programs include: Supplemental Nutrition Assistance Program (SNAP), Special Nutrition Assistance Program for Women, Infants, and Children (WIC), National School Lunch Program, School Breakfast Program, Child and Adult Care Food Program. Of the households that experience food

insecurity, 62% reported participating in at least one of the three largest federal food aid programs (SNAP, WIC, and National School Lunch Program). The numbers participating in SNAP programs are larger than ever and are over 2.5 times greater than in 2000. Figure 6 shows this increase (Oliveria, 2014).

Figure 6 Average Monthly SNAP Participation, FY 2000-13 (Oliveira, 2014)



In addition to federal programs, many non-profit organizations work to end hunger nation-wide. Feeding America is a non-profit organization with the mission to "feed America's hungry, though a nationwide network of member food banks, and engage our country in the fight to end hunger" (Feeding America, 2014b). Feeding America does this by connecting donors and those in need of food to their local member food banks. Additionally, Feeding America diligently reports hunger statistics aimed at engaging new donors. Feeding America is the nation's largest domestic hunger-relief organization and includes a network of more than 200 food banks across the US. These food banks are able to provide food for 46.5 million people (94.7% of the total number who reported to be living in food insecurity), 12 million children, and seven million seniors (Feeding America, 2014b).

Despite the federal government spending $108.9 billion on food-aid and food banks being able to reach high volumes of people through their assistance, food insecurity in the United States has still seen growth this past year and significant growth over the past ten years (Coleman-Jensen, 2014).

F. Addressing Food Insecurity in Arkansas and NWA

While many Arkansans benefit from federal food aid programs, not all Arkansans who are food insecure are eligible for these programs. To catch these remaining food insecure households and to supplement those who are already enrolled in federal aid programs, Arkansas and NWA have many organizations that strive to end hunger locally (Fayetteville COC, 2014). Similar to Feeding America, the Arkansas Hunger Relief Alliance strives to serve as an umbrella to hunger relief organization across the state with the goal of building a coordinated distribution system. Additionally, the Arkansas Hunger Alliance strives to collect donations, ensure Arkansans who qualify for federal food aid are enrolled, educating low-income Arkansans about healthy and affordable food choices, and advocate for policy issues impacting hunger in Arkansas (Arkansas Hunger Relief Alliance, 2014). Similar programs around the state strive to impact the local population who are food insecure. For example, the NWA Food Bank serves Benton, Carroll, Madison, and Washington counties with about 6.7 million pounds of food a year (NWA Food Bank). Forty percent of clients served by the NWA Food Bank are children under the age of 18. NWA Food Bank is a member of both the Arkansas Hunger Alliance and Feeding America (NWA Food Bank). Besides the NWA Food Bank, there are six non-profit food organizations registered with the Chamber of Commerce (COC). Additionally, many of the

churches hold weekly meal programs to assist in providing food to the residents of Fayetteville and NWA (Fayetteville Chamber of Commerce, 2014). Despite all of Arkansas and NWA's efforts to decrease food insecurity, Arkansas is once again at the top of the list for food insecurity in the US (Coleman-Jensen, 2014; Gundersen, 2012; Kauffman, 2013; Reynolds, 2013).

G. Assessment of Current Food Insecurity Relief Programs

While many programs in the US, Arkansas, and NWA include providing direct hunger relief in their mission statements, food insecurity has been growing across the nation and in Arkansas especially (Kauffman, 2013; Reynolds, 2013). Because of this, many critics question the efficiency of federal and non-profit hunger relief programs. As mentioned, all three methods of food insecurity alleviation (cash, voucher, and food) have been criticized for many years.

In 2008, it was reported that there was "no statistically significant relationship between SNAP participation and food sufficiency" (Huffman and Jensen 2008). However, there is often a self-selection process in that SNAP recipients were more likely to have enrolled when household situations had deteriorated to the point of "very low food security" (Nord, 2011). This process of self-selection makes it difficult to measure to the success of SNAP participation. A study by the Urban Institute included "self-selection" as a control variable, and found that SNAP reduced the likelihood of being food insecure by 31.2% and reduced the likelihood of being very food insecure by 20.2%. This same study also suggested that by making SNAP enrollment more lenient, more households that are food insecure will be able to benefit which would serve as a cost efficient way for states to increase food security (Ratcliffe and McKernan, 2011).

It's not just federal aid programs that are under constant review, however. Nonprofits also see challenges along with their successes. Programs that distribute food (either meals or raw produce) directly address the need, but because they generally have high implementation costs, they are often viewed as inefficient (Hidrobo, et al., 2012). Again by a self selection process, nonprofits often struggle to pay the heavy overhead that is needed to run a successful organization (Gregory and Howard, 2009). By skimping on overhead, nonprofits may feel as if they are doing what they need to survive, however, often they are crippling themselves from accomplishing their mission. A study done by the Stanford Innovation Review reveals a cycle that occurs in funding non profits: 1) funder has an unrealistic expectation about how much running a nonprofit costs, 2) nonprofit feels pressured to meet these expectations, 3) the nonprofit either spends too little or underreports expenditures, 4) this furthers funders' unrealistic expectations. Because of this lack of communication between funders and organizations, nonprofits often start out and remain underfunded and ultimately struggle to fulfill their missions, which not only would hinder hunger relief, but would give donors reason to stop funding (Gregory and Howard, 2009). Additionally, nonprofits typically include soup kitchens, pantries, or in-house meal servings. Studies by the World Food Programme and the International Food Policy Research Institute suggest that these three methods of alleviating hunger are more likely to lead to waste than voucher or cash programs like the ones sponsored by the federal government (Hidrobo, et al., 2012; Gentilini, 2007). However, despite the perceived cost-inefficiencies, hunger relief programs that provide a direct food source to recipients are still popular as they are often used in conjunction with other efforts (Rousseau, 2007; Shah, 2007). For example organizations may provide a meal in conjunction with a self-defense training program (NWA Women's Shelter, 2013).

Because both sectors of hunger relief (governmental and nonprofit) in the US have experienced their challenges and successes, it is vitally important that assessments be conducted to check the effectiveness of these programs. Performance measurements are essential to determine management strategies, and increase relative understanding of effectiveness (Cunningham and Marc, 2004; Bryson, 2011). Many studies have been conducted that focus on the use of performance measurements for non-profits (e.g. Forbes, 1998; Garcia, Gonzalez and Acebron, 2013; Kaplan, 2003; Sharp and Brock, 2010; Zimmerman and Stevens, 2006). These studies suggest that given the difference in missions and goals between for-profit and non-profit organizations, traditional financial assessment alone may not truly measure the performance of non-profit organizations. Therefore performance measurements should include both quantitative and qualitative measurements and the appropriate set of performance measures may differ across non-profit organizations with differing sets of goals. Additionally, performance measurements increase donors' confidence levels and the organizations abilities to obtain grant funding.

H. The Cobblestone Project: The Farm

Despite the perceived cost-inefficiencies, hunger relief programs that provide a direct food source to recipients are still popular as they are often used in conjunction with efforts by the federal government (Rousseau, 2007;Shah, 2007). The Cobblestone Project is a non-profit organization in NWA that began in 2008 when several families committed to pull together resources that would strive to serve those in NWA who are living in poverty. "The dream of the Cobblestone Project is to work toward 'A Community Without Need'" (Cobblestone Project, 2013). Through their efforts, the Cobblestone Project developed a hunger relief donation partner, *The Farm*. As a donation partner to hunger relief programs across NWA, *The Farm* has provided

thousands of pounds of food to hunger relief programs in NWA through their Harvest Share and Hunger Relief Program (J.Watts). Additionally, *The Farm* engages community members and offers educational opportunities by letting volunteers "be the farmer" and volunteer at *The Farm.* Additionally, there's an opportunity for donors to sponsor rows of produce grown at *The Farm,* which is a recent expansion in donation opportunities. Each year, *The Farm*, enlists subscribers to Farm Box and sells produce to The Farmers Table Café, Kind Kitchen, and Mama Carmen's. All four out sources give *The Farm* the financial ability to become a donation partner to many hunger relief programs in NWA. *The Farm*'s model is to produce revenue with half of their produce through the four mentioned sources and to give the other half of their harvest to hunger relief programs. In 2014, *The Farm* donated 12,598 pounds of fresh produce contributing to 34,205 servings at various hunger relief organizations across NWA. These hunger relief programs include soup kitchens, prepared meal programs, and food pantries across NWA (Cobblestone Project, 2013; J.Watts). In this study, *The Farm* is used as a case study of a "donation partner" (see Appendix A for definitions) when considering if changes in donation processes can lead to greater impact by hunger relief organizations that *The Farm* serves.

Objectives and Methods

The objectives of this study were to:

- Better understand the demographics and need of hunger relief organizations,
- Assess satisfaction from hunger relief recipients regarding the quality, quantity and diversity of the commodities received by hunger relief organizations,
- Calculate the impact of donations to hunger relief organizations in terms of numbers of meals created and numbers of people served, and
- Explore ways that *The Farm* can positively impact the ability of hunger relief organizations to meet their goals of reducing hunger in NWA

These objectives were met by conducting research in three parts. First, a series of interviews was held with *The Farm* employees and volunteers to understand the then (Spring 2014) current goals of the donation program and *The Farm*'s relationship with hunger relief organizations. These meetings served as the basis for the development of the surveys and the survey participant list used in Part two.

In part two, three types of surveys (an introductory survey, harvest season surveys and a final survey) were developed for 15 hunger relief organizations in Northwest Arkansas with whom the *The Farm* collaborated (see Appendix B for organization list). The goal of these surveys was to help *The Farm* provide the best donation possible for their recipient organizations and therefore impacting as many lives as possible in NWA.

The first part of the three-part survey (see Appendix C for initial survey) series was an 11-question introductory survey that gathered information from hunger relief organizations that *The Farm* identified as potential produce donation recipients. This survey was focused on general characteristics of each organization, who they planned to serve and by what method, and

how they viewed organizational waste. Each organization was asked to share its mission and how closely food-aid fit into its mission on a scale of 1 to 5. The survey then asked each organization to describe the age and gender of the people served, how it counts the people it serves (on a per person or per serving basis), what type of functional use category does the organization fall into (i.e., soup kitchen, pantry, or in-house), and how it views efficiency and waste within the organization. This survey was emailed to a representative from each organization through Qualtrics.

The second part of the series involved a set of surveys that were sent to hunger relief organizations from May 2014 to October 2014 each time that organization received a donation from *The Farm* (see Appendix D for second survey). This second survey was used to assess the hunger relief organization's impact and ability to use a given donation. Considering impact, the organizations were again asked to categorically describe the age and gender of the populations they were able to serve. Finally, this survey asked organizations whether or not their food needs were met each week. This survey was emailed through Qualtrics the week following the week that the hunger relief organization received a donation from *The Farm*. Because different organizations received different numbers of deliveries throughout the season, the total number of harvest surveys received by any organization ranged from one to six.

The third part of the series was an eight- question final survey that gauged overall satisfaction with donations from *The Farm* during the 2014 harvest (see Appendix E for final survey). This survey asked the organization to share how it usually used the donations from *The Farm* throughout the year (prepared meals, repackaged for home, or re-donated to other organizations). Each organization was asked to average how many people it was able to feed with donations. Finally, this survey asked each organization to critique donations from this

year's harvest by sharing which products were most useful, what they liked most about receiving donations from *The Farm*, and what changes they would suggest for next year, and the overall level of satisfaction with donations in the 2014 harvest season. This survey was distributed during an end of the year wrap-up dinner in November 2014 and through Qualtrics for those who were unable to attend the dinner.

The surveys were then submitted to the University of Arkansas's Internal Review Board for approval. Once approved (approval number 14-04-686) the surveys were built into the Qualtrics electronic survey software (UARK Qualtrics, 2014-2015). Notifications of availability of electronic surveys were then delivered to subscribers via email. Surveys were conducted throughout the 2014 harvest season (May through October). Hunger Relief organizations were surveyed with each delivery.

Once data were collected, statistical tests were generated by Statistical Analysis System (SAS software, 2014-2015) to look for differences among organizations and their characteristics. Differences that were considered were: 1) the level of importance of hunger relief to an organization's mission compared to demographics and number of people served, number of pounds received from sample donation partner (*The Farm)*, methods used to serve hunger relief recipients, and people in their organization who would consider efficiency statistics important; and 2) the functional type of organizations compared to the number of people served and the number of pounds received from *The Farm*.

Results

A. Introductory Survey

The survey population consisted of organizations that *The Farm* identified as potential donation recipients. In spring 2014, *The Farm* had identified 17 such organizations. Of those, 14 (82%) completed the introductory survey.

The survey participants included three soup pantries, four churches, four shelters, and two elementary schools. Five of the 14 (36%) organizations ranked the importance of hunger relief as part of the organization's mission as a low priority (ranking it three or lower on a scale of one to five). These organizations that put hunger relief as a low priority will be called "secondary goal organizations" (SG). Nine organizations ranked hunger relief as a high priority for their organizations (ranking it a 4 or 5). These organizations who put hunger relief as a high priority will be called "primary goal organizations" (PG). Additionally, organizations were divided into functional type categories including soup kitchens, pantries, and in-house. Soup kitchens are those organizations that serve meals at their own facilities for out-patient use, pantries are those organizations who give away food to be prepared by the recipient elsewhere, and in-house organizations are those who take in patients for a longer time than a single meal service. Three of the four organizations that fell into the category of soup kitchen classified themselves as PG organizations. All five organizations that fell into the category of pantry classified themselves as PG organizations. Finally, only one of the five organizations that fell into the category of in-house classified themselves as PG organizations. The number of organizations that fit into each category is summarized in Table 1.

Table 1. Number of Organizations by Functional Categories and Hunger Relief Importance

Type of Organization	Soup Kitchens	Pantries	In-House	Total
PG	3	5	1	9
SG	1	0	4	5
Total	4	5	5	14

Fisher's Exact tests were conducted to determine if a number of characteristics differed between PG and SG organizations. These characteristics included quantity and age of people served, how the organization serves their recipients, and who they believe considers efficiency important in their organization. Results of the testing are summarized in Table 2.

Respondents were asked to identify the gender and age groups of the individuals served. No significant differences existed between PG and SG organizations on whether they served boys 18 and under ($p=0.4615$) or girls 18 and under ($p=0.4615$). All PG organizations and all but one SG organization served children. The second most served group by organizations surveyed were women ages 18-64, with only two not serving women, both of which fell into the in-house profile (one being an SG organization and one being a PG organization). No significant differences ($p=1.0000$) existed between PG and SG organizations on serving women. The least served population was men 65 and older, with slightly over half of the organizations offering hunger relief to this demographic. Significant differences did exist ($p= 0.0291$) between the two types of organizations: a statistically greater percentage of PG organizations served men ages 65+ compared to the SG organizations. As shown in Table 2, other than for men ages 65+, no significant difference existed between PG and SG organizations in the genders and age groups served by their organizations.

Table 2. Testing for Significant Differences Between Organizations Where Hunger Relief is Highly Important to Their Mission (Primary Goal Organizations) and Organizations Where Hunger Relief is Not Highly Important to their Mission (Secondary Goal Organizations)

Characteristic	**Primary Goal Organizations**		**Secondary Goal Organizations**		**P value**
	Yes (%)	**No (%)**	**Yes (%)**	**No (%)**	
Serve Boys 18 Years Old and Younger	100	0	83.3	16.6	0.4615
Serve Girls 18 Years and Younger	100	0	83.3	16.6	0.4615
Serve Males 18-64	85.7	14.2	33.3	66.6	0.1026
Serve Females 18-64	85.7	14.2	83.3	16.6	1.0000
Serve Males Over 64	85.7	14.2	16.6	83.3	0.0291
Serve Females Over 64	85.7	14.2	50.0	50.0	0.2657
Serve More Than 600 Annually	66.6	33.3	33.3	66.6	0.5671
Serve At Central Location	85.7	14.2	100.0	0.0	1.0000
Send Food Home To Be Served	57.1	42.8	33.3	66.6	0.5921
Serve Fresh Foods	71.4	28.5	66.6	33.3	1.0000
Serve Canned Foods	85.7	14.2	100.0	0.0	1.0000
Serve Prepared Meals	85.7	14.2	83.3	16.6	1.0000
Donors Consider Efficiency	83.3	16.6	100.0	0.0	1.0000
Workers Consider Efficiency	33.3	66.6	60.0	40.0	0.5671
Benefactors Consider Efficiency	0.0	100.0	40.0	60.0	0.1818
Board Members Consider Efficiency	33.3	66.6	60.0	40.0	0.5671

Respondents were also asked to indicate the number of people they serve annually. As expected, a higher percentage of PG organizations served at least 600 people annually compared to SG organizations. However, statistical testes revealed no significant (p=0.5671) difference between the two groups in serving at least 600 people a year. The outliers for both categories

were churches and shelters. One church and one shelter noted that its primary goal was not hunger relief and one shelter that serve a low number of people listed hunger relief as a top priority.

Respondents were asked whether they served food in a central location, distributed food to individuals for consumption at home, or both. There were no significant differences ($p=1.0000$) between PG and SG organization regarding whether or not they served food at a central location. Of all organizations surveyed, all but one organization distributed its food for consumption at a central location. The one organization that did not have a central location distributed food for consumption at home. Organizations were more split as to whether they distributed food to be eaten at home, however, still no significant differences ($p=0.5921$) existed. Additionally, five organizations both served at a central location and distributed food to be consumed at home.

Additional questions were asked regarding how organizations prepared food for consumption: 1) raw food, 2) canned food and/or 3) a prepared meal. All but two organizations had a prepared hot meal option for their recipients, all but one served canned food, and ten served raw produce. As shown in Table 2, there were no significant differences between PG and SG organizations in these practices.

These respondents were asked who, among four groups, would be interested in their impact numbers: 1) donors, 2) their own workers, 3) benefactors, 4) members of their boards. No significant differences were found in the answers provided by PG and SG organizations. All but one organization believed that donors would find impact numbers compelling. Only five believed that workers and board members would find impact numbers compelling and only two believed benefactors would find impact number compelling.

Finally, respondents were asked to define waste, discuss what their organization's main sources of waste are, and determine whether or not their organization is concerned with waste. None of the organizations surveyed were concerned by their organization's waste. When asked to define waste by their organization, the most common answers were expiring food and packaging. When food does expire, most organizations pass the food on to another organization that is more lenient with expiration dates.

B. Second Survey

There were 13 organizations that received food from *The Farm* during the 2014 harvest year. Of those 13, eight organizations regularly completed a survey after receiving a donation from *The Farm*. The questions within this survey focused on the impact of the donation including how many people each food item was able to serve and whether or not this donation item helped the recipient organization meet their weekly food needs. *The Farm*'s 2014 Social Impact Report (IR14) was used to augment the data collected from the survey recipients regarding people impacted by donations. For tests that considered the number of people impacted, IR14 data was not included, while tests that did not consider the number of people impacted did include IR14 data.

T-tests were conducted to determine if the pounds of produce received from *The Farm* and the number of people that organizations were able to serve with this produce differed between PG and SG organizations. Results from these tests are summarized in Table 3 and Table 4. Data from both the introduction and harvest season surveys and IR14 were used when comparing the number of pounds received across PG and SG organizations. No statistical

difference existed (Table 3) between the pounds PG and SG received from *The Farm* during the 2014 Harvest (Pr>|t|= 0.5719).

Table 3. Pounds (lbs.) Received by Organization vs. Importance of Hunger Relief by Organization

Characteristic	**Value**
PG Organizations (mean lbs. received)	626.6
SG Organizations (mean lbs. received)	492.8
|t| value	0.6
Pr>|t|	0.5719

n=13; data from IR 14 included

When comparing the number of people served vs. the importance of hunger relief, only data from the harvest season surveys were used. In some cases, respondents did not provide the number of people impacted by the donation that particular week. However each organization did provide their impact numbers at least once so while the respondent number remained at eight, there were less data points to consider. No statistical difference existed (Table 4) between the number of people PG and SG organizations were able to serve with donations (Pr>|t|= 0.2089).

Table 4. People Served vs. Importance of Hunger Relief by Organization

Characteristic	**Value**
PG Organizations (mean people served)	1731.6
SG Organizations (mean people served)	793.8
|t| Value	1.43
Pr>|t| value	0.2089

n=8; data from IR14 not included

ANOVA tests were conducted to determine if the number of pounds of food received differed across different types of food aid organizations (pantry, soup kitchen or packed for in-house/resident consumption) and people served. Additionally, an ANOVA was conducted to determine if the number of people served differed from the different types of food aid organizations. Results are summarized in Table 5. No statistical differences existed between pounds received across the different functional types of food aid organization. (Pr>F Value = 0.9329). When considering the pounds received compared to the type of organization, data from both survey respondents and IR14 were considered. Statistical difference (at the $p<0.10$ level) did exist between the pounds received and the number of people served (Pr>F Value = 0.0597). When testing the statistical difference between the number of pounds received from The Farm and the number of people organizations were able to serve, only data from survey respondents was considered. Finally, there was no statistical difference between the number of people served and the types of organizations.

Table 5. ANOVA Tests: Using Only Survey Data

Characteristic	**F Value**	**Pr>F Value**
Lbs. Received vs. Functional Type of Organization	0.07	0.9329
Lbs. Received vs. People Served*	4.68	0.0597
People Served vs. Functional Type of Organization*	0.65	0.5535

*In this test, n=8; other tests n=13

C. Final Survey

After the harvest season was completed, a final wrap-up dinner was hosted at The Farmer's Table Cafe, a restaurant in Fayetteville that purchases produce from *The Farm*. At the

dinner, a final survey was given to attendees and those who were unable to attend were sent the survey to complete via Qualtrics. All 13 organizations that received food aid from *The Farm* were sent the survey and nine organizations completed the survey.

This survey asked questions concerning hunger relief organizations' use of the food donations (prepared meals; 2=repackaged; 3= redonated), satisfaction with the donations and donation processes, usefulness of donations, and likelihood that the organization will work with *The Farm* in the future.

Concerning functional use, no organization reported redonating their food aid received from *The Farm*. Three organizations reported that they usually prepared meals with donations, three reported repackaging their donations, and three reported both repackaging and preparing meals. Results are summarized in Table 6.

Table 6. Number of Organizations Indicated Functional Use of Food Received

	Prepared Meals	**Repackaged**	**Prepared and Repackaged**	**Redonated**
Number of Organizations	3	3	3	0

Questions about satisfaction included satisfaction with: *The Farm* staff, donation timeliness, food quality, food quantity, and food type. Each organization was asked to rank their satisfaction on a scale of 1-7 (very dissatisfied to very satisfied). Nearly each organization ranked every one of these categories as either a 6 or 7 (satisfied or very satisfied). The category of "satisfaction with *The Farm* staff" received a "very satisfied" review from six of the nine respondents. The category "satisfaction with timeliness of donations" received five "very satisfied" reviews and three "satisfied" reviews. The category, "satisfaction of food quality," also received five "very satisfied" reviews and four "satisfied" reviews. The category "satisfaction of

food quantity" received two 'very satisfied" reviews and six "satisfied" reviews. The category of "satisfaction with donation food type" received two "very satisfied" review (the least of all the categories) and six "satisfied" reviews. The outliers in the table were "timeliness," "food quantity," and "food type." One organization ranked timeliness as a level 5 satisfaction, "somewhat satisfied." One organization ranked "food quantity" as a level 2 satisfaction, "dissatisfied." And finally, one organization ranked "food type" as a level 4 satisfaction. Results are summarized in Table 7.

Table 7. Level of Satisfaction Indicated by Food Organizations

Variable of Satisfaction	**Level of Satisfaction Indicated**		
	Unsatisfied	**Neutral**	**Satisfied**
The Farm Staff	0	0	9
Timeliness	0	0	9
Food Quality	0	0	9
Food Quantity	1	0	8
Food Type	0	1	8

The survey also asked respondents to indicate which produce items were most beneficial to their organizations hunger relief efforts. Each organization was given the option to pick as many of 26 produce items as they felt were most beneficial. Respondents choices included: acorn squash, arugula, banana peppers, basil, beets, bell peppers, broccoli, Brussels sprouts, cabbage, chives, collard greens, cucumbers, eggs, eggplant, kale, lettuce, onions, potatoes, radishes, rosemary, squash, Swiss chard, tomatoes, turnips, turnip greens, zucchini. A ranking of votes is given in Table 8. The produce that were most frequently chosen were bell peppers cabbage, potatoes, and zucchini. However, beets, Brussels sprouts, chives, rosemary, and Swiss chard

were not voted by any organization as considered to be one of the most useful items their organization received from *The Farm*.

Table 8. Food Items Considered "Most Useful" by Hunger Relief Organizations

Food Item	Number of Votes
Acorn Squash	1
Arugula	1
Banana Peppers	3
Basil	1
Beets	0
Bell Peppers	8
Broccoli	3
Brussels Sprouts	0
Cabbage	4
Chives	0
Collard Greens	1
Cucumbers	2
Eggs	2
Eggplant	1
Kale	1
Lettuce	5
Onions	3
Potatoes	4
Radishes	1
Rosemary	0
Squash	3
Swiss Chard	0
Tomatoes	5
Turnips	1
Turnip Greens	1
Zucchini	4

Each organization was asked how likely they were to partner with *The Farm* again on a scale of 1(very unlikely) to 5 (very likely). Seven organizations (78%) reported they were "very likely" to partner with *The Farm* again and two (22%) reported that they were "likely" to partner with *The Farm* again.

When given the opportunity to mention comments and suggestions for next year, each organization specifically commented on how much of a "treat" it was for their clients to receive fresh produce. Several organizations mentioned how glad they were to provide fresh produce because they felt is also added an education component to their organization's food aid efforts.

Discussion

During the 2014 harvest, 23,949 pounds of food were donated by *The Farm* to 13 organizations impacting a total of 12,598 recipients. The data collected considered whether or not there were any significant statistical differences between organizations and the number of people they were able to impact with the donations received from *The Farm.* Additionally, this study considered the satisfaction organizations received from these donations.

Considering this high impact and the positive responses from the final survey, donations from *The Farm*'s 2015 harvest were widely appreciated by organizations and their recipients. However, based on results from this study, recommendations can be made for improvements in donations for future harvests and future studies on this topic.

A. Recommendations for The Farm

A review of the literature suggested that food donations are more effective in increasing the *quantity* of food consumed while cash and voucher programs are more effective in improving the *quality* of food consumed (Hidrobo, et al., 2012; Gentilini, 2007). Results from survey one suggested that hunger relief organizations across NWA have different missions. Therefore, when considering adding additional organizations with whom to partner, *The Farm* could target

organizations that strive to increase the quantity of food consumed by recipients knowing that this is where their impact might be most effective.

Tests from the initial survey showed that there were no significant statistical differences between PG and SG organizations. These results suggest that impact is not related to importance of hunger relief to the partner organization and, therefore, *The Farm* can continue to donate to a diverse set of organizations who consider hunger relief at different levels of importance within their mission statement. However, generating a statistically significant difference result can be difficult with small samples like the one this study considered. Additionally, organizations with similar purposes and mission statements ranked "importance of hunger relief" differently, while in theory they were expected to have been ranked the same. This suggested there was no common definition of "high importance" or "low importance" of hunger relief across organizations surveyed. Therefore, for future studies, it is recommended that: 1) this study be extended to a much larger group of institutions, and 2) studies work with donation partners (like *The Farm)* and hunger relief organizations (like the 13 *The Farm* donated to) to come up with clear definitions of what it means to make hunger relief an important part of a mission.

While there was no statistical differences between PG and SG organizations, survey results did show that organizations believe donors would find impact and efficiency statistics important. Five out of the eight (63%) believed workers and board members would find impact statistics important. Only one organization claimed that their organization's benefactors would find impact numbers important. Therefore, based on these results, impact statistics from academic studies (such as this) as well as those developed by the hunger relief organizations themselves can be used to target donors for various organizations.

Tests from survey two suggested that *The Farm* continue their current donation practices of donating to a variety of hunger relief organizations based on both the importance of hunger relief related to their missions and their functional types. Tests from the second survey showed a significant statistical difference between the number of pounds received compared to the number of people served. This difference supports the recommendation that while all farm donations seem to result in a positive impact, the largest impacts are in organizations with the largest numbers of people to serve. Since there was no statistical difference between the number of people served and the functional type of hunger relief organization, *The Farm* should continue to donate to a variety of different types of organizations.

This survey also asked respondents to report whether or not they were able to use each donation item received, if not why, and whether or not their food needs were met the week they received their donation. Each of the 13 organizations reported that all of their food needs were met for that week. Of all responses received through the 2014 harvest, only two reported that they were unable to use all of their donations received from *The Farm* and each report was an isolated occurrence. Both organizations were in-house food users and both reported they were unable to use their entire donation due to a lack in demand due to the quantities received being too much for their organization to use in one week before the produce spoiled. One organization recommended smaller donations more often as an improvement opportunity. Both organizations did serve a smaller number of people. In order to decrease waste, *The Farm* could consider making smaller donations more frequently to organizations that serve smaller amounts of people in-house. Additionally, the one organization that ranked food quantity as a level 2 satisfaction "dissatisfied," spoke to the fact that they simply would have loved more produce. According to these results, it would be valuable for *The Farm* to consider letting each organization know what

they can expect in terms of quantity throughout the season and thoroughly analyze differences in each organization's needs before the harvest season.

Overall, findings from the third survey showed that all donation recipients are at least satisfied with their partnership with *The Farm* and are at least likely to consider partnering with them again. Organizations highly value being able to feed their clients fresh produce. Because this survey showed bell peppers, cabbage, potatoes, zucchini, tomatoes, and lettuce to be considered most beneficial (rated most beneficial by 3 or more organizations), *The Farm* should focus their plantings on these crops in order to provide the most useful as possible donations for hunger relief organizations.

B. Recommendations for Future Studies

Should additional studies further examine issues related to the impact of food donations to hunger relief in NWA, the following recommendations are made to improve those studies. First, improved communication with hunger relief organizations is needed. Since these organizations are busy as non-profits, surveys can seem like a burden. The number of survey recipients varied throughout the summer. Due to low survey response rates in July, reminder emails were sent out starting in August if organizations had failed to respond within a week. This increased the number of respondents during the rest of the harvest season, yet it was clear that online surveys were not an efficient way to elicit information from the organizations. Therefore in order to truly get regular responses, face-to-face contact with organizations may be necessary.

Second, additional efforts may be needed to clarify the meaning of some questions and answer choices provided on the survey. For example, two organizations that provide similar food aid reported different levels of importance of hunger relief in their mission statement to the

degree that one qualifies as a PG and the other as a SG. Yet, these organizations had nearly the same mission statements, even mentioning the others on their websites as counterpart organizations. It may be that these organizations differed on their interpretation of the degrees of importance offered in the survey. Therefore, additional pretesting may be needed to ensure that respondents are likely to hold same interpretation of all questions in the survey.

Finally, a limitation of this study is the small number of participating organizations. This small sample can limit the robustness of the statistical testing as well as the ability to generalize these results across all hunger relief organizations in NWA. This study was a case study and the surveys used in this study can be extended to a larger sample in order to truly determine impacts of food donations in NWA.

Conclusion

While food insecurity continues to grow, so does the importance of being as efficient as possible with donations from donation partners to hunger relief organizations. It also becomes increasingly important for both hunger relief organizations and donation partners to be aware of their impact numbers so that they are able to share these with their organization and attract outside donors.

Results from this study may be used to: 1) help summarize the performance of hunger relief programs in NWA in 2014, and 2) to expand the case study to include other hunger relief organizations and food donating organizations across the US. Finally, this study could serve as a baseline for comparison to a future study that examines how changes in donation partners' efforts (type of food delivery and quantity of food delivery) can impact performance of hunger relief programs.

Already, *The Farm* has been able to use impact numbers as a resource to show their donors where their dollars are spent and the impact that their subscription has on the community. Additionally, the methods and results from this study have been shared by *The Farm* with other donation partners. It is hoped that this study can serve as an example of the types of analyses that can be done to help donation partners to grow and learn how to better serve the needs of hunger relief organizations in NWA.

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Appendix

A. Definitions and Abbreviations

Definitions

ANOVA (analysis of variance)- Used to determine significant statistical differences from data collected in survey two. An ANOVA test is used to compare data when there are more than two groups (ex. pounds served v.s. type of organization (soup kitchen, pantry, or in-house).

Donation Partner- an organization, group, or individual who strives to fulfill a community's need by assisting hunger relief organizations (through donations) in their mission to fight food insecurity (ex. Cobblestone Project's *The Farm)*.

Fisher's Exact Test- Used to determine significant statistical differences from data collected in initial survey. Fisher's Exact Test is used instead of a Chi-Square test for a small sample size. This test is useful in determining the significance of association between two sets of categorical data (ex. Is there a significant statistical difference between the number of PGs and SGs that serve more than 600 people annually?).

Hunger Relief Organization- and organization that strives to fulfill a community's needs in the area of hunger by directly serving food insecure recipients (ex. Second Street Pantry, Youth Bridge, Saving Grace).

In-House- classification of functional type that refers to Organizations that take in patients for a longer time than a meal service (ex. Restoration Village and NWA Women's Shelter).

Pantry- classification of functional type that refers to organizations that give away food to be prepared by the recipient (ex. LifeSource International and Full Circle Food Pantry).

Primary Organization (PG)- Organizations that ranked hunger relief as a high priority ranking it a 4 or 5) as related to their organization's mission

Soup Kitchen- classification of functional type that refers to organizations that serve meals at their own facilities for out-patient use (ex. St. Paul's Episcopal Church, Central United Methodist Church, and Samaritan Center Café).

Secondary Organization (SG)- Organizations that ranked hunger relief as a low priority (ranking it a 1,2, or 3) as related to their organization's mission.

T-Test- Used to determine significant statistical differences from data collected in survey two. A t-test is used to compare whether two groups have different average values. This test is useful when real numbers are available in data (ex. Is there a significant statistical difference between the *real number* of people that SGs serve and the *real number* of people that PGs serve annually?)

Abbreviations

COC- Chamber of Commerce

ERS- Economic Research Service

IR14- *The Farm's* Social Impact Report for 2014

NWA- Northwest Arkansas

PG- Primary Goal Organization

SG- Secondary Goal Organization

SNAP- Supplemental Nutrition Assistance Program

Special Nutrition Assistance Program for Women, Infants, and Children (WIC),

USDA- United Stated Department of Agriculture

USDC- United States Department of Commerce

B. Organizational Profiles

7 Hills

- Mission: "7hills is a hub of services and affordable housing for homeless individuals and families in Northwest Arkansas."
- Food-Aid Function: Pantry
- Location: Fayetteville
- Website: *http://7hillscenter.org/our-programs/#go7*

Bread of Life

- Mission: "The Bread of Life is devoted to serving and ministering to people in need by providing food, emergency financial assistance, counseling and spiritual support in an atmosphere of respect and compassion."
- Food-Aid Function: Pantry
- Location: Springdale
- Website: *http://fumcwired.com/missions/bread-of-life/*

Central United Methodist Church

- Mission: Community Meals is a ministry that provides a free nutritious meal every Tuesday and Thursday to anyone in our community who is in need
- Food-Aid Function: Soup Kitchen
- Location: Fayetteville
- Website: *http://centraltolife.com/*

Full Circle Food Pantry

- Mission: "Full Circle Campus Food Pantry was established by the Volunteer Action Center as a student-run emergency food assistance program that distributes food and personal products to all members of the University of Arkansas Community."
- Food-Aid Function: Pantry
- Location: Fayetteville
- Website: *http://service.uark.edu/foodprograms/full_circle_food_pantry/index.php*

Havenwood

- Mission: "Our mission is to provide a safe, stable, structured living environment while connecting single parent families in need with programming, resources, and guidance to overcome the obstacles in their lives and transform the future of their family."
- Food-Aid Function: In-House
- Location: Bentonville
- Website: *http://www.nwahavenwood.org/*

LifeSource International

- Mission: "… is to strengthen the Fayetteville community by providing customized assistance to families by offering food, clothing, adult educational programs, afterschool & summer camp programs for children, counseling, & community outreach meals."
- Food-Aid Function: Pantry
- Location: Fayetteville
- Website: *http://lifesourceinternational.org/*

Northwest Arkansas Women's Shelter

- Mission: "The NWA Women's Shelter provides emergency shelter, food and clothing for victims of domestic violence and sexual assault."
- Food-Aid Function: In-House
- Location: Rogers
- Website: *http://nwawomensshelter.org/*

Owl Creek

- Mission: "Our mission is to provide a rigorous and relevant education for students to receive lifelong academic and personal skills."
- Food-Aid Function: In-House
- Location: Fayetteville
- Website: *http://owlcreek.fayar.net/pages/Owl_Creek_School/About_Us/Mission_Statement*

Restoration Village

- Mission: "Our mission is to provide a supportive environment for women and children so that they can rebuild their lives; find renewal and healing for their minds; repair the damage from the past; and restore their souls."
- Food-Aid Function: In-House
- Location: Rogers
- Website: *http://www.restorationvillage.net/*

Saint Paul's Episcopal Church

- Mission: "The mission of St. Paul's Episcopal Church is to explore and celebrate God's infinite grace, acceptance, and love.
- Food-Aid Function: Soup Kitchen
- Location: Fayetteville
- Website: *http://www.stpaulsfay.org/id31.html*

Samaritan Community Center (Cafe and Market)

- Mission: "The Samaritan Community Center is a grace-driven nonprofit organization that serves the hurting and hungry of Northwest Arkansas through a compassionate community of staff and volunteers.
- Food-Aid Function: Soup Kitchen (*Café)* Pantry (*Market)*
- Location: Rogers and Springdale
- Website: *http://samcc.org/*

Saving Grace

- Mission: “Saving Grace is a home for the young woman who is tired of couch hopping or living out of a suitcase. We are a community of residents and support persons that understands that family doesn’t have to be related. Most importantly we are a scafe plce where you can focus on learning the skills you need to have a stable place of your own some day.”
- Food-Aid Function: In-House
- Location: Rogers
- Website: *http://www.savinggracenwa.org/*

Second Street Pantry

- Mission: “We want those who enter our doors to be fed, to be warmed, and to know the love of Christ.”
- Food-Aid Function: Pantry
- Location: Bentonville
- Website: http://www.fumcbentonville.org/pantry

Wiggins Memorial United Methodist

- Wiggins recently became a part of Central United Methodist Church
- Food Aid Function: Soup Kitchen
- Location: Fayetteville

Youth Bridge

- Mission: “Changing the lives of our youth by providing preventative services, counseling, and shelter to strengthen families and build stronger communities.”
- Food-Aid Function: In-House
- Location: Bentonville, Rogers, Springdale, and Fayetteville
- Website: *http://www.youthbridge.com/home/*

C. Initial Survey

1. What is the defined mission of you organization? Please list your mission statement here if available.

2. On a scale of one (not at all important) to five (very important), how important is distributing food aid in NW Arkansas to the overall mission of your organization? _____ Please explain your choice of number in a few sentences.

3. Please tell us a little about the constituency that you serve in your food aid activities:

a. Which of the following categories of people do you serve? Check all that apply:

____ Boys under 18 _____ Girls under 18 _____ Male adults 18-64

_____Female adults 18-64 _____ Males 65+ _____ Females 65+

b. For each category chosen above, on average approximately how many people did you serve annually between 2010 through 2012?

Boys under 18: _____ Girls under 18: _____ Male adults 18-64: _____

Female adults 18-64: _____ Males 65+: _____ Females 65+: _____

c. Help us to better interpret your answer to question 3B? How do you count those you serve?
_____ On a per person basis _____ On a per serving of food basis _____ Other (please explain):

d. Are you aware of other ways that organizations "count" food aid distribution? If so, please explain.

4. Please tell us a little bit about your food aid distribution.

a. How do individuals receive your food aid? Is it consumed at a central location (e.g. soup kitchen)? Is it distributed for home use? Is it distributed another way? Please explain.

b. What type of food do you serve? Raw produce? Canned food? Prepared meals? Please explain.

5. What statistics or metrics (if any) are used to measure the impact that your food aid program has on the community you serve?

6. Who associated with your organization (donors, workers, benefactors) would consider impact statistics relevant?

7. What statistics or metrics (if any) are used to measure the efficiency of your food distribution program?

8. Who associated with your organization (donors, workers, benefactors) would consider efficiency statistics relevant?

9. How do you measure donations? In pounds, calories, number of items? Please explain.

10. Please tell us about any waste that may result in your food distribution program:

    a. How does your organization define waste?

    b. What are the main sources of waste?

    c. How is waste measured?

    d. Are you concerned about the amount of waste associated with your program? Please explain why or why not.

11. Please use this space to tell us anything else (e.g. about your food aid distribution program, impact and efficiency metrics, local food aid needs, etc.) that may be helpful to us as we move forward with this research.

D. Second Survey

1.What food items did you receive this week (i.e. carrots, cabbage, etc.).

2.How many total serving were you able to prepare with each food item received from *The Farm*?

3. How many adults were you able to serve with each food item received from *The Farm*?
4. How many children were you able to serve with each food item received from *The Farm*?

5. Was your food organization able to use each food item?

6. If you answered "No" for any food item in question5, which of the following reasons explains why the food item was not used? Check all that apply:
_____ Lack of Demand _____ Expired _____Damaged _____Other

7. Were your organization's food needs met this week?

8. If you answered "No" to using all of the food donation items or having organization's food needs met, please let us know why this happened and what *The Farm* can do in the future to assist in these areas.

E. Final Survey

1. What did you do with the items that you receive in your monthly donation? Please check all that apply:

____ Prepared items for use primarily by people who receive hunger relief from my organization
____ Regularly repackaged and redistributed for recipients of hunger relief to use at their discretion
____ Regularly donated items to other organizations

2. On average, how many people did you feed with your donation each week? _____

3. Rank your overall satisfaction with the following:

	Very Dissatisfied	Dissatisfied	Somewhat Dissatisfied	Neutral	Somewhat Satisfied	Satisfied	Very Satisfied	N/A
Interactions With *The Farm* Staff								
Timeliness of the Donation								
Quality of Food in Donation								
Quantity of Food in Donation								
Types of Food in Donation								

4. Please elaborate on the above rankings:

5. Which products were you most useful for your organization?
(Products received: acorn squash, arugula, banana peppers, basil, beets, bell peppers, broccoli, Brussels sprouts, cabbage, chives, cilantro, coffee, collard greens, cucumbers, dill, eggs, eggplant, kale, leeks, lettuce, mixed hot peppers, onions, potatoes, radishes, rosemary, squash, Swiss chard, tomatoes, turnips, turnip greens, watermelon, zucchini)

6. What did you like most about receiving donations from *The Farm*?

7. What changes would you have liked to see in the donation contents in terms of quality, quantity, and product mix?

8. What suggestions would you give for next year (frequency of donations, delivery time, delivery day, etc.)? If are completely satisfied with the donation process, please let us know.

9. How likely are you to partner with *The Farm* again for next year for the 2015 harvest? (This response is in no way binding.)
____ Very Likely ____ Likely ____ Unsure ____ Unlikely ____ Very Unlikely

10. Please use this space below to tell us anything else you would like *The Farm* to know about their donation program.

F. Statistical Tests

First Survey Tests- (in order reported) Compared characteristics of PGs and SGs

Table F.1 Serve Boys 18 Years and Younger (Summarized in Table 2).

Table of Q2a by Q4a			
Q2a(Q2a)	**Q4a(Q4a)**		
Frequency **Row Pct**	**0**	**1**	**Total**
0	1 16.67	5 83.33	6
1	0 0.00	7 100.00	7
Total	1	12	13

Fisher's Exact Test	
Cell (1,1) Frequency (F)	1
Left-sided Pr <= F	1.0000
Right-sided Pr >= F	0.4615
Table Probability (P)	0.4615
Two-sided Pr <= P	0.4615

Table F.2 Serve Girls 18 Years and Younger (Summarized in Table 2).

Table of Q2a by Q4b			
Q2a(Q2a)	**Q4b(Q4b)**		
Frequency **Row Pct**	**0**	**1**	**Total**
0	1 16.67	5 83.33	6
1	0 0.00	7 100.00	7
Total	1	12	13

Fisher's Exact Test	
Cell (1,1) Frequency (F)	1
Left-sided Pr <= F	1.0000
Right-sided Pr >= F	0.4615
Table Probability (P)	0.4615
Two-sided Pr <= P	0.4615

Table F.3 Serve Males 18-64 (Summarized in Table 2).

Table of Q2a by Q4c			
Q2a(Q2a)	**Q4c(Q4c)**		
Frequency **Row Pct**	**0**	**1**	**Total**
0	4 66.67	2 33.33	6
1	1 14.29	6 85.71	7
Total	5	8	13

Fisher's Exact Test	
Cell (1,1) Frequency (F)	4
Left-sided Pr <= F	0.9953
Right-sided Pr >= F	0.0862
Table Probability (P)	0.0816
Two-sided Pr <= P	0.1026

Table F.4 Serve Females 18-64 (Summarized in Table 2).

Table of Q2a by Q4d			
Q2a(Q2a)	**Q4d(Q4d)**		
Frequency **Row Pct**	**0**	**1**	**Total**
0	1 16.67	5 83.33	6
1	1 14.29	6 85.71	7
Total	2	11	13

Fisher's Exact Test	
Cell (1,1) Frequency (F)	1
Left-sided Pr <= F	0.8077
Right-sided Pr >= F	0.7308
Table Probability (P)	0.5385
Two-sided Pr <= P	1.0000

Table F.5 Serve Males Over 64 (Summarized in Table 2).

Table of Q2a by Q4e			
Q2a(Q2a)	**Q4e(Q4e)**		
Frequency **Row Pct**	**0**	**1**	**Total**
0	5 83.33	1 16.67	6
1	1 14.29	6 85.71	7
Total	6	7	13

Fisher's Exact Test	
Cell (1,1) Frequency (F)	5
Left-sided Pr <= F	0.9994
Right-sided Pr >= F	0.0251
Table Probability (P)	0.0245
Two-sided Pr <= P	0.0291

Table F.6 Serve Females Over 64 (Summarized in Table 2).

Table of Q2a by Q4f			
Q2a(Q2a)	**Q4f(Q4f)**		
Frequency **Row Pct**	**0**	**1**	**Total**
0	3 50.00	3 50.00	6
1	1 14.29	6 85.71	7
Total	4	9	13

Fisher's Exact Test	
Cell (1,1) Frequency (F)	3
Left-sided Pr <= F	0.9790
Right-sided Pr >= F	0.2168
Table Probability (P)	0.1958
Two-sided Pr <= P	0.2657

Table F.7 Serve More Than 600 Annually (Summarized in Table 2).

Table of Q2a by Q5gg			
Q2a(Q2a)	**Q5gg(Q5gg)**		
Frequency **Row Pct**	**0**	**1**	**Total**
0	4 66.67	2 33.33	6
1	2 33.33	4 66.67	6
Total	6	6	12
Frequency Missing = 1			

Fisher's Exact Test	
Cell (1,1) Frequency (F)	4
Left-sided Pr <= F	0.9600
Right-sided Pr >= F	0.2835
Table Probability (P)	0.2435
Two-sided Pr <= P	0.5671

Table F.8 Serve At Central Location (Summarized in Table 2).

Table of Q2a by Q8a			
Q2a(Q2a)	**Q8a(Q8a)**		
Frequency **Row Pct**	**0**	**1**	**Total**
0	0 0.00	6 100.00	6
1	1 14.29	6 85.71	7
Total	1	12	13

Fisher's Exact Test	
Cell (1,1) Frequency (F)	0
Left-sided Pr <= F	0.5385
Right-sided Pr >= F	1.0000
Table Probability (P)	0.5385
Two-sided Pr <= P	1.0000

Table F.9 Send Food Home To Be Served (Summarized in Table 2).

Table of Q2a by Q8b			
Q2a(Q2a)	**Q8b(Q8b)**		
Frequency **Row Pct**	**0**	**1**	**Total**
0	4 66.67	2 33.33	6
1	3 42.86	4 57.14	7
Total	7	6	13

Fisher's Exact Test	
Cell (1,1) Frequency (F)	4
Left-sided Pr <= F	0.9225
Right-sided Pr >= F	0.3834
Table Probability (P)	0.3059
Two-sided Pr <= P	0.5921

Table F.10 Serve Fresh Foods (Summarized in Table 2).

Table of Q2a by Q9a			
Q2a(Q2a)	**Q9a(Q9a)**		
Frequency **Row Pct**	**0**	**1**	**Total**
0	2 33.33	4 66.67	6
1	2 28.57	5 71.43	7
Total	4	9	13

Fisher's Exact Test	
Cell (1,1) Frequency (F)	2
Left-sided Pr <= F	0.7832
Right-sided Pr >= F	0.6573
Table Probability (P)	0.4406
Two-sided Pr <= P	1.0000

Table F.11 Serve Canned Foods (Summarized in Table 2).

Table of Q2a by Q9b			
Q2a(Q2a)	**Q9b(Q9b)**		
Frequency **Row Pct**	**0**	**1**	**Total**
0	0 0.00	6 100.00	6
1	1 14.29	6 85.71	7
Total	1	12	13

Fisher's Exact Test	
Cell (1,1) Frequency (F)	0
Left-sided Pr <= F	0.5385
Right-sided Pr >= F	1.0000
Table Probability (P)	0.5385
Two-sided Pr <= P	1.0000

Table F.12 Serve Prepared Meals (Summarized in Table 2).

Table of Q2a by Q9c			
Q2a(Q2a)	**Q9c(Q9c)**		
Frequency **Row Pct**	**0**	**1**	**Total**
0	1 16.67	5 83.33	6
1	1 14.29	6 85.71	7
Total	2	11	13

Fisher's Exact Test	
Cell (1,1) Frequency (F)	1
Left-sided Pr <= F	0.8077
Right-sided Pr >= F	0.7308
Table Probability (P)	0.5385
Two-sided Pr <= P	1.0000

Table F.13 Donors Consider Efficiency (Summarized in Table 2).

Table of Q2a by Q11a			
Q2a(Q2a)	**Q11a(Q11a)**		
Frequency **Row Pct**	**0**	**1**	**Total**
0	0 0.00	5 100.00	5
1	1 16.67	5 83.33	6
Total	1	10	11
Frequency Missing = 2			

Fisher's Exact Test	
Cell (1,1) Frequency (F)	0
Left-sided Pr <= F	0.5455
Right-sided Pr >= F	1.0000
Table Probability (P)	0.5455
Two-sided Pr <= P	1.0000

Table F.14 Workers Consider Efficiency (Summarized in Table 2).

Table of Q2a by Q11b			
Q2a(Q2a)	**Q11b(Q11b)**		
Frequency **Row Pct**	**0**	**1**	**Total**
0	2 40.00	3 60.00	5
1	4 66.67	2 33.33	6
Total	6	5	11
Frequency Missing = 2			

Fisher's Exact Test	
Cell (1,1) Frequency (F)	2
Left-sided Pr <= F	0.3918
Right-sided Pr >= F	0.9329
Table Probability (P)	0.3247
Two-sided Pr <= P	0.5671

Table F.15 Benefactors Consider Efficiency (Summarized in Table 2).

Table of Q2a by Q11b			
Q2a(Q2a)	**Q11b(Q11b)**		
Frequency **Row Pct**	**0**	**1**	**Total**
0	2 40.00	3 60.00	5
1	4 66.67	2 33.33	6
Total	6	5	11
Frequency Missing = 2			

Fisher's Exact Test	
Cell (1,1) Frequency (F)	2
Left-sided Pr <= F	0.3918
Right-sided Pr >= F	0.9329
Table Probability (P)	0.3247
Two-sided Pr <= P	0.5671

Table F.16 Board Members Consider Efficiency (Summarized in Table 2).

Table of Q2a by Q11b			
Q2a(Q2a)	**Q11b(Q11b)**		
Frequency **Row Pct**	**0**	**1**	**Total**
0	2 40.00	3 60.00	5
1	4 66.67	2 33.33	6
Total	6	5	11
Frequency Missing = 2			

Fisher's Exact Test	
Cell (1,1) Frequency (F)	2
Left-sided Pr <= F	0.3918
Right-sided Pr >= F	0.9329
Table Probability (P)	0.3247
Two-sided Pr <= P	0.5671

Second Survey Tests (in order reported)

Table T.1 Lbs. Received vs. Importance of Hunger Relief (Summarized in Table 3).

important	N	Mean	Std Dev	Std Err	Minimum	Maximum
0	4	492.8	368.8	184.4	198.0	1021.0
1	9	626.6	381.1	127.0	150.0	1270.0
Diff (1-2)		-133.8	377.8	227.0		

important	Method	Mean	95% CL Mean		Std Dev	95% CL Std Dev	
0		492.8	-94.0488	1079.5	368.8	208.9	1375.0
1		626.6	333.6	919.5	381.1	257.4	730.2
Diff (1-2)	**Pooled**	-133.8	-633.5	365.9	377.8	267.6	641.5
Diff (1-2)	**Satterthwaite**	-133.8	-681.4	413.7			

Method	Variances	DF	t Value	Pr > |t|
Pooled	Equal	11	-0.59	0.5675
Satterthwaite	Unequal	6.0163	-0.60	0.5719

Equality of Variances				
Method	**Num DF**	**Den DF**	**F Value**	**Pr > F**
Folded F	8	3	1.07	1.0000

Table T.2 People Served vs. Importance of Hunger Relief (Summarized in Table 4).

important	N	Mean	Std Dev	Std Err	Minimum	Maximum
0	4	793.8	525.6	262.8	83.0000	1352.0
1	5	1731.6	1347.9	602.8	415.0	3810.0
Diff (1-2)		-937.9	1075.4	721.4		

important	Method	Mean	95% CL Mean		Std Dev	95% CL Std Dev	
0		793.8	-42.5316	1630.0	525.6	297.7	1959.6
1		1731.6	57.9446	3405.3	1347.9	807.6	3873.3
Diff (1-2)	**Pooled**	-937.9	-2643.8	768.1	1075.4	711.1	2188.8
Diff (1-2)	**Satterthwaite**	-937.9	-2590.9	715.2			

Method	Variances	DF	t Value	Pr > |t|
Pooled	Equal	7	-1.30	0.2348
Satterthwaite	Unequal	5.4045	-1.43	0.2089

Equality of Variances				
Method	**Num DF**	**Den DF**	**F Value**	**Pr > F**
Folded F	4	3	6.58	0.1537

Table A.1 Lbs. Received v.s. Functional Type of Organization (Summarized in Table 5).

Class Level Information		
Class	**Levels**	**Values**
type	3	1 2 3

Number of Observations Read	13
Number of Observations Used	13

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	22358.327	11179.163	0.07	0.9329
Error	10	1597380.750	159738.075		
Corrected Total	12	1619739.077			

R-Square	Coeff Var	Root MSE	lbs Mean
0.013804	68.27519	399.6725	585.3846

Source	DF	Type I SS	Mean Square	F Value	Pr > F
type	2	22358.32692	11179.16346	0.07	0.9329

Source	DF	Type III SS	Mean Square	F Value	Pr > F
type	2	22358.32692	11179.16346	0.07	0.9329

Table A.2 Lbs. Received vs. Number of People Served (Summarized in Table 5).

Class Level Information		
Class	**Levels**	**Values**
peoplenum	3	1 2 3

Number of Observations Read	9
Number of Observations Used	9

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	728035.472	364017.736	4.68	0.0597
Error	6	467080.750	77846.792		
Corrected Total	8	1195116.222			

R-Square	Coeff Var	Root MSE	lbs Mean
0.609175	46.46731	279.0104	600.4444

Source	DF	Type I SS	Mean Square	F Value	Pr > F
peoplenum	2	728035.4722	364017.7361	4.68	0.0597

Source	DF	Type III SS	Mean Square	F Value	Pr > F
peoplenum	2	728035.4722	364017.7361	4.68	0.0597

Table A.3 Number of People Served vs. Functional Type of Organization (Summarized in Table 5).

Class Level Information		
Class	**Levels**	**Values**
type	3	1 2 3

Number of Observations Read	9
Number of Observations Used	9

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	1798603.89	899301.94	0.65	0.5535
Error	6	8252097.67	1375349.61		
Corrected Total	8	10050701.56			

R-Square	Coeff Var	Root MSE	people Mean
0.178953	89.19781	1172.753	1314.778

Source	DF	Type I SS	Mean Square	F Value	Pr > F
type	2	1798603.889	899301.944	0.65	0.5535

Source	DF	Type III SS	Mean Square	F Value	Pr > F
type	2	1798603.889	899301.944	0.65	0.5535