Healthy Eating Research



Summer Speaker Series for Students 2025

Getting Started!

- Update your name on Zoom, if needed
 - Right click on your Zoom box, click "rename"
- Type your name and institution into the chat box!
 - O Ex. Undergraduate Student, Dietetic Intern, Masters Student, Doctoral Student, Post Doc, Public Health Practitioner, Researcher/Professor, Other
- Remember to keep yourself on mute.
- Type your questions into the chat box.





NOPREN HER Summer Series for Students

Schedule and Topics

- June 11: Early Childhood
- June 25: Policy Updates
- July 9: School Wellness
- July 23: Resilient Food Systems
- August 6: Food Security
- August 13: Student Presentations

The series will take place on Wednesdays from 4:00 - 5:00 pm EST

For more information or to watch past recordings, visit:

https://nopren.ucsf.edu/her-nopren-summer%C2%A0speaker-series-students-2025





Healthy Eating Research



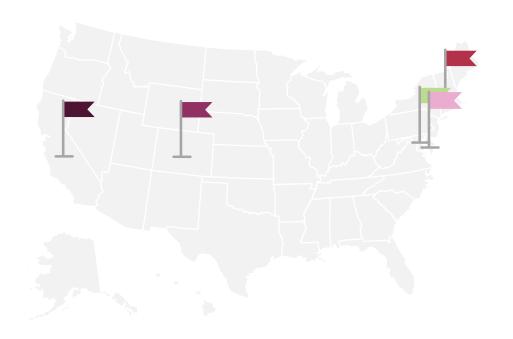
Session 4: Building Resilient Food Systems



PRESENTER DISCLOSURE

The views and information presented today are those of the presenter and do not necessarily reflect those of the funders or collaborators.

ABOUT ME











05 Washington, DC

SESSION OBJECTIVES



Explore the concept of food system resilience



Apply food system resilience concepts



Example: Local government food system resilience work



Discuss current policy, research, and practice opportunities and challenges

POLL QUESTIONS

How many of you have heard of the concept of food system resilience? (Yes/No)

UNDERSTANDING FOOD SYSTEM RESILIENCE

FOOD SYSTEM RESILIENCE

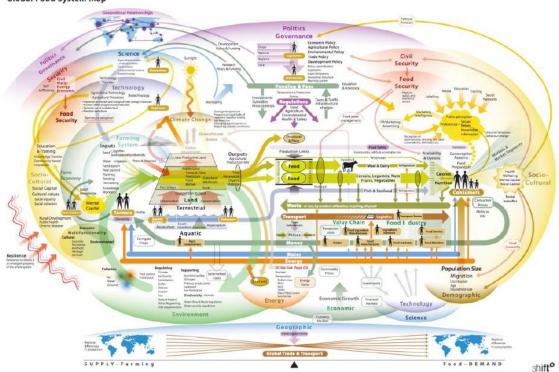
"...capacity over time of a **food system** and its units at multiple levels, to **provide sufficient**, appropriate and accessible food to all, in the face of various and even unforeseen disturbances."

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

FOOD SYSTEM

Sources: ShiftN, 2009; Nicholson, C. F., Stephens, E., Jones, A. D., Kopainsky, B., Parsons, D., & Garrett, J. H. (2019). Setting priorities to address the research gaps between agricultural systems analysis and food security outcomes in low-and middle-income countries.

Global Food System Map

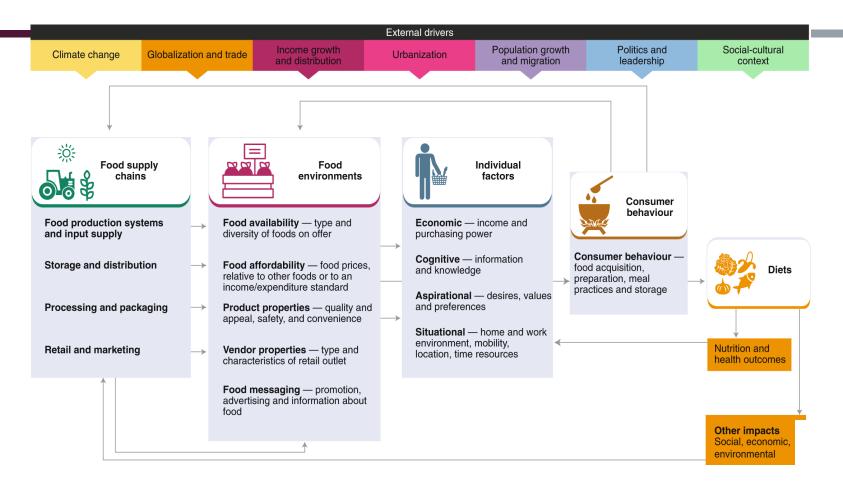


FOOD SYSTEM DEFINITION

"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."

Source: Neff, R. (2014). Introduction to the US food system: Public health, environment, and equity.

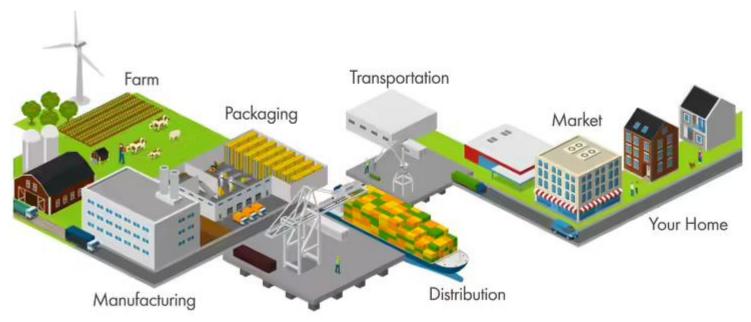




Source: Fanzo, J., Haddad, L., McLaren, R., Marshall, Q., Davis, C., Herforth, A., ... & Kapuria, A. (2020). The Food Systems Dashboard is a new tool to inform better food policy. *Nature Food*, *I*(5), 243-246.

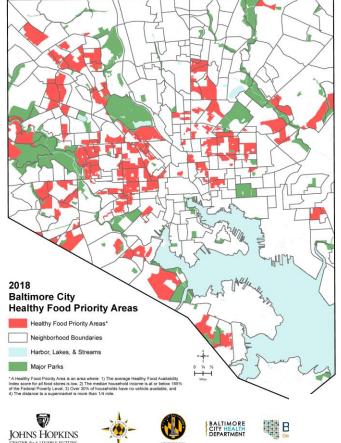






Source: Kiger, P. (2020) Supply Chain 101: What Happens When Our Food Supply Is Disrupted by a Pandemic. https://money.howstuffworks.com/food-supply-chain-pandemic.htm

Food Environments









Individual Factors

graphic/

Source: KCRC Centre for Diet and Activity Research (CEDAR), Food, income and education: who eats more of what? February 2014. www.cedar.iph.cam.ac.uk/resources/evidence/food-income-education-



Fruit & veg

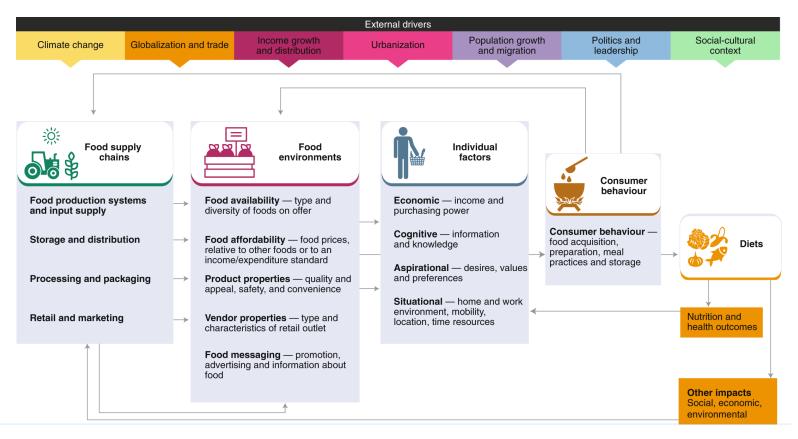
Education



Consumer Behaviors



FOOD SYSTEM



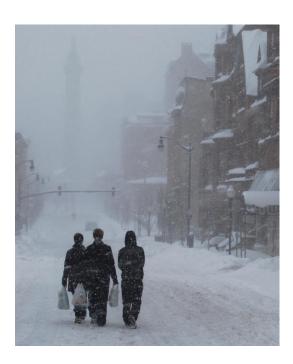
Source: Fanzo, Haddad, McLaren et al. 2020. The Food Systems Dashboard is a new tool to inform better policy. Nature Food.

FOOD SYSTEM RESILIENCE

"...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."

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

DISTURBANCES





Sources: Left: Charles Street, Baltimore mid-blizzard, Flikr, CC BY2.0; Right: Seth Sawyers (2016) Empty grocery Shelves, Wikimedia Commons Slide courtesy of Erin Beihl

POLL QUESTION

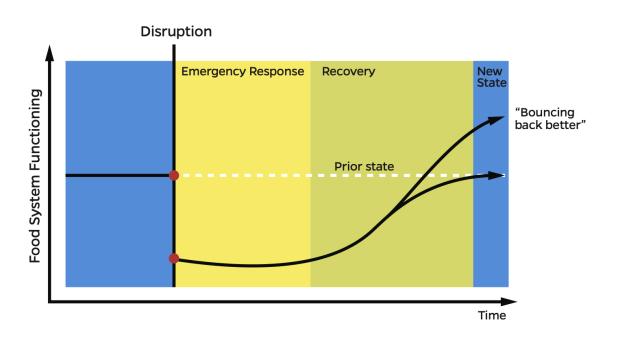
What types of disasters have you seen impact the food system in the location where you live? (select all that apply)

FOOD SYSTEM RESILIENCE

"...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."

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

"SUFFICIENT, APPROPRIATE AND ACCESSIBLE FOOD TO ALL"



Source: Adapted from Zeuli, K., & Nijhuis, A. (2017). The resilience of America's urban food systems: Evidence from five cities. *Roxbury, MA: Initiative for a Competitive Inner City*. By: Michael Milli, Center for a Livable Future.

APPLYING FOOD SYSTEM RESILIENCE CONCEPTS

Sustainability

"The ability to meet the needs of the present without compromising the ability of future generations to meet their own needs"

Some vegetable growers have switched from conventional to organic practices to improve soil health and improve the ability of the land to keep producing food for generations to come.

Stability

"The ability to return to an equilibrium state after a temporary disturbance"

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.

Resilience

"The capacity to deal with change and continue to develop"

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.

Sources: Brundtland, G. H., Khalid, M., Agnelli, S., Al-Athel, S., & Chidzero, B. J. N. Y. (1987). Our common future. *New York, 8.*; Holling, C. S. (1973). Resilience and stability of ecological systems. *Annual review of ecology and systematics, 4*(1), 1-23.; Stockholm Resilience Centre. (n.d.) What is resilience? https://www.stockholmresilience.org/research/research-news/2015-02-19-what-is-resilience.html#:~:text=Resilience%20is%20the%20capacity%20of.spur%20renewal%20and%20innovative%20thinking.

FOUR KEY RESILIENCE QUESTIONS

Resilience of what?

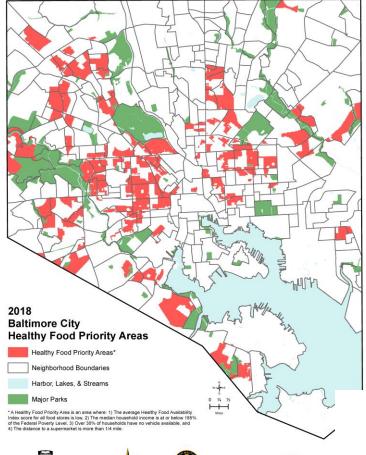
Resilience **to** what?

Resilience for what purpose?

Resilience for whom?

RESILIENCE **OF** WHAT?

- Geographic scope
- Temporal scope













RESILIENCE TO WHAT?

Sources: Chodur, Xhao, Biehl, Mitrani-Reiser, Neff. 2017. Assessing food system vulnerabilities: A fault tree modeling approach. *BMC Public Health*. Figure from: Biehl, E., Buzogany, S., Huang, A., Chodur, G., & Neff, R. (2017). Baltimore food system resilience advisory report. *Baltimore (MD): Baltimore Office of Sustainability & Johns Hopkins Center for a Livable Future*.

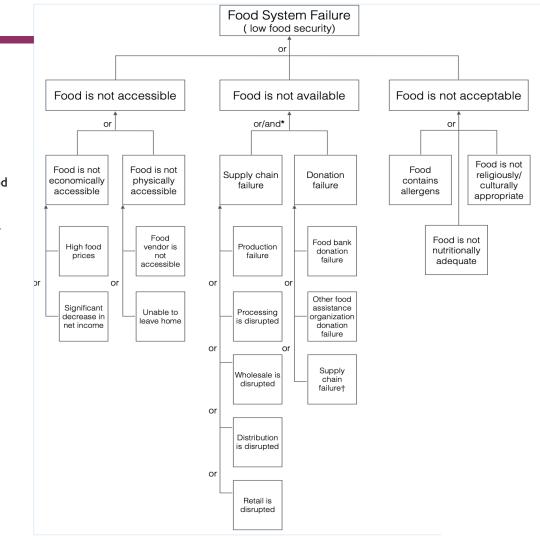


Table Ge. Strategies for Addressing Vulnerabilities in Baltimore's Food System Food System Strategies for Addressing Vulnerabilities Component			RESILIENCE FOR WHAT PURPOSE?		
conomic Access	Support economic development programs in food insecure neighborhoods. Improve uptake of existing economic food assistance programs (before and after disasters). Continue to advocate for policies and programs that reduce food insecurity by				
Physical Access	addressing its root ca 1. Consider food access	e for policies and programs that reduce food insecurity by suses, including poverty, employment, and discrimination. s in public transit redesign. ransportation methods for accessing food.			
Production	Develop a commun Incentivize increase	Table 6a. Strategies for Addressing Vulnerabilities in Baltimore's Food System			
Processing/Wholesale	Support local farme Advocate for federa Support research to emergency events. Evaluate the Baltima	Food System Component	Strategies for Addressing Vulnerabilities		
Distribution	Expand opportunitie Assess feasibility of Ensure that main transpossible after an	Economic Access	Support economic development programs in food insecure neighborhoods.		
Retail Donation/Food Assistance Organizations (FAO)	Support small busin Identify and designs Enhance preparedn Improve coordinates		Improve uptake of existing economic food assistance programs (before and after disasters).		
Acceptability	liaison. 3. Identify and design: 1. Enhance capacity of 2. Ensure that food stranticipates special of 3. Continue and expan		 Continue to advocate for policies and programs that reduce food insecurity by addressing its root causes, including poverty, employment, and discrimination. 		
Sovernment*	food in the city. 1. With community inc. 2. Identify indicators t	Physical Access	1. Consider food access in public transit redesign.		
Social Capital*	Baltimore's food sys 1. Support increased s 2. Strengthen and drafood access after es 3. Provide opportunits institutions.		2. Explore alternative transportation methods for accessing food.3. Develop a community food storage and communications plan.		
abor*	Support safe and equ Identify best practice	ownership and operation of neighborhood food stores. uitable labor and hiring practices in the city's food industry, es for protecting food laborers, developing backup labor. Jon of waste removal contingency plans in business and FAO			

Source: Biehl, E., Buzogany, S., Huang, A., Chodur, G., & Neff, R. (2017). Baltimore food system resilience advisory report. Baltimore (MD): Baltimore Office of Sustainability & Johns Hopkins Center for a Livable Future. Slide courtesy of Erin Biehl

RESILIENCE FOR WHOM?

- Who is it benefiting? How are risks and rewards distributed?
- Who has access to resources before, during, and after a crisis?
- Who is involved in decision-making?

RESILIENCE ATTRIBUTES - DESCRIPTIONS

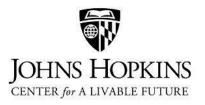
Attribute	Description (in food system context)
Diversity	A variety of food system elements that can serve a similar purpose
Redundancy	Multiple or duplicative food system elements that can serve the same purpose
Connectivity	Multiple food system elements that connect and communicate with one another
Capital Reserves (social, financial, natural, political)	Available "backup" resources that can be used during a disruptive event
Flexibility	The ability to make modifications to food system elements during disruptive events when needed
Preparedness	A plan in place for how to ensure food access, availability, and acceptability during a disruptive event

RESILIENCE ATTRIBUTES - EXAMPLES

Attribute	Food System Example
Diversity	A variety of food retail options, such as farmers markets, independent grocers, and supermarkets
Redundancy	Neighborhoods with more than one grocery store in walking distance
Connectivity	Regular communication between food banks and emergency response actors during a crisis
Capital Reserves (social, financial, natural, political)	Strong community networks (social), reserve funds (financial), arable soil (natural), state government support (political)
Flexibility	Government providing waivers to operate school meal programs outside of normal hours
Preparedness	Food included in emergency management protocol; Formation of an Emergency Food Working Group

EXAMPLE: LOCAL GOVERNMENT FOOD SYSTEM RESILIENCE

ACKNOWLEDGEMENTS







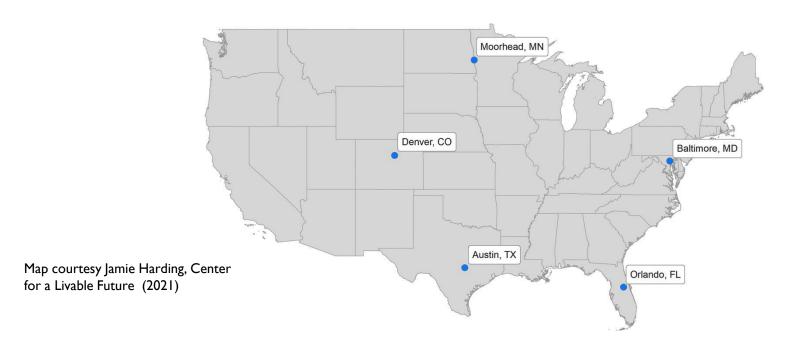
Community of Practice City Participants



Bloomberg Center for Government Excellence

Funding: National Science Foundation Early Concept Grant for Exploratory Research (Award ID 1745375); Bloomberg American Health Initiative; Johns Hopkins Center for a Livable Future; Bloomberg Center for Government Excellence. E. R. H. Moore was supported by the National Institute of Environmental Health Sciences training program (NIEHS T32ES007141).

FOOD SYSTEM RESILIENCE COMMUNITY OF PRACTICE



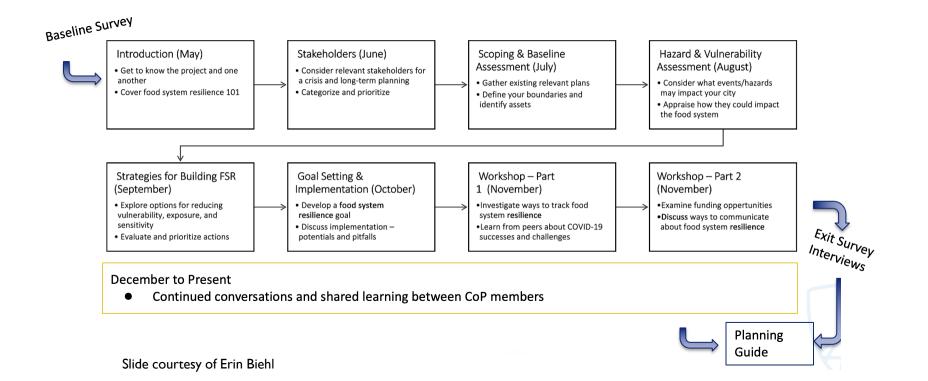
COMMUNITY OF PRACTICE OBJECTIVES

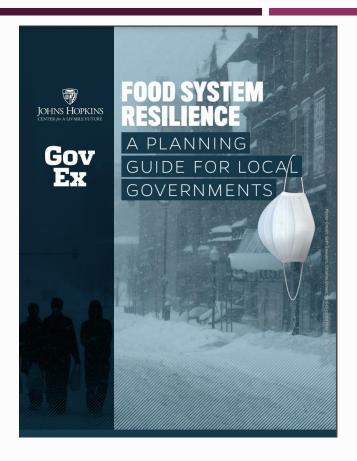
Objectives

- Foster collaborative learning between a network of diverse cities working on food systems resilience.
- Develop and test tools that enable stakeholders to understand and plan for resilience in the food system.
- Monitor the process of the CoP and evaluate the impacts for participants.

*Provide a space for shared learning on the emergency food response to COVID-19

COMMUNITY OF PRACTICE PROCESS





► Six core modules

- Get Started
- ► Equity in Resilience
- Define & Scope
- Assess
- Strategize
- ► Implement & Measure
- ► 12 tools
- Workbook
- ► Research manuscripts

Source: Moore, E., Biehl, E., Burke, M...Neff, R. (2022). *Food System Resilience:* A Planning Guide for Local Governments. Johns Hopkins Center for a Livable Future and Center for Government Excellence.

FOCUSED ON SEVEN RESILIENCE ATTRIBUTES THAT WE HYPOTHESIZED AS RELEVANT TO LOCAL GOVERNMENTS' EMERGENCY FOOD RESPONSE EFFORTS

- **▶** Preparedness
- **▶** Connectivity
- ► Capital reserves
- Diversity
- ► Redundancy
- ► Flexibility
- ► Equity

Questions

- 1. How were these food system attributes associated with local governments' emergency food responses to COVID-19?
- 2. What were the perceived internal and external facilitators and barriers to exhibiting these resilience attributes?

ANALYZED AND COMBINED THE QUANTITATIVE AND QUALITATIVE DATA USING A MATRIX APPROACH

- Quantitative data (Survey)
 - ► Descriptive statistics
- Qualitative data (In-depth Interviews)
 - Coding: phronetic iterative approach
 - Memos
 - Group discussion
- Combined data
 - Matrix analysis
 - Organized by resilience attributes

Codes from the data

Codes from the theory, literature, expert knowledge

PREPAREDNESS

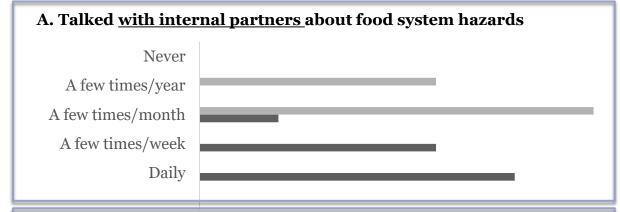
"I think that essentially our biggest strength was that from day one...we were already calling our partners and having daily calls about our plans. And that's because we had another plan in place...we knew that that wasn't going to be the right plan for that situation, but because we'd already done that first round of work, we knew that we could call people together, and they knew what we were talking about, and we could kind of get things started."

- Community of Practice Participant

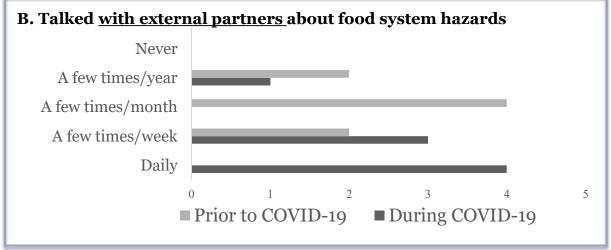
CONNECTIVITY

"Before the pandemic, there seemed to be an anecdotal notion that we [city government] understand the roles and responsibilities of organizations within our food system, and so, I think there was this false sense of, we understand who's doing what, where everybody is, etc., and the pandemic has highlighted that we actually don't know. So, we need to have a clear understanding of the roles and responsibilities of different stakeholders."

- Community of Practice Participant







REPORTED FACILITATORS AND BARRIERS TO THEIR EXHIBITING **PREPAREDNESS**

Facilitators

- A plan in place
- People in place
- High motivation because of the crisis
- Leadership awareness of the importance of food system resilience planning

Barriers

- Lack of a designated food person
- Food not in response plan
- Competition for funding/time/resources
- Limited funding/time/resources
- Motivation wanes over time

REPORTED FACILITATORS AND BARRIERS TO THEIR EXHIBITING FLEXIBILITY

Facilitators

- Willingness to act quickly, even if actions were imperfect
- Creativity
- Adapting and adopting processes/plans/documents from other jurisdictions

Barriers

- Different disasters require distinct food distribution methods
- Hard to institutionalize lessons learned
- Need to work at the "speed of trust"

REPORTED FACILITATORS AND BARRIERS TO THEIR EXHIBITING **EQUITY**

Facilitators

- Designated resources for black, indigenous, and other people of color
- Nutrition, culture, choice, and capacity were considered in types of food served
- Community organizations and networks
 lead efforts

Barriers

- Lack of procedural equity, with some groups left out of the processes
- Community-centered and -owned work requires a non-traditional way of thinking
- Working on food alone will not solve the issues; need a multipronged approach

THANK YOU! EM885@CORNELL.EDU



Healthy Eating Research



Q&A

Announcements

Join us for the next session of the speaker series!

- Wednesday, August 6th at 4pm-5pm ET
 - "Food Security"







Healthy Eating Research



Breakout Rooms

BREAKOUT ROOM QUESTIONS

- What types of actions have you seen or would like to see in the food system that would help better respond to disasters?
- What are some of the opportunities/challenges at the local, state, and federal levels to support food system resilience?
- What's one question you have about today's topic—or something you're curious to learn more about?
- Discuss how you've interacted with this topic in your professional career (i.e., current coursework, study, grant).
- What are you currently working on that's exciting you?
- What advice/questions do you have for people in your breakout?