# MODULE 6: IMPLEMENT & MEASURE

RESILIENCE IN ACTION

This section will help you to:

- Learn tips from other cities on successful implementation of food system resilience planning
- Consider barriers to implementation and potential strategies to mitigate challenges
- Learn about useful suggestions from Community of Practice members on considerations and barriers to implementation

CONSIDERATIONS FOR SUCCESSFUL IMPLEMENTATION

Throughout the development of this guidebook, Community of Practice members were asked to reflect on and brainstorm how to implement food system resilience goals successfully, and about potential barriers they may encounter. **Table 9** provides the top suggestions from Community of Practice members. The suggestions range from how best to use data to ensure a community has buy-in and ownership in the process.

Image credit: Stefanie Arck-Baynes, Philabundance; CLF Food Policy Networks Photo Contest, 2017
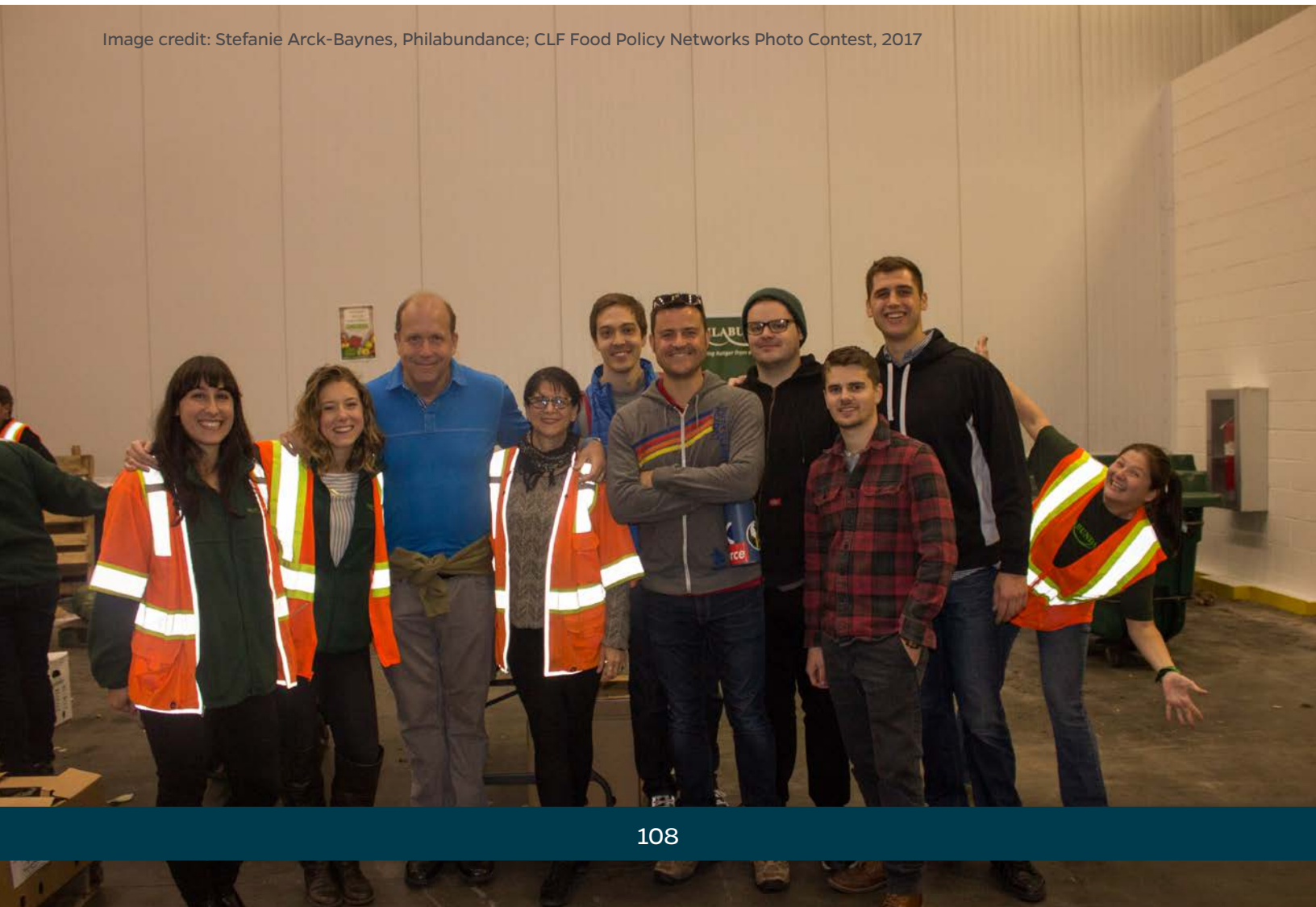
Table 9. *Community of Practice Suggestions for Successful Implementation of Food System Resilience Goals*

Co-create goals with community partners	Use a combination of powerful data and research and compelling personal stories to advocate/justify/ motivate	Secure political support for the goal from leadership	Develop bipartisan goals
Be transparent in the planning process and implementation of goals	Allocate sufficient time for implementation; without time there is no action	Center equity	Make data-driven decisions
Recruit partners to help with implementation and evaluation	Use existing research and evidence to inform goals	Develop quantifiable goals	Increase staff capacity to focus on the goal/issue
Use plain language so your goals are easy to understand by everyone	Create meaningful goals that make resilience a concept and term that the general public/community can relate to	Secure sustainable funding to implement goals	Allocate time and money to consider unintended negative consequences when developing actions
Consider goals and actions that do not require a financial request from elected officials	Recognize the importance of community champions and their support	Create a sense of urgency, so that goals and actions do not get pushed behind other priorities	Create goals that can outlast or supersede a political administration or a particular champion who may be replaced or leave

POTENTIAL BARRIERS AND MITIGATION STRATEGIES

Ensuring that the strategies you identify in this process are maintained, sustained, and effective in the long run despite hurdles you may encounter along the way requires building *internal* resilience, too. Communities, governments, organizations, and individuals are constantly changing and must adapt to external and internal pressures. In a local government, for example, a program supported by one Mayor or County Commissioner one year may be cut in the next year after an election. A community-based organization leading local emergency response work might lose a key funding source after national or global priorities shift. This section shares some tips from Community of Practice members on sustaining this work in the long run and overcoming common hurdles.

Table 10. *Common barriers discussed by the Community of Practice members and potential strategies to mitigate challenges.*

Barrier	Description
Lack of funding	Getting funding for food system policy work has been historically challenging because food systems are diverse and do not neatly fit within one aspect of a community's policies or infrastructure. Organizations such as the Council of Development Finance Agencies have produced resources to help partners get financial support for food system development.
Lack of human resources/ understaffed	Although most local governments do not have a division or staff member dedicated solely to food systems policy, let alone food system resilience work, a few pioneers have developed specific roles and positions for this purpose. Still more have found ways to add food to other sectors such as health and emergency preparedness. Regardless of the title or official job description of the person or people who are responsible for supporting food system resilience work, ensuring that there is both redundancy and diversity in staff connected with the food system resilience goals can help keep them going.
Lack of time available to monitor and evaluate progress	It is important to collect data on your local government's response in the hours, days, or weeks after a disruption occurs. Monitoring and evaluating progress can take a significant amount of time and resources. Consider partnering with local universities or develop data agreements with other state agencies and community partners who may have access to and are willing to share timely and reliable data.
Lack of leadership support or community buy-in	It is critical to have sufficient political capital for supporting long-term outcomes for resilience planning. Find champions who are supportive of this work and connected to funding opportunities and decision makers. Secure buy-in from others outside of the political process so that programs and initiatives do not get discarded after new leadership is elected. Include a diversity of perspectives and people who are engaged in the work.

MEASURE AND MONITOR FOOD SYSTEM RESILIENCE

This section can help you to:

■ Identify metrics that can be used to measure the functioning and potential resilience of your food system in the face of disruptions

■ Find data sources that can be used to measure your indicators

Food systems and resilience can be complex and difficult to measure, but there are resources available to help make sure that your planning and strategies are rooted in scientific evidence as well as the experiences of community members. This section will explore data considerations and two approaches to measure resilience. You will need to refer back to the activities you completed in **Module 4: Assess (page 58)** module and **Module 5: Strategize (page 92)** module.

MEASURING FOOD SYSTEM RESILIENCE

As defined in the **Get Started** module, food system resilience is the capacity of a 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 and therefore, can be difficult to measure until after a disruptive event occurs.[1] Scientific researchers from psychology to engineering have explored what it means for different systems or individuals to be more or less resilient.[2,3,4] Some have even suggested metrics for measuring food system resilience (See the **Learn More** resources at the end of this module for examples), but this work is still in its infancy compared to measuring resilience in other systems.

In order to understand whether your strategies and actions are working to build resilience in our food system, it is necessary to plan for on-going measurement and monitoring. As you monitor your strategies and actions, this will allow for an understanding of progress and where adjustments may need to occur.

DATA CONSIDERATIONS

Data collection is necessary, but it can be time and resource intensive. When measuring food system resilience, you will need to consider data across time, geography, and the type of data available or needed to accurately measure impact and progress. Keep in mind the following data considerations as you decide what approach is most beneficial for your food system resilience planning and work:

- **Scale**: Consider what geographic scale is most beneficial to your assessment and evaluation. Some data are available at multiple scales—census tract, zip code, county, state or regional. Depending on the strategies you outlined in the previous section, different scales may be important.

- **Frequency**: Depending on the shock or stressor you are attempting to measure, the frequency with which data are updated may be important. If you are evaluating long-term resilience, such as how did your jurisdiction respond and improve years after a hurricane, annual data may be sufficient. However, if a disaster strikes and you need to evaluate the government's response immediately, you may need data that are updated more frequently.

- **Type**: Both secondary (collected by another entity) and primary (collected by you and your team) data can be important in assessing and evaluating food system resilience. If you have the time and resources, collecting primary data can add to your evaluation of food system resilience given every community has different food system assets and vulnerabilities, as well as underlying contextual factors that influence food system outcomes. However, there are many publicly available datasets that exist and can be used to measure attributes of resilience or by proxy. You may also consider qualitative (e.g., interviews, focus groups, observations) and quantitative (e.g., surveys or administrative data) data collection methods to build a robust understanding of your local food system.

We recommend the resources by the Bloomberg Center for Government Excellence on open data, data management, and performance analytics to learn more about how data can strengthen your organization's work.

METHODS TO EVALUATE FOOD SYSTEM RESILIENCE

Method 1: Food system functioning over time as a proxy measure for food system resilience

In the **Evaluate Baseline Food System Functioning (page 60)** section of this planning guide, we presented the concept of food system functioning as one way to identify indicators and data sources that could measure how well your system is working and meeting its goals *before* a crisis occurs. If food system functioning indicators are measured consistently over time, they can also provide post-disruption information on how the food system and community are withstanding and recovering from a disruption.

The food system functioning approach can be time and resource intensive if your jurisdiction decides to update data frequently, especially if it is weekly or monthly data. Fortunately, there are existing data sources that you can use to track food system functioning, some of which are provided in the **Baseline Food System Functioning Indicators (page 60)** table found in **Module 4: Assess (page 58)** section of this guide.
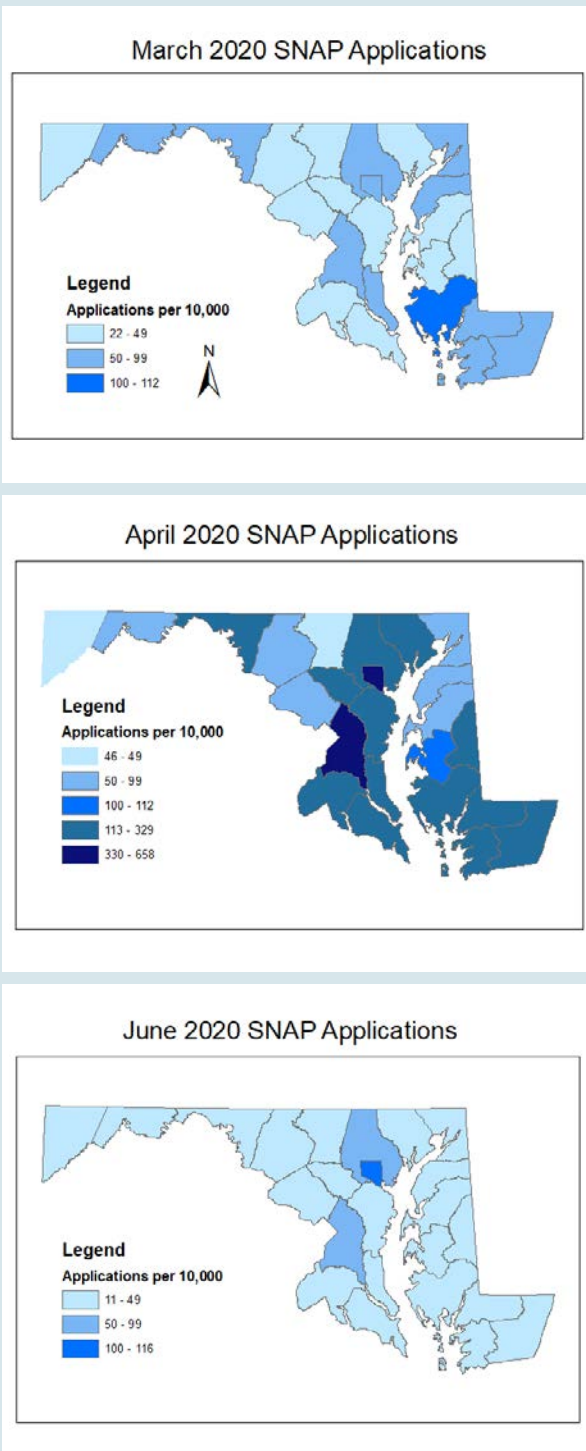
Image credit: Mariama Badjie; CLF Food Policy Networks Photo Contest, 2019
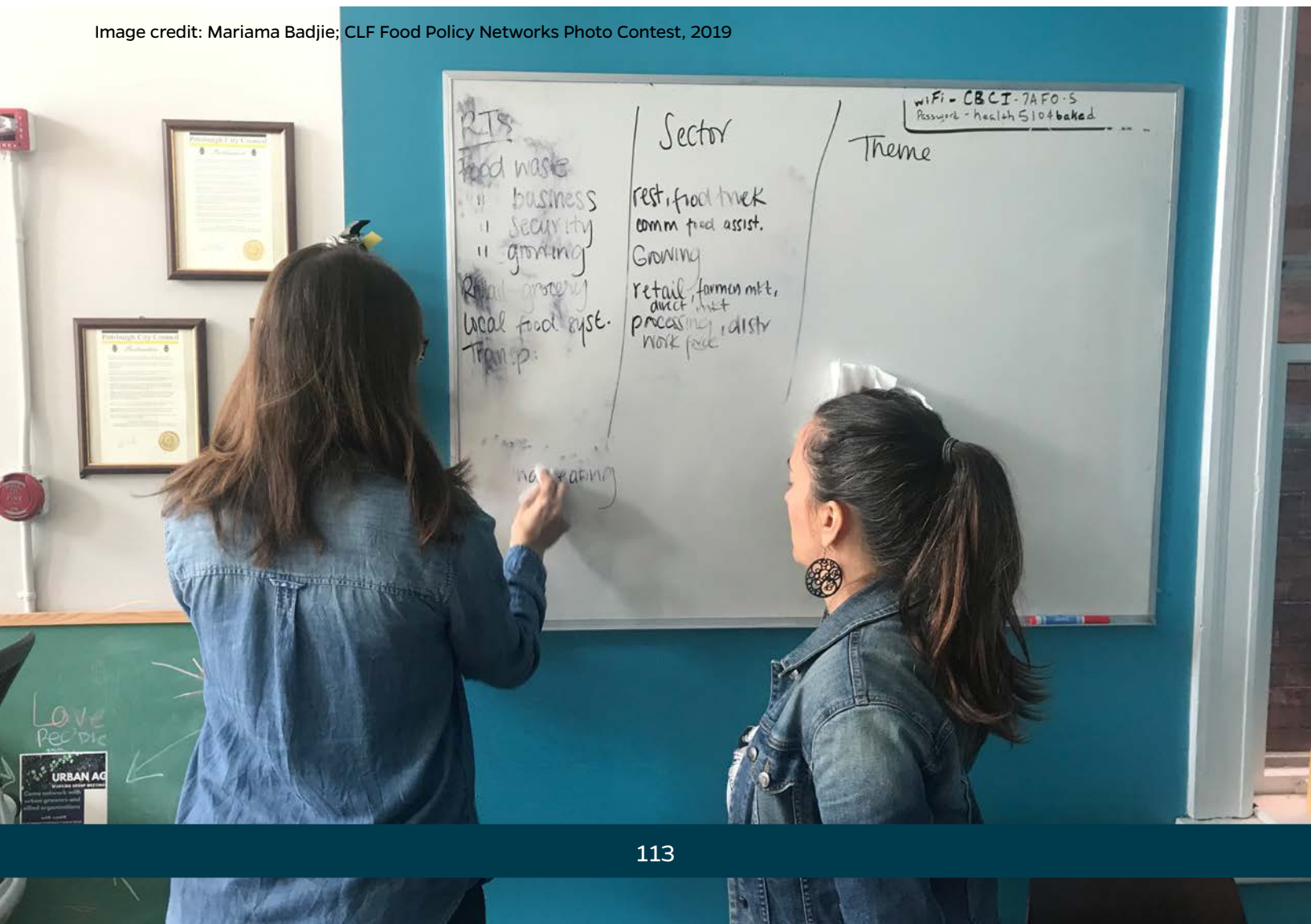
EXAMPLE OF FOOD SYSTEM FUNCTIONING MEASURED OVER TIME

During the COVID-19 pandemic, the State of Maryland reported residents' applications for the Supplemental Nutrition Assistance Program (SNAP) each month, by county. **Figure 12** illustrates how data can be used to demonstrate where need for food assistance exists. The maps display data on the number of applications submitted to participate in SNAP from March, April and June 2020. It is clear to see the drastic increase in people needing assistance across Maryland. From March to April, the counties with the darkest blue coloring experienced a large jump in SNAP applications. By the end of summer 2020, however, applications had fallen again in many counties. Although there could be many reasons for the change in certain counties, it could suggest an improvement in the ability of families in those counties to afford enough food. This type of spatial information can help policymakers and emergency food service providers understand where to focus response and recovery resources in the wake of a disruption.

Figure 12. *Data Source: Maryland Department of Human Services. Created by Emma Moynihan.*

March 2020 SNAP Applications

Legend
Applications per 10,000
22 - 49
50 - 99
100 - 112

April 2020 SNAP Applications

Legend
Applications per 10,000
46 - 49
50 - 99
100 - 112
113 - 329
330 - 658

June 2020 SNAP Applications

Legend
Applications per 10,000
11 - 49
50 - 99
100 - 116

Method 2: Resilience Attributes Observed in Food Systems

While Method 1, the food system functioning approach, depicts the system's functioning and level of recovery, Method 2, the resilience attributes approach, focuses on the system's *capacity* for resilience. This can be done in the absence of a disruption. Further work is needed to develop approaches to and specific data sources for measuring these attributes, but we mention it here as another promising route to pursue. The **Resilience Attributes Approach (page 98)** provides a starting framework to help you think through ways you might measure the resilience attributes. Although the attributes do not have to be measured after an event occurs in order to tell you something about the systems' resilience, we suggest making a plan for reassessing the attributes periodically as part of the evaluation of your resilience plan implementation.

LEARN MORE ABOUT IMPLEMENTATION & MEASUREMENT

- Food and Agriculture Organization of the United Nations City Region Food System Indicators – Indicators Framework
- The Economics of Local Food Systems: A Toolkit to Guide Community Discussions, Assessment and Choices
- Councils of Development Finance Agencies: Food Systems Finance Resource Center

REFERENCES

1. Tendall, D. M., Joerin, J., Kopainsky, B., Edwards, P., Shreck, A., Le, Q. B., ... & Six, J. (2015). Food system resilience: Defining the concept. *Global Food Security*, *6*, 17-23.

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4. Holling, C. S. (1996). Engineering resilience versus ecological resilience. *Engineering within ecological constraints, 31-44*.