# **MODULE 1:** GET STARTED

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# INTRODUCTION

### This section will help you to:

- Understand how food system resilience planning can improve local governments' ability to respond to food system crises and create more equitable food systems
- Know how to use this guide and how it can be adapted to your unique context and needs
- Learn about how this guide was created and which cities were involved in the process

Food systems face acute and chronic threats caused by social, natural, and political crises. Natural and human-made disasters have already disrupted food systems across supply chains, on farms, and at the dinner table. The disruptions threaten food security and often magnify existing racial, geographic, and socioeconomic inequities.

The Coronavirus Disease 2019 (COVID-19) pandemic, for example, brought to light many vulnerabilities in food supply chains and social systems in the United States. The pandemic and consequent policies to contain its spread led to food shortages, unemployment, and escalating food insecurity, hitting many communities that already experienced the greatest inequities the hardest.<sup>1</sup> The crisis stretched thin the already limited resources of nonprofit food assistance programs, with governments from the federal to local level stepping in to help fill the gaps and coordinate responses. For local governments in the US, the COVID-19 pandemic experience underlined the need to prepare food systems for future disruptive events—and to plan in a way that advances food systems that are equitable and just.

Local governments can play a key role in preparing, responding to, and recovering from food system impacts of disruptive events. Municipalities that have developed food system resilience plans (for example, Baltimore,<sup>2,3</sup> Boston,<sup>4</sup> Toronto<sup>5</sup>) have demonstrated that there are many actions that local governments can take to build food system resilience.

Food system resilience planning can help a local government to:

- Prepare for disruptive events by improving their knowledge and understanding of potential threats (e.g., flood, civil unrest, pandemic, etc.) that might disrupt food systems.
- Respond to food system disruptions more efficiently and effectively by having plans in place and existing relationships with key actors in the jurisdiction and beyond.
- Create more equitable and just food systems by implementing food system resilience actions that uproot the systems and structures that create inequities in the food systems.

Local governments are also uniquely equipped to help lead food system resilience work because:

- Local policies (such as zoning laws) shape local food environments.
- Local government agencies (such as the school district) are key providers of meals.
- Local governments are often able to be more responsive than the federal government to their community's needs.
- Local governments can play a crucial role in coordinating emergency food response efforts.

Although this guide is focused on local government, governments are just one of many entities critical for supporting food security before, during, and after a disruption. Building a more resilient food system should be done as a partnership between local government, businesses, community organizations, players outside the local area, and community members who are responsible for as well as affected by the food system. Engaging the people, organizations, and systems that are most vulnerable can help to anticipate, prepare for, and reduce the burden of potential disruptions on communities and assure that solutions have positive impacts. Additionally, because food system resilience work helps develop a deeper understanding of food system vulnerabilities, strengths, and adaptive capacities, and helps foster collaboration, many solutions are "win-win." This means that even if a crisis never occurs, implementing resilience solutions can help build more sustainable, healthy, and equitable food systems.

## PURPOSE OF THIS PLANNING GUIDE

Whether you're new to food systems work, or you already have a food system resilience plan in your jurisdiction, this guide has information and tools to build the capacity of local governments to address food system resilience. The primary audience for this planning guide is local government staff (e.g., planners, sustainability directors, food systems managers, emergency management staff, public health officials, etc.) and policymakers who can develop and implement policies at the sub-national level.

# USING THIS PLANNING GUIDE

This guide will take you through a linear process that will result in a deeper understanding of your food system and a set of strategies for building food system resilience and considerations for implementing them. The strategies might be used to form a stand-alone food system resilience plan, or they may be embedded into a newly forming food, climate, or resilience plan. They may be added to an emergency management plan or inserted during a comprehensive plan review. They could also be used to guide programming or apply for a funding to support food system resilience work. While the examples and processes are largely based on information from the United States, the tools may be applicable and adaptable to other countries.

The guide has six modules, each focusing on unique elements of the food system resilience planning process. While you can complete the modules at your own pace, each module builds on the preceding module, so they should be completed sequentially.

When you see this icon in a section, it indicates that this is

a place to stop and

use a tool.

Figure 1. Overview and Brief Description of the Six Modules in this Guide



## PEER PERSPECTIVE

"[The best part of participating] was hearing from the other Community of Practice cities. Especially learning about some of the challenges that they were having and recognizing that in a lot of ways they were similar to the challenges that we were having, even though there were some pretty big differences too."

(Food System Resilience Community of Practice participant, statement edited for clarity) In each module, you will find the following:

- **Background Information** and context to use the tools.
- Equity Checks with tips for how to ensure equity principles are reflected in each stage of the planning process.
- Peer Perspectives about the experiences of the city representatives who helped to create this guide..
- Additional Resources to learn more about the topic.
- **Tools** with worksheets and/or activities that can be completed either individually or with partners.

This guide is intentionally designed to be adapted according to your local government's capacity and your community's unique context and needs. It provides resources to help local government staff understand where food systems issues fit within resilience and disaster planning and vice versa. Throughout, we provide case studies and hypothetical examples to demonstrate how this work is (or could be) done and suggest resources for learning more about specific topics and enhancing your capacity to do this work.

For simplicity, we use "you" to refer to the user of this planning guide. "You" may refer to your agency, organization, or local government.

## CREATION OF THIS PLANNING GUIDE

Recognizing the limited capacity and resources available for most local governments to address food system resilience, in 2019, the Johns Hopkins <u>Center for a Livable Future</u> and <u>Bloomberg Center for Government Excellence</u> at Johns Hopkins University (JHU) partnered to launch a Community of Practice with representatives of five US cities: Austin, Texas; Baltimore, Maryland; Denver, Colorado; Moorhead, Minnesota; and Orlando, Florida. Funded by the National Science Foundation (grant number 1745375), the Community of Practice aimed to combine evidence and on-the-ground experiences from practitioners to develop this guide.

The five member cities were selected based on mutual interest in food system resilience planning, and to achieve diversity in geography, population size and density, demographics, climate change risks, form of government, level of existing food systems planning, and regional connections.

At least two representatives from each location participated in the year-long guide development process. Community of Practice members worked for local government agencies or institutions that work closely with city government. **Table 1** lists the types of organizations and roles of people who were involved in the Food System Resilience Community of Practice, as one illustration of the range of people involved in food system resilience planning work.

**Figure 2.** Cities Participating in the Food System Resilience Community of Practice Created by Jamie Harding.



Table 1. Food Systen	n Resilience Comm	unity of Practice	Organizations and	l Individual Roles

Lead Organization Examples	Individual Roles/Titles	
Office of Sustainability	City Council Member	
Office of Climate Action, Resilience, and	Planner	
Sustainability	Administrator	
City Council	Project/Program Manager	
Department of Planning	Educator	
Department of Public Health	Student	
Department of the Environment		
Downtown Development Board/Economic		
Development Agency		
University Extension		
Regional Food Policy Council		

## HUMAN-CENTERED DESIGN

During the initial design phases of the Community of Practice, the Johns Hopkins University team worked with a student completing a fellowship through the Maryland Institute College of Art (MICA) Center for Social Design to integrate principles of Human-Centered Design into the Community of Practice. This process focuses on designing solutions for and with the people for whom they are intended to reach.

Community of Practice members participated in monthly group sessions, one-on-one calls, and completed assignments to help develop this guide. Throughout the guide there are quotes by Community of Practice members that capture their experiences.

Prior to the development of this guide, the Johns Hopkins Center for a Livable Future collaborated with the Baltimore Office of Sustainability on the Baltimore Food System Resilience Advisory Report<sup>2</sup> and the Baltimore City Food Resilience Strategy.<sup>3</sup> The guide presented here used these resources as a starting point to explore how other cities in the United States can develop their own unique food system resilience plans, programs, and policies.

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## DISASTER JUSTICE

Some disruptions are referred to as disasters. The United Nations Office of **Disaster Risk Reduction** defines a disaster as "a serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts."<sup>4</sup> Many also argue that disasters are rooted in social problems, that disasters disproportionally affect disadvantaged communities because of structural inequities, and that disaster preparedness and response efforts perpetuate these oppressive systems. Disaster justice has emerged as a concept that "blends the ongoing struggles for environmental, climate, ecological, language and social justice with demands for improvement of disaster preparedness and response mechanisms."<sup>5</sup> To learn more about how to support community-led disaster justice efforts, see the Praxis Project's Moving from Disaster Preparedness to **Disaster Justice: Centering Community & Racial Justice** for a Transformed Future.

# UNDERSTANDING FOOD SYSTEM RESILIENCE

### This section will help you to:

- Describe food system resilience and how it differs from sustainability and stability
- Frame food system resilience as a determinant of a well-functioning food system
- Understand the difference between shocks and stressors and how they can both affect food system functioning
- Explain and recognize characteristics of more resilient food systems

This section provides the fundamentals of food system resilience. Even if you are well-versed in food system resilience concepts, we recommend that you read this section so you are familiar with how we define food system resilience for this guide.

We define food system resilience as "the capacity over time of a food system and its units at multiple levels, to provide sufficient, appropriate, and accessible food to all, in the face of various and even unforeseen disturbances."<sup>1</sup> To help better understand this definition, we break it apart—exploring first what we mean by food system and resilience and then how the two concepts merge for food system resilience.

# FOOD SYSTEM

A **food system** is "all the activities and resources that go into producing, distributing, and consuming food, the drivers and outcomes of those processes, and all the relationships and feedback loops between system components."<sup>2</sup> A food system can be very complicated; within a jurisdiction, it may be overseen by multiple government departments, and both depend on and impact the functioning of other systems—such as transportation, energy, or health.

The food system framework (**Figure 3**) highlights the multiple external influences on a food system and the interconnections between different elements.<sup>3</sup> You will notice that the arrows go in multiple directions. For example, consumer behavior is influenced by food environments, but it also influences food environments. The external drivers at the top of the figure, to varying degrees, are impacting the food system and can cause disruptions to the food system.

Food systems serve multiple purposes and different groups may prioritize different goals for food system functioning. In

this guide, a key goal is having a food system that supports **food security**, with a particular focus on ensuring food security for communities that experience the greatest inequities. According to the Food and Agriculture Organization of the United Nations (defined during the 1996 World Food Summit), "**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."<sup>6</sup>

Food security is multifaceted and has several dimensions. In this guide, food security includes:

- Food Accessibility: Food is accessible if it is both economically and physically accessible to all parts of the population.<sup>7</sup>
- **Food Availability:** Food is available if it is physically present and available to consume in a given location.<sup>7</sup>
- **Food Acceptability:** Food is considered acceptable if it is religiously and culturally appropriate for the person eating it, nutritionally adequate, and safe to eat.<sup>7</sup>

These components of food security can be used to frame a food system's ability to continue functioning and support food security during and after a disruption. Later modules provide examples and suggestions for how to understand the components of food security in food system resilience planning.

While this guide focuses on food accessibility, availability, and acceptability, other considerations like food agency—the ability of actors to make their own food choices<sup>8</sup> —may also be important to consider when thinking about food security and food system functioning.

**Figure 3.** Food System Framework. Source: Fanzo, Haddad, McLaren et al. 2020. <u>The Food</u> <u>Systems Dashboard is a new tool to inform better policy</u>. Nature Food. Used with permission.



## A NOTE ON THE TERM, "RESILIENCE"

When this guide uses the term, resilience or suggests actions to build resilience, it often has an implied positive value. This does not mean that resilience is about strengthening and preserving systems that are broken, oppressive, or unjust. It also does not mean that communities and individuals should constantly be asked or forced to be resilient, often from disruptions to which they contributed little. The positive connotation of resilience is used in this guide because we believe that by investing in collaborative and forward-thinking planning, food system resilience work can help build more equitable, just, and prepared food systems rather than preserving what is harmful.

## RESILIENCE

The Stockholm Resilience Centre defines **resilience** as "the capacity of a system, be it an individual, a forest, a city or an economy, to deal with change and continue to develop."<sup>9</sup> Building resilience is not about preventing a disruption to a system or making something "fail-safe," but making sure that it is "safe to fail"<sup>10</sup> — meaning that although a failure or disruption in the system occurs, it is contained and minimized and presents opportunities for learning.

Resilience assumes disruptions will occur. Disruptions can be natural or human-made, and they are commonly described as either shocks or stressors.

- A shock is a sudden disturbance to a system.<sup>11</sup> In an urban food system, for example, this might be a flood or civil demonstration that prohibits trucks from distributing food to grocery stores.
- A stressor is a gradual eroding of a system.<sup>11</sup> In the food system, examples of this are increasing average temperatures from climate change altering the growing seasons in a region, or high levels of food insecurity.

Resilience is sometimes used interchangeably with other terms such as sustainability and stability. They are distinct but not mutually exclusive. These three concepts can all be considered goals of a food system. For example, while often it is desired to have a resilient and sustainable system, a minor amount of instability can sometimes increase resilience if it promotes adaptation or transformation that ultimately makes the system stronger.<sup>12</sup>

**Figure 4** provides side-by-side definitions for each concept along with descriptions of the goals or outcomes of each and an example of what it looks like within a food system.

Figure 4. Definitions and Goals of Sustainability, Stability and Resilience within Systems

	SUSTAINABILITY	STABILITY	RESILIENCE
DEFINITION	"The ability to meet the needs of the present without compromising the ability of future generations to meet their own needs" <sup>13</sup>	"The ability to return to an equilibrium state after a temporary disturbance" <sup>14</sup>	"The capacity to deal with change and contin- ue to develop" <sup>9</sup>
GOALS	Balancing present and future needs, preventing and mitigating resource or capacity loss, & preventing future disruptions	Maintaining equilibrium, minimizing disruption, & robustness	Learning, adapting, transforming, & persist- ing despite challenges
EXAMPLE	Some vegetable growers have switched from conven- tional to organic practices to improve soil health and improve the ability of the land to keep producing food for generations to come.	A farmer who uses greenhouses for growing vegetables can keep temperatures inside the greenhouse stable and production at the same level, even in the case of electrical outages because they have a backup generator.	When COVID-19 con- tainment measures closed restaurants, a farmer who had supplied food to restaurants adapted to distribute food to community members through community- supported agriculture (CSA). Because of the new business generated through the CSA, the farmer was able to expand their operations post-pandemic.

# FOOD SYSTEM RESILIENCE

Food system resilience applies resilience thinking to a food system. It is "the capacity over time of a food system and its units at multiple levels, to provide sufficient, appropriate, and accessible food to all, in the face of various and even unforeseen disturbances."<sup>1</sup>

One way to think about food system resilience is to ask four key questions:15

### 1. Resilience of What?

- What are the things or systems that you are trying to make more resilient? What are the boundaries of the food system you are trying to make more resilient, and what other systems are intersecting with that food system?
- Example: City X is interested in making the local food system, more specifically the food system within the city boundaries, more resilient. City X will have to consider regional, national, and international supply chains as it imports a considerable amount of its food.

#### 2. Resilience to What?

- What natural or human-made disasters may impact the food system? Are you concerned with "stressors" or "shocks," or both?
- Example: City X is interested in taking an all-hazards approach, meaning it is concerned about multiple different hazards that are expected and unknown. Because of its geographic location, and climate change, City X is particularly concerned about extreme coastal weather events and sea level rise.

#### 3. Resilience for What Purpose?

- What are the goals in building food system resilience? How can the goals help promote emergency response efforts and long-term systems transformations?
- Example: City X wants to make sure that the food system is prepared for the next disruptive event, but it also wants to make the current and future food systems more equitable and just.

### 4. Resilience for Whom?

- How does resilience work promote procedural, distributional, structural, and intergenerational equity?
- Example: City X wants to work collaboratively with the communities that are most at risk of food system disruptions to build a more equitable, just food system. It wants to collaborate in all stages of the process, share in the leadership, and build community capacity to respond to future disruptions.

**Figure 5** shows the resilience timeline for a food system. The food system starts at a baseline level of functioning prior to a disruption. After a disruption, the system must respond and recover over time. A more resilient food system maintains a higher level of functionality during the disruption and immediately after a disaster. It also recovers more quickly and ideally ends with a higher level of food system functioning ("bouncing back better").

We can use a hypothetical city and the COVID-19 pandemic as a way to better understand this timeline. Before the start of the COVID-19 pandemic, City X had a moderately wellfunctioning food system. Food was generally accessible and available, but 12 percent of the population of City X was considered food insecure. A substantial proportion of the actors

## EQUITY CHECK

Consider the following questions for your local food system:

- What would bouncing back better look like?
- What pre-existing inequities could you target with food system resilience work?

You don't have to know the answers to these questions yet, but they can help you consider how to prioritize equity. The next module digs deeper into equity concerns. in the food system felt that they had access to food and that the food was acceptable. There were, however, many who felt that the food system was unequal and unjust. You will see that the straight line in the middle of the left side of the diagram represents baseline food system functioning.

When COVID-19 was declared by the World Health Organization a global pandemic in March 2020, this was a shock to City X's food system. Food insecurity rates rose drastically in City X, with many newly food insecure households. You will see in the middle panel that the shock reduced the level of food system functioning. Over time, City X's food system started to recover and food system functioning improved. The recovery did not stop at the initial state of food system functioning but improved beyond where it started. The food system learned, adapted, and transformed into one that functions better than before the shock.

Many characteristics or "attributes" of resilient systems have been identified in research and practice.<sup>17</sup> **Table 2** provides some attributes commonly linked with resilient urban systems and examples of how they could be demonstrated in a food system. The equity attributes were added by the Community of Practice members. Given the complexity of food systems, these attributes can show up in many ways and in some cases can support each other, while in other cases they can even act at cross-purposes. In later modules, you will revisit these attributes and develop strategies aimed at strengthening them.

**Figure 5**. Food System Resilience Timeline. Adapted from The Resilience of America's Urban Food Systems: Evidence from Five Cities <sup>16</sup> and Food system resilience: Defining the concept <sup>1</sup>



### Disruption

**Table 2.** Food System Resilience Attributes, Descriptions, and Examples

Attribute	Description (in food system context)	Food System Example	
Diversity	A variety of food system elements that can serve a similar purpose	A variety of food retail options, such as farmers markets, independent grocers, and supermarkets	
Redundancy	Multiple or duplicative food system elements that can serve the same purpose	Neighborhoods with more than one grocery store in walking distance	
Connectivity	Multiple food system elements that connect and communicate with one another	Regular communication between food banks and emergency response actors during a crisis	
Capital Reserves (social, financial, natural, political)	Available "backup" resources that can be used during a disruptive event	Strong community networks (social), reserve funds (financial), arable soil (natural), state government support (political)	
Flexibility	The ability to make modifications to food system elements during disruptive events when needed	Government providing waivers to operate school meal programs outside of normal hours	
Preparedness	A plan in place for how to ensure food access, availability, and acceptability during a disruptive event	Food included in emergency management protocol; Formation of an Emergency Food Working Group	
Procedural Equity	Establish "transparent, fair, and inclusive" food system resilience planning, implementation, and evaluation processes <sup>18</sup>	Local government food system resilience planning work is done in partnership and co-owned by community partners, and community members are compensated for their engagement in the process	
Distributional Equity	Ensure the benefits and burdens of your food system resilience planning are equitably distributed <sup>18</sup>	Food system resilience actions prioritize resources to communities that experience the greatest inequities, disproportionate impacts, and have the greatest unmet needs	
Structural Equity	Uproot long-term, embedded structures that perpetuate inequitable food system and resilience outcomes <sup>18</sup>	Local government offers unrestricted grants to projects supporting communities most impacted by food- related injustices <sup>19</sup>	
Intergenerational Equity	Actions taken today conserve resources for future generations <sup>20</sup>	Youth are included in the development, implementation, and evaluation of food system resilience actions	

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