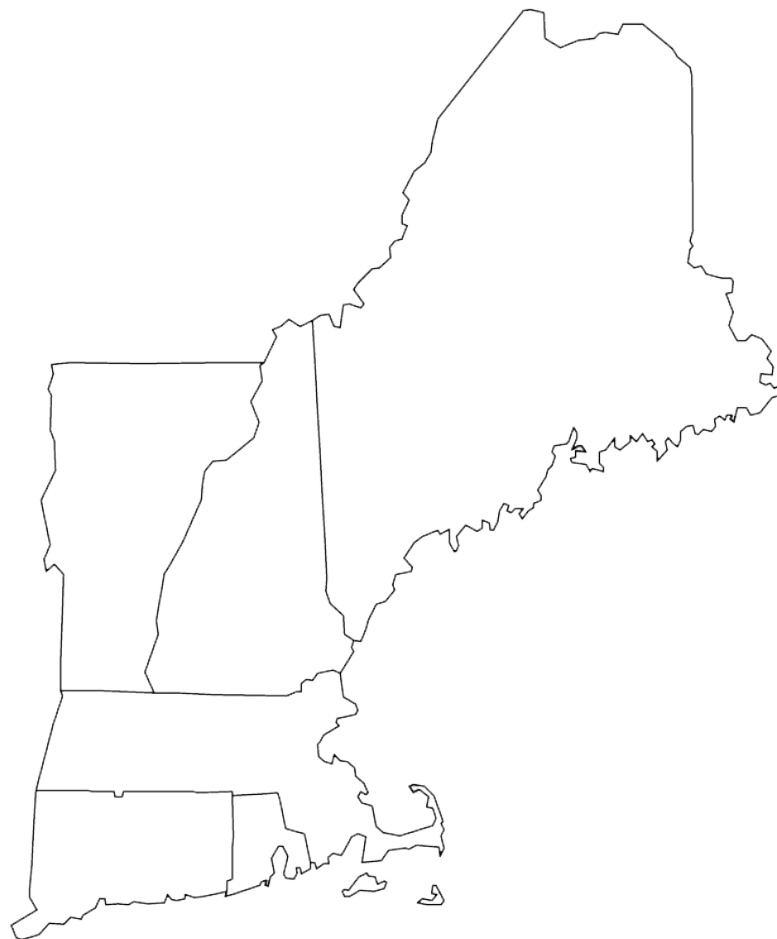


COVID-19 Special Investigation Report: Food System Resilience in New England

Prepared July 2020



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Executive Summary

The COVID-19 pandemic has strained the food system as patterns of food consumption changed abruptly in March 2020 and food supply chains were disrupted. Americans are accustomed to plentiful, diverse, convenient, and inexpensive food, enabled by a nationally centralized food system. However, increasing centralization results in vulnerabilities during times of disruption by limiting the capacity of producers, processors, distributors and consumers to rapidly adapt to changing needs and priorities. Food system inequities, especially for low-income populations without ready access to affordable and healthy food, also have been exacerbated by the pandemic.

Part 1 of this paper reviews New England's food system, both its "emergency" component that supports the food insecure and the regional network of local producers, processors, and retailers that are often overshadowed by their far larger national and international counterparts. Part 2 looks at the impacts of the COVID-19 pandemic on national and regional food systems. Part 3 offers recommendations to foster greater food system resilience during pandemic recovery and in preparation for future disruptions.

Key findings on the impacts of COVID on New England food systems:

1. **The "emergency" food system bent but has not broken.** During the pandemic, food banks, food pantries, school systems, and other public and nonprofit sector entities in New England have been meeting an historic surge in food insecurity, aided by stopgap public funding and private philanthropy.
2. **Government food programs have worked but suffered bureaucratic delays.** USDA and FEMA food assistance programs met critical needs but have exhibited delays and rigid rule-application in approving benefits and distributing funds.
3. **Civil society actors have been the lead drivers of response.** While local and state governments played critical roles, food banks and other "emergency" food system institutions have been coordinating efforts and responding quickly to the surge in need.
4. **Coordination among governments and civil society actors varied widely,** Coordination has been a problem in many local and state governments, with agencies often struggling to gauge the scope of the problem and know who to contact.
5. **The pandemic revealed both resilience and brittleness in New England's food system.** While local farmers and other producers often have been able to fill gaps and find new ways to meet consumer demand, many of these efforts may not be sustainable without public support.

Recommendations:

1. **Governments must treat food as critical infrastructure.** Short term, FEMA and other federal and state agencies must continue and expand emergency funding for critical food system institutions. As the economic crisis continues throughout 2020 and beyond, food insecurity will continue to be a major challenge. Longer term, policymakers must focus on economic prosperity for all so that food insecurity is minimized.
2. **FEMA and its state counterparts should create food security coordinators** to focus on food system vulnerabilities, work with other federal and state agencies on food system resilience, and to better position their agencies to respond quickly to food system disruptions.
3. **States should create cabinet-level food system offices** that report directly to the governor on issues of food system sustainability and resilience. This office also will work to coordinate elements of the statewide food system.
4. **Congress should review and improve USDA SNAP implementation.** The USDA's process of rolling out Pandemic EBT and online ordering was drawn out and seemingly haphazard. USDA's approval process is longstanding concern, and merits attention by Congress.
5. **Federal and state policies must invest in a more diversified and decentralized local and regional food system.** Current policies drive concentration and centralization, which reduces food system resilience.

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COVID-19 Special Investigation Report: Food System Resilience in New England

1. Introduction and Context: The Pre-pandemic Food System

Americans are accustomed to plentiful, diverse, convenient, and inexpensive food. For most Americans the food system gives us what we want, when we want it, and at a price we’re willing to pay. On average, American families in 2019 spent 9.5 percent of their disposable income on food, whether eaten at home or outside of it, the lowest level per capita in the world.¹

In human history terms, this is no trivial achievement. While the United States started out with advantages in arable land, water, and favorable growing conditions, today’s abundance is also due to key characteristics of the food system as it evolved over the 20th century. This system embodies norms of industrial efficiency: large scale, specialized, mechanized, technologically sophisticated, and knitted together by a network of national and global supply chains that ensure just-in-time delivery.² If prior to the 20th century most Americans ate diets that were more local and seasonal, it was less by choice than by the lack of alternatives. Today, if you live in New England and want fresh blueberries in February, you can get them, shipped in by air from Peru.

This food system is not without its critics. To many, the system – shaped and maintained by a vast array of government policies and programs³– too often promotes the over-production of comparatively cheap carbohydrates and proteins, much of it processed into “value-added” convenience foods of marginal nutritional value, over healthier but often more expensive fresh fruits and vegetables.⁴ Others point to the adverse ecological impacts of the “cheap food” model, industrial-scale meat production in particular.⁵ While in some ways such critiques are a luxury of abundance, they reflect concerns that a food system that provides Americans with inexpensive and convenient food comes with often steep externalized costs.

But general abundance does not include everyone. Anywhere from 11-15 percent of American families faced occasional food insecurity even during the relatively strong economy in the decade following the Great Recession of 2007-09, and roughly 6-7 percent faced acute problems in obtaining food on a regular basis.⁶ The United States Department of Agriculture (USDA), defines “low or very low” food insecurity as reflecting the levels of uncertainty a household faces in acquiring sufficient food to meet the needs of all their members at some time of the year.⁷ Table 1 shows average levels of food insecurity in the United States and the six New England states prior to the pandemic.

While food insecurity for most correlates to income and family size, for others the problem is physical access to affordable and healthy food, whether due to disability, age,

Table 1. Prevalence of household-level food insecurity, average 2016-18

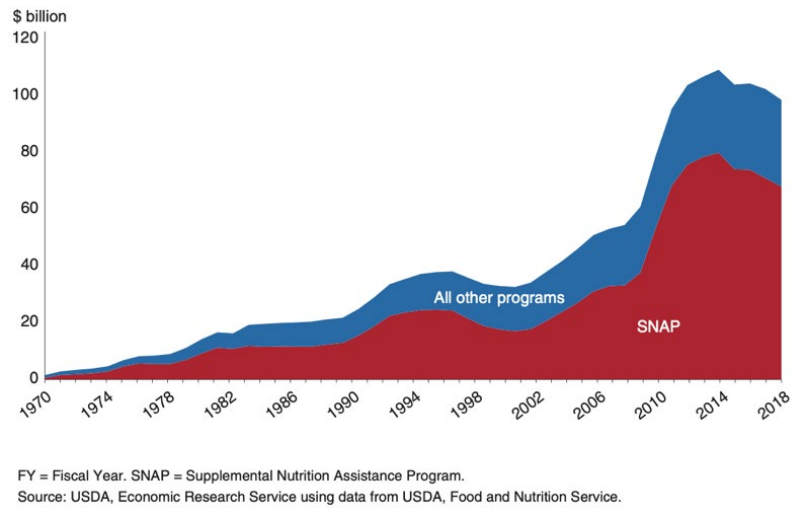
	Low or very low food security (%)	Very low food security (%)
US	11.7	4.6
CT	12.4	4.2
MA	9.3	3.2
ME	13.6	5.9
NH	7.8	2.8
RI	11.0	4.7
VT	9.6	3.3

Source: Economic Research Service, USDA, using data from the December 2016, 2017, and 2018 Current Population Survey Food Security Supplements.

or simply the distance to a decent grocery store. Many low-income residents live in “food deserts,” which the federal government defines as urban areas “where a substantial number or share of residents live more than 1 mile from a supermarket or large grocery store,” or rural areas where residents live more than 10 miles from such stores.⁸ Using this definition, food deserts in the six New England states are most prevalent in smaller cities with high percentages of low-income residents (e.g., New Haven, Connecticut; Manchester, New Hampshire; East Providence, Rhode Island) and in low-density rural counties of northern Maine, New Hampshire, and Vermont.

Food insecurity manifests itself in multiple ways. According to one USDA analysis, prior to the pandemic about 25 percent of Americans participated in at least one of the Department’s 15 domestic food and nutrition assistance programs, which combined account for over two-thirds of its annual budget.⁹ Roughly two-thirds of that spending is for the Supplemental Nutrition Assistance Program (formerly known as food stamps). SNAP is an entitlement program authorized under the Food Stamp Act of 1964, with benefits based on employment, income, assets, and family size. As such, fluctuations in SNAP use reflect broader economic conditions. Of note, in any given month during the past decade anywhere from 50 to 75 percent of SNAP households included working adults who made too little for the family to get by, reflecting the prevalence of low-wage jobs and stagnant incomes.¹⁰ SNAP spending in fiscal 2019 came to \$60.5 billion, down from its post-Great Recession peak of \$80 billion in 2013, providing supplemental food assistance to nearly 36 million Americans (see Figure 1).¹¹ Children in many of these same families – plus many who are food insecure but ineligible for SNAP for reasons of immigration status or other factors – rely on federal school nutrition programs for up to two meals each school day. The federal school lunch program alone served over 30 million children at a cost of \$14 billion in fiscal 2018.¹²

Figure 1 USDA expenditures for food and nutrition assistance, FY 1970-2018



Source: Victor Oliveira, “The Food Assistance Landscape: FY2018 Annual Report,” Economic Research Service, USDA, April 2019, p. 3, at: <https://www.ers.usda.gov/webdocs/publications/92896/eib-207.pdf?v=8673>

“Many low-income residents live in “food deserts”...”

Across America, millions of people – including many being served by federal food programs – also rely on an “emergency” food system anchored by a network of 200 Feeding America-affiliated food banks and linked to some 60,000 food pantries and other social service agencies, all of them nonprofit organizations supported by private philanthropy and volunteers. Much of the food coming through this system

is surplus, either from food retailers unloading near-expiration date product or via The Emergency Food Assistant Program (TEFAP), through which the USDA donates foods it purchased from producers to stabilize commodity prices or to offset the market effects of trade policies. State analogs, such as the Massachusetts Emergency Food Assistance Program (MEFAP), donate fruits and vegetables grown in state. By some estimates, prior to 2020 this system provided food to one out of seven Americans at some point each year.¹³ In fiscal 2019 alone, the Greater Boston Food Bank supplied over 68 million pounds of food to over 500,000 people in eastern Massachusetts through over 500 affiliated food pantries, homeless shelters, and other social service agencies.¹⁴ Similar levels of need were reported by food banks throughout the six New England states.

Also of note, millions of otherwise income-eligible citizens (e.g., college students, individuals who failed drug tests), many legal immigrants, and all undocumented residents are excluded from SNAP and other social welfare programs, driving them into the “emergency” food system whose scale and seeming permanence critics see less as an example of community spirit than as an indictment of the nation’s economic policies and lack of a social safety net.¹⁵

1.1 A Resilience Lens Applied to Food Security.

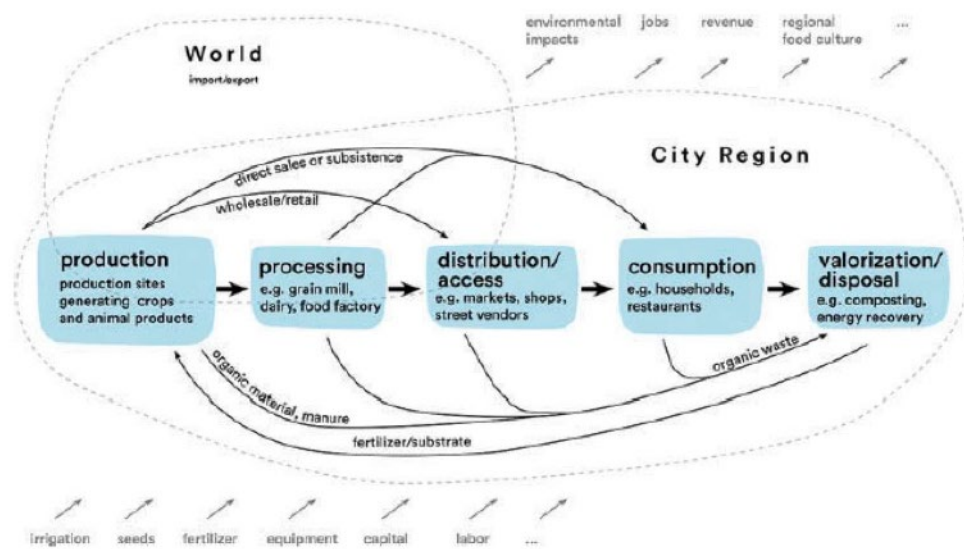
Prior to the 20th century, most nations maintained food and agricultural policies that promoted domestic production, processing, and storage capacity to ensure a steady supply of food for domestic consumption and to avoid dependence on supply chains that might be disrupted by war or natural disaster.¹⁶ Today, however, the food system on which most of American consumers depend is shaped largely by “free market” economic policies and driven by industrial norms of efficiency, specialization, cost control, interconnectedness, and speed.

Figure 2 depicts the contemporary food system in its various stages. The production end of the equation emphasizes scale and price. Raw commodities like corn, soy, and even meat essentially are interchangeable in the global marketplace, favoring whoever produces a commodity at the lowest price. Aside from niche products able to command high prices (artisanal cheeses, fine wines), the system advantages the largest and most highly capitalized producers at the expense of the smaller and less efficient, who either adopt a different market model (such as switching from selling raw milk to making cheese) or go out of business entirely. The edict, “go big or go home” pervades the market, itself shaped by government policies that promote unconstrained production over all other objectives.

Similar norms run through the rest of the system. At the retail end, storing even shelf-stable foods is costly, so under normal circumstances retailers rely on tightly-coupled global production, processing, and supply chains to get food to consumers just in time. For their part, consumers have come to depend on the system’s variety, convenience, and immediacy: what we want, when we want it.

Yet, critics argue, for all of this food system’s efficiency, it lacks resilience. What are the traits of a resilient food system? Scholars of resilience argue that it should display:¹⁷

Figure 2: The Food System Visualized



Source: C. Kasper, et al., “The urban food system approach: thinking in spatialized systems,” *Agroecology and Sustainable Food Systems*, v. 41, no. 8 (2017), 1009–1025.

Flexibility. A resilient food system is not tied to a single supply chain. Critics of the dominant system argue that its single-minded focus on efficiency has introduced a brittleness that is especially evident as the

A resilient food system is not tied to a single supply chain.

world’s populations live in large cities whose “peri-urban” regions are less able to produce food, leaving them reliant of long supply chains. While high global connectivity may decrease any particular city’s vulnerability to fluctuations in local food production, lengthy disruptions in supply chains pose threats to food security.¹⁸

Moreover, key elements of the food system too frequently are concentrated spatially, with entire regions of the country no longer capable of producing, processing, and storing many foods. By one estimate, 90 percent of all food consumed in Maine is trucked in from outside the state, belying its agricultural image.¹⁹ Equally telling, most seafood harvested from New England’s fisheries is exported, much of it to be processed in lower-cost Asian countries, after which it is imported back into the region’s restaurants and supermarkets.²⁰

... key elements of the food system too frequently are concentrated spatially.

Beef offers another apt example. As beef production became concentrated in Midwestern and Plains states able to grow massive volumes of low-cost corn and soy for cattle feed, the New England region lost most of its capacity to produce beef at a competitive price point. Nor could much of the region even process what meat it did produce. By 2007, Massachusetts was down to one USDA certified slaughter and processing facility, and only financing by the Commonwealth and local philanthropies enabled the construction a new facility in Southeastern Massachusetts, tellingly operated as a nonprofit.²¹

Diversity. A resilient food system has many types of producers, processors, and suppliers. Yet the U.S. food system is anything but diverse. On the production end, farms that 50 years ago may have produced several row crops (and even animals) now typically produce one commodity, as market demands for scale

A resilient food system has many types of producers, processors, and suppliers.

and efficiency fueled a trend toward monoculture that many worry exposes producers to a higher likelihood of crop loss from pests or extreme weather events.²² Decades of market consolidation now means that fewer and larger operations produce the bulk of the nation’s commodity crops, animals, and milk. Such consolidation leaves smaller farms – which make up the bulk of New England agriculture – at a severe price and scale disadvantage.

Processing also is highly concentrated – in part owing to a decline of federal government concern about oligopoly – with a few corporations dominating entire sectors. Only four companies, two of them foreign-owned, process over 85% of the nation’s beef and hogs. Two companies dominate the poultry market.²³ The same story plays out in food retail – punctuated by Amazon’s \$13.7 billion purchase of Whole Foods in 2017²⁴ – usually at the expense of local markets that cannot compete on price and variety. While the notion of “food deserts” tends to be applied to cities, conditions may be more acute in rural America, where too often Walmart, the nation’s largest food retailer, is the only place to buy food for miles.²⁵

Redundancy. A resilient food system has “backup” operations in place, including multiple, smaller, and dispersed processing facilities (in case workers in one get sick) to a range of storage and transportation options. But redundancy is “inefficient,” and subject to underuse in normal times. Moreover, for-profit food companies focused on quarterly returns in a sector with narrow profit margins are ill-inclined to make such investments. Any redundancy that exists is largely (and ironically) in the “emergency” food system’s

network of food banks, the federal government’s warehouses of surplus food, and, for needy members of the Church of Jesus Christ of Latter-day Saints (also known as Mormons), the denomination’s network of Bishops’ Storehouses.²⁶ That all of these are nonprofit entities underscores the perverse incentives in the food system overall.

A resilient food system has “backup” operations in place...

In one telling example, most of the New England six-state region’s fresh produce now flows through a single terminal, the New England Produce Center (NEPC), a privately-owned facility located in the densely populated city of Chelsea, Massachusetts. “Over the decades, we’ve seen the disappearance of the smaller regional markets, so that traffic is coming here now,” one produce company owner noted. Because the Center is the only commercially viable produce terminal in the New England region, observes another, “it’s the only place where people can get variety and price comparison in the same spot.”²⁷ But the NEPC is sited near petroleum storage tanks in a FEMA flood plain, and access to it requires trucks to navigate congested urban streets before connecting to a stoppage-vulnerable Tobin Bridge. Any major disruption in the NEPC’s operations would have immediate ripple effects throughout the regional food system.

A resilient food system can change quickly to meet new circumstances...

Adaptability. A resilient food system can change quickly to meet new circumstances. Unfortunately, adaptability is a feature that goes untested until a crisis disrupts the extant system. Having said this, Agyeman and Simons point to the concept of “food vulnerabilities,” the political and economic asymmetries that in “normal” times make food provisioning difficult for already vulnerable or marginalized populations.²⁸

So, for example, more affluent populations and neighborhoods may have access to multiple and diverse food sources, and can adapt should any one of them be disrupted. By contrast, lower-income families in neighborhoods suffering from decades of de jure and de facto racial and economic segregation, or in rural areas where population and economic decline hollowed out local food retail, the room to adapt may be far narrower.²⁹ Adaptability presumes capacity – and on the availability of options.

Finally, a resilient food system would have access to *historical understanding* of past experiences on how to access food amidst shocks to the system. That is, to what extent is there a *stored memory* of how to adapt under conditions of longer-term system disruption? Previous generations had memories of coping with food scarcity during the Great Depression and under rationing during World War II. Did they pass on knowledge about how to cope with disruptions in the food supply? Did succeeding generations listen?

Overall, the principles of resilience focus on reducing risk and vulnerability. They call for attention to and support of multiple food sourcing strategies, a valuing of redundancy in the system, and wide access to information about sources of food. However, such characteristics in food production, processing, storage, and supply go against the market norms of scale, efficiency, and centralization.

1.2 How COVID Impacted the Food System

“A pandemic is fundamentally unlike a major storm, in that infrastructure components like roads, bridges and tunnels remain intact. This time, it’s people that are compromised.” – Katy Lederer³⁰

As in other areas of life, the pandemic’s physical and economic shutdowns exposed longstanding weaknesses and inequities in the dominant food system. During the pandemic, sudden changes in food consumption patterns have been coupled with disruptions in food supply chains. For most, the disruptions starting in March 2020 made getting food a bit temporarily more difficult and inconvenient. As more

...sudden changes in food consumption patterns have been coupled with disruptions in food supply chains...

Americans were ordered to stay home, the surge in at-home consumer demand stressed a food retail system dependent on tightly-coupled supply chains and just-in-time delivery.³¹ Supermarkets, supplied by algorithm-driven distribution systems that maintained minimal reserves, ran out of or rationed basic staples as consumers rushed to stock up for the unknown or simply to compensate for the loss of meals previously eaten at work, school, or

restaurants.³² In other instances, COVID-19 outbreaks forced meat processing plants to close, disrupting supply chains, increasing prices for some products, and forcing retailers to impose limits on purchases.³³

The surge in consumer demand also revealed an ironic side of the system’s hyper-efficiency: a parallel supply chain for restaurants and other institutional customers (such as universities, cruise ship lines, corporate caterers) now awash in food it no longer could use.³⁴ By some estimates, prior to the pandemic about half of all food produced in the U.S. went to the institutional market via a largely separate network of producers, processors, and suppliers.³⁵ But, as many discovered, switching food from one supply chain to another was not easy. While food banks were able to take some now-surplus institutional foods, most had limited processing and storage capacity. The sheer volume of perishable food and the cost to process it left many producers with few good options in the pandemic’s earliest weeks, and Americans confronted Great Depression-invoking images of vegetables left to rot in the fields and milk going down the drain.³⁶ Or take flour. Many stuck-at-home-Americans turned to baking, only to find no flour on store shelves. Yet the system that serviced institutional customers was awash in the stuff; it was only in the wrong place, packaged in the wrong size, and without a simple way to get from one supply system to the other.³⁷ Producers have since adjusted their operations, and actual shortages are less frequent.³⁸

Consumers also adjusted. Those unable or unwilling to go to stores pivoted to online ordering and delivery systems like Amazon Fresh and Instacart, which at first struggled to meet the surge in demand.³⁹ Those with knowledge and means also rushed to tap into local producers, most comparatively small, that previously sold to now-shuttered restaurants and institutional dining operations. These producers tapped into or developed ordering, packaging, and delivery systems to serve a new set of widely dispersed retail customers. Growers that traditionally sold at farmers markets now delivered to consumers’ doors, at least until the physical markets reopened. Subscriptions to Community Supported Agriculture (CSA) programs skyrocketed, with many forced to create waitlists.⁴⁰ One Vermont-based “farm to consumer” aggregator, Farmers to You, at one point had a backlog of 2,000 waiting customers in the Greater Boston area alone.⁴¹ Within the first month or so of the March lockdown, major supermarket chains re-established a steady supply of most foods – and even toilet paper – even if smaller independents still struggled. For most Americans, then, the food system has proven generally reliable, even if many no longer take the easy availability of food for granted.⁴²

However, as might be predicted, COVID-19 continues to exacerbate prior inequities. For those already food insecure, or whose economic circumstances afforded little margin for error, the abrupt loss of jobs and income has brought more acute food insecurity, even actual hunger. As Federal Reserve chair Jerome Powell noted, nearly 40 percent of Americans making less than \$40,000 a year lost their jobs in the

...the capacity to purchase food shrank quickly.

first weeks of the national shutdown.⁴³ Most had little in cash reserves. Under such conditions, and especially for those living in high-cost housing markets, the capacity to purchase food shrank quickly. According to a May 2020 assessment by the National Institute for Health Care Management, 38 percent of American households

reported moderate to high levels of food insecurity, compared to 11 percent in 2018. A Brookings Institution analysis concluded that by the end of April “more than one in five households in the United States, and two in five households with mothers with children 12 and under, were food insecure.”⁴⁴ Disproportionately higher levels of food insecurity were reported by Black and Hispanic households, reflecting their already precarious economic status before the pandemic hit.⁴⁵

Many of the newly jobless ran out of food before they could get unemployment and SNAP benefits authorized by overwhelmed state agencies, and long before federal stimulus checks arrived. Ironically, many jobs lost were in food service, ranging from restaurants to university, hotel, and corporate dining facilities. School closures also disrupted sources of free or subsidized meals for millions of children, forcing their income-constrained families to rely on the “emergency” food system until school systems could set up their own feeding centers. Especially hard hit were immigrants, legal and other, without access to SNAP and who rely on local food pantries run by often older volunteers. Closure of many food pantries and meal program sites for health

Especially hard hit were immigrants...

reasons has driven up rates of acute food need in communities that, for reasons of language and legal status, already were wary of government authorities. Even many otherwise eligible immigrants did not apply for SNAP benefits because of changes in the “public charge” rule, finalized in February 2020, that made them fearful of jeopardizing their chances of permanent residency or citizenship.⁴⁶

The sudden surge in food insecurity has hit the “emergency” food system like a proverbial tsunami. In March and April 2020, food banks reported an overnight doubling of demand, and many struggled to rebuild stocks even as producers for the institutional food system tried to unload unsold inventories.⁴⁷ Miles-long queues of automobiles at “pop-up” food distribution centers – a contemporary evocation of Depression-era breadlines – suddenly were commonplace, suggesting just how many had lived paycheck to paycheck.⁴⁸

In March and April 2020, food banks reported an overnight doubling of demand...

2. Key Findings for FEMA Region 1

2.1 The region's "emergency" food system bent – sometimes a lot – but has not broken.

The region's "emergency" food system, backstopped by its nine Feeding America-affiliated food banks and hundreds of partner food pantries, has done a remarkable – nay, heroic – job in responding to an historic surge in demand sparked by sudden mass unemployment. In March 2020 the Greater Boston Food Bank alone distributed over 8 million pounds throughout eastern Massachusetts, compared to an average of 5.7 million pounds per month in 2019, its highest monthly increase in demand in its four decades.⁴⁹ By June, the total had climbed to 12 million pounds, a 100 percent increase over June 2019.⁵⁰ Other New England food banks reported similar record increases in monthly demand compared to the same period in 2019 – 45 percent in Rhode Island, 50 percent in New Hampshire⁵¹ -- and statewide increases in rates of food insecurity ranged from 39 percent in Maine to 45 percent in Rhode Island, 46 percent in Vermont, and 53 percent in Massachusetts.⁵² Of course, statewide averages mask disparities among already at-risk populations. Increased rates of food insecurity were noted in rural areas such as North County, New Hampshire, and Vermont's Northeast Kingdom. Food insecurity among children in low-income families is especially of concern given their higher reliance on meals provided at school, and food banks have stepped in to fill in gaps in school-based meals programs (see below).⁵³ One New Hampshire interviewee estimated that one in five children in the state are hungry.

The sudden surge in demand stressed food stocks; in some instances, food banks were down to less than a week of inventory. They so far have managed to hold on, and inventories appear to have stabilized even as demand continues at historic rates and as traditional sources of surplus foods dried up. Supermarket chains, long a source of near-expiration date foods, have struggled to serve their own customers. Nor in most instances was the institutional food system of much help. Food banks and food pantries lack cold storage or freezer capacity to absorb millions of pounds of perishable foods, and non-perishable foods typically were packaged for commercial use, not the home. In some instances, "intermediary" institutions such as Boston's Commonwealth Kitchen, a nonprofit food business incubator located in a former meat processing facility, were able to repackage bulk foods for donation, and restaurants in several cities employed workers to prepare meals for food pantries and social service agencies, but a lack of capital and coordination limited the scope and reach of these efforts.

Food banks thus were forced to purchase more food, often at higher prices given market conditions. One interviewee at a northeast Vermont social service agency remarked that food prices "went crazy" during the early months of the pandemic. Maine's Good Shephard Food Bank, which previously got two-thirds of its inventory as supermarket donations, reported purchasing 370 percent more food in May 2020 alone than historically.⁵⁴ Greater Boston Food Bank spending on food so far in 2020 has skyrocketed by 5000 percent

compared to 2019.⁵⁵ Fortunately, private philanthropy and early support by local governments, such as through the Boston Resiliency Fund, seems to have stabilized the situation.⁵⁶ Some state governments also provided needed cash infusions. Most federal support has been through TEFAP and other USDA surplus commodity donation programs, including the "Farms to Families" food box program authorized under the CARES Act.

Reports from throughout the region indicated that many local food pantries struggled to stay open as older volunteers stayed home, and some closed because the need for physical distancing made their facilities unusable. Conditions have been particularly dire in neighborhoods populated by immigrants and refugees who do not have access to automobiles and whose limited English language facility make them harder to reach and support. Several states responded by deploying National Guard units and emergency responders to distribute food, but the viability of sustained food support in these neediest areas is of concern.

2.2 Government food programs have provided relief – but displayed bureaucratic delays

Whatever the heroics of those working in and contributing to the "emergency" food system, the blunt fact is that the federal Supplemental Nutrition Assistance Program feeds far more people far more efficiently through established retail markets than can be accommodated by food pantries or any USDA food box program.⁵⁷ Without SNAP, the "emergency" food system simply would crumple under the weight of need.

Like many federal programs, SNAP is administered through the states, which vary in their capacity – and sometimes willingness – to reach out to and enroll residents eligible for benefits. Prior to the pandemic, SNAP enrollment rates in New England averaged around 12 percent of the population, with New Hampshire (7 percent) at the low end and Vermont (16 percent) at the high, which, again, may have less to do with "real" rates of food insecurity than with how states implement the program. With the onset of COVID-19, the rate of SNAP applications rose 360 percent in Massachusetts alone, overwhelming the processing system and creating delays in approving benefits.⁵⁸

Other delays were at the federal level, starting with the USDA's process for approving changes in state SNAP implementation.⁵⁹ The Pandemic EBT program (P-EBT) authorized under the Families First Coronavirus Response Act of March 2020 allowed states to issue SNAP benefits to families with children who lost free or reduced-price school meals when their schools closed, and provided additional benefits to families already enrolled in SNAP. However, as with all aspects of SNAP implementation, states are required to submit plans to USDA to get P-EBT authorization, resulting in a piecemeal program rollout. According to official USDA press releases, Rhode Island got P-EBT approval on April 13, Massachusetts on April 17, Connecticut on April 24, Maine and Vermont on May 5, and New Hampshire on May 14. As a result, when those in need were able to get their rightful benefits depended on where they lived.

Also of note, while "regular" consumers were able pivot to online ordering and delivery, such flexibility was not initially available to SNAP enrollees. Congress had authorized the USDA to explore online use of EBT cards in the Agricultural Act of 2014, but the Department did not authorize the first pilot project until April 2019, when New York began to provide the service.⁶⁰ The pandemic dramatically changed conditions, and in April 2020 USDA agreed to allow online purchase and delivery nationwide. However, it authorized the service on a state-by-state basis, again requiring states to submit plans and identify vendors. In most instances, the service was restricted to Amazon and Walmart, which already had needed technology and delivery systems in place. In many instances, EBT users can only order packaged and processed foods, forcing SNAP enrollees to travel to physical stores if they want fresh produce or meats.⁶¹ Vermont obtained USDA approval on April 24, Rhode Island on May 8, Connecticut and Massachusetts on May 20, and New Hampshire (Walmart only) on June 3; at this writing, Maine has yet to obtain USDA approval for online SNAP use.

In many communities, school systems have been leading local emergency food assistance efforts, both for school-aged children and their families, supported by a mix of federal, state, and local funds. School-based meals programs shifted to providing food to now at-home students, usually via bagged breakfasts and lunches that students needed to pick up at school or specified community centers. In some instances, systems are used school buses or other public vehicles to deliver meals to those unable to get to distribution points. These programs have continued over the summer months, supported by a mix of government and philanthropic funds. Most important, the USDA waived its normal rules to enable universal free school meals through August 31, giving students greater flexibility in the choice of pickup sites. Many school systems also are distributing family-size food boxes, some containing culturally relevant meals prepared by restaurants and other local institutions, to provide for parents as well as children. While these programs have been critical to addressing acute food insecurity, school systems reported losing money on them.⁶² Federal reimbursement rates apparently have not covered the additional costs of packaging meals for pick up, and schools saw declines in meal uptake as students without reliable transportation struggled to get to distribution centers each school day. Schools also reported rising rates of food waste based on differences between the number of meals they were required to prepare and the number picked up, with no opportunity to donate the surplus. For more on K-12 schools see the GRI report by Gardinier and Mann (2020).

USDA surplus foods programs, ranging from TEFAP to the Farmers to Families Food Box program authorized under the CARES Act, have helped to plug gaps, but more than one interviewee opined that the programs likely helped producers more than the needy. While some have lauded the food box program for enabling innovative partnerships between food banks, local producers, and intermediate processors, others see it as “demeaning,” expensive, “one size fits all,” less effective than and redundant to other food programs, less flexible than SNAP, and as incurring costs to distributors that have to pay for “last mile” pickup and delivery.⁶³

For its part, FEMA to date has focused its resources on bolstering supplies of personal protective equipment (PPE) and has played a comparatively modest role in food relief. Its food aid has come mostly in the form of CARES Act supplemented reimbursements through the Emergency Food and Shelter Program (EFSP) for meals provided to high-risk populations affected by the pandemic (e.g., people under quarantine) not being helped by other federal food programs.⁶⁴ For example, the Rhode Island Community Food Bank, working with FEMA and the Rhode Island Emergency Management Agency, through June 2020 has distributed nearly 300,000 Meals Ready to Eat (MREs) to municipalities providing additional food assistance.⁶⁵ However, the application process apparently has been an obstacle for smaller service providers; one interviewee who runs a food program in Maine decided against applying for EFSP funds because of the time it would take to complete and process paperwork.

2.3 Civil society actors have led the emergency food assistance response

In the earliest weeks of the shutdowns forced by the pandemic it was clear that the lead actors in responding to the surge in New England food insecurity were in the region’s many civil society organizations, ranging from disaster response specialists at the major food banks to directors of frontline nonprofit social service agencies and volunteers in local food pantries. This is not to slight local and state government officials, or those in federal agencies, all who played important roles – in most instances later. But the most immediate, and rapid, responses to the immediate needs of so many came from civil society actors.

The rapidity with which the food banks and food pantries were able to ramp up their efforts can be explained in large part by the robustness of the Feeding America network’s disaster response plans, established relationships among various food bank officials, and prior work in developing and maintain

regular communications between the food banks and their affiliated service providers. This parallel social welfare system, often criticized as validating a “hunger-industrial complex” that substitutes surplus food and corporate donations for living wages or a stronger public social safety net, nonetheless displayed a capacity to move quickly, and with immediate impact. They could not have done so without a surge in private philanthropy, the most significant and immediate coming from local foundations, followed by various types of local, state, and federal funds in the ensuing weeks and months.

2.4 Coordination among governments and civil society actors has varied widely.

Interviews with various food system stakeholders revealed frustration at an apparent lack of coordination between and among local and state governments, as well as between governments and the range of nonprofit and private food system institutions. “Everybody is sort of kinda coordinating and referring to other organizations but not sure if they are hitting everybody,” a food program coordinator in Maine put it. One Connecticut social service agency director noted limited state-wide coordination and an absence of state leadership as barriers to effective scaling up of private food assistance initiatives. A Boston area university dining service director noted the institution was ready to utilize its facilities to prepare meals but nobody at the local or state levels seemed able to make the match between what was needed and what it could do. Any such activities were ad hoc, and largely bottom up.

A food bank official in Massachusetts noted that the person who connected food banks to farms whose produce they could purchase was funded by a private foundation, going beyond what was available via the Commonwealth’s MEFAP. “This person was finding vendors the pros didn’t know about.” While the food bank had fresh produce all along, a lot came from Canada, not more locally. Nor was there an easy way to collaborate with the fishing industry to purchase and provide surplus seafood to the food insecure.

In April 2020 the governor of Massachusetts created a state-level Food Security Task Force to advise on responses to the pandemic, but the panel’s longevity and role once the crisis eases is in question. In Maine, the state government was seen playing a useful role in convening food organizations and providing educational support more than providing financial assistance. Overall, however, state-level coordination of responses to the food security crisis seems to have been uneven and episodic.

2.5 The pandemic revealed both resilience and brittleness in the NE regional food system

Consumers in New England are no different than any others in the nation insofar that most obtain their food from a dominant food system characterized by large companies and long global delivery chains. Having said this, the New England region, with its small and generally diversified farms that enjoy comparatively short distances to population centers, already has a robust ethos of supporting local and regional food producers. Residents in the region are among the nation’s leaders in utilizing farmers’ markets, CSA programs, farm to school, farm to restaurant, and other direct farm to consumer initiatives. Intermediary institutions, such as “food hubs” that can aggregate, process, and deliver food products in bulk, are playing increasingly important roles in connecting small local producers to institutional customers.

However, the economic sustainability of these initiatives is always in doubt given the higher price point for most local foods compared to what can be produced by industrial scale operations outside the region – even for the region’s famed seafood. As a result, these critical intermediary institutions typically are nonprofits that depend on a mix of public funding and private philanthropy.

3. Recommendations

Principles of resilience focus on reducing risk and vulnerability, paying particular attention to supporting those individuals, families and communities that are most vulnerable to disruption. Given the expected long-term economic impacts of the pandemic, the current high rates of food insecurity are likely to continue for the foreseeable future. Any diminishment in federal food assistance – particularly SNAP – will make conditions worse, especially for the already most vulnerable.

To emphasize: without SNAP, the “emergency” food system will break under the weight of continued need. Real hunger will ensue.

However, support for the “emergency” food system should not divert attention from the need for longer term strategic thinking about and investments in the regional food system. A USDA food box is a poor substitute for a more robust, resilient, and accessible regional food system. A more resilient food system calls for attention to and support of multiple food sourcing strategies, a valuing of redundancy in the system, and wide access to information about sources of food. The pandemic has underscored both elements of resilience and vulnerabilities in state and regional food systems. As one interviewee put it, “if we’re thinking about resiliency, the pandemic has been a good test on our food system to see where the gaps are. It feels like a good opportunity to make some moves and changes.”

The following recommendations are aimed at going beyond emergency response to focus attention on the food system in a more integrative way.⁶⁶ Investments focused on increasing the resilience of New England’s regional food system also have potential to function as an important driver of economic recovery, creating new employment opportunities, and sustaining critical consumer spending on local and regional foods.

3.1. Federal, state, and local governments all must treat food as critical infrastructure.

Most, but certainly not all, Americans have the luxury of taking food for granted, at least until it suddenly is not so available or convenient to obtain. The current crisis reinforces the point: policymakers at all levels need to treat the food system as they would any other form of infrastructure and focus their efforts on instilling greater resilience in it.⁶⁷

To start, federal and state governments must continue to fund food system institutions disrupted by the pandemic. For example, struggling restaurants should be funded to continue to prepare meals for the food insecure. Such immediate investments will keep workers employed and help those unable to prepare their own healthy meals. Governments should also identify and invest in nonprofit intermediary food system operations, such as the food hub being built by Farm Fresh Rhode Island in Pawtucket to aggregate, process, and market locally produced foods. These initiatives generate jobs and business opportunities for local food entrepreneurs. Workforce development programs must support retraining unemployed

foodservice and hospitality workers. Production and supply chains that served still-shuttered restaurants and corporate catering operations must be rebuilt into more agile distribution systems serving both consumer and institutional markets. Serious consideration must be given to developing a fresh produce terminal beyond Boston to avoid over-reliance on the New England Produce Center.

The Commonwealth of Massachusetts in May 2020 made a good step in this direction in creating a \$36 million Food Security Infrastructure Grant Program to “fund necessary modifications in business practices created by the response to the virus.” Funds from the program can go toward increasing capacity in food banks and food pantries, in food direct delivery, local food distribution partners, urban farming, and in farms, retailers, fisheries and other food system businesses to help them adapt to the disruptions and to allow them to provide greater access to local food.⁶⁸ The initial wave of grants included investments in farm-level and regional processing and cold storage facilities, inventory tracking systems, and refrigerated trucks.⁶⁹ Tax credits provided by the state of Rhode Island in March 2019 provided the gap financing needed to build Farm Fresh Rhode Island’s food hub.⁷⁰

These are steps in the right direction, and all states, supported by the federal government, should develop strategies to invest in local and regional food infrastructure that for too long was left to atrophy as more globalized producers, processors, and shippers came to dominate. But local and state governments have limited capacity, so Congress must put local and regional food system resilience as a priority when it is next scheduled to reauthorize the Farm Bill in 2022-23 – ideally sooner.

3.2. FEMA and the states should create food security coordinators.

If the food system is to be treated as a critical infrastructure, food system resilience also must be more central to FEMA’s mission, no different than its attention to resilience in the built environment. Nowhere in FEMA’s organizational structure, notably in the Office of Resilience, is there clear line responsibility for the food system. To remedy this omission, FEMA should create national and regional FEMA food security coordinators to focus on food system vulnerabilities and work with other federal and state agencies to foster greater food system resilience. Building these roles into FEMA’s organizational structure will ensure that emergency managers are better positioned to respond quickly to food system disruptions, complementing and bolstering efforts by food bank disaster specialists and other civil society actors.

Moreover, each state’s emergency management agency should have its own food security officer, whose role it is to understand that state’s food system and to recommend actions to make it more resilient in the face of disruption. For example, the state food security coordinator could work with that state’s departments of agriculture, economic development, and transportation to assess and improve local food processing, transportation, and storage capacity. The six New England state coordinators, working with FEMA Region 1’s food security coordinator, could regularly assess the New England region’s food system vulnerabilities.

3.3. States should create cabinet-level food system offices.

Separate from emergency preparation and response is a focus on the food system across all of its stages. A common complaint heard from throughout the six New England states is the absence of statewide thinking – much less coordination – of food system policies and plans. The disruptions prompted by the pandemic reinforce the need to go beyond the traditional view of “agriculture” to ensure the centrality of food in considering any state policy. Issues like land use, housing, transportation, economic development, and environment too often are handled in organizational and conceptual silos, with little or no consideration of their impacts on or interactions with the food system. This official should have cabinet level status and report directly to the governor on issues of food system sustainability and resilience. Moreover, this official

will serve as a key coordinator among elements of the statewide food system and between it and the emergency food system. In Massachusetts, the apparently essential role played by the Commonwealth's Secretary of Health and Human Services in coordinating the Food Security Task Force created in response to the crisis suggests the need for such a position.

Moreover, this official should coordinate a *state food policy council* authorized and funded by the state, and which includes representatives from state and local governments, food producers and other private sector food firms, as well as nonprofit food system institutions.⁷¹ Among the six New England states, the Rhode Island Food Policy Council and Vermont Farm to Plate Network appear to be the most active in coordinating and implementing their respective state food system plans. The Connecticut and Massachusetts food policy councils, both chaired by their respective commissioners of agriculture, are seen as promising but underutilized bodies, likely reflecting the modest place of agriculture in each state's pre-pandemic economic development priorities. Efforts to leverage the expertise in these councils in response to the disruptions of COVID-19 suggest their potential. At the other end of the spectrum, the Maine Network of Community Food Councils has no formal connection to state government and New Hampshire has no statewide food council or network of any kind. The pandemic suggests the need for such statewide councils and their centrality to a state-level food policy plan.

3.4. Congress must review USDA's SNAP implementation process

Critics argue that USDA's process of rolling out P-EBT and online ordering was drawn out and seemingly haphazard. Two months after Congress authorized P-EBT, only 15 percent of eligible children had received benefits.⁷² While critics pointed fingers at USDA, the pacing of the application and clearance process also was affected by each state's capacity and willingness to implement these initiatives. While variations in state administration of SNAP is long accepted as a feature of U.S. federalism, why the timing and impact of federal government efforts to alleviate acute food insecurity vary depending on where those affected reside is a moral question worth asking when Congress next reviews the program.

3.5. Federal and state policies must focus on a more diversified and decentralized food system

A more resilient food system, like a more resilient energy system, is diversified and decentralized. Farms are small businesses, yet most farms in New England are too small and undercapitalized to take advantage of loan programs, produce the "wrong" commodities to benefit from USDA agriculture programs, or cannot afford what federal crop insurance is available. Federal agricultural policymaking has long been dominated by members of Congress from major commodity producing states, with predictable and recurring results for the nation's farm and food policies. U.S. food policy, long driven by a "get big or get out" ethos, has aided in hollowing out local and regional food system capacity. State food policies, such as they are, too often sit isolated, and low on the list of priorities.

The pandemic reinforces the critical point: it is time to refocus what passes for U.S. food policy at national, regional, state, and local levels. In particular, the six New England states in must work more closely to forge a more integrated regional food policy, one that focuses on ensuring greater regional food system capacity and resilience. As with any strategic infrastructure, the food system is too essential to be left to the whims of the marketplace.

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Based at Northeastern University in Boston, MA, the Global Resilience Institute's (GRI) research and educational mission is to develop and deploy practical and innovative tools, applications, and skills that drive social and technical changes, which strengthen the capacity of individuals, communities, systems, and networks to adapt to an increasingly turbulent world. Launched in 2017, GRI is the world's first university-wide institute to respond to the resilience imperative. Today, GRI undertakes multi-disciplinary resilience research and education efforts that draw on the latest findings from network science, health sciences, coastal and urban sustainability, engineering, cybersecurity and privacy, social and behavioral sciences, public policy, urban affairs, business, law, game design, architecture, and geospatial analysis. GRI works in close partnership with industry, government, communities, and non-governmental organizations, as well as engages in external outreach to inform, empower, and scale bottom-up efforts that contribute to individual and collective resilience.

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