



# Bryant University

HONORS THESIS

## Feeding Sustainability: The Environmental and Social Effectiveness of Food Bank Supply Chains

BY Nicole Craig

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**ABSTRACT**

Food waste continues to develop as a global issue, especially within the United States. According to 2020 data collected from the Economic Research Service of the United States Department of Agriculture, 10.5% of all households in the U.S. face food insecurity. Using grocery supply chains as a context, this study examines how food banks serve as sustainable resources for the distribution of recovered food to feed food insecure communities. Grocery stores, retailers, and other organizations acknowledge waste through the implementation of sustainable initiatives. Food banks and partnering agencies serve as an integral component of waste reduction. The primary data collection for this study consisted of exploratory research of food banks in partnerships with Feeding America and Hannaford Supermarkets. Based on a scoring system, two of the food banks are effective, one is neutral, and two are ineffective on an environmental and social effectiveness scale. Food banks must disclose the reality of food waste to make progress toward food recovery. Increased data transparency allows for more sustainable contributions to food bank and grocery supply chains. Findings from this study can be used to implement processes that minimize long-term impacts of food waste and strengthen the environmental and social effectiveness of grocery supply chains.

Keywords: food banks, food waste, grocery retail, supply chain, sustainability

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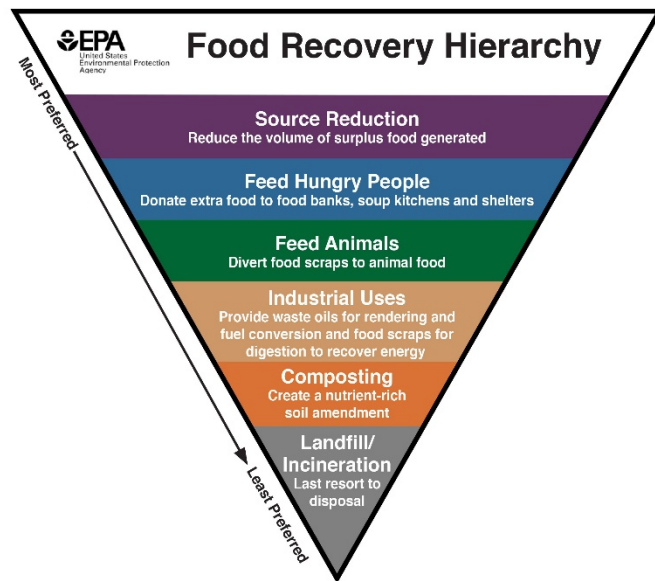
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## INTRODUCTION

The United States Environmental Protection Agency (EPA) uses the Food Recovery Hierarchy, in preference order, to prevent food waste (Environmental Protection Agency, 2021). From the perspective of grocery supply chains, this study focuses on feeding hungry people. Grocery supply chains are comprised of many components. For research purposes, this study follows a supply chain of grocery stores, nonprofit organization networks, food banks, and community-based partners.

Hannaford is a United States-based supermarket company with headquarters in Scarborough, Maine. It primarily operates in New

England and New York. Due to the environmental and social impacts of food waste, Hannaford is a Leadership Partner for Feeding America. This nonprofit organization connects food banks and related agencies to combat food insecurity. Throughout the Northeastern United States, Hannaford works with seven food banks of Feeding America: Good Shepherd Food Bank, New Hampshire Food Bank, Vermont Foodbank, The Greater Boston Food Bank, Worcester County Food Bank, Inc., Regional Food Bank of Northeastern New York, and Food Bank of Central New York. Using annual reports and websites, this study aims to answer the following two research questions: 1) How do grocery supply chains minimize long-term waste impacts through food banks?; 2) How can food banks and grocery stores be more environmentally and socially effective? The findings from this study will contribute to existing knowledge and expand on the environmental and social impacts of sustainability in grocery supply chains.



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## **LITERATURE REVIEW**

### Food Waste

Goal 2 of the United Nations 2030 Agenda for Sustainable Development aims to achieve food security through the elimination of world hunger (United Nations, 2022). Food security signifies a healthy household through the consistent availability of adequate foods. However, in the United States today, food insecurity is defined as limited access to safe food of nutritional value. Households find it difficult to obtain foods and endure discomfort due to hunger. Such challenges may lead to socially unacceptable ways of acquiring food, such as stealing. The Economic Research Service of the United States Department of Agriculture (USDA) found that 38.3 million people lived in households that faced food insecurity in 2020. Other significant characteristics include food insecurity among 8.3% of elderly living alone and 27.7% of single women with children (Coleman-Jensen et al., 2021). Furthermore, in a similar evaluation based on the USDA by Temple University, 34% of college students endured food insecurity in the fall of 2020 (Rowan, 2021). The achievement of Goal 2 requires sustainability throughout food production systems (United Nations, 2022).

Within grocery supply chains, food distribution operations, preparation, or production wastes 50% of food. Given the magnitude of food insecurity, food recovery remains an ongoing practice. Organizations, such as Feeding America, coordinate food donations from farms, grocery stores, restaurants, retailers, and more. The efficacy of food recovery is contingent on the maintenance of rescued food. It is crucial to maintain the highest levels of freshness in order to distribute usable food as donations (Phillips et al., 2013). With the COVID-19 pandemic, food waste continues to be a grave problem on a global scale, which increases household food insecurity. The United States is responsible for the most waste in the world. The country scraps almost eighty billion pounds on an annual basis, which equates to almost 220 pounds of waste per person. This not only contributes to landfills, but also affects the greater food environment (Cohen, 2021).

Collaboration and planning procedures impact the distribution of fresh produce to food banks. The EPA Food Recovery Hierarchy serves as a tool for identifying the most preferred to least

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preferred methods of recovery. Source reduction is the most preferred method with recovery of excess food through donations as the second most preferred method. This is an important model to follow, as grocery stores redistribute donations to achieve zero waste goals. The charitable feeding system focuses on food banks and food rescue organizations. Some challenges include costs, distribution metric implementation, and time gaps between partners with constituent distribution. However, these present opportunities to enhance donor-food bank relationships, grow agency demand, and influence partnerships with other sectors in the industry (Wetherill et al., 2019). This can be achieved through the United States Food Waste Challenge (FWC), an active sustainability program. This initiative seeks to recover, recycle, and reduce food waste among businesses, distributors, governments, industry groups, and similar organizations. This supports food waste reduction in both the local community and operations through the EPA Food Recovery Hierarchy. Participation in this challenge establishes a public commitment for many corporations (Chen & Chen, 2018).

A 2016 case study assessed the impact of food waste on corporate sustainability initiatives through the examination of Kroger Company, one of the largest supermarket chains in the United States. With the magnitude of its operations and programs, the company's food waste reduction efforts hold significance worldwide. Kroger works with Feeding America and partners with Freestore Foodbank (FF) of Cincinnati, the largest food bank in North America. FF works with local food pantries, shelters, and soup kitchens within the area to distribute damaged or nearly expired food. Through Kroger's programs, there are positive contributions, such as increased efficiency in donations. In 2013, the company eliminated third-party partnerships and increased donations to FF by 500,000 pounds per year. While these statistics established a national precedent, Kroger does not publicly share its calculation methodology. For this reason, it is necessary to measure the scope of food waste in various forms. The EPA and Food Waste Reduction Alliance (FWRA) are key partner organizations to promote food waste reduction. It is crucial to understand the development of, and motivation for, sustainability programs to reach conclusions on the effectiveness of food donation practices (Warshawsky, 2016).

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### Food Banks

Food banks collect and receive donations, but also distribute food to food insecure constituents. Food banks previously relied on third-party organizations to manage donations. Now, with higher costs of resources and transportations, food banks must increase its capabilities. Food distribution operations need more effective design and management to meet the higher demand since COVID-19. There are methods of resource allocation involved in nonprofit distribution systems of food banks, such as Sequential Resource Allocation (SRA). This involves food allocation through third-party delivery routes. However, the demand for donation collection creates variability. Donors, such as grocery stores, may affect operations with fluctuations in supply. It is difficult to assess allocation due to the succinct nature of decisions throughout the distribution and donation processes (Balcik et al., 2014).

The food bank process involves three main aspects: planning, packaging, and distribution. The planning phase schedules organizational collaborations, while the packaging phase analyzes food to determine its satisfaction of specific standards. The distribution phase delivers the conforming food to constituents. With the involvement of constituents, it is imperative to distribute recovered food at its highest quality but with low expenses. In addition to grocery store partnerships, food bank operations can improve efficiency through the expansion of donor sources and food bank networks (Fadhel et al., 2017).

About one-quarter of food received by Feeding America comes directly from the organization itself. Most donations come from food manufacturers and grocery stores. Some food banks are referred to as “food rich” due to strong contacts for donations. On the other hand, the “food poor” may not have the necessary resources to expand donor networks. It is common for food banks to lack an overall inventory, but issues may arise with the lack of specific goods. Dairy products may be in high supply, but a food bank may need more dried goods. Nonetheless, an equal distribution of food throughout all U.S. food banks is unlikely to reach maximized efficiency. When Feeding America introduced its Choice System, it produced more flexibility for specific food banks to choose food within an allocated budget. Food banks had the opportunity to forego donations if it did not meet specific needs. Thus, daily reallocation and delegation are more effective in the long-term (Prendergast, 2017).

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### Hannaford Supermarkets

Ahold Delhaize is a multinational company that governs brands in Europe, Indonesia, and the United States. Given the current state of food insecurity and food waste, the company's United States sector works with its brands to increase sustainability (Ahold Delhaize, 2021). By 2025, the supermarket company plans to reduce food waste by 32%. By 2030, Ahold Delhaize hopes to reach 50% reduction with an additional diversion goal to achieve zero waste (Redman, 2021). One of its brands, Food Lion, requires its stores to make food donations through partnerships with local food banks. In past years, the stores contributed fifteen million pounds of donations (Gattuso, 2005). In addition to Food Lion, Hannaford is another brand of Ahold Delhaize. Hannaford partners with Feeding America to strengthen its commitment to sustainability (Feeding America, 2021). The company also prioritizes three objectives to prevent food waste: feeding livestock, fighting food insecurity, and generating energy (Hannaford Bros. Co., LLC, 2020). In 2016, Hannaford contributed to hunger relief with nearly twenty-three million pounds of rescued food (FeedingMaine, 2017). Through additional work with the Food Waste Reduction Alliance, zero waste goals are possible for companies like Hannaford (Consumer Brands Association, 2020).

Hannaford partners with food banks throughout New England, such as Good Shepherd Food Bank and the Regional Food Bank of Northeastern New York. Hannaford has worked with Good Shepherd Food Bank, Maine's largest organization for hunger relief efforts, for over forty years. The COVID-19 pandemic increased the risk of hunger for Maine residents, especially children. The partnership continues to make progress toward ending hunger with a \$250 million campaign set for completion in 2025. Hannaford is a lead donor for this mission and anticipates a \$120 million contribution. As of January 2021, food and funds amounted to \$115 million. With this Campaign to End Hunger, it aims to provide access to nutritious, sufficient food to Maine constituents in need (Good Shepherd Food Bank, 2021). For the Regional Food Bank of Northeastern New York, Hannaford donated \$296,000 in 2019 to support initiatives to establish food pantries throughout schools in New York. Hannaford Supermarkets also launched its "Fuel Kids at School" program to increase access to fresh food throughout New England and New York. In addition to this \$1 million commitment, the



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company hosts an annual Hannaford Helps Fight Hunger campaign to help feed food insecure households. With this, shoppers purchase reusable bags, and a percentage of the proceeds support hunger relief organizations like food banks. These programs exemplify Hannaford's goals to achieve zero waste (Goronkin, 2019).

In April 2021, all 183 Hannaford stores were able to divert food from landfills. It is the first large-scale grocery store within New England and New York to achieve this goal (Dodge, 2021). This emphasizes the sustainable commitment of the company to the Environmental Protection Agency guidelines. Environmental advocacy groups place importance on overall food waste and provide suggestions for policy implementation. Hannaford strictly adheres to the Food Recovery Hierarchy to ensure that edible food is preserved for food banks and remaining products are sent to farms or waste companies. Despite achieving zero waste in 2021, Hannaford is actively committed to relationships with food banks and similar organizations (Nanos, 2021).

### **METHODOLOGY**

This study examined the 2020 annual reports of five affiliates of Feeding America: Good Shepherd Food Bank, New Hampshire Food Bank, Vermont Foodbank, Regional Food Bank of Northeastern New York, and Food Bank of Central New York. Through public accessibility, each report was found on the respective food bank website (Appendix A). The reports varied in length and content of data on donors, food sources, and financials.

To assess the effectiveness of food banks, three categories were developed: *environmental*, *social*, and *overall*. Each category was then divided into five measurable statements that evaluated whether the report visibly included the relevant information.

The *environmental* category included the following statements:

1. Agricultural organizations are mentioned in some capacity.
2. COVID-19 is recorded as an increase to food waste.
3. Donation data are displayed.

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4. Food distribution data are displayed.
5. Sourcing data are displayed.

The *social* category included the following statements:

1. Active or recent waste reduction campaign of +/- 2 years is present.
2. School meal initiatives are acknowledged.
3. There is a list of partnerships with foundations or organizations.
4. There is an emphasis on providing ample and nutritious food.
5. Volunteer hours are noted.

The *overall* category included the following statements:

1. A director or staff member provided a personal message.
2. The food bank's mission and/or vision is clearly stated.
3. The following keywords are present: access, food insecurity, and waste.
4. The report is easily accessible.
5. There are graphics or pictures that show the achievements of the organization.

A scorecard (Appendix B) was developed to include the food bank name, location, and status of the fifteen statements. Through the primary use of find commands and functions, keywords from each statement were searched. These included words and phrases such as "COVID-19," "donations," and "food insecurity." Some statements were more naturally visible than others, such as graphical or pictorial representations. If the report visibly displayed the relevant information from the statement, the food bank received a positive (+) for status. If the report somewhat displayed the relevant information from the statement, the food bank received a neutral (0) for status. If the report did not visibly display the relevant information from the statement, the food bank received a negative (-) for status. Comments were provided for neutral and negative statuses. These included suggestions for additional details, data expansion, graphic displays, messaging tactics, or overall improvement. The data from the food bank assessments are presented on the scorecards (Appendix C) to determine environmental and social effectiveness.

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## **FINDINGS**

To quantify the qualitative assessment, positives (+) were summed by category and totaled (Table 1). The highest possible total is 15. Using the Likert scale as a model, a scale (Table 2) was established to quantify the environmental and social effectiveness of food banks.

*Table 1 – Assessment Overview*

| <b>Scorecard Summary</b>                    |                      |               |                |              |
|---|----------------------|---------------|----------------|--------------|
| <i>Food Bank</i>                            | <i>Environmental</i> | <i>Social</i> | <i>Overall</i> | <i>Total</i> |
| Good Shepherd Food Bank                     | 5                    | 3             | 4              | 12           |
| Regional Food Bank of Northeastern New York | 2                    | 4             | 4              | 10           |
| Food Bank of Central New York               | 3                    | 1             | 3              | 7            |
| New Hampshire Food Bank                     | 2                    | 3             | 1              | 6            |
| Vermont Foodbank                            | 1                    | 0             | 3              | 4            |

*Table 2 – Scale Overview*

| <b>Environmental and Social Effectiveness Scale</b> |                    |                |                  |                       |
|---|--------------------|----------------|------------------|-----------------------|
| 1-3   | 4-6                | 7-9            | 10-12            | 13-15                 |
| <i>very ineffective</i>                             | <i>ineffective</i> | <i>neutral</i> | <i>effective</i> | <i>very effective</i> |

### Good Shepherd Food Bank

According to the environmental and social effectiveness scale, Good Shepherd Food Bank of Auburn, Maine, is *effective*. Some comments include:

- There could be a page dedicated to a nutrition objective.
- There are stories of volunteering, but no concrete data.
- "Food insecurity" is not present.

Given the categorical assessment, the report should prioritize *social* effectiveness.

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### Regional Food Bank of Northeastern New York

According to the environmental and social effectiveness scale, Regional Food Bank of Northeastern New York of Latham, New York, is *effective*. Some comments include:

- It is difficult to determine the exact donation amounts.
- There is limited information on distributed food.
- Source information is not available.
- There are no campaign acknowledgements.
- "Food insecurity" is not present.

Given the categorical assessment, the report should prioritize *environmental* effectiveness.

### Food Bank of Central New York

According to the environmental and social effectiveness scale, Food Bank of Central New York of Syracuse, New York, is *neutral*. Some comments include:

- The inclusion of farms is an opportunity for improvement.
- Source information is not available.
- Meal initiatives are not included in the report.
- There is no clear partner list attached.
- There could be a page dedicated to a nutrition objective.
- Volunteering is not included in the report.
- Keywords are not included in the report.
- The report is unavailable in PDF format.

Given the categorical assessment, the report should prioritize *social* effectiveness.

### New Hampshire Food Bank

According to the environmental and social effectiveness scale, New Hampshire Food Bank of Manchester, New Hampshire, is *ineffective*. Some comments include:

- The inclusion of farms is an opportunity for improvement.
- The donations are listed as a percentage.
- Source information is not available.

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- There are no campaign acknowledgements.
- There is no clear partner list attached.
- There is no clear message from an individual.
- "Food insecurity" is not present.
- The report was obtained through Catholic Charities NH.
- Graphics are limited, but pictures are valuable.

Given the categorical assessment, the report should prioritize *overall* effectiveness.

### Vermont Foodbank

According to the environmental and social effectiveness scale, Vermont Foodbank of Barre,

Vermont, is *ineffective*. Some comments include:

- Agricultural organizations are not included in the report.
- COVID-19 is not included in the report.
- It is difficult to determine the exact donation amounts.
- There is limited information on distributed food.
- There are no campaign acknowledgements.
- Meal initiatives are not included in the report.
- There is no clear partner list attached.
- A nutrition objective is vaguely included in the mission statement.
- Volunteering is not included in the report.
- Messaging is not included in the report.
- Keywords are not included in the report.

Given the categorical assessment, the report should prioritize *social* effectiveness.

### Summary

For positive contributions, the five food banks displayed their mission as a food bank. Four of the five also featured the impact of COVID-19. For neutral contributions, three of the five did not include food donation sources, but provided data on food distribution. For negative contributions, the five food banks did not feature "food insecurity" as a key phrase. These findings favor report improvements to increase environmental and social effectiveness.

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## **RECOMMENDATIONS**

Given that two food banks are *effective*, one is *neutral*, and two are *ineffective*, on a scale of environmental and social effectiveness, increased transparency allows for more sustainable contributions in food bank and grocery supply chains. Annual reports should include data points on donation and distribution data, food insecurity, and waste. Food banks must disclose the reality of food waste to make progress toward food recovery in supply chains.

First, food banks and grocery stores can be more environmentally and socially effective through best practices. Food donors, like grocery stores and retailers, can create in-store campaigns that partner with local food banks. These food banks can decrease food purchases through the enhanced donor relations. This establishes an improved donor-food bank relationship and influences additional partnerships.

Second, food bank supply chains can reduce the long-term impacts of food waste through similar best practices. Food donors can increase alignment with nutritional food guidelines by solidifying donation requirements. This permits food banks to engage with the USDA to ensure a strong overall food system. A heightened focus on edible and healthy food contributes to lessened food insecurity and waste.

Food banks and grocery stores can use these best practices to reduce food waste through environmental and social initiatives. These contributions will support sustainable recovery and sustain effective food bank supply chains.

## **LIMITATIONS**

This study was originally intended as a surveyed investigation of seven food banks in the Northeastern United States: Good Shepherd Food Bank, New Hampshire Food Bank, Vermont Foodbank, The Greater Boston Food Bank, Worcester County Food Bank, Inc., Regional Food Bank of Northeastern New York, and Food Bank of Central New York. To comply with ethics and research requirements set by Bryant University, the Social & Behavioral Research: Stage I Basic Course, sponsored by the Collaborative Institutional Training Initiative (CITI Program), was completed (Appendix D). After submitting a consent

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form and short proposal form, the survey (Appendix E) was approved by the Bryant University Institutional Review Board (IRB). With corporate support of Feeding America and Hannaford, at least one representative from each food bank was contacted with the survey questionnaire that was formatted and housed in Qualtrics. After a one-week period, a second survey was distributed to the same contacts with the intent to evaluate donor satisfaction. However, this was contingent on the support of the representatives. The surveys were identical: the first was “Food Bank Satisfaction” and the second was “Food Bank Satisfaction with Donors.” “Food Bank Satisfaction” received four responses: one complete, one partial, and two incompletes. “Food Bank Satisfaction with Donors” received one incomplete response. This study produced less than four responses, which is the minimum requirement for case studies. Due to the lack of participation, the methodology was changed to researching annual reports and published data.

Following the survey attempts, the Worcester County Food Bank, Inc. was contacted through the school project request option. However, the request was denied. Next, the Rhode Island Community Food Bank (RICFB) was contacted by email and a student request form. There was no follow-up through this contact method. This contributed to the small sampling size ( $n = 5$ ), which was originally intended to be more expansive ( $n = 7$ ).

With the analysis of the 2020 annual reports, some websites had not updated public information. The Greater Boston Food Bank had an annual report posted, but the link did not work. The Worcester County Food Bank, Inc. did not have a visible annual report posted. Some of the reports were not user-friendly, making it difficult to find information. The final assessment of the food banks, according to the environmental and social effectiveness scale, did not permit cross-tabulation of multiple researchers, which creates a solitary investigation. Thus, there is subjectivity within effectiveness interpretations.

### **FUTURE RESEARCH**

Findings from this study can be used as generalizations for food banks and sustainability practices. With a larger sample size, additional surveys can be administered in other parts of

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the United States. Food bank representatives can be contacted for interviews to gather supplementary data on food bank and donor satisfaction. While this study can be used as a framework for the impact of the COVID-19 pandemic on food insecurity, further research can explore its relativity to food recovery transparency. With future inquiry, it is likely that food banks and subsequent reports will be more environmentally and socially effective.



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**APPENDICES**

Appendix A – Reports

The following are links to the 2020 annual reports of five affiliates of Feeding America:

1. [Good Shepherd Food Bank](#)
2. [New Hampshire Food Bank](#)
3. [Vermont Foodbank](#)
4. [Regional Food Bank of Northeastern New York](#)
5. [Food Bank of Central New York](#)

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**Appendix B – Scorecard**

| Sustainability in Northeastern U.S. Food Banks                                 |        |     |          |  |
|--|--------|-----|----------|--|
| <Insert food bank name and location here.>                                     | STATUS |     | COMMENTS |  |
|  | -      | 0 + |          |  |
| <b>Environmental</b>   |        |     |          |  |
| Agricultural organizations are mentioned in some capacity.                     |        |     |          |  |
| COVID-19 is recorded as an increase to food waste.                             |        |     |          |  |
| Donation data are displayed.   |        |     |          |  |
| Food distribution data are displayed.  |        |     |          |  |
| Sourcing data are displayed.   |        |     |          |  |
| <b>Social</b>  |        |     |          |  |
| Active or recent waste reduction campaign of +/- 2 years is present.           |        |     |          |  |
| School meal initiatives are acknowledged.                                      |        |     |          |  |
| There is a list of partnerships with foundations or organizations.             |        |     |          |  |
| There is an emphasis on providing ample and nutritious food.                   |        |     |          |  |
| Volunteer hours are noted.   |        |     |          |  |
| <b>Overall</b>   |        |     |          |  |
| A director or staff member provided a personal message.                        |        |     |          |  |
| The food bank's mission and/or vision is clearly stated.                       |        |     |          |  |
| The following keywords are present: access, food insecurity, and waste.        |        |     |          |  |
| The report is easily accessible.   |        |     |          |  |
| There are graphics or pictures that show the achievements of the organization. |        |     |          |  |

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### Appendix C – Food Bank Scorecards

#### Good Shepherd Food Bank

| Sustainability in Northeastern U.S. Food Banks                                 |        |     |   |
|--|--------|-----|---|
| Good Shepherd Food Bank of Auburn, Maine                                       | STATUS |     | COMMENTS  |
|  | -      | 0 + |   |
| <b>Environmental</b>   |        |     |   |
| Agricultural organizations are mentioned in some capacity.                     |        | +   |   |
| COVID-19 is recorded as an increase to food waste.                             |        | +   |   |
| Donation data are displayed.   |        | +   |   |
| Food distribution data are displayed.  |        | +   |   |
| Sourcing data are displayed.   |        | +   |   |
| <b>Social</b>  |        |     |   |
| Active or recent waste reduction campaign of +/- 2 years is present.           |        | +   |   |
| School meal initiatives are acknowledged.                                      |        | +   |   |
| There is a list of partnerships with foundations or organizations.             |        | +   |   |
| There is an emphasis on providing ample and nutritious food.                   | 0      |     | There could be a page dedicated to a nutrition objective. |
| Volunteer hours are noted.   | -      |     | There are stories of volunteering, but no concrete data.  |
| <b>Overall</b>   |        |     |   |
| A director or staff member provided a personal message.                        |        | +   |   |
| The food bank's mission and/or vision is clearly stated.                       |        | +   |   |
| The following keywords are present: access, food insecurity, and waste.        | 0      |     | "Food insecurity" is not present.                         |
| The report is easily accessible.   |        | +   |   |
| There are graphics or pictures that show the achievements of the organization. |        | +   |   |

#### Regional Food Bank of Northeastern New York

| Sustainability in Northeastern U.S. Food Banks                                 |        |     |  |
|--|--------|-----|--|
| Regional Food Bank of Northeastern New York of Latham, New York                | STATUS |     | COMMENTS   |
|  | -      | 0 + |  |
| <b>Environmental</b>   |        |     |  |
| Agricultural organizations are mentioned in some capacity.                     |        | +   |  |
| COVID-19 is recorded as an increase to food waste.                             |        | +   |  |
| Donation data are displayed.   | -      |     | It is difficult to determine the exact donation amounts. |
| Food distribution data are displayed.  | 0      |     | There is limited information on distributed food.        |
| Sourcing data are displayed.   | -      |     | Source information is not available.                     |
| <b>Social</b>  |        |     |  |
| Active or recent waste reduction campaign of +/- 2 years is present.           | -      |     | There are no campaign acknowledgements.                  |
| School meal initiatives are acknowledged.                                      |        | +   |  |
| There is a list of partnerships with foundations or organizations.             |        | +   |  |
| There is an emphasis on providing ample and nutritious food.                   |        | +   |  |
| Volunteer hours are noted.   |        | +   |  |
| <b>Overall</b>   |        |     |  |
| A director or staff member provided a personal message.                        |        | +   |  |
| The food bank's mission and/or vision is clearly stated.                       |        | +   |  |
| The following keywords are present: access, food insecurity, and waste.        | 0      |     | "Food insecurity" is not present.                        |
| The report is easily accessible.   |        | +   |  |
| There are graphics or pictures that show the achievements of the organization. |        | +   |  |

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### Food Bank of Central New York

| Sustainability in Northeastern U.S. Food Banks                                 |        |     |   |
|--|--------|-----|---|
| Food Bank of Central New York of Syracuse, New York                            | STATUS |     | COMMENTS  |
|  | -      | 0 + |   |
| <b>Environmental</b>   |        |     |   |
| Agricultural organizations are mentioned in some capacity.                     | 0      |     | The inclusion of farms is an opportunity for improvement. |
| COVID-19 is recorded as an increase to food waste.                             |        | +   |   |
| Donation data are displayed.   |        | +   |   |
| Food distribution data are displayed.  |        | +   |   |
| Sourcing data are displayed.   | -      |     | Source information is not available.                      |
| <b>Social</b>  |        |     |   |
| Active or recent waste reduction campaign of +/- 2 years is present.           |        | +   |   |
| School meal initiatives are acknowledged.                                      | -      |     | Meal initiatives are not included in the report.          |
| There is a list of partnerships with foundations or organizations.             | -      |     | There is no clear partner list attached.                  |
| There is an emphasis on providing ample and nutritious food.                   | 0      |     | There could be a page dedicated to a nutrition objective. |
| Volunteer hours are noted.   | -      |     | Volunteering is not included in the report.               |
| <b>Overall</b>   |        |     |   |
| A director or staff member provided a personal message.                        |        | +   |   |
| The food bank's mission and/or vision is clearly stated.                       |        | +   |   |
| The following keywords are present: access, food insecurity, and waste.        | -      |     | Keywords are not included in the report.                  |
| The report is easily accessible.   | 0      |     | The report is unavailable in PDF format.                  |
| There are graphics or pictures that show the achievements of the organization. |        | +   |   |

### New Hampshire Food Bank

| Sustainability in Northeastern U.S. Food Banks                                 |        |     |   |
|--|--------|-----|---|
| New Hampshire Food Bank of Manchester, New Hampshire                           | STATUS |     | COMMENTS  |
|  | -      | 0 + |   |
| <b>Environmental</b>   |        |     |   |
| Agricultural organizations are mentioned in some capacity.                     | -      |     | The inclusion of farms is an opportunity for improvement. |
| COVID-19 is recorded as an increase to food waste.                             |        | +   |   |
| Donation data are displayed.   | 0      |     | The donations are listed as a percentage.                 |
| Food distribution data are displayed.  |        | +   |   |
| Sourcing data are displayed.   | -      |     | Source information is not available.                      |
| <b>Social</b>  |        |     |   |
| Active or recent waste reduction campaign of +/- 2 years is present.           | -      |     | There are no campaign acknowledgements.                   |
| School meal initiatives are acknowledged.                                      |        | +   |   |
| There is a list of partnerships with foundations or organizations.             | -      |     | There is no clear partner list attached.                  |
| There is an emphasis on providing ample and nutritious food.                   |        | +   |   |
| Volunteer hours are noted.   |        | +   |   |
| <b>Overall</b>   |        |     |   |
| A director or staff member provided a personal message.                        | 0      |     | There is no clear message from an individual.             |
| The food bank's mission and/or vision is clearly stated.                       |        | +   |   |
| The following keywords are present: access, food insecurity, and waste.        | 0      |     | "Food insecurity" is not present.                         |
| The report is easily accessible.   | -      |     | The report was obtained through Catholic Charities NH.    |
| There are graphics or pictures that show the achievements of the organization. | 0      |     | Graphics are limited, but pictures are valuable.          |

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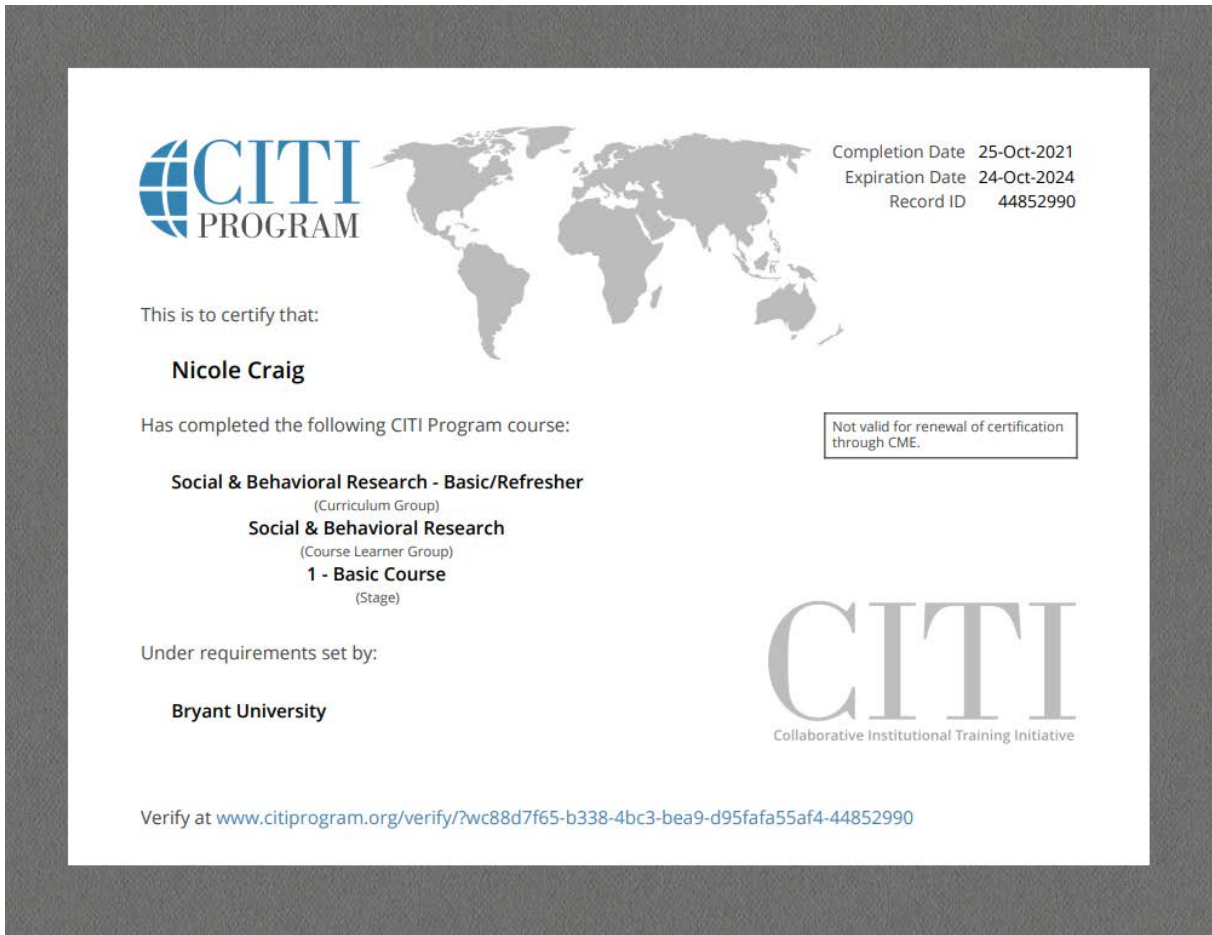
### Vermont Foodbank

| Sustainability in Northeastern U.S. Food Banks                                 |        |     |   |
|--|--------|-----|---|
| <i>Vermont Foodbank of Barre, Vermont</i>                                      | STATUS |     | COMMENTS  |
|  | -      | 0 + |   |
| <b>Environmental</b>   |        |     |   |
| Agricultural organizations are mentioned in some capacity.                     | -      |     | Agricultural organizations are not included in the report.          |
| COVID-19 is recorded as an increase to food waste.                             | -      |     | COVID-19 is not included in the report.                             |
| Donation data are displayed.   |        | 0   | It is difficult to determine the exact donation amounts.            |
| Food distribution data are displayed.  |        | 0   | There is limited information on distributed food.                   |
| Sourcing data are displayed.   |        | +   |   |
| <b>Social</b>  |        |     |   |
| Active or recent waste reduction campaign of +/- 2 years is present.           | -      |     | There are no campaign acknowledgements.                             |
| School meal initiatives are acknowledged.                                      | -      |     | Meal initiatives are not included in the report.                    |
| There is a list of partnerships with foundations or organizations.             | -      |     | There is no clear partner list attached.                            |
| There is an emphasis on providing ample and nutritious food.                   |        | 0   | A nutrition objective is vaguely included in the mission statement. |
| Volunteer hours are noted.   | -      |     | Volunteering is not included in the report.                         |
| <b>Overall</b>   |        |     |   |
| A director or staff member provided a personal message.                        | -      |     | Messaging is not included in the report.                            |
| The food bank's mission and/or vision is clearly stated.                       |        | +   |   |
| The following keywords are present: access, food insecurity, and waste.        | -      |     | Keywords are not included in the report.                            |
| The report is easily accessible.   |        | +   |   |
| There are graphics or pictures that show the achievements of the organization. |        | +   |   |

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Appendix D – CITI Certificate



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Appendix E – Survey

1. Is your organization directly affiliated with Feeding America?
  - Yes
  - No
  - Unsure
2. What is your role in your organization?
  - Essay text box
3. How many employees work at your organization?
  - Single line
4. How many people volunteer at your organization?
  - Single line
5. Approximately, how many beneficiaries do you serve?
  - Single line
6. How do you obtain food for your beneficiaries? Please check all that apply.
  - Partnerships with local organizations
  - Food drives
  - Direct donations from individuals
  - Direct donations from temporary/ad hoc partners
  - If Other, please specify:
7. On average, how many pounds of food does your organization distribute weekly?
  - Single line

The following statements will be measured using the Likert scale from 1-5.

Food waste is an issue in the United States.

|                     |   |           |   |                  |
|---------------------|---|-----------|---|------------------|
| 1 strongly disagree | 2 | 3 neutral | 4 | 5 strongly agree |
|---------------------|---|-----------|---|------------------|

I am familiar with Hannaford Supermarkets.

|                     |   |           |   |                  |
|---------------------|---|-----------|---|------------------|
| 1 strongly disagree | 2 | 3 neutral | 4 | 5 strongly agree |
|---------------------|---|-----------|---|------------------|

My organization has the support of Feeding America and supermarkets like Hannaford.

|                     |   |           |   |                  |
|---------------------|---|-----------|---|------------------|
| 1 strongly disagree | 2 | 3 neutral | 4 | 5 strongly agree |
|---------------------|---|-----------|---|------------------|

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8. Who is responsible for the collection and delivery system between Feeding America and Hannaford Supermarkets for your organization?
  - Feeding America
  - Hannaford Supermarkets
  - Third party
  - If Other, please specify:
9. When are food items delivered?
  - Daily
  - Weekly
  - Monthly
  - Quarterly
  - If Other, please specify:
10. Does your organization receive notification when a collection bin is full?
  - Yes
  - No
  - Unsure
11. Does your organization receive advance notice for upcoming deliveries?
  - Yes
  - No
  - Unsure
12. Is there a set schedule for collection and delivery within your organization?
  - Yes
  - No
  - Unsure
13. If you answered “yes” to any of the previous questions, please explain the current methods for collection, delivery, and other pertinent aspects of the process.
  - Essay text box
14. What are the contact methods between Feeding America, Hannaford Supermarkets, and your organization? Please check all that apply.
  - Email
  - Phone call
  - Text messaging



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- Website
- If Other, please specify:

15. What food items are collected? Please check all that apply.

- Bakery items such as bread, pastries, and rolls
- Canned items such as fruit, meat, soup, and vegetables
- Dairy items such as cheese, eggs, milk, and yogurt
- Dry items such as cereal, pasta, and rice
- Fresh meat including beef, chicken, pork, and turkey
- Fresh seafood including fish and shellfish
- If Other, please specify:

The following statements will be measured using the Likert scale from 1-5.

Our organization receives adequate information regarding the collection and delivery process.

1 strongly disagree                      2                      3 neutral                      4                      5 strongly agree

There is a time lag between delivery and distribution of food items to beneficiaries.

1 strongly disagree                      2                      3 neutral                      4                      5 strongly agree

Our organization receives a sufficient amount of food to meet the needs of our beneficiaries.

1 strongly disagree                      2                      3 neutral                      4                      5 strongly agree

The supply of items varies on a periodic basis.

1 strongly disagree                      2                      3 neutral                      4                      5 strongly agree

Our organization's fill rate is being met.

1 strongly disagree                      2                      3 neutral                      4                      5 strongly agree

16. What are donors doing well?

- Essay text box

17. What can donors improve on?

- Essay text box

18. Could we contact you with follow-up questions for clarification on any of these processes?

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Yes

18a. Please provide the best way to contact you.

Single line

No

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