

**Socio-Ecological Resilience in Chicago's Local Food System: An Analysis of Organizational
Adaptation During the COVID-19 Pandemic**

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Submitted in partial fulfillment of the requirements for the degree of:
BACHELOR OF ARTS
IN ENVIRONMENTAL AND URBAN STUDIES
at THE UNIVERSITY OF CHICAGO

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May 13th, 2022

Acknowledgments

I would like to acknowledge the following individuals without whose help this thesis would not have been possible. First, thank you to Dr. Sabina Shaikh, my faculty thesis advisor, for lending invaluable expertise and recommendations throughout the entire process. Thank you as well to Kristi Del Vecchio, my thesis preceptor, for providing detailed feedback and for making time to meet with me throughout the numerous drafts of this thesis. I am also extremely grateful to the community organizers and activists from Market Box and Plant Chicago for their willingness to share their stories and insights with me. Finally, thank you to my peers, friends, and family for supporting me throughout my entire undergraduate experience over the past four years.

Table of Contents

Abstract	4
Introduction.....	5
Literature Review.....	8
Background and Context.....	17
Research Design and Methods.....	27
Results.....	32
Discussion and Implications	52
Conclusion	66
References.....	69
Appendix A.....	74

Abstract

In the United States, the COVID-19 pandemic exacerbated food insecurity and caused global supply chain shortages, highlighting the vulnerability of the conventional globalized food system to large-scale disruptions. In response, actors within alternative food systems mobilized to provide emergency food relief to their communities and generate income for local farmers who lost considerable revenue during the pandemic. I explored how alternative food system actors within Chicago adapted to COVID-19 to support local farmers and provide emergency food relief using organization-generated online content and semi-structured interviews. To compare different strategies taken by food system actors across Chicago, I collected qualitative interviews, social media content, and news articles about four emergency food relief programs initiated in response to the pandemic. Next, I conducted in-depth interviews with organizers behind one of these food relief programs, Market Box, to understand the assets and strategies underpinning the success of this program. Results from this research indicate that emergency food relief programs utilized a variety of approaches to connecting populations with local food during the pandemic. I argue that Market Box gained success by leveraging preexisting relationships with local farmers and food-insecure populations to quickly build a large recipient base. Furthermore, Market Box circumvented traditional barriers to accessing free food resources by providing delivery and waiving ID and proof of income requirements to participate. The results support the expansion of the United States Department of Agriculture's Supplemental Nutrition Assistance Program Online Purchasing Pilot program to include local farms with online sales platforms to allow users greater freedom in utilizing food assistance. When possible, food relief programs should consider waiving ID requirements and offering delivery to capture a wider proportion of food-insecure populations.

Introduction

Disruptions in the global food system caused by the SARS-CoV-2 virus (COVID-19) pandemic drew widespread attention to the system's vulnerability to disturbances, though scholars and activists have brought attention to these vulnerabilities for decades. Residents of the United States experienced the first national food shortages in recent memory, triggered by a combination of consumer hoarding and the breakdown of supply chains caused by the pandemic (Glaros et al., 2021). The global food system commonly relies on "just in time" systems (JiT), where retailers eliminate redundancy along the supply chain by ordering exactly the amount of product needed for a given business day and having it delivered the following day (Garnett et al., 2020). Though efficient, this practice of JiT ordering leaves the global supply chain vulnerable to disturbances due to the lack of redundancy. This lack means that a delay or blockage at one part of the supply chain ripples throughout the entire chain, as occurred during the COVID-19 pandemic (Garnett et al., 2020). Researchers anticipate that food shortages such as those experienced during the COVID-19 pandemic will only become more likely as the effects of climate change permeate throughout the agricultural sector (Mbow et al., 2019).

In response to shortages at traditional grocery stores, some consumers turned instead to purchasing locally grown and produced food, leading to a rise in farmers' market attendance and membership in community supported agriculture programs across the United States (Ricker and Kardas-Nelson, 2020). Within these local food systems, farmers, small businesses, and food-oriented nonprofit and community organizations had to quickly pivot their operations to meet this rise in demand while adapting to new restrictions imposed to stop the spread of COVID-19. Chicago, a Midwestern city with a population of around 2.7 million, witnessed this rising interest in local agriculture as well as the innovative routes taken by different actors to keep the local

food system running during the COVID-19 pandemic. Furthermore, like the rest of the United States, Chicago saw a significant increase in the unemployment rate during the pandemic which contributed to rising levels of food insecurity (Feeding America, 2021; Wolfson & Leung, 2020). Chicago is also home to a long history of community organizing. Before the pandemic, many groups with food access missions functioned as an intermediary between local farmers and communities with poor food access through avenues such as farmers' markets that doubled the value of food assistance dollars. After stay-at-home orders made the future of farmers' markets uncertain in Chicago, these organizations were faced with the task of designing a different way of providing food assistance during a time when the number of people facing food insecurity rapidly increased (Wolfson & Leung, 2020).

In light of these problems, many scholars have shared innovative methods undertaken by these actors to adapt to these widespread disruptions across the United States, with the immediate purpose of informing ongoing pandemic relief efforts. However, there is a need for additional research into the specific role nonprofit and community organizations played in supporting food system resiliency during the COVID-19 pandemic. Furthermore, there has yet to be published an in-depth study on how actors in the Chicago food system supported local farmers and community food security during the COVID-19 pandemic, a city with a rich history of urban agriculture as well as persistent disparities in food access across racially segregated neighborhoods.

This study focuses on emergency food relief programs initiated in Chicago by nonprofit and community organizations to mitigate the disruptive effects of the COVID-19 pandemic on both farmers and food-insecure populations. Specifically, I intend to answer the following question in this research: Given their dual missions of supporting local farms and providing food

access in urban communities, how did Chicago nonprofit and community organizations adapt to the disruptions caused by the COVID-19 pandemic? Answering this question will isolate the best practices and key assets which will inform the development of food systems more resilient to future disruptions. Accordingly, I begin this research by cataloging and mapping out the diverse range of responses used by community organizations to initiate emergency food relief programs while also providing alternative markets for local farms. Next, I conduct a case study of a food relief program based on Chicago's South Side to identify the particular skills and assets which made this program successful in adapting to the COVID-19 pandemic.

This analysis is grounded in the framework of resiliency in socio-ecological systems, which addresses the ability of a system to continue in its essential functions in the face of system disturbances (Holling, 1973). In particular, the research design of this paper operationalizes two concepts from the literature on resiliency in socio-ecological systems, response diversity and adaptive capacity. Response diversity tracks variability in how actors within a system respond to a disturbance (Hodobod & Eakin, 2015), whereas adaptive capacity describes the specific abilities and environmental, economic, and sociopolitical assets which allow these actors to respond to disturbances (Kaseva et al., 2019). Using these concepts, I argue that the embeddedness of community organizations within the local Chicago food system allowed them to adjust their operations quickly and effectively as the COVID-19 pandemic evolved. Furthermore, the strength of the relationship between community organizations and their recipient base depended on three core values: mutual trust, breaking down the power dynamics inherent to traditional nonprofit work, and destigmatizing the use of free food resources. Finally, I argue that collaboration among community organizations and local food businesses functioned as a resiliency-amplifying strategy because it expanded the range of adaptive capacities available to

individual organizations. This concept of resiliency-amplifying strategies represents a new contribution to the literature on socio-ecological resiliency to be explored in future research.

To conclude this study, I offer suggestions for organizations involved in similar work as well as recommendations for how federal and state food assistance programs can become more accessible and democratic. For organizations, I suggest that in designing such programs, they should utilize the strategy of asset-based mapping and collaborate with food aggregators and food businesses. It is important to note that I did not conduct any interviews with the recipient base of these community-led food relief programs and as such I do not offer suggestions for how these food relief programs may better fit the needs of recipients. Rather, in the discussion of this study, I offer suggestions for future research that could explore this topic. In terms of state-led food assistance programs, I recommend that the United States Department of Agriculture expand the Supplemental Nutrition Assistance Program (SNAP) Online Pilot program and for states to consider waiving identification and proof of income requirements at emergency food provision locations. Before embarking on this analysis, I first situate this research within the literature on food security and farm-based interventions to improve urban food access.

Literature Review

This research lies at the intersection of food security, food sovereignty, sustainability, and alternative food systems, within the unusual circumstances of the COVID-19 pandemic. To orient the reader towards these issues, I first outline the leading conception of food security within the field of food policy and food systems research, with a note on debates within the field over prioritizing food security versus food sovereignty. I also discuss common approaches to achieving food security and the major barriers inherent to these strategies, which provides the necessary background to my argument that Chicago community organizations used innovative

approaches to circumvent these major accessibility barriers. This discussion leads to an evaluation of prior research on the use of farm-based food intervention methods to improve food security. Then, I briefly define the concept of alternative food systems and introduce a framework of resiliency in socio-ecological systems for understanding how alternative food system actors in Chicago adapted to the conditions of the COVID-19 pandemic.

With my research, I aim to fill two gaps within the food system literature, including the role of nonprofit and community organizations in connecting small-scale farmers with food-insecure populations as well as the role of these organizations in supporting the resiliency of local and alternative food systems during the COVID-19 pandemic. For this literature review, I rely on published, peer-reviewed articles as well as publications from government and intragovernmental agencies such as the USDA and the United Nations to provide context to the relevant literature. I draw primarily from scholarly sources that either provide a robust definition of relevant concepts or an illustrative case study.

Food Security, Food Sovereignty, and Barriers to Accessing Food Assistance

Achieving universal food security is a top priority for policymakers at the local, national, and international levels. As defined by the Food and Agriculture Organization (FAO) of the United Nations, “Food security exists when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO, 1996). More recently, the FAO expanded this definition to include four dimensions of food security which must be fulfilled simultaneously: physical availability, economic and physical access, food utilization, and stability of the first three dimensions over time (FAO, 2008). Much research has focused on ways for policymakers to alleviate barriers to food security, which span all four of its dimensions. To improve food

security in the United States, the Food and Nutrition Service (FNS) agency of the USDA, private foundations, and nonprofit and community organizations often rely on the strategy of directly providing free or subsidized food to communities facing food insecurity through food pantries or free food hubs. This strategy addresses both the physical availability and economic accessibility dimensions of food security.

However, these free food resources remain inaccessible to many subsets of food-insecure populations for a myriad of reasons. When interviewed, a sample of individuals accessing free food resources in Tampa, Florida reported that major barriers to accessing these resources included inconsistency in the availability of these resources, poor access to transportation, limited physical mobility, scheduling conflicts of food pantry hours with work hours, and the requirement to present a form of government-issued identification and proof of income or residency (Bradley & Vitous, 2021). A survey of the population utilizing free food resources in Vancouver before and during the COVID-19 pandemic found similar accessibility barriers, with the addition of long line-up times at free food hubs (Rajasooriar & Soma, 2022). Suggestions to circumvent these barriers to access include encouraging more free food providers to offer home delivery and waiving requirements for recipients to provide a government-issued ID (Bradley & Vitous, 2021; Rajasooriar & Soma, 2022). However, there is little literature exploring how strategies such as offering delivery may be employed by organizations offering food relief through an exemplary case study of organizations already using these strategies.

Instead of using the terminology of food security, some scholars and activists advocate for a transition to food sovereignty as a way of addressing the root causes of hunger, rather than merely the symptoms. Food sovereignty includes the four dimensions of food security outlined by the FAO but also emphasizes the ecological sustainability of food production and the right of

a people to define and manage their own food systems (Forum for Food Sovereignty, 2007). With this emphasis, food sovereignty may encourage a more community-based approach to ensuring universal food access, rather than the top-down approach utilized by the USDA and other large organizations (Rajasooriar & Soma, 2022).

Farm-Based Dietary Intervention Strategies for Food Insecurity

To promote food sovereignty, some food relief providers aim to support local, sustainable agriculture by sourcing their food from small-scale farms. Some of these approaches follow the form of a community supported agriculture (CSA) program, which has been identified in prior research as being one potential avenue to improve the dietary health of low-income, food-insecure populations (Seguin et al., 2017; Vasquez et al., 2017). CSA programs are popular with small, sustainable farms and entail members paying upfront for a share of the farm's produce for the growing season. CSA programs provide substantial benefits to farmers over other direct-to-consumer avenues such as farmers' markets because they provide income in advance of the growing season and allow farmers to better plan their planting and harvesting schedule because they know how much of each crop they will need ahead of time (Sitaker et al., 2020). In turn, participants have reported experiencing numerous positive dietary changes after joining a CSA, such as an increase in fruit and vegetable intake and a decrease in the number of meals eaten outside the house at fast-food restaurants (Vasquez et al., 2016, 2017). However, CSAs can be expensive and inconvenient, as most require members to pick up the share at a predetermined location and time period which may conflict with work hours or require the use of a car to access (Sitaker et al., 2020; Vasquez et al., 2016).

Thus, a CSA program that circumvents these traditional barriers by subsidizing food costs and offering delivery or more flexible pick-up times may have the potential to improve

dietary health among low-income households as well as benefit farmers. The *Farm Fresh Foods for Healthy Kids Study* (F3HK) set out to test this theory using a randomized control trial (Seguin et al., 2017). While the results of this study in terms of health outcomes are not yet available, researchers found that the farmers who participated in the early years of the study expended increased time and resources accommodating the particular needs of the low-income households participating in the program (Sitaker et al., 2020). Nonprofit organizations could potentially supply this additional dedicated staff and funding, bridging the gap between small farms and communities facing barriers to accessing fresh food.

Several different nonprofits already operate in this capacity across the United States. Qualitative interviews with five of the directors of these cost-offset CSA (CO-CSA) programs located in different regions of the United States found that the nonprofits took a diverse range of approaches to operate and fund their CSA, with some nonprofits acting themselves as an aggregator and distributor of local produce and others sourcing from food hubs or farm incubators (Sitaker et al., 2021). However, further research is needed on the role of nonprofits in connecting small farms to populations with limited food access to understand how the program model can be adapted to different local contexts. Based on the wide range of practices used by nonprofit-led CO-CSAs, there is no one-size-fits-all model for how such programs should be organized and funded. Furthermore, this type of farm-fresh produce distribution program emerged as a popular alternative to farmers' markets and food pantries after the COVID-19 pandemic interrupted those avenues, providing new potential case studies to expand the literature. My own research explores these new case studies which emerged during the COVID-19 pandemic to provide a more in-depth explanation of strategies used by nonprofits to connect small farms to food-insecure populations. In the next section, I introduce a resiliency framework

for understanding how these actors in alternative food systems adapted to the COVID-19 pandemic.

Alternative Food Systems and Socio-ecological Resiliency During COVID-19

Scholars and activists created the concept of alternative food systems in direct opposition to the conventional globalized food system. Also referred to as alternative food networks, alternative agri-food networks, and local and regional food systems, alternative food systems are defined primarily by their embedded values (Valchuis et al., 2015). Though these values vary across the literature, they generally include environmental sustainability, fair labor practices, improved food quality and freshness, healthy eating habits, and supporting the vitality of the local economy (Cleveland et al., 2015). Alternative food systems have increasingly grown in popularity as the negative externalities of the conventional globalized food system became more widely known to consumers (Cleveland et al., 2015; Maticena, 2016).

Researchers point to the ability of alternative food system actors to rapidly adapt to disruptions caused by COVID-19 as a function of their overall resiliency. Introduced by Holling's seminal paper on the resiliency of ecological systems, resilience is generally defined as the quality of a system to persist in its essential functions despite changing conditions (Holling, 1973). Later, social science researchers applied the concept of resiliency to *coupled socio-ecological systems* (SES), a term that emphasizes the network of interactions between social and ecological dimensions that occur among humans in nature (Folke et al., 2004). Resilience in SES is described as having three core, interrelated dimensions: (a) the amount of change the system can absorb while maintaining the same essential function; (b) the level of self-organization of the system; and (c) the degree to which the system allows for adaptations and learning (Carpenter et al., 2001; Hobdod & Eakin, 2015). Later scholars used this concept of resiliency to describe food

systems, which are themselves coupled socio-ecological systems because they “incorporate multiple and complex environmental, social, political and economic determinants” acting across different scales (Ericksen, 2008; Hodbod & Eakin, 2015; Worstell, 2020).

Though there is general agreement within the literature as to the theoretical basis for resiliency, many approaches exist to operationalize resiliency. In this research, I rely on two prominent concepts from the literature to operationalize resiliency with the Chicago food system, response diversity and adaptive capacity (Table 1). Response diversity emerged as a means of measuring diversity within the range of responses in a system to a disturbance (Folke et al., 2004; Kaseva et al., 2019). A high degree of response diversity supports the overall resiliency of a system because it provides redundancy and thus increases the odds that one or more of these responses allows the system to persist in the face of a disturbance (Kaseva et al., 2019). Many scholars also utilize another concept, adaptive capacity, as a proxy for those characteristics of a system that enhance its resiliency (Carpenter et al., 2001; Kaseva et al., 2019). In this regard, adaptive capacity signifies the specific strategies and environmental, economic, and sociopolitical assets which allow actors within a system to adapt and persist in the face of a disturbance (Kaseva et al., 2019).

Table 1

Operationalizing Resiliency through Response Diversity and Adaptive Capacity

	Response Diversity	Adaptive Capacity
Definition	A measure of the range of responses taken by actors within a system to a disturbance.	Specific assets and skills which allow a system to reorganize and adapt in response to a system disturbance.
Connection to resilience	Diversity within responses to a system disturbance can meet the variety of needs of a heterogenous population.	Systems possessing a greater degree of adaptive capacity are more well-equipped to continue functioning after a system disturbance.
Measurement	Number of distinct and complementary responses to system disturbance.	Number of skills and assets possessed and relative significance.
Example	Some COVID-19 emergency relief programs provided produce boxes while others provided prepared meals.	Market Box organizers leveraged pre-existing relationships with local farmers and community members to facilitate the implementation of Market Box.

The theory of resiliency in socio-ecological systems provides a useful framework for studying the response of alternative food system actors to the disruptive effects of the COVID-19 pandemic. Under this framework, the COVID-19 pandemic disturbed the normal functioning of alternative food systems within the United States and thus represented a resiliency-threatening event. In turn, those actors and networks which managed to continue supporting the values associated with alternative food systems displayed a high degree of socio-ecological resilience. For example, small-scale fruit and vegetable farmers in Maryland utilized their adaptive capacity to adopt new marketing strategies and demonstrated response diversity in the distinct yet complementary strategies farmers employed to stay in business during the pandemic (Bachman et al., 2021). In Texas and Iowa, local farmers and distributors adopted new logistical practices and collaborated with other alternative food system actors to enable them to successfully sustain their businesses and provide healthy food for their communities throughout the pandemic (Marusak et al., 2021). Thilmany et al. (2021) argue that local and regional food systems managed to adapt more rapidly to the changing situation of the pandemic than conventional food

systems because their shorter supply chains allowed them to act more nimbly and leverage their preexisting relationships within the local community.

Across these three studies, a shared insight is that alternative food system actors were able to provide the necessary support to their communities despite COVID-19 disruptions, largely by adopting new markets and employing new technologies. Referring to the third core dimension of resiliency outlined above, alternative food systems allow for a greater degree of adaptation and learning than conventional globalized systems, which are inhibited from quick action by geographic separation and long chains of command (Carpenter et al., 2001; Hodbod & Eakin, 2015). However, the majority of the literature on COVID-19 responses within local food systems focuses on the supply side and the role of farmers and distributors in adapting to the disruption. As articulated above in the review of food access studies using CO-CSAs, nonprofits often play a mediating role in local food systems by connecting local producers to communities with poor food access. Thus, this research seeks to add to the literature on COVID-19 responses by exploring how Chicago nonprofits adapted to the conditions of the pandemic to continue acting in this mediating role between local producers and urban communities.

Through this literature review, I identified two major research gaps, including the role of nonprofit and community organizations in connecting small-scale farmers with food-insecure populations as well as the role of these nonprofits in supporting the resiliency of local and alternative food systems during the COVID-19 pandemic. These research gaps inform the main research question of this study, which seeks to understand how organizations in Chicago adapted to the conditions of the COVID-19 pandemic to continue supporting local farmers and improving food access at the community level. In the next section, I provide the necessary background on

how the COVID-19 pandemic impacted the food system in Chicago and on the organizations involved in responses to the pandemic.

Background and Context

To understand how organizations within Chicago's alternative food system adapted to the pandemic, it is important to first understand the social and historical context in which these adaptations occurred. To this end, in the following section, I provide a brief timeline of the COVID-19 pandemic's impact on farmers' markets in Chicago and explain how the pandemic acted as an impetus for the initiation of the four food relief programs analyzed in this research. I also expand upon the history of unequal access to food in Chicago and connect this inequality to disparities in mortality and hospitalization rates due to COVID-19. Then, I introduce the concept of mutual aid and explain how a national rising interest in mutual aid during the pandemic influenced the formation of the food relief programs explored in this study. Finally, I describe how I identified the four food relief programs focused on in this study and provide a brief description of the organizations involved in each program.

Brief Summary of the Impact of the COVID-19 on Chicago's Farmers' Markets

The first reported case of COVID-19 in Chicago emerged in January 2020. On January 31st, 2020, the US Secretary of Health and Human Services, Alex Azar, declared a public health emergency due to the spread of COVID-19 across the country. Cases continued to grow in Illinois and on March 20th, Illinois Governor J.B. Pritzker issued a stay-at-home order for the state in an attempt to stop the spread of COVID-19. The stay-at-home order prohibited gatherings of more than 10 people and in-person socialization of any number of people from different households (COVID-19 Executive Order No. 8, 2020). The stay-at-home order also

required all non-essential businesses to shut down until further notice (COVID-19 Executive Order No. 8, 2020).

In Chicago, farmers' markets were initially left off of the list of essential businesses and thus were not permitted to continue operations (The City of Chicago, 2020). In response, farmers' market managers from across the city, organized under the Chicago Farmers Market Collective, met with city officials and advocated for the City of Chicago to add farmers' markets to the list of essential businesses. These organizing efforts succeeded and in June 2020, the first farmers' market in Chicago reopened, held by Plant Chicago in the Back of the Yards neighborhood. Still, the uncertainty over whether farmers' markets would be allowed to reopen forced market managers and farmers in the region to quickly generate backup plans in the case that markets could not open. Furthermore, due to unequal food access across Chicago, the closure of farmers' markets would have meant the elimination of a crucial source of fresh produce for some neighborhoods. This potential loss of access motivated several of the farm-based emergency food relief programs explored in this research. In the next section, I provide more detail on disparities within the Chicago food system, both before and during the COVID-19 pandemic.

Inequality in Chicago's Food System and Disparities in Health Outcomes

The emergence of nutrition-related noncommunicable diseases (N-NCDs) as a risk factor for COVID-19 complications and death underscored the myriad ways health and access to high-nutritional quality foods are connected (Sanderson Bellamy et al., 2021). The CDC reports that adults with obesity are three times as likely to be hospitalized from a severe COVID-19 infection than those without (Center for Disease Control, 2022). Obesity and other N-NCDs are significantly more prevalent in economically disadvantaged communities and communities with

a high percentage of Black, Indigenous, and Latinx residents, where access to fresh produce is limited (Toussaint, 2021). Recently, some scholars have shifted away from referring to this trend as a “food desert” to the term “food apartheid,” a term introduced by activist Karen Washington to emphasize the connection between racial inequality and disparities in access to nutritious food (Brones, 2018). The city of Chicago has a long history of environmental injustices enacted against economically disadvantaged communities and Black and Latinx communities, including unequal access to healthy food across the different regions of the city (Kolak et al., 2018).

Accordingly, the uprisings which began in the summer of 2020 in support of the Black Lives Matter movement ignited by the murder of George Floyd by the Minneapolis police can better be viewed within the long history of structural violence enacted against Black communities in America through such processes as over-policing and food apartheid, rather than as a response to an isolated instance of state violence. In response to George Floyd’s murder, the Chicago Food Policy Action Council (CFPAC) called on Mayor Lori Lightfoot to “Prioritize racial justice in food, health, and quality of life” with a set of recommendations aimed at enacting transformative change within the Chicago food system, a petition which was signed by numerous other food justice organizations (Chicago Food Policy Action Council, 2020). Advocacy efforts such as this led to the creation of the city’s first Food Equity Council, tasked with implementing the five key components of the Food Equity Agenda, which include: “Eliminate barriers to food pantry expansion; “Market and maximize nutrition programs and benefits; “Leverage City and institutional procurement to support local BIPOC [Black, Indigenous, and People of Color] growers, producers, and food businesses; “Eliminate barriers to urban farming; “Support BIPOC food businesses and entrepreneurs, especially with access to capital” (City of Chicago, 2020). Though the creation of the Equity Council and Agenda

indicates a willingness on the part of the city to incorporate feedback from advocates, it remains to be seen how the city will take definitive action to enact policy changes and divert funds to supporting BIPOC growers and food businesses.

The Role of Nonprofit, Community, and Mutual-Aid Organizations in Chicago's Food System

To supplement aid from state institutions, much of the direct action taken to alleviate food insecurity generated or exacerbated by the COVID-19 pandemic was driven at the community level by nonprofit, community, and mutual-aid organizations. In particular, participation in mutual aid groups rose significantly across the globe during the pandemic (Solnit, 2020). Mutual aid distinguishes itself from typical charity work in that it avoids recreating power imbalances through one privileged group providing aid to a disadvantaged group. Rather, in mutual aid, both parties theoretically exist on the same level and the direction of aid flows in both directions. The most famous historical example of mutual aid comes from the Black Panther Party's social service initiatives of the 1960s and 1970s, such as its free breakfast program for school children, free medical clinic, and free ambulance program (Spade, 2020). Scholars of mutual aid consider the Black Panther Party's social service programming to be an early example of mutual aid because it not only aimed to provide for the immediate needs of urban Black populations but also educate recipients on how disparities in access to basic resources were connected to systemic racism in the United States (Spade, 2020). Accordingly, many mutual aid groups intentionally ground themselves in this history of fighting for Black liberation and racial equity.

Historically, community solidarity efforts, where members of a self-determined community offer support and resources to other community members, are a common response to

extreme events and disasters (Fernandes-Jesus et al., 2021; Spade, 2020). For instance, after Hurricane Katrina devastated the Greater New Orleans area in 2005, community members founded the mutual aid organization Common Ground Relief to provide emergency assistance to those impacted by the disaster (Solnit, 2020). Scholars have theorized that periods of crisis act to create a sense of shared identity among those impacted by the crisis and that this solidarity inspires people to act in support of others who share this new identity (Fernandes-Jesus et al., 2021). Like many other major cities in the United States, Chicago's mutual aid network expanded greatly in response to the COVID-19 pandemic, with groups using social media platforms to connect members, solicit donations and volunteers, and supply vulnerable populations with food, personal protective equipment, and other essentials (Khwaja et al., 2021). As this paper will later demonstrate through interviews with those involved in these efforts, many of these mutual aid organizations positioned themselves as filling in the gaps in state security nets that had failed to adequately provide for community needs during the pandemic (Khwaja et al., 2021).

In addition to combating food insecurity, many of these organizations sought to support local farmers by redirecting produce to food access initiatives. In the initial months of the pandemic, traditional avenues such as farmers' markets and sales to restaurants and institutions were shut down, leaving many farmers with nowhere to sell their produce (Bachman et al., 2021). In response, many of these organizations purchased produce from local farmers and distributed it to households experiencing food insecurity in the surrounding community. In the following few subsections, I introduce the specific organizations involved in these farm-based food relief initiatives and provide a map of their locations across Chicago.

Identification and Description of Organizations Included in Study

I identified potential emergency food relief programs of relevance from a publicly-accessible database of food-related resources available to Chicago residents during the COVID-19 pandemic called the Rhizome Network Resource Directory. The Chicago Food Policy Action Council created this database, which is available as an Excel spreadsheet on the organization's website. First, I filtered the entries in this database by resource type to include only those that offered food assistance. Then, I investigated each of the remaining entries which offered food assistance to determine whether they were relevant to the research. Only those food relief programs that emphasized sourcing produce from the local and regional food system were included. These criteria generated the following four initiatives and involved organizations seen in Table 2. The reader should note that some initiatives resulted from the collaboration of multiple organizations while some were led by only one organization.

Table 2

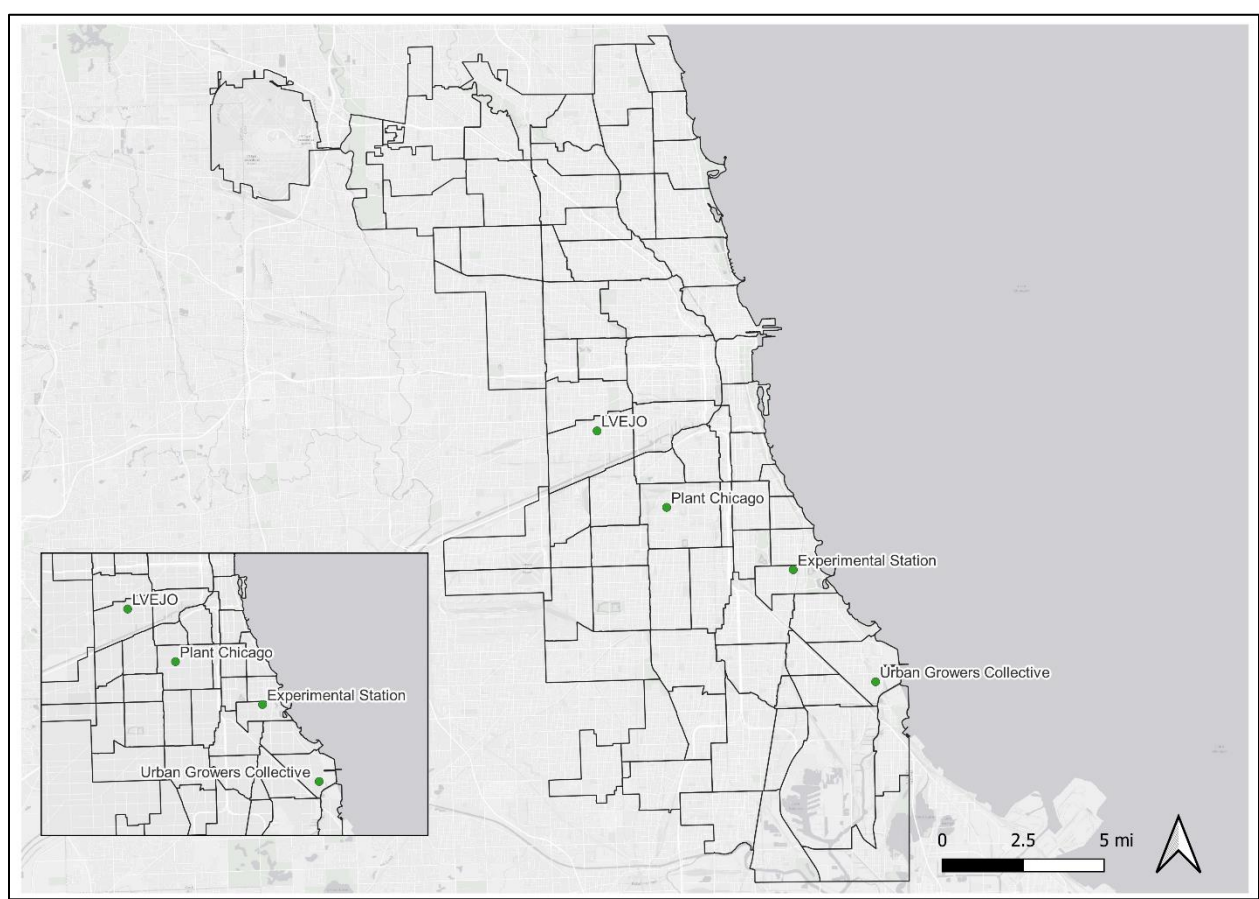
Emergency COVID-19 Food Relief Programs Included in Research

Initiative Name	Organizations Involved
Market Box	Experimental Station, Build Coffee, The Invisible Institute, and The South Side Weekly
<i>Farm. Food. Familias</i>	Little Village Environmental Justice Organization and the Getting Grown Collective
Local Food Box	Plant Chicago
Urban Growers Collective COVID-19 Emergency Food Relief	Urban Growers Collective

Next, I sourced information about the organizations behind each food relief program from the organization’s social media accounts and websites. I used this information to generate a description of each organization which featured the history of the organization, its organizational model (such as nonprofit, mutual aid, or other), its mission statement, and its location within the city and geographic reach. Then, I mapped each of the organizations using QGIS software to visually display where each organization is based throughout Chicago (Figure 1).

Figure 1

The Primary Location of Organizations Involved in the Four Food Relief Programs in Chicago



Note. Build Coffee, the Invisible Institute, and South Side Weekly are all housed at the Experimental Station. One organization involved in a food relief program, the Getting Grown Collective, did not have a permanent location on their website or social media account.

The organizations included in this research are all located on the South, West, Southwest, and Southeast Sides of Chicago. The Little Village Environmental Justice Organization (LVEJO) is based out of the Little Village (*La Villita*) neighborhood in the South Lawndale community area on Chicago's West Side, an area with a high percentage of Latinx residents (Chicago Metropolitan Agency for Planning, 2021d). The Getting Grown Collective, which collaborated with LVEJO on the *Farm. Food. Familias. Mutual-Aid Meals* project, is based out of the predominantly-Black Englewood neighborhood and community area on the South Side of Chicago (Chicago Metropolitan Agency for Planning, 2021a). Plant Chicago, which runs the Local Food Box program, is based out of the Back of the Yards (also known as New City) neighborhood on Chicago's Southwest Side with a predominantly Latinx and Black population (Chicago Metropolitan Agency for Planning, 2021b). The Experimental Station, which houses the Invisible Institute, South Side Weekly, and Build Coffee, is based out of the Woodlawn neighborhood on the South Side of Chicago, which is home to a predominantly-Black population (Chicago Metropolitan Agency for Planning, 2021e). The Urban Growers Collective operates eight farms throughout Chicago, but their main farm is located in the South Chicago neighborhood on the Southeast Side, where the population is predominantly Black and Latinx (Chicago Metropolitan Agency for Planning, 2021c).

Getting Grown Collective and the Little Village Environmental Justice Organization

Getting Grown Collective (GGC) is composed of residents from Englewood, a neighborhood on Chicago's South Side. The collective works with the food justice collaboratives

Urban Stewards Action Network and Englewood Village Farms to support urban agriculture infrastructure and community building among BIPOC farmers in Chicago. Their stated mission is to “progress towards land and food sovereignty while preparing future generations to build a healthy world” (Getting Grown Collective, 2020). Parents of school children in the community founded the Little Village Environmental Justice Organization (LVEJO) in 1994 to protest against exposure to environmental toxins and other environmental justice issues. Serving the predominantly-Latinx community of Little Village, LVEJO states that “The mission of LVEJO is to organize with our community to accomplish environmental justice in Little Village and achieve the self-determination of immigrant, low-income, and working-class families” (LVEJO, 2022). In 2014, LVEJO organized to create the *Semillas de Justicia* garden in the Little Village neighborhood to rehabilitate a site formerly used as a dumping ground for old oil barrels. Since then, the group has expanded its organizing around food justice during the pandemic by collaborating with the Getting Grown Collective on the *Farm. Food. Familias. Mutual-Aid Meals* project which serves communities on the South and West Sides of Chicago.

Plant Chicago

Plant Chicago was initially founded in 2011 as a nonprofit organization housed in The Plant, a repurposed industrial meatpacking facility in the Back of the Yards neighborhood of Chicago that houses several sustainability-oriented food businesses. Plant Chicago states that “Our mission is to cultivate local circular economies. We envision a paradigm shift in production, consumption and waste driven at the local level, generating equity and economic opportunity for all residents” (Plant Chicago, 2022). In 2015, Plant Chicago started a farmers’ market that accepts Link, a plastic card on which SNAP dollars are issued in Illinois, to increase access to fresh produce in the community. At the end of 2019, Plant Chicago moved its

operations and farmers' market to a nearby repurposed firehouse, shortly before COVID-19 became a global pandemic. After the pandemic began, Plant Chicago started the Local Food Box program in partnership with local urban farm Urban Canopy to provide cost-offset boxes of locally-grown produce, bread, and eggs to residents of Back of the Yards and neighboring communities.

The Urban Growers Collective

Founded by Erika Allen and Laurell Sims in 2017, The Urban Growers Collective is a nonprofit organization that operates 8 urban farms on 11 acres of land on Chicago's South Side (Urban Growers Collective, 2017). UGC's programming centers around improving food access, incubating new local farms, and offering job training to local youth and adults. The organization states its mission as, "Rooted in growing food, we cultivate nourishing environments which support health, economic development, healing, and creativity through urban agriculture" (Urban Growers Collective, 2017). UGC currently operates the Fresh Moves Mobile Market, a bus that visits different neighborhoods in Chicago's South Side to offer healthy, locally grown produce at an affordable price. In response to the COVID-19 pandemic, UGC partnered with local, BIPOC-led businesses and community organizations to provide emergency food relief to people across the South and West Sides of Chicago.

The Invisible Institute, Experimental Station, South Side Weekly, and Build Coffee

The Experimental Station is a not-for-profit (501-c-3) organization in Chicago's Woodlawn neighborhood that was founded in 2005. With its large building at 6100 S Blackstone, Experimental Station serves as a home for small nonprofits, community organizations, programs, and businesses with the overall mission of "working to build independent cultural infrastructure on the South Side of Chicago" (Experimental Station, 2022).

Experimental Station has run the 61st Street Farmers Market since May 2008, which accepts Link and brings together local and regional growers to improve food access in the area. In 2009, the organization also launched Illinois's first Link Match Program, where Link cardholders can double the value of their food assistance dollars by shopping at participating farmer's markets.

The Invisible Institute, *South Side Weekly*, and Build Coffee are all tenants of the Experimental Station. The Invisible Institute is a nonprofit journalism production company focused on using investigative reporting and other methods to increase the accountability of public institutions, especially the police. The *South Side Weekly* is a nonprofit newspaper that prioritizes coverage of news, culture, and politics of Chicago's South Side. Build Coffee is a coffee shop and bookstore which also runs an artist residency program and hosts workshops, performances, and other events featuring local artists and activists. Individuals involved with these three organizations and businesses, as well as staff at Experimental Station, collaborated to launch the Market Box free food-delivery program in April of 2020 to mitigate the disruptive effects of the COVID-19 pandemic.

Research Design and Methods

To explore how community organizations in Chicago adjusted their operations to open new markets for farmers and avenues of food access during the COVID-19 pandemic, I used a qualitative approach to address the research question at both the city and organizational levels. Studying responses to COVID-19 at these two different scales allowed me to understand system-wide processes within Chicago's alternative food network as well as the more concrete mechanics of individual actors and organizations. Through these two different scales, I addressed the two different aspects of socio-ecological resiliency introduced in the introduction, response diversity and adaptive capacity.

I relied on a mixture of interviews, local and national news articles, social media posts, and organizational websites to generate a narrative of how community organizations reacted to the disruptive effects of COVID-19. I utilized these different sources of information in complementary stages, as outlined in Table 3. First, I used publicly-accessible content such as that found in news articles, social media, and organizational websites to create a profile of how each initiative operated and identified emergent trends across the four initiatives. Then, I compiled a list of interview questions based on themes that emerged from this initial review of public-facing content and conducted interviews with representatives from two of the four initiatives. Representatives from the remaining two initiatives were unavailable for an interview. I conducted additional interviews with organizers of the Market Box initiative based on a different series of questions aimed at isolating assets and strategies underlying the initiative's success. Before I conducted these interviews, I submitted the protocol for this study for review by the institutional review board at the University of Chicago, which granted this study exempt status (ID #IRB21-1771). I also received informed verbal consent from all subjects to be interviewed and audio recorded.

Table 3*Outline of Research Method Steps and Purpose*

Research Method Step	Purpose	Notes on Source
1. Review of publicly accessible information on the four farm-based food relief programs	Inform the interview questions asked in Step 2 as well as the analysis in Step 3	<ul style="list-style-type: none"> Website and social media content published by the organizations Local and national news articles written about the food relief programs
2. Interviews conducted with key members of the organizations involved in the four farm-based food relief programs	Clarify publicly accessible information from Step 1 and draw out comparisons between the four food relief programs	<ul style="list-style-type: none"> Qualitative, semi-structured interviews
3. Analysis of information from Steps 1 and 2 to generate a comparison of the four farm-based food relief programs	Create a profile of response diversity among farm-based food relief programs initiated in response to the COVID-19 pandemic	<ul style="list-style-type: none"> Publicly accessible content from Step 1 Interview transcripts from Step 2
4. Additional interviews conducted with organizers behind the Market Box program	Conduct a case study to understand one food relief program at an in-depth level	<ul style="list-style-type: none"> Qualitative, semi-structured interviews
5. Analysis of interviews from Step 4 using the five-step framework approach established by Pope 2020	Isolate the adaptive capacities behind one of the pandemic response programs	<ul style="list-style-type: none"> Interview transcripts from Step 4

City-Wide Data Collection and Analysis

To locate the publicly accessible data sources used in this analysis, I performed a web search using keywords from each of the four initiatives to locate any news articles about the initiatives. The news outlets that published these articles include local publications (*Hyde Park Herald*, *Austin Weekly*, *South Side Weekly*, *Block Club Chicago*, *Chicago Reader*, *Chicago Sun Times*, *WTTW*, *ABC7*) and national publications (*The New York Times*, *Borderless Magazine*). For my analysis, I included only those articles that featured interviews with individuals running the food relief programs or recipients of the programs as those were the most detailed.

The process of analyzing this public content and using it to inform questions asked during subsequent interviews proceeded as follows. Using the approach taken by Sitaker et al. in modeling cost-offset CSA programs as a guide, I established three initial categories of information to search for as I analyzed the public content: the logistics and operations of the initiative, how each initiative was funded, and from which farms and how was produce sourced

and aggregated for the program (2021). As analysis progressed, I added a fourth category to this list, collaborations with local chefs and food businesses, as two of the initiatives offered prepared meals to recipients. Guided by these four categories, I created a profile of each initiative's operations and identified similarities and differences in how actors behind each initiative chose to structure their program. I used this initial review to generate a list of questions on these points of comparison and contacted representatives from each of the four initiatives. I also used these interviews to clarify any details about the initiative which were unclear from the public-facing sources of information. I successfully conducted interviews with four organizers from Market Box and two from the Plant Chicago initiative. Representatives from the Urban Growers Collective and *Farm. Food. Families* were unavailable for interviews and thus the profiles on these initiatives may be less robust. From the transcripts of these interviews, I generated a profile of response diversity among these four responses to the COVID-19 pandemic. I also included the interviews with Market Box organizers in the case study included in this research described in the next section.

Case Study of Market Box Program

I selected one food relief program, Market Box, as a case study for further inquiry. A case study was the most appropriate method for this stage of the analysis because it allowed me to focus on one initiative at a more in-depth level. The case study is a well-established methodology in the field of social sciences as it allows researchers to study complex issues as they play out in the real world (Thomas, 2011). I chose to focus on Market Box for this case study on the premise that it was the most well-documented initiative among news outlets and its organizers were the most outspoken about their motivation behind the program, even submitting an op-ed to the *New York Times*. Furthermore, Market Box presented an ideal opportunity to

understand the role of an organization's networks in determining its resiliency, as it emerged out of the collaboration of multiple different organizations in close geographic proximity.

However, the Market Box initiative emerged out of the highly unique locational setting of the Experimental Station, a nonprofit organization that housed several different nonprofits and small businesses in the same building. Consequently, collaboration across organizational networks was more likely to occur in this case than in a context without this unique setting. Still, collaboration and joint-effort mutual aid projects surged in the context of the COVID-19 pandemic, highlighting that the Experimental Station is merely a case of collaboration which was the explicit intent of the organization's founders. Thus, the results of this case study of Market Box are still highly relevant to other organizations in Chicago and other alternative food systems across the United States.

I conducted three semi-structured qualitative interviews with key figures involved in the program from January to March 2022. I identified potential interviewees from news coverage of Market Box as well as the staff directory of the websites of the organizations involved. This investigation of potential interview candidates identified that three core organizers led the Market Box initiative at the time of this research. I requested all three organizers to be interviewed through email and interviews were successfully conducted with two organizers. Furthermore, I conducted one interview with the executive director of the Chicago-based farm aggregator that Market Box worked with at the beginning of their initiative to provide perspective from the farmer side of operations. To prevent the spread of COVID-19 through in-person contact, I conducted all interviews virtually through Zoom. I prepared questions before each interview using prior research on resiliency in socio-ecological systems as a guide (see Appendix A). I recorded interviews on Zoom and manually transcribed them afterward.

I analyzed the text of the interview transcripts using the five-step framework approach to analyzing qualitative data which is especially relevant in cases where research questions and objectives are established beforehand (Pope, 2000). I did not replicate the framework analysis approach as described by Pope in its entirety, but rather used the approach as a guide and adapted it to the context of my specific research. The five phases of analysis proceeded as follows. In Step 1, *familiarization*, I studied the text of the interviews through the process of transcription and reading over the transcripts several times. During this initial review, I took notes reflecting on the resources, assets, and strategies Market Box organizers utilized in their initiative, as well as those issues highlighted by the interviewees themselves as being significant. During Step 2, *identifying a thematic framework*, I referred to the research on adaptive capacity to create a list of five key assets and strategies utilized by Market Box organizers in the creation of their initiative. In Step 3, *indexing*, I surveyed the interview transcripts again and highlighted all quotes which illustrated the five aspects of adaptive capacity identified in Step 2. Finally, I collapsed Steps 4 and 5, *charting* and *mapping and interpretation*, into one final process of interpretation. This process included mapping out how Market Box organizers utilized the five aspects of adaptive capacity chronologically and interpreting each aspect within the broader context of the COVID-19 pandemic and literature on food security. Through this final interpretation, I generated subsections on the five aspects of adaptive capacity which described each aspect and used interview quotes to illustrate its function in the context of the research.

Results

Through the methods articulated in the prior section, I set out to explore how organizations in Chicago adapted to the COVID-19 pandemic to support local farmers and provide emergency food relief to their communities. I divided this analysis into two phases, the

first of which focused on a broad-level comparison of how different organizations operated their emergency food relief programs. This part of the analysis relates to response diversity, which measures variability in how actors within a system respond to a disturbance (Hodbod & Eakin, 2015). The second phase of analysis attempted to identify at a more granular level how one food relief program, Market Box, achieved its mission of supporting local agriculture and food access. In resiliency literature, the specific abilities and environmental, economic, and sociopolitical assets that help a system succeed in adapting to a disruptive event are operationalized as adaptive capacity (Kaseva et al., 2019). In the following sections, I first provide a brief description of each of the organizations involved with the four emergency food relief programs. Next, I characterize the response diversity and adaptive capacity of the actors and systems involved in creating these food relief programs. Finally, I conclude the results section with a summary of my key findings, as well as a discussion of their limitations.

Response Diversity Across Four Farm-Based Emergency Food Relief Programs

Organizations displayed a significant degree of diversity in how they responded to the COVID-19 pandemic. Of the four emergency food relief programs studied, all primarily served communities in the South and West Sides of Chicago (Table 4). Two programs were coordinated by a single organization, whereas the other two programs were coordinated by two or more organizations. However, the two initiatives which were coordinated by a single organization collaborated with nonprofit and community organizations in the distribution of these free food resources. Therefore, all initiatives used the strategy of cross-organizational collaboration to some degree.

Though all initiatives expressed a commitment to source their produce from local, sustainable farms, each initiative took a slightly different strategy to source their products. Two

of the programs only offered produce boxes, one program only offered prepared meals, and the fourth organization offered both prepared meals and produce boxes. Three of the initiatives offered home delivery for some or all of their recipients while one was available for pick-up only. I provide a summary of key aspects of the strategies taken by each food relief program in the tables below. In the next few sections, I provide a more in-depth description of the structure of these four food relief programs alongside their sourcing methods.

Table 4

Attributes of Free and Cost-Offset COVID-19 Emergency Food Relief Programs in Chicago

Name of Initiative	Coordinating Organization(s)	Farms Sourced	Communities Served	Type offered	Scale and Frequency	Pickup or Delivery	Notes
Farm. Food. Familias Mutual-Aid Meals	<ul style="list-style-type: none"> Getting Grown Collective Little Village Environmental Justice Organization 	<ul style="list-style-type: none"> Produce donated or purchased from urban agriculture-based nonprofits and businesses. 	Little Village, Englewood and South Chicago.	Prepared meals only	350 households weekly	Delivery	<ul style="list-style-type: none"> Food prepared by BIPOC-owned restaurants.
Local Food Box	<ul style="list-style-type: none"> The Plant Chicago 	<ul style="list-style-type: none"> Produce sourced from mixture of urban and regional farms. 	Based in Back of the Yards but open to residents across Chicago.	Produce box only	10- 20 boxes weekly	Pick-Up	<ul style="list-style-type: none"> Also offers LINK Match at Plant Chicago Farmers Market.
Market Box	<ul style="list-style-type: none"> Invisible Institute Experimental Station South Side Weekly Build Coffee. 	<ul style="list-style-type: none"> Sourced from 35 medium to small farms, including urban and regional farms. 	Serves communities across the South Side of Chicago.	Produce box only	400 households twice a month	Delivery	<ul style="list-style-type: none"> Also offer LINK Match at 61st Street Farmers Market. Delivered twice a month and offers different sizes based on household size.
Urban Growers Collective Food Box and Prepared Meals	<ul style="list-style-type: none"> Urban Growers Collective Numerous community partners through “Squad approach.” 	<ul style="list-style-type: none"> Produce sourced from UGC farms as well as some regional farms. 	Serves communities across the South and West Sides of Chicago.	Prepared meals and produce box	500 boxes delivered per month	Delivery and Pick-Up	<ul style="list-style-type: none"> Also offer LINK Match at their Fresh Moves Mobile Market Meals produced by BIPOC-owned restaurants. Boxes designed to feed a family of 4 for a week.

Table 5*Funding Sources of Farm-Based COVID-19 Emergency Food Relief Programs in Chicago*

Name of Initiative	Government	Private Foundations	Individual Donors
<i>Farm. Food. Familias</i> Mutual-Aid Meals	None mentioned	Yes	Yes
Local Food Box	Link Up Illinois (Run by Experimental Station but funded in part through the USDA)	Yes	Yes
Market Box	None mentioned	Yes	Yes (primary source)
Urban Growers Collective Food Box and Prepared Meals	Received funding from the City of Chicago	Yes	Yes

Operation and Logistics of Farm-Based Food Relief Programs

All four farm-based food relief programs operated distinctly: one sourced a portion of its produce from Chicago-based farms and worked with local chefs to offer weekly, delivered, prepared meals to recipients (*Farm. Food. Familias*); one purchased CSA shares from a Chicago-based farm aggregator and offered it at a subsidized price to Link card holders for pick-up at its facilities (Plant Chicago's Local Food Box); one began by purchasing CSA shares from a different Chicago-based farm aggregator and delivering them to the homes of recipients, but later on, switched to working with a Midwest-based farm aggregator and packing the produce boxes themselves (Market Box); the last program sourced produce from a combination of its own farm and a Midwest-based farm aggregator and offered both produce boxes and prepared meals for both delivery and pick-up across the communities it serves (Urban Growers Collective).

Funding Sources

As evident in Table 5, the four initiatives utilized a range of sources to fund their programs, including a USDA grant for food assistance programs (Plant Chicago Local Food Box), funding from the City of Chicago (Urban Growers Collective), grants from private foundations (all four initiatives), and donations from individual donors (all four initiatives). During interviews, organizers behind one initiative expressed a desire to apply to a greater number of grant opportunities but were limited by staffing constraints (Market Box).

Additionally, organizers from two different initiatives (Market Box and Plant Chicago) noted that funding from federal agencies such as the USDA was much more restrictive than funding from private foundations. One organizer behind Plant Chicago's Local Food Box noted that the organization had originally intended to fund the program through the Link Up Illinois grant run through the Experimental Station and funded in part by the USDA. However, Plant Chicago ended up funding the program through a grant from the Chicago Regional Food System Fund, a private foundation, to avoid the restrictions associated with the Link Up Illinois grant. They explained,

If we didn't get the Chicago Regional Food System funds, we would have needed to aggregate the boxes in accordance with Link Match funding. So the box would have had to be split down the middle, half of the money is produce and half of it is non-produce items. Which would have meant a ton of produce, and then maybe a jar of honey, or one thing of coffee. Because that's how the match would have worked. [Plant Chicago Organizer A]

Plant Chicago still offered the Local Food Box at a subsidized cost to Link cardholders, but the organization funded this subsidization through their grant received from the Chicago Regional Food System Fund rather than the Link Up Illinois program. However, Plant Chicago did not reapply for the Chicago Regional Food System Fund in the most recent round and could potentially transition to using the Link Up Illinois grant or an alternate source to fund the Local Food Box. The example of Plant Chicago's funding considerations illustrates one of the determining factors for nonprofit and mutual aid-led programming, which is that funding sources can be unstable and require significant time, staffing, and expertise to procure. Furthermore, the uncertainty of future funding can make it difficult for these organizations to plan out their programming in advance. In this regard, the availability of funding directly impacts the overall resiliency of a system by acting as a limiting factor in determining how actors can respond to a disruptive event.

Farm Partnerships

The four initiatives sourced produce from farms of differing sizes and geographic distribution, though all stated on their websites and in interviews that their priority was sourcing from small, local farms hit hardest by the COVID-19 pandemic. One initiative stated on its website that a portion of its produce was donated from a group of Chicago-based urban agriculture nonprofits and businesses and another portion was purchased from four BIPOC-owned small businesses to “shed light on local farm businesses led by Black and Brown communities” (*Farm. Food. Families*). The initiative led by an urban farm nonprofit sourced a portion of the produce used in its programs from its own farms and the rest from a women-led, Chicago-based produce distributor (Urban Growers Collective). At the beginning of the pandemic, two initiatives purchased CSA shares from Chicago-based aggregators which sourced

produce from small urban farms across the city (Plant Chicago's Local Food Box and Market Box). However, after operating for one year, one of these initiatives transitioned to sourcing produce from a Midwest-based food aggregator that worked with small to mid-sized farms across Chicago and the Midwestern region (Market Box). During an interview, one organizer behind this particular initiative explained that they switched to a larger farm aggregator so that they could offer a larger quantity and array of produce to their recipient base. However, the organizer noted that the decision to switch was difficult because they wanted to support those farms which were most impacted by the COVID-19 pandemic, and working with the Chicago-based aggregator had allowed them to do so.

Another challenge organizers faced in their partnerships with local farms was striking a balance between the needs of their recipients and the limiting nature of eating local produce. When shopping at grocery stores in the United States, consumers have access to a wide variety of produce year-round. In this regard, eating seasonably means giving up a large degree of this freedom of choice in favor of eating what can grow in the local climate at a given time. For those individuals who are short on time and resources, eating seasonably can become a burden as it requires additional time spent researching recipes for how to cook unfamiliar ingredients. One organizer from Plant Chicago noted that one of the challenges of working with local farm aggregator The Urban Canopy was that,

Typically, they're marketing their CSA to people that are really invested in local food and are like, "I have no idea what it is, but I'll Google it and I'll make it work, because I'm really passionate about local food and eating seasonally." Whereas our program was definitely not that and more like, "I need food today. And I want to eat food I'm familiar with, that I grew up eating, like, I know how to cook with no problem." Especially with

the box being in March, we're getting a ton of greens, root vegetables, and things like sunchokes. I've let sunchokes rot in my fridge, too. So I think that was maybe the biggest [challenge], where it's like, "I don't get to pick what's in the box. And because I didn't pick it, I don't know what that is." [Plant Chicago Organizer B]

Plant Chicago attempted to increase the accessibility of eating seasonably by incorporating a weekly bilingual newsletter with their Local Food Box that explained what each of the items in the box was and how to store each item. Still, this particular type of food assistance program that draws from the local foodshed may not be suitable for those individuals and households who desire a greater freedom of choice over their diet or the ability to eat only foods with which they are familiar.

Working with Local Chefs to Offer Culturally-Relevant Prepared Meals

Two of the initiatives offered prepared meals to their recipient base (*Farm. Food. Families* and the Urban Growers Collective). On their website, the Urban Growers Collective states that they chose to offer prepared meals in addition to produce boxes because, “Prepared meals are especially important in providing food to those who are not able to prepare food due to housing status, culinary skill, or time constraints” (Urban Growers Collective, 2020). To create these prepared meals, both of these initiatives worked with local, BIPOC-owned food businesses to make culturally-relevant meals for the diverse communities that they serve. This collaboration also allowed the initiatives to serve as a source of income for food businesses whose income stream was interrupted by the COVID-19 pandemic.

Adaptive Capacity in Case Study

In-depth interviews with the organizers of Market Box revealed several different key assets and strategies that allowed the program to gain a large recipient base and become sustainable over two years. As articulated in the literature review, these assets and strategies constitute the adaptive capacity of the actors and systems involved in creating Market Box and are thus key determinants of their socio-ecological resiliency (Bachman et al., 2021). Through the process of analyzing the interview transcripts and highlighting key themes, I identified five key adaptive capacities associated with the actors and systems involved in Market Box: collaborating across organizations to pool resources and expertise, leveraging existing networks and partnerships to expand Market Box's recipient base, sourcing produce through a local foods aggregator, destigmatizing the use of free food resources, and grounding Market Box in the principles of mutual-aid. In the remaining sections of the results, I elaborate on these five aspects of adaptive capacity using quotes from the interviews and then conclude the results with a summary and discussion of the limitations of the findings of this research.

Table 6

Five Adaptive Capacities Driving Market Box COVID-19 Response Initiative

Adaptive Capacity	Example	Effect
1. Collaborating across organizations to pool resources and expertise	Organizers of Market Box came from several different organizations and businesses housed in the Experimental Station.	Allowed organizers to approach COVID-19 disruptions from a robust range of backgrounds and disciplines.
2. Leveraging existing networks and partnerships to expand recipient base	Organizers tabled at People's Grab-N-Go food distribution events to sign up recipients for Market Box.	Connected food-insecure populations without access to computers or telephones to the Market Box program.
3. Sourcing produce through a local foods aggregator	Organizers purchased CSA shares from Chicago-based farm aggregator Star Farm.	Outsourced purchasing and aggregation of produce to an organization with the proper infrastructure and experience.
4. Destigmatizing the use of free food resources	Organizers modelled operations off of popular grocery delivery services.	Respected the privacy of Market Box recipients in relation to food security status.
5. Grounding initiative in the principles of mutual-aid	Organizers trusted that potential recipients were genuinely in need of food assistance, rather than requiring proof of income.	Allowed organizers to access new recipients through the social networks of current recipients.

Collaborating Across Organizations to Pool Resources and Expertise

When asked about how the Market Box food-delivery program began, Market Box organizers credited the unique organizational structure of Experimental Station, which provided them with a solid base of relationships that enabled them to mobilize shared resources. As detailed above, the Experimental Station runs its own food-access-oriented programming as well as housing a diverse range of community organizations, nonprofits, and small businesses. Before the COVID-19 pandemic, staff and business owners in the building had already cultivated close working relationships and collaborated on previous projects, such as staff at the Invisible Institute, a nonprofit journalism production company, co-reporting on misconduct by the Chicago Police Department with the news outlet the *South Side Weekly*. Organizers reported that this history of collaboration and frequent interactions through working in the same building created a foundation of trust between staff and tenants of the Experimental Station:

I think one of the things that enabled Market Box to succeed so quickly, was we knew each other and trusted each other. [Market Box Organizer B]

A really big part of it is that we all knew each other, and like that the organizers had a level of trust amongst ourselves. [Market Box Organizer A]

The cross-organizational structure of the Experimental Station also meant that when news of the COVID-19 pandemic and consequent stay-at-home orders spread, professionals with diverse areas of expertise were in close proximity with each other and started having conversations about how their organizations could help mitigate the disruptive effects of the pandemic:

We had talked to each other a couple of times over the telephone and were trying to figure out what resources we had or what we could do. We knew that farmers were blindsided, because, for the last six months, they'd been planning to sell crops at the farmer's market and suddenly couldn't. And then on the other side, we knew that they never increased SNAP, or it took them months, and you couldn't actually use SNAP or EBT online. And so, a lot of people couldn't get groceries delivered if they had COVID-19 or someone in their household had COVID-19. [Market Box Organizer A]

These initial conversations between the tenants of the Experimental Station gave the future organizers of Market Box a robust understanding of how COVID-19 impacted both farmers associated with the Experimental Station's farmers' markets and community members facing food insecurity. In particular, one issue that rose to the forefront was that when the pandemic began in March 2020, more than 1.8 million SNAP users across Illinois could not use their benefits to order groceries online to be delivered (Illinois Department of Human Services,

2020). As has remained the case throughout the COVID-19 pandemic, the CDC urges those who test positive for COVID-19, display symptoms, or have been exposed to someone with COVID-19 to stay at home and quarantine. Online grocery delivery services, such as Instacart, experienced a surge in usage by those people in quarantine or who otherwise wanted to avoid potential exposure to COVID-19 at the grocery store. However, in the spring of 2020, SNAP users had no way to use their benefits to purchase groceries for delivery and thus either had to risk potentially spreading or being exposed to COVID-19 at the store or rely on friends or family to bring them groceries. Conversations between organizers at the Experimental Station identified this situation as one area where they could use available resources to make an impact.

Within this context, Market Box organizers reported that they identified their biggest resources as their preexisting relationships with farmers and community members and the range of expertise held by different professionals in the Experimental Station building. One organizer explained that:

[Market Box] started as a collaboration between people that worked inside organizations at the Experimental Station, trying to use what resources we had to create a response to obvious needs. We had a relationship with farmers. We knew that people need food. And we had because, of the bike shop and the Invisible Institute, a lot of relations with our community, like our neighbors. And so, it was pretty, I won't say easy, but it was a natural way of extension of those relationships that we already had. [...] And because of the natural functions of our jobs, it did allow us to have different people that were able to fill different needs pretty easily. [Market Box Organizer A]

Market Box organizers' knowledge of the surrounding community informed them of the community's most pressing needs at the start of the pandemic. Combined with the organizer's

ties to farmers, this pre-established presence in the neighborhood created the context for Market Box to begin.

Another organizer explained that the emergence of other initiatives led by multiple different organizations alerted them as to the possibility of starting such an initiative themselves:

I think that [Market Box Organizer A] and I were both working with and also just hearing a lot about a lot of different joint effort concepts. And what we wanted to figure out was, “How do you leverage existing relationships? And how can we leverage the ways that this building is already positioned to do something for people right now?” [Market Box Organizer B]

As discussed in the response diversity subsection of this paper’s results, many initiatives which emerged during the context of the COVID-19 pandemic resulted from the collaboration of one or more organizations. This wave of joint effort concepts inspired Market Box organizers to imagine how the structure of the Experimental Station uniquely positioned the nonprofits and businesses it housed to pool their resources on such an initiative.

Leveraging Existing Networks and Partnerships to Expand Market Box’s Recipient Base

Organizers reported that networks of relationships also played a significant role in identifying and expanding the recipient base of Market Box. In the beginning, organizers relied on existing contacts and pathways of communication created through Experimental Station, such as the email contact list for the 61st Street Farmers Market and previous participants in Experimental Station or Invisible Institute programming. Then, organizers grew this original network by collaborating with partner organizations with their own recipient bases to spread awareness about the Market Box Program:

The biggest thing that we did I think was we partnered with People's Grab-N-Go, in Washington Park. And so that was a totally volunteer project that was doing these pop-ups every Monday, where people would just come and get groceries [...] And what was helpful there is that they were capturing folks who often live very nearby, in this area. They would go knock door to door a few blocks away, "We're doing this program, we do it every Monday." And so once people got there, for almost every Monday in the summer, there was someone signing people up for Market Box. And that was helpful because it didn't, especially with folks who are older, require them to go online and find anything or even call. Someone would sign them up, and then the next week, they would get a call. I don't think that it was very organic growth exactly, but it was very intentional and active in terms of us reaching out to people. [Market Box Organizer B]

Collaborating with partner organizations in this manner helped to grow the Market Box recipient base in at least two different ways. The People's Grab-N-Go was a mutual-aid organization that distributed free groceries to South Side residents in response to the pandemic and grocery store closures during the wave of uprisings after the murder of George Floyd, and thus had a target recipient base of food-insecure households on the South Side of Chicago. Since Market Box also established itself to serve food-insecure South Side residents, collaborating with the People's Grab-N-Go granted its organizers access to a population that matched their intended recipient base both in terms of need and geographic location. Furthermore, this method of recruitment also allowed Market Box organizers to circumvent one potential barrier that would prevent food-insecure populations from accessing free food resources, which is the requirement that recipients have access and the ability to use a computer or phone to sign themselves up for the program. Food-insecure populations are more likely to have a lower income and individuals,

especially adults over the age of 60, with a lower income were found to be less likely to have access to a computer or smartphone (Hargittai et al., 2019). Given this fact, removing this barrier to access may have significantly contributed to Market Box organizers' success in growing their recipient base. One indication of the success of this approach is that Market Box organizers have not had to conduct any active recruitment of recipients for the program since the summer of 2020 and have been able to rely on the results of this initial recruitment. The program began with a recipient base of 25 households in late spring of 2020 and currently delivers to 400 households across the South Side with another 50 households on the waitlist.

Sourcing Produce through a Local Foods Aggregator

According to Market Box organizers, working with local food aggregators was another partnership that facilitated their mission of both supporting local growers during a difficult period and providing food access to South Side residents. Market Box originally partnered with Star Farm, which is an urban farm based in Chicago's Back of the Yards neighborhood that runs a CSA program that aggregates produce from several different urban farms in Chicago. Star Farm had previously worked as a vendor at Experimental Station's 61st Street Farmers Market and thus already had a working relationship with several of Market Box's organizers. After Market Box organizers envisioned the concept for their program, Star Farm emerged as a natural partner for the program because it already had the infrastructure and operations in place for its CSA program. Logistically, the partnership functioned as Market Box organizers buying CSA shares from Star Farm and coordinating with Star Farm to distribute these CSA shares to Market Box's recipient base. Market Box organizers noted that this relationship alleviated some of the initial stress of running the program because they could outsource the packing and delivery of the produce boxes to Star Farm.

However, Market Box organizers noted that there was a tradeoff involved in working with a farm aggregator that sourced from extremely small-scale, urban farms:

[...] that first summer, we knew we were directly supporting very small, very local farms. And that felt very critical. It also meant that the bags that we were sending out did not always seem to be as full as they could be, and not always as consistent as they could be.

[Market Box Organizer B]

On the one hand, working with Star Farm allowed Market Box to lend support to those farmers who needed it the most. Still, it limited the usefulness of Market Box as a food-access program because these small, urban farms had high associated food costs. At the end of 2020, eight months into running the program, Market Box organizers decided to switch to a different aggregator, Local Foods, to scale up the amount of food they could distribute and make the program more financially sustainable. Local Foods is a Midwest-based aggregator and distributor of locally-grown or processed foods. One organizer noted that though the decision to switch from an extremely local aggregator to a more regional aggregator was difficult, it led to several different benefits for the program:

[...] we've become a lot more sustainable in the sense that we are now paying significantly less, for probably twice as much food. And if you then look at our farmers, it is true that it's smaller to midsize farms, as opposed to tiny farms. And we don't have any urban Chicago farms, it's more from across the Midwest. But that also means that we can get people food in January, which wasn't possible when we were strictly local. [...]

One thing that was helpful for me in talking to Local Foods and talking to that sourcing was to realize that the scale that we're buying at, which is often like 800 pounds of sweet

potatoes at a time, that's a scale that's going to overwhelm a really small farm, and is going to be useful for a medium-sized farm. [Market Box Organizer B]

As illustrated in these interview excerpts, in working with food-insecure populations with locally-sourced produce, Market Box organizers had to make difficult decisions regarding how to balance these dual missions. However, as Market Box scaled up its recipient base, it became no longer feasible to purchase all of its produce from extremely small, Chicago-based farms.

Destigmatizing the Use of Free Food Resources

Market Box organizers stressed the efforts they dedicated to their program to reduce the stigma often associated with food assistance programs. Research has shown that the stigma associated with accessing free food resources can serve to discourage food-insecure populations from utilizing them (Bruckner et al., 2021). One Market Box organizer explained that by watching how the People's Grab-N-Go destigmatized the mutual aid they were providing, Market Box organizers developed their own strategies for destigmatizing food assistance:

As I mentioned before, on outreach, People's Grab-N-Go was incredible. It just felt really lucky to be working with them. Specifically, in terms of the work that they did, there's the way they bring a lot of joy to that work. And make it feel good for everybody and destigmatizing something that can sometimes be stigmatizing. I think we do that in similar ways. Like I think that Market Box's tactic on that is when you are getting a delivery, it really feels like a grocery service, sort of right. Our tactic on that is like, good service, their [People's Grab-N-Go] tactic on that was like a block party. [Market Box Organizer B]

The People's Grab-N-Go brought joy to their mutual aid initiative by playing music and encouraging people to dance while waiting in line to receive food assistance. Similarly, Market Box organizers tried to destigmatize their program by running it similar to a grocery delivery service. That way, recipients do not need to worry about their neighbors becoming aware that they were struggling with food insecurity. Though in an ideal world, recipients would not feel ashamed to receive food assistance, as it stands stigma surrounding food assistance has real consequences in terms of food access (Bruckner et al., 2021). Thus, by considering ways to minimize stigma in their food assistance program, Market Box organizers increased its accessibility to those who may have decided not to participate in Market Box due to concerns of stigma or shame.

Grounding Market Box in the Principles of Mutual Aid

Rather than framing their initiative as a form of charity where the benefits of the program flowed unilaterally from organizers to participants, Market Box organizers emphasized the ways they grounded their practices in the principles of mutual aid. As described earlier in this article, residents in cities across the United States formed mutual-aid groups and initiatives to support their neighbors through the COVID-19 pandemic. One organizer behind Market Box remarked that this rise in mutual aid served as the inspiration for their program:

I think that a lot of mutual-aid projects around the city were both models for us in terms of like what is possible to just mobilize a bunch of people quickly. And also, definitely increased this ethic that people had, like, we all need to figure out ways to help each other out. I think that that grounding was crucial for us. I don't know what Market Box would have looked like pre-pandemic. [Market Box Organizer B].

Though mutual aid has a history in the United States dating back to the Black Panther's programming of the 1960s and 1970s, the COVID-19 pandemic brought mutual aid to the forefront of many people's minds for the first time. Witnessing this rise in mutual aid across Chicago gave Market Box organizers an idea of how mobilizing their networks could help their communities through a difficult time.

In addition to serving as the inspiration for the program, Market Box organizers also described many ways in which the principles of mutual aid informed how they structured Market Box. One example of this process of informing is that many of the volunteers who pack and deliver Market Box are also recipients of Market Box. One organizer remarked:

One of the biggest parts for us is we have recipients who are volunteers. So there's a blending of those roles, but also that we're not performing charity, it's removing the idea that the person to blame is the recipient, when it actually it's an institutional failure, across everything, that this even exists. We live in the wealthiest country on Earth and the idea that anyone in our country is food insecure is disgusting. [Market Box Organizer A]

By blurring the boundary between the recipient and giver roles of food assistance, Market Box organizers broke down the traditional power dynamic that can arise in situations where one party is dependent on the other for vital resources. This power dynamic can reinforce harmful stereotypes that food-insecure populations are somehow to blame for not having enough to eat. Instead, Market Box organizers stressed that structural factors which generate food insecurity in the United States should be the target of critique.

Finally, Market Box organizers stated that grounding their initiative in the principles of mutual aid allowed them to start from a place of trusting recipients, rather than having recipients

fill out paperwork or show a government-issued ID before they could participate in Market Box. One organizer explained,

A big part of where mutual aid comes into our practice is that we're working from a place of trust. Like, when someone says, "Hey, my upstairs neighbor also needs a box, Can I sign them up?" I'm not like, "Okay, I need to talk to your neighbor." I'm like, "Alright, great. Like you, should you be the email contact? Or should they?" I think when you work from this assumption of trust, it allows you to work with rather than against existing networks, right? There's a senior home, where for many weeks, one lady was making sure that everybody else was signed up. For a lot of older people, it's hard for them to get to the phone, or maybe they were a little confused if they did. And it was incredibly helpful to have one point of contact, who I could call when we couldn't get in touch with other people [...] So just allowing people to vouch for one another in that way, I think is a critical difference in how we were able to operate.

[Market Box Organizer B]

Many food banks and other sites that distribute free food do not allow recipients to pick up extra resources for a friend or family member. However, by following mutual-aid principles and automatically trusting all recipients, Market Box organizers were able to access food-insecure populations that may have otherwise been unreachable, such as senior home residents without access to a telephone. Thus, by adopting some of the principles of mutual aid, organizers could tap into existing social networks to increase the reach of Market Box. In this sense, the practice of mutual served as an adaptive capacity for Market Box organizers in that it increased their ability to be resilient during the COVID-19 pandemic.

Summary of Results

Through in-depth interviews and analysis of internally-generated website content and news articles, I sought to answer my overarching research question as to how actors within Chicago's alternative food system adapted to the COVID-19 pandemic to continue supporting local farmers and improving community access to fresh produce. I found that while some common trends emerged, community organizations demonstrated significant diversity in the sourcing, operation, and funding of their COVID-19 emergency food relief programs. From a case study of one of these emergency food relief programs, Market Box, I identified five key aspects of adaptive capacity that allowed organizers behind Market Box to successfully implement the program during a disruptive pandemic. In the next section, I will discuss the implications of these findings for other organizations conducting similar food-access work, as well as for future food policy implementation at the municipal and federal levels.

Discussion and Implications

Interpretation of Findings within Resiliency Framework

Interpreting the findings of this study of nonprofit and community organizations' adaptations to the COVID-19 pandemic yields several significant insights. First, response diversity within the four farm-based food relief programs contributed to the overall resiliency of the local Chicago food system by generating redundancy and meeting the needs of different populations. In terms of adaptive capacity, cross-organizational collaboration emerged as a strategy utilized to some degree in all four of the initiatives. Collaboration served not only as an adaptive capacity itself, but also amplified the other adaptive capacities of organizations by pooling together resources and expertise in complementary manners. Additionally, the case study

of Market Box revealed that the strength of the relationship between the organizers and recipients significantly impacted the overall success of the program. In the next few sections, I provide further details about each of these insights.

Response Diversity

Though some common threads emerged among the four farm-based COVID-19 food relief programs, no two programs functioned in exactly the same manner. In many cases, differences in how organizers structured their programs stemmed from the unique vision and theory of change held by the organizers themselves. For example, Market Box and Plant Chicago chose to provide recipients with fresh produce and other groceries, whereas the Urban Growers Collective and *Farm. Food. Familias.* offered prepared meals cooked from locally grown produce. The Urban Growers Collective explained this decision on their website, noting that offering prepared meals is essential for those individuals who cannot cook for a myriad of reasons (Urban Growers Collective, 2020). On the other hand, providing a box of fresh groceries gave recipients greater flexibility in deciding how to incorporate this food into their meals. Neither approach to food assistance is superior; rather, the two distinct approaches allowed each initiative to meet the needs of different populations in Chicago.

Another area where responses diverged relates to the scale and geographic distribution of the farms from which each initiative sourced its produce. Most initiatives sourced produce from a mix of small, Chicago-based farms and food businesses and small to mid-sized farms based in the Midwestern region. Organizers behind Market Box noted that their approach in this regard shifted over time: initially, they worked with Chicago-based farm and aggregator, Star Farm, but as the program grew shifted to working with a larger local and regional foods aggregator. The mutual-aid program *Farm. Food. Familias* and the Urban Growers Collective also sourced from

a mix of Chicago-based and regional farms but stressed their collaboration with local, BIPOC-owned food businesses to cook prepared meals for recipients. These sourcing decisions stemmed from their desire to support both sustainable farmers and local food businesses whose income source was severely disrupted due to the COVID-19 pandemic. Intentionally sourcing from BIPOC-owned businesses also shows that these two initiatives also prioritized the growth of food sovereignty and racial economic equity in their design.

Taken together, both the redundancy and diversity in how nonprofit and community organizations within Chicago's alternative food system responded to the pandemic contribute to the overall resiliency of the system. Sourcing from a range of farms and other food businesses within the Chicago and regional foodshed provided a source of income for a diverse group of food businesses during a period of extreme uncertainty and difficulty for the food and farm industry. Furthermore, organizations capitalized on a diverse range of funding sources to sustain these farm-based food relief programs, which meant that they were not in direct competition for the same funding sources. This finding relates to the larger body of food systems resiliency research, which suggests that diversity within food systems creates redundancy to buffer the system through a period of crisis or disturbance (Kaseva et al., 2019).

Adaptive Capacity

One unexpected finding of this research was that all four initiatives resulted from the collaboration of different organizations and businesses to some degree. Collaborations emerged between larger nonprofits, community-based organizations, urban farms, chefs and small restaurants, and workers' collectives. In the context of this research, a collaboration between a nonprofit and a for-profit entity goes beyond being purely transactional and involves both parties taking some degree of control over the resulting initiative. In the case of Market Box, this

collaboration resulted from the cross-organizational structure of the Experimental Station, the building that housed the various nonprofits involved in Market Box. The Urban Growers Collective utilized what it refers to as a “squad approach,” which simultaneously provided emergency food relief to communities in Chicago’s South and West Sides while also supporting the work of local BIPOC-led organizations and businesses.

The collaboration approach can be interpreted as what I will refer to as a *resiliency-amplifying* strategy because it expands the range of adaptive capacities available to build a response to a resiliency-threatening event. When an organization responds to a system disturbance alone, they have only their own assets and resources available to generate this response. However, when an organization collaborates with one or more organizations on their response, they pool their collective assets and resources and open up a wider range of possibilities for their response. The pooling of assets and resources is not only additive, but may also result in a level of adaptive capacity greater than the sum of its parts when these assets fit together complementarily. Other COVID-19-related food systems research has also found an increase in the use of collaborations to generate a response program or initiative (Marusak et al., 2021; Prosser et al., 2021). Further research into the role of cross-organizational collaborations in alternative food systems during the COVID-19 pandemic could generate more detailed insights into how collaboration enhances and amplifies the resiliency of these systems.

Another insight from this research is how significantly the strength of relationships and social capital affect the overall resiliency of a system to adapt to a disruptive event. In sociology, social capital generally refers to the social structures in place that facilitate a desired action between different actors (Coleman, 1988). During interviews, Market Box organizers stressed the importance of their well-established relationships within the Experimental Station building,

with local farmers, and within the surrounding South Side community in initiating their food relief program. In this sense, the social capital of Market Box organizers acted as an adaptive capacity facilitating their ability to be resilient amid the COVID-19 pandemic.

It was not merely the presence of these networks or social capital which supported the resiliency of Market Box organizers, but more importantly, the strength of these relationships. The success of the Market Box program relied on how deep the relationship was between organizers and the recipient community. Across interviews with different organizers, the concepts of trust, destigmatization, and the dismantling of traditional power dynamics emerged as crucial determinants of the strength of these relationships. As detailed in the Results section above, exercising trust in their relationship with Market Box recipients allowed organizers to utilize the social networks of recipients to grow their recipient base. Next, by destigmatizing the use of free food resources, Market Box organizers significantly improved the user experience of their program and potentially captured individuals for whom the stigma around food assistance may have acted as a barrier. Finally, Market Box organizers structured their program in opposition to the power dynamics found in traditional charity work to emphasize that food insecurity represents a failure on behalf of the government and economic institutions, rather than an individual fault. In turn, Market Box organizers credit their dedication to these three principles as stemming from the practice of mutual aid, a practice that rose significantly in popularity during the pandemic. Thus, the influence of mutual aid acted to strengthen the relationship between Market Box organizers and the communities they serve, which was a key adaptive capacity underlying their ability to be resilient during the period of disruption.

Suggestions for Community-Based Organizations

Community-based organizations in Chicago demonstrated significant diversity in how they adapted to the COVID-19 pandemic to meet the shifting needs of local farmers and food-insecure populations. Despite this diversity, some general trends emerged which may be useful for other community-based organizations involved in similar farm-based food relief work (Table 7). First, organizations should consider utilizing the strategy of asset-based mapping before planning out these programs to take advantage of existing resources. Second, organizations should consider working with a farm-based food aggregator and food businesses to outsource the sourcing, aggregation, and cooking of produce boxes and prepared meals. The next two sections further expand upon these suggestions.

Table 7

Recommendations for Community Organizations Involved in Farm-Based Food Assistance Work

Recommendation	Rationale	Intended Benefit
1. Utilize the strategy of asset-based mapping	Organizations should build response initiatives off of existing resources and abilities, rather than stretching their capacity to obtain new assets.	Ensure feasibility of response initiative and prevent burnout.
2. Collaborate with food aggregators and food businesses	Food aggregators and businesses already have the infrastructure and experience needed to aggregate produce and prepare meals.	Streamline the operation of food relief programs and support local economy.

Utilize the Strategy of Asset-Based Mapping

One strategy that may be adapted to a variety of different contexts is the use of asset or pod mapping. Organizers at Market Box described meeting amongst themselves shortly after news of the COVID-19 pandemic had spread in Chicago to discuss how they could potentially

help mitigate the disruptive effects of the pandemic. These conversations started with the Market Box organizers taking an inventory of their assets, which included connections to farmers through the 61st Street Farmers Market, long-standing relationships within the community, and access to professionals with a diverse range of expertise through the Experimental Station collaboration network. Next, Market Box organizers structured their response initiative around these existing resources and strengths, rather than starting by planning out their initiative and trying to find the necessary resources after the fact. This flow of operations ensured the feasibility of Market Box, especially given the unstable circumstances presented by the COVID-19 pandemic.

As described above, Market Box organizers cited the rise in mutual-aid initiatives at the start of the pandemic as the inspiration for this strategy of asset mapping. In particular, their strategy draws from the work of Mia Mingus, a disability-justice organizer, who developed the theory of pod-mapping in mutual aid (Mia Mingus, 2016). Mingus defined “pods” as those people that an individual could rely upon in the case of violence, abuse, or other forms of harm (Mia Mingus, 2016). The concept of pod-mapping grew from this original context to encompass the general process of visually mapping out an individual or organization’s network of relationships and assets. Pod-mapping shares many similarities with the concept of Asset-Based Community Development (ABCD), a community-based development strategy that emphasizes the fact that all communities have unique assets that may be built upon to reach a common goal, whether that be neighborhood-based economic development or improving local food access. Concepts such as ABCD and pod-mapping argue for a shift in the field of community development, in that they emphasize the strengths of a community rather than focusing on deficits.

Collaborate with Food Aggregators and Food Businesses

In addition to using the theoretical strategy of asset mapping, the work of Market Box and the other organizations analyzed in this study suggest logistical considerations for any group engaged in similar work. One suggestion is that these organizations should consider working with a food aggregator, local farm, or small businesses to handle the task of sourcing produce and preparing cooked meals. Market Box organizers first utilized the existing CSA infrastructure of Star Farm, and then transitioned to working with Midwest-based aggregator Local Foods. Outsourcing the aggregation of their produce boxes gave Market Box organizers the necessary time to work on building their network of recipients and funders. Furthermore, working with aggregators allowed Market Box to support a much larger variety of small to mid-sized farms than their previous network included. Through their partnership with the urban farm and aggregator Urban Canopy, Plant Chicago also utilized a similar strategy to run their Local Food Box program. Partnerships between food access-oriented organizations and sustainable farms or farm aggregators play to the strength of both parties and amplify the work of each.

Similarly, organizers behind the mutual-aid initiative *Farm. Food. Familias* collaborated with several BIPOC-owned small businesses from Chicago's South and West Sides to prepare their weekly delivered meals. This allowed the initiative to offer culturally-relevant meals to their recipient base and support local food businesses who otherwise lacked a customer base as the COVID-19 pandemic severely restricted restaurants' operations. Strategies such as supporting local businesses through emergency food relief programs constitute resiliency-enhancing behaviors as they strengthen the ability of a system to respond to future disruptive events.

Policy Recommendations

Finally, this research informs a set of recommendations for policymakers at the state and federal levels to make food assistance programs more accessible and democratic (Table 8). These policy recommendations would also provide the additional benefit of increasing the flexibility and responsiveness of government food assistance programs to the needs of their users. In the case of future disruptive events like the COVID-19 pandemic, this responsiveness would allow the programs to adapt to changes in users' needs, thus increasing the overall resiliency of the United States food system. The first recommendation stemming from this research is that the USDA should expand the SNAP Online Purchasing Pilot program to allow SNAP users to purchase groceries online from a broader range of food retailers to grant SNAP users greater flexibility in utilizing food assistance dollars. Second, states should prohibit food pantries distributing federally-funded food assistance resources from requiring ID or proof of income to increase the accessibility of these vital resources. In the next two sections, I articulate the basis for these two recommendations.

Table 8

Policy Recommendations to Improve State and Federal Food Assistance Programs

Recommendation	Rationale	Intended Benefit
1. Expand the SNAP Online Purchasing Pilot Program	SNAP users should be able to purchase groceries online to be delivered from a wider variety of retailers.	Improved SNAP user experience and support of local food businesses.
2. Eliminate ID and proof of income requirements for accessing state free-food resources	ID and proof of income requirements can act as a barrier to access for many food-insecure individuals.	Increase reach of federally-funded food assistance programs.

Expand the SNAP Online Purchasing Pilot Program

The inability of SNAP users to use their food assistance dollars for grocery delivery services provided the impetus behind several of these community-based emergency food relief programs. In June 2020, around three months after the first stay-at-home order had been issued in the state of Illinois back in March, the USDA rolled out its SNAP Online Purchasing Pilot program to include SNAP users in Illinois. However, the initial Illinois rollout only included the retailers Amazon and Walmart, and later expanded to include Aldi in December 2020 (Illinois Department of Human Services, n.d.). While the expansion of the SNAP Online Purchasing Pilot gave users in Chicago the option of having groceries delivered, it limited their options to only large, international corporations.

Though some would argue that retailers like Amazon and Walmart are the ideal choice for SNAP users due to their extremely low food prices, allowing SNAP users more choice in where they can spend their food assistance dollars would make the program more democratic. Researchers in Vancouver described the existence of a two-tier food system in the city during the COVID-19 pandemic, where middle and high-income residents had access to a much greater variety of food than low-income residents (Rajasooriar & Soma, 2022). Federal food assistance programs such as SNAP should not support the existence of a similar two-tier food system in Chicago and other US cities that severely limits lower-income residents in what food they can access. Allowing SNAP users to purchase produce online from a greater variety of food businesses could also help support small, local businesses such as the urban farms and aggregators identified in this research. Supporting these local businesses would improve the economic vitality of a community and potentially create more opportunities for employment in areas of Chicago with lower economic development. As a result, communities would become

more resilient to future system disturbances as businesses would be more likely to survive the economic downturn often accompanying a global crisis.

Eliminate ID and Proof of Income Requirements for Accessing State Free Food Resources

Many federal food assistance programs require recipients to provide a government-issued ID and other forms of verification, which has been shown in past research to act as a barrier to accessing free food resources (Bradley & Vitous, 2021). This requirement excludes those populations who do not have access to a government-issued ID, which includes undocumented immigrants as well as any individual lacking the time, resources, or ability to procure an ID (Bradley & Vitous, 2021). Interviews with food-insecure populations in Minnesota during the COVID-19 pandemic revealed that many participants were prevented from accessing emergency food assistance due to verification requirements such as ID and proof of income (Larson et al., 2021). By eliminating the requirement of recipients to show a form of ID, Market Box captured a greater proportion of those food-insecure populations who would otherwise be excluded from accessing free food resources.

Eliminating the verification process for applicants is unlikely to be feasible for all federal food assistance programs. For example, programs such as SNAP would be difficult to administer without connecting applicants with some sort of identification for verification purposes. However, it would be feasible for federal food assistance programs that operate by directly providing free food resources to food-insecure populations to waive any ID or proof of income requirements. For the fiscal year 2022, the USDA expects to invest approximately \$2 billion in The Emergency Food Assistance Program (TEFAP) to augment the current emergency food system in the United States (United States Department of Agriculture, 2022). Through TEFAP, the USDA administers funding and US-grown food to states to distribute through food pantries

and other pick-up sites. In receiving this federal funding and produce, individual states make decisions about how recipients can access this food assistance. The Illinois Department of Human Services (IDHS) dictates that:

While verification of identity and residency is not required, pantries may ask for proof of identity and residency, limited to one of the following types of documentation: driver's license, state identification card, piece of mail or utility bill showing the recipient name and address, or a letter from a landlord verifying identity and residency (Illinois Department of Human Services, 2022).

As indicated in prior research, allowing food pantries to ask for proof of identity and residency acts as a barrier for some populations in accessing food assistance. In particular, individuals experiencing housing insecurity would face increased difficulty accessing food assistance through the IDHS's policy that food pantries may ask for proof of residency. Based on the findings of my research, I argue that states should no longer permit pantries distributing federally-funded food assistance to require these forms of identification to increase the accessibility of this assistance.

Additionally, this move could also improve the experience of individuals accessing these free food resources as it would eliminate the administrative burden of procuring and producing these forms of identification at food pantries. In past research, users of food pantries have reported that the requirement of many food pantries for recipients to show identification and proof of income exacerbates their feelings of stigma and shame around the encounter as they feel they must prove they are "deserving" of receiving food assistance (Bradley & Vitous, 2021; Bruckner et al., 2021). Requiring individuals to produce proof that their income or residency qualifies them to receive food assistance implicitly conveys to food-insecure populations that the

state does not trust them to be honest about their financial situation. Eliminating this requirement could both reduce the stigma recipients feel as well as strengthen the trust between those administering and those receiving food assistance. As evident in the case of Market Box and the surrounding South Side Chicago community, a strong foundation of trust increases the resiliency of a local community to adapt to system-wide disturbances.

Limitations and Suggestions for Further Research

In this study, I explored how nonprofits and community-based organizations supported the resiliency of the local Chicago food system in response to the COVID-19 pandemic. Data collection centered around in-depth interviews with organizers behind one emergency food relief initiative. This approach was appropriate because I wanted to isolate the particular adaptive capacities which allowed this initiative to succeed and thus limiting my scale to the organizational level allowed me to draw out more detailed observations. However, this narrow focus on organizational capacities meant that I did not conduct any interviews or surveys with the recipient base of Market Box or any of the other farm-based initiatives.

Potentially, interviews with these populations could reveal ways that the initiatives could change to better address the needs of their recipients. As organizers from Plant Chicago mentioned, the produce provided in their Local Food Box did not always match the tastes of their targeted recipients. Likewise, organizers from Market Box noted that as their program grew, it became unfeasible to work with mostly small-scale urban farms as they had envisioned at the beginning of the program. In this respect, future research on the role of nonprofits and community organizations in connecting local farms and food-insecure populations could focus on the perspective of the recipient population to determine how the involved organizations could improve their programs. On the production side, additional research into the perspective of

farmers working with such programs could generate useful insights into how such programs could better fit the needs of growers. In turn, such research could also produce suggestions for urban growers looking for ways to better position themselves to support food security and sovereignty in cities.

The particular nature and context of the COVID-19 limits how generalizable these findings may be towards future resiliency-threatening events. Stay-at-home orders issued during the pandemic meant that farmers could no longer rely on many of their traditional markets such as restaurants and institutional buyers. However, the pandemic itself did not directly impact any of the ecological determinants of agriculture such as temperatures and rainfall. In contrast, climate change could significantly alter growing conditions in the United States and thus have a much more immediate effect on the supply side of the food system (Mbow et al., 2019). Likewise, the COVID-19 pandemic impacted food access in a highly specific way in that it made trips to the grocery store dangerous for vulnerable groups such as the elderly and those with preexisting medical conditions. In turn, the particular conditions of the COVID-19 pandemic determined how nonprofit and community organizations structured their responses, such as by offering delivery or contactless pickup of free food resources. Thus, the results of this research may be limited in their generalizability about the ability of alternative food system actors in Chicago to respond to future resiliency-threatening events. Rather than intending to rate the resiliency of Chicago's alternative food system, I used concepts from resiliency literature to frame how alternative food system actors responded to a particular resiliency-threatening event.

Finally, this research's grounding in Chicago may also limit the generalizability of these results to other locations in the United States and beyond. Chicago hosts a strong tradition of community organizing around issues of social justice that dates back to the 1930s with the efforts

of the “grandfather” of community organizing, Saul Alinsky, to improve workers’ rights in the Back of the Yards neighborhood on Chicago’s Southwest Side. Though many other cities in the United States and beyond have a robust network of community organizations, the particularly strong nature of Chicago’s network may have afforded alternative food system actors opportunities for cross-organizational collaboration unavailable elsewhere. Furthermore, responses to COVID-19 in Chicago were shaped by the history of racial segregation in the city and the lack of accessible grocery stores in Black and Latinx-majority neighborhoods in the South and West Sides (Kolak et al., 2018). As the literature on responses to COVID-19 within alternative food systems across the United States continues to grow, this research may be put into conversation with findings from other geographic regions to see where similarities and differences lie.

Conclusion

This research analyzed four community-based initiatives in Chicago generated by alternative food system actors in response to the COVID-19 pandemic to provide an alternative market for local farms and fill in the gaps in the government’s emergency food relief response. Through this analysis, I found that some of these initiatives formed partnerships with local food aggregators to supply recipients with a free or subsidized box of produce. Others offered recipients healthy, culturally-relevant prepared meals made with locally grown produce by working with local, BIPOC-owned restaurants. In-depth interviews with organizers behind one of these farm-based food relief programs, Market Box, revealed that preexisting connections to community members and local and regional farmers allowed the organizers to quickly initiate the Market Box program after the community’s farmers’ market shut down temporarily. Additionally, organizers structured Market Box to align with the principles of mutual aid by

destigmatizing the use of free food resources and waiving requirements that participants show proof of income or a government-issued ID.

In relation to the broader literature on responses within alternative food systems to COVID-19, this research fills in a significant gap by exploring responses within the city of Chicago. Furthermore, in this research, I focus on responses from nonprofit and community organizations, whereas much of the research thus far has focused on how farmers and distributors within the alternative food system responded to the COVID-19 pandemic. Nonprofit and community organizations have been shown to play a vital role in connecting small-scale farms with urban, food-insecure populations (Sitaker et al., 2021), and thus through this research I explore how these organizations continued to function in this capacity during the pandemic. Finally, through this research, I identified several significant areas for future research, such as interviewing farmers and recipients involved in these types of farm-based food relief programs to ensure that the program fits the needs of all parties involved.

All four of the community-based initiatives identified in this research emerged to help community members and local food businesses survive through a period of crisis and system-wide disruption. National organizations such as the USDA were limited in their ability to respond to COVID-19 promptly by their large scale and their eventual responses did not always meet the needs of recipient populations. As the organizations behind the four initiatives identified in this research were already embedded within the communities that they serve at the start of the COVID-19 pandemic, they were able to tailor their responses to community members' direct needs. For example, the Urban Growers Collective and *Farm. Food. Familias* worked with local chefs and BIPOC-owned food businesses to offer locally-sourced, culturally-relevant prepared meals to populations for whom cooking was inaccessible. On the other hand,

Market Box designed its distribution process to mimic a grocery delivery service to reduce the stigma recipients may feel about accessing food assistance. The long-standing connections cultivated by these community organizations informed these unique approaches.

Significantly, all four of the food relief initiatives continue to operate in some capacity as of the time of this article's publication, two years into the COVID-19 pandemic. Though COVID-19 continues to impact life daily in the United States with the emergence of new variants, the acute phase of the crisis in the first few months of the pandemic has passed and farmers and other businesses have largely adapted. Thus, the persistence of these four food relief programs suggests that they may signal changes in the food system that would last beyond the context of the COVID-19 pandemic. The COVID-19 pandemic did not introduce disparities in access to healthy food based on race and socioeconomic factors. Rather, the disruptive conditions of the pandemic made such disparities more apparent, and the summer of civil uprisings in response to the murder of George Floyd drew even more national attention to the ways systemic and structural racism contributes to the premature death of Black Americans and other people of color in the United States. More research into responses to the pandemic and uprisings within alternative food systems may shed light on the extent of changes to the food system in the United States in response to these historic events.

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Appendix A

Interview Questions for Market Box Organizers

1. How would you describe the work of Market Box?
2. I saw on the Market Box website that the initiative emerged in response to the pandemic to serve people who could no longer rely on the 61st St Market's LINK matching program to access fresh, affordable produce.
 - a. Where did the idea come from? How did the initiative first get off the ground?
 - b. What role did Experimental Station's relationship to farmers/community through the 61st St Market play in the development of the Market Box program?
3. Market Box emerged from the collaboration of many diverse organizations/businesses, not just one. Could you talk more about the role this cross-organizational collaboration has played in Market Box?
4. How did you build your network of Market Box recipients? What relationships allowed you to connect with different households?
5. How does the fact that Market Box operates as a mutual-aid program rather than as a nonprofit or charity organization affect how it operates and interacts with the community?
6. Market Box is unique in that it delivers to individual households. How is this logistically managed? Why is household delivery important for carrying out the aims of Market Box?
7. What challenges did the COVID-19 pandemic present in starting and maintaining the Market Box initiative? How did you work around those challenges? [Probe: social distancing, city guidelines, supply chain disruptions]
8. How does sourcing from local growers, such as through Star Farm or the Local Foods aggregator as you do now, relate to your vision of Market Box? What does this bring to the program?
 - a. Could you talk about your relationship with Local Foods more? Does Market Box have personal relationships with the farms that it sources from, or are these relationships managed through the aggregator?
9. Right now it seems that Market Box is mostly funded through individual donations. Are there any plans to change this funding strategy?
10. Tell me about any partnerships or relationships that have been useful in planning or executing Market Box's operations [Probe: such as other nonprofits, institutions, etc.]
11. What kinds of information sources were useful in planning out and adapting the operations of Market Box? [Probe: Did you look to other organizations doing similar work? In Chicago? Across the US?]
12. How did the operations and structure of Market Box evolve since its creation?
 - a. In terms of aspects that changed, what was the reasoning behind these shifts?
13. Do you see Market Box continuing beyond the context of the pandemic?
 - a. What kind of support (if any) would be helpful at the city, state, or federal government level?
14. Do you see Market Box as being connected to any changes happening to food systems at a larger scale?

15. Do you have any information on where recipients of Market Box are located? Would it be possible for me to have access to this data? What about where farms are located?
 16. Is there anything that you think is important for me to know that we haven't discussed already?
 17. Is there anyone else I should talk to?
-

Interview Questions for Plant Chicago

1. How would you describe the Local Food Box program?
2. I saw on your website that the program emerged in the context of the pandemic to serve Link Cardholders who faced difficulties procuring food due to grocery store closures and shortages. If I understand correctly, you joined Plant Chicago after the program got started, but I was wondering if you knew where the idea came from? How did the program first get off the ground?
3. The name Local Food Box emphasizes that much of its contents come from urban farms and local Midwestern farms. How does this local sourcing factor into Plant Chicago's intention with this program?
4. It would be helpful to know more about the process of sourcing produce for the Local Food Box from farms in Chicago and in the region.
 - a. I saw on your website that Plant Chicago partners with The Urban Canopy for the Local Food Box program. Could you tell me more about this partnership? How did it get started? How does it function in practice?
 - b. Logistically, how did you get all of this produce coming from different locations aggregated at the Plant?
5. It would also be helpful to know more about how Plant Chicago connects the Local Food Box with recipients in the community.
 - a. I know about the email list you can join on Plant Chicago's website. How else do you advertise the program to potential recipients? Do you usually have enough boxes to fulfill demand?
 - b. Since the box is offered on a sliding scale, do you request any kind of ID or proof of income or residency for the reduced price?
6. The COVID-19 pandemic placed many constraints on organizations and businesses operating in the food and agricultural industry across the US.
 - a. What particular challenges did the COVID-19 pandemic present for the Local Food Box?
 - b. How did/do you work around those challenges?
7. What resources did the city of Chicago, USDA, or other government agencies provide for farmers and food-access organizations to combat challenges introduced by the pandemic? Were these resources sufficient? If not, what do you wish had been available?
8. Tell me about any partnerships, relationships, or resources that have been useful in planning or running the Local Food Box.
 - a. On a related note, how is the program funded?

9. What kinds of information sources were useful in planning out and adapting the operations of the Local Food Box? [Probe: Did you look to other organizations doing similar work? In Chicago? Across the US?]
10. How did the operations and structure of Local Food Box evolve since its creation?
 - a. In terms of aspects that changed, what was the reasoning behind these shifts?
11. Do you see the Local Food Box continuing beyond the context of the pandemic?
 - a. What kind of support (if any) would be helpful at the city, state, or federal government level?
12. Do you see the Local Food Box or the work of Plant Chicago more generally as being connected to any changes happening to food systems at a larger scale?
13. How do you see the Local Food Box relating to the mission and goals of Plant Chicago?
14. Is there anything that you think is important for me to know that we haven't discussed already?
15. Is there anyone else I should talk to?