University of Vermont | Food Systems Research Center

FARM to INSTITUTION NEW ENGLAND

ASPIRES Listening Tour: Final Report 2023 - 2024

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Center for Sustainable Agriculture

The Center for Sustainable Agriculture advances sustainable food and farming systems in Vermont and beyond. We cultivate partnership, support innovative research and practices, and inform policy to benefit Vermont communities and the UVM campus.

Center for Rural Studies

The Center for Rural Studies (CRS) addresses social, economic, and resource challenges through applied research, program evaluation, community data and indicators and economic impact studies.

Acknowledgements:

Collaboration with the following organizations representing all six states in the New England Region was pivotal to the success of the ASPIRES Listening Tour:

- Connecticut Food System Alliance (ctfoodsystemalliance.com)
- The Maine Food Strategy (mainefoodconvergence.org)
- Massachusetts Food System Collaborative (mafoodsystem.org)
- New Hampshire Food Alliance (nhfoodalliance.org)
- Rhode Island Food Policy Council (rifoodcouncil.org)
- Vermont Farm to Plate (vtfarmtoplate.com)

Further collaborative partnerships with the following regionally focused organizations allowed the ASPIRES Tour Research Team to reach a wider audience of stakeholders:

- Food Solutions New England (foodsolutionsne.org)
- The New England Food System Planners Partnership (nefoodsystemplanners.org)

INTRODUCTION AND BACKGROUND

Introduction

Key Players

The Food Systems Research Center (FSRC) at the University of Vermont (UVM) plays a pivotal role in addressing some of the most complex food systems challenges in the Northeast, including enhanced human health and wellbeing, environmental sustainability, and community livelihoods. Established as a partnership between the University of Vermont and the United States Department of Agriculture Agricultural Research Service (USDA-ARS), the FSRC is dedicated to research focused on the food systems in the Northeastern United States while recognizing the interconnectedness of food systems across local, regional, and global scales. With an extensive network of over 100 faculty, staff, and students, the FSRC funds both interdisciplinary and transdisciplinary research within regional food systems, encompassing a network of individuals, institutions, physical infrastructure, and natural resources engaged in the growth, processing, distribution, sale, preparation, and consumption of food.

The University of Vermont's Center for Sustainable Agriculture (CSA), part of UVM Extension, likewise plays a significant role in advancing sustainable food and farming systems in Vermont and beyond. The CSA fosters collaboration, supports innovative research and practices, and shapes policies that serve the interests of Vermont communities and the University of Vermont campus. The team works in tandem with the FSRC to ensure a holistic approach to food system research and is a co-lead for several projects issued by the FSRC (UVM-CSA).

The Center for Rural Studies (CRS) at the University of Vermont is an applied social science research center investigating the challenges posed by societal, economic, and resource-related

issues. CRS conducts a wide range of survey and interview research, program evaluations, community data and indicators, and economic impact studies, and also houses the Vermont State Data Center. Like CSA, the CRS team is involved with several FSRC-funded projects (UVM-CRS).

Northbound Ventures Consulting, LLC (NBV), established in September 2013 by co-founders Holly Fowler and Scott Richardson, is a small, woman-owned business based in Montpelier, Vermont. The firm's work revolves around food systems, population health, outdoor recreation and community economic revitalization. Their mission is to assist strategic change initiatives and inform development decisions that improve social wellness and create equitable opportunity for economic prosperity. Core services include in-person and remote facilitation, strategic planning, social enterprise and network development, business management consulting, stakeholder engagement, research design, data analysis and evaluation. Typical project deliverables include stakeholder engagement design and implementation, research tool development, market analyses, feasibility studies, business and strategic plans, financial scenario models, reports and academic papers. They work with non-profit organizations, municipalities, state and federal government, regional planning commissions, economic development agencies (e.g., CDCs, CDFIs) and foundations.

About ASPIRES

The FSRC launched the ASPIRES project—Alternative System Pathways for Interconnected Resilience, Equity, and Sustainability—in the fall of 2022. ASPIRES is a multi-year commitment from the FSRC to seek a way out of the current fragmented food system by exploring alternative pathways that promote resilience, equity, and sustainability. The project uses research to envision, test, and implement the future of food systems, starting with Vermont and the Northeastern United States. ASPIRES engages directly with community partners to contemplate various food system futures, leverage these discussions for research pilot projects, and assess the potential implementation of alternative food system futures.

This report summarizes findings from the first year of the ASPIRES project. The FSRC began its exploration of food systems futures through a New England-wide listening tour conducted in collaboration with community partners and co-led by UVM's CSA and CRS with NBV in a consulting role. This listening tour was designed to capture the voices and perspectives of a wide range of food systems professionals, including stakeholders in agriculture, food processing, food distribution, food retail, food waste and circular economies, the food industry, indigenous and underserved communities, food and nutritional security, food and agriculture advocacy, as well as food policy and governance.

The primary goals of this listening tour were threefold: to introduce the FSRC to the region and its stakeholders; to understand food system concerns and challenges from the perspective of community members and organizations; and to discover potential solutions and alternative systems that community members and organizations are eager to explore for the region. The collective knowledge of New England food systems professionals is both deep and wide. By beginning the ASPIRES project with a listening tour, the FSRC aimed to identify potential solutions with the greatest promise of fostering more resilient, equitable, and sustainable food systems for the region.

In future years, the ASPIRES project will pursue some of the potential solutions identified in the listening tour through providing pilot funding to test, measure, and model impacts on resilience, equity, and sustainability outcomes. The results of these pilot projects will inform the implementation of new technologies, ideas, and system changes for the region. Findings will also guide the formulation of policy and industry pathways for the adoption of these changes. The ASPIRES project is grounded in community-driven decision-making and works closely with community partners who will be most affected by the changes to ensure that the transition to alternative food futures is both effective and community-oriented.

In summary, the ASPIRES project is built on the principles of collaboration, inclusivity, and research-driven action. It seeks to leverage the expertise and insights of food system stakeholders to transform the food landscape in Vermont and the Northeast and build a more resilient, equitable, and sustainable food system. To this end, ASPIRES also aims to understand the role that research in general and the FSRC in particular can and should play in food system development.

Background

Stakeholder List

We began the ASPIRES Listening Tour by creating a comprehensive list of food system sectors to help us identify the various stakeholders to include in the listening tour. We conducted a review of existing literature that categorized the food system into various sectors and sub-sectors, each representing a domain within the food system. We identified two articles that classified food system sectors and associated stakeholders (Hollander 2019, Tomich 2007). To create a more refined and tailored list, we integrated the outputs of these identified research papers, modifying and expanding the sector categories based on our own insights and observations.

The secondary purpose of the stakeholder list was to track and manage the stakeholders engaged in the project. As we moved through the listening tour, we updated the stakeholder list to understand which sectors were adequately covered and which sectors required more attention. We also invited our community partners in each state to create a tailored stakeholder list reflecting the constituents and individuals operating within their states. Many state-level organizations found this mapping exercise valuable for better comprehending their own constituencies and sectors.

Initially, we intended to consolidate these state-level maps into a single, comprehensive stakeholder map of the entire Northeast region. However, not all states completed this stakeholder map, as some opted for alternative methods of engagement, such as integrating the ASPIRES Listening Tour into pre-existing events. Those states that completed the stakeholder map organized standalone listening sessions specifically for the ASPIRES tour.

The stakeholder map included columns for stakeholder sector, subsector, organization name, contact name, contact information, and notes. We used these larger spreadsheets both to categorize individuals and to group them into clusters for the listening sessions. We created clusters based on pragmatic considerations (like schedule availability), with secondary emphasis where possible on grouping similar sectors together. The size of organizations represented in each sector also influenced cluster formation. This approach ensured that each listening session represented a balanced mix of sectors and organization sizes to capture a broad spectrum of perspectives from the food system stakeholders.

State-level Partnerships

Collaboration with state-level organizations was pivotal to the success of the ASPIRES Listening Tour. We established partnerships with organizations in each state in the New England region: Connecticut Food System Alliance, The Maine Food Strategy, Massachusetts Food System Collaborative, New Hampshire Food Alliance, Rhode Island Food Policy Council, and Vermont Farm to Plate. We also partnered with two regionally focused organizations, Food Solutions New England and The New England Food System Planners Partnership, to link together the state-level organizations.

These partners, along with project consultant Northbound Ventures, had previously worked together on New England Feeding New England (NEFNE), a project led by the New England Food System Planners Project exploring the goal of having the New England region produce 30% of its food by 2030 to reduce its dependency on external food sources. The NEFNE team released

a comprehensive multidisciplinary report in 2023 that incorporated insights and input from a diverse array of consultants, professionals, and organizations throughout the region (New England Feeding New England: A Regional Approach to Food System Resilience www.nefoodsystemplanners.org/projects/report-components). The relationships established through NEFNE played a crucial role in introducing the ASPIRES Listening Tour to state-level organizations.

The primary aim of these collaborations was to create an intra-regional network that would facilitate interactions and dialogue among various stakeholders in the New England food system and provide a sense of connection and security to stakeholders who were unfamiliar with the brand-new FSRC. The ASPIRES project provided each state-level partner with a stipend to cover the administrative needs, logistics management, communication, outreach, and stakeholder recruitment for listening sessions. We provided additional funds for in-person sessions to offset costs associated with room rentals and provisions.

State-level partners chose between two approaches for scheduling listening sessions: integrating ASPIRES into existing events or planning standalone listening sessions. This flexibility was key to insuring that the research plan worked for both the ASPIRES team and our state-level partners. Several organizations also used the ASPIRES listening sessions to advance their own organizational goals. For some, the listening sessions marked the first time they gathered their constituents across sectors together in a single conversation. And some have used the listening session findings to inform strategic planning efforts.

METHODS

Session Planning

We combined two approaches to planning listening sessions: clustering stakeholders together by sector and participating in existing events. We took this flexible approach to maximize impact and engagement.

The deliberate selection of clustered sectors for listening sessions allowed us to tailor discussions to the unique needs and challenges of specific segments of the food system, including community food systems, aquaculture, K-12 education, and urban agriculture. These sessions, which more closely adhered to recommended sampling practices for focus groups, allowed for a nuanced understanding of sector-specific dynamics (Lindlof & Taylor, 2011).

At the same time, we incorporated listening sessions into existing food system events in New England. This both saved resources and allowed us to tap into a pre-existing audience of invested food system stakeholders. Incorporating the ASPIRES Listening tour into larger events also facilitated networking and situated listening sessions as part of the regional effort to improve food systems, rather than a separate initiative.

The majority of our listening sessions were held virtually over Zoom. We decided to hold sessions virtually except when incorporating into existing in-person events based on feedback from project partners and to preserve project resources. Because our sessions sought to reach food systems professionals spread across each state, virtual sessions were more practical and led to more and more diverse participation.

TABLE 1. LISTENING SESSION REGISTRANTS AND ATTENDEES

	VIRTUAL	IN PERSON
LISTENING SESSIONS	21	3
ATTENDEES (REGISTERED)	462	---
ATTENDEES (ATTENDED)	280	89

Preliminary Surveys

We sent out preliminary surveys to registrants before each session. The purpose of the preliminary surveys was twofold: to collect demographic information and to ask open-ended questions to prepare participants and the research team for the listening session discussions.

The survey began by asking what focus group respondents planned to participate in, what sector best described their area of food system involvement, their job title, and how long they had been involved in food systems work. We then asked two series of open-response questions: one about their work, and one about research.

We closed the survey by asking a series of demographic questions about work location, race and ethnicity, income, language, education, gender, and sexuality.

TABLE 2. PRESURVEY OPEN ANSWER QUESTIONS

PRESURVEY OPEN ANSWER QUESTIONS SERIES 1	
1.	What about your food system related work is going well?
2.	Please list 1-2 food system-related priorities you think require continued or increased attention in the coming years.
3.	What resources, connections, or additional information would be helpful to advance the above priorities?
4.	Who will benefit from successful solutions to the above priorities?
5.	What is not going well, and why do you think that is?
PRESURVEY OPEN ANSWER QUESTIONS SERIES 2	
1.	Do you utilize data and/or research in your work? (Closed: Yes/Unsure/No)
	If yes: What data/research have you used, and how did you use it?
	If yes: Do you have research partners and, if so, who are they?
	If yes: In what ways was using research/data valuable to your work?
2.	What additional research, data, or information do you wish you had access to that could help inform your work or related food systems initiatives?

Project team members from CRS downloaded survey results 2-3 business days before each listening session. We narrowed the responses to individuals from the state or group associated with the upcoming session (i.e., for Connecticut sessions, we included respondents from all Connecticut sessions; for Food Solutions New England, we included respondents from all FSNE sessions). CRS produced a report listing all responses to the following questions and identifying common themes among these responses:

- Please list 1-2 food system-related priorities you think require continued or increased attention in the coming years
- What resources, connections or additional information would be helpful to advance the above priorities?

- What additional research, data, or information do you wish you had access to that could help inform your work or related food systems initiatives?
- Do you have research partners and if so, who are they?

CRS sent this summary to CSA and NBV project team members, who used presurvey results to guide the listening session discussion.

We kept the survey open for a month following the last listening session. Our partner organizations sent out a final push for survey responses among their constituency, though this yielded minimal additional responses.

Listening Sessions

Virtual listening sessions

Virtual listening sessions lasted one hour and followed the format below:

1. Welcome, introductions, acknowledgment of project partners, request for attendees to introduce themselves in chat.
2. Introduction to the University of Vermont Food Systems Research Center
3. Overview of the ASPIRES project
4. Explanation of types and forms of research to be considered
    - Existing information we have, but aren't sure how to use (tools)
    - Existing information that we haven't been introduced to (connectivity)
    - Information that exists, but has not been aggregated and/or shared in a way that is useful (visualization and transparency)
    - Information that has not been tested or gathered in a sufficiently rigorous, broad or relevant way (participatory design and discovery)

5. Summary of pre-session survey responses
6. Group discussion of state and regional food systems research needs
7. Explanation of next steps and how to remain informed of ASPIRES program opportunities

We presented pre-session survey results from the relevant state or group to establish some context and set expectations for the group discussion. These results included existing research partners and sources, how research is useful, and research priorities. At later listening sessions, we also shared examples from prior groups.

During the discussion portion of the session, facilitators from Northbound Ventures prompted participants to consider two main questions:

1. What pilot project or research have you seen elsewhere that you would like to see replicated in your state or the region?
2. If funding and assistance were not a factor, what pilot project or research would you commission? How would the information be beneficial?

We provided 2-3 minutes for individual reflection and then solicited volunteers to share research suggestions. We encouraged all attendees to participate in the chat at any time. One team member led the group discussion while two others monitored the chat and took notes. We also captured responses live in a slideshow document we shared via Zoom so that contributors could verify that we captured their suggestions accurately and provide corrections or additions where needed. When other attendees echoed or added to proposed research ideas, we captured their suggestions on screen and in our notes.

We recorded each virtual session using the record and transcribe function within Zoom as well as the Otter.ai transcription service. These meeting recordings and transcripts were saved to the UVM central server and were only available to the research team members. We compared the

Zoom and Otter.ai transcripts with our notes and modified our notes accordingly.

In-person listening sessions and tabling events

We held three listening sessions that did not follow the above model: we tabled at two regional events in Massachusetts and Rhode Island and participated in a breakout session at a statewide food system gathering in Massachusetts. The focus of the tabling events was to introduce attendees to the FSRC and new FSRC Director Polly Ericksen. We stationed posterboards around the table asking three questions:

- Do you use Research and/or Data in your work?
  - What do you use, and how do you use it?
- What pilot projects or research would you like to see in the Northeast?

We discussed the FSRC and the ASPIRES Listening tour with participants and invited them to provide their input to these questions by writing on notecards or the poster board itself. We transcribed their answers and incorporated them into our analysis of listening session notes.

We conducted the breakout session in Massachusetts as part of a presentation about the New England Feeding New England report given by the Northeast Food System Planners Partnership. Northbound Ventures introduced the FSRC, discussed the ASPIRES Listening Tour, and solicited participants to submit feedback on notecards. We asked respondents to answer two questions by writing on opposite sides of the notecards:

- What pilots or research projects have you seen elsewhere that you would like to see replicated in Massachusetts or the region?
- If funding and assistance were not a factor, what pilot project or research would you commission?

Analysis

After the end of the listening tour in May 2024, the CRS and CSA team began our final data analysis. We used two main data sources: notes from the listening sessions and presurvey results. We also had access to listening session recordings and chats to consult if any questions came up while reviewing notes.

Listening Sessions

We began by analyzing the listening session notes. Our data analysis team of four split into two groups of two. Each group reviewed all listening session notes to code for two of the below questions.

TABLE 3. GUIDING RESEARCH QUESTIONS FOR ANALYSIS

1.	What drives the research needs of participating stakeholders? (i.e., advocating for funding, making decisions about farm practices, etc.)
2.	What research questions and/or topics do listening session participants want to prioritize?
3.	What methods did participants recommend or recommend against? (use this, don't use this, no more surveys, what to prioritize, etc.)
4.	How will this information be used and why is this research needed?

For each question, the analysis pair read through all session notes and coded emergent themes. We met to compare codebooks and come to agreement on open codes and their definitions. We then had a second pass at coding and met again to execute any revisions to the open codes and to sort these open codes into axial code categories. Our team met periodically as a large group of four to discuss progress and findings.

Survey

We closed the survey approximately one month following the last listening session and uploaded survey results to R for cleaning. We removed all previews and empty responses and identified a total of 264 valid responses. We did significant data cleaning on several questions, particularly the first question asking what listening session respondents planned to attend. Our full R code is available upon request.

One project team member from CRS took the lead on summarizing descriptive statistics of survey results. We executed this analysis in R and recorded findings in Excel for easy access. Any additional methods we used for quantitative analysis of survey results are recorded in the Demographic Summary portion of our results below.

RESULTS

Sample Description

Demographic Summary

Introduction

The ASPIRES Listening Tour had 526 session registrants, 344 actual session attendees, and 264 valid survey responses. We asked participants for demographic information in the presurvey. The demographic summaries listed in this section are therefore an approximation of the demographics of session attendees. Some participants may have completed the presurvey and then not attended the session, whereas others may have attended sessions without completing the presurvey.

We have summarized ASPIRES participants by session type in Figure 1 below. The majority of both session attendees and survey respondents participated in state-specific listening

sessions. However, the combined regional sessions, which included the sessions hosted by Food Solutions New England as well as 3 sector-specific cross-state sessions for grazing professionals, processors and distributors, and healthcare professionals, had more attendees and respondents than any individual state. We also had 40 valid survey responses from participants who either did not attend a listening session or for whom we could not identify the listening session they attended.

FIGURE 1. LISTENING SESSIONS BY THE NUMBERS

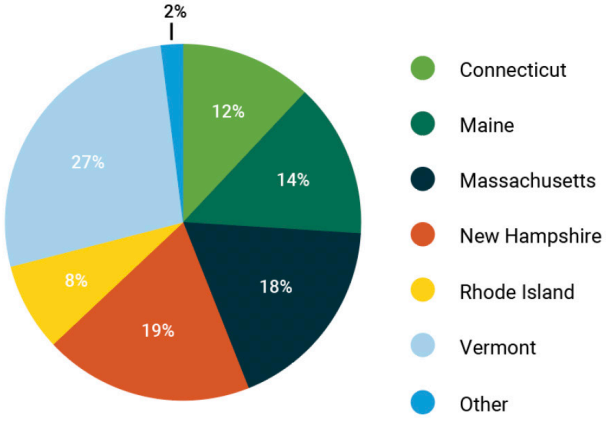
Survey Respondents by State

The presurvey asked respondents to identify the state that they worked in, depicted in Figure 2. These findings complement Figure 1 (Listening Sessions by the Numbers), since regional session attendees are identified by their state as well. Four respondents are listed in "other:" one who wrote in "New England" and whose primary state we could not identify, and three respondents working outside of New England—one in Idaho, one in Maryland, and one in Washington, D.C.

Over a quarter of survey respondents worked in Vermont, perhaps reflecting our Vermont-based team's existing built trust in the state, the participatory culture of our host organization,

Vermont Farm to Plate, and the general popularity of food systems careers in the state. Rhode Island had the smallest proportion of survey respondents (n = 19, 8%), and Connecticut, Maine, Massachusetts, and New Hampshire fell in the middle.

FIGURE 2. SURVEY RESPONDENTS BY STATE



Note. n = 236; 28 survey respondents did not provide their state of work.

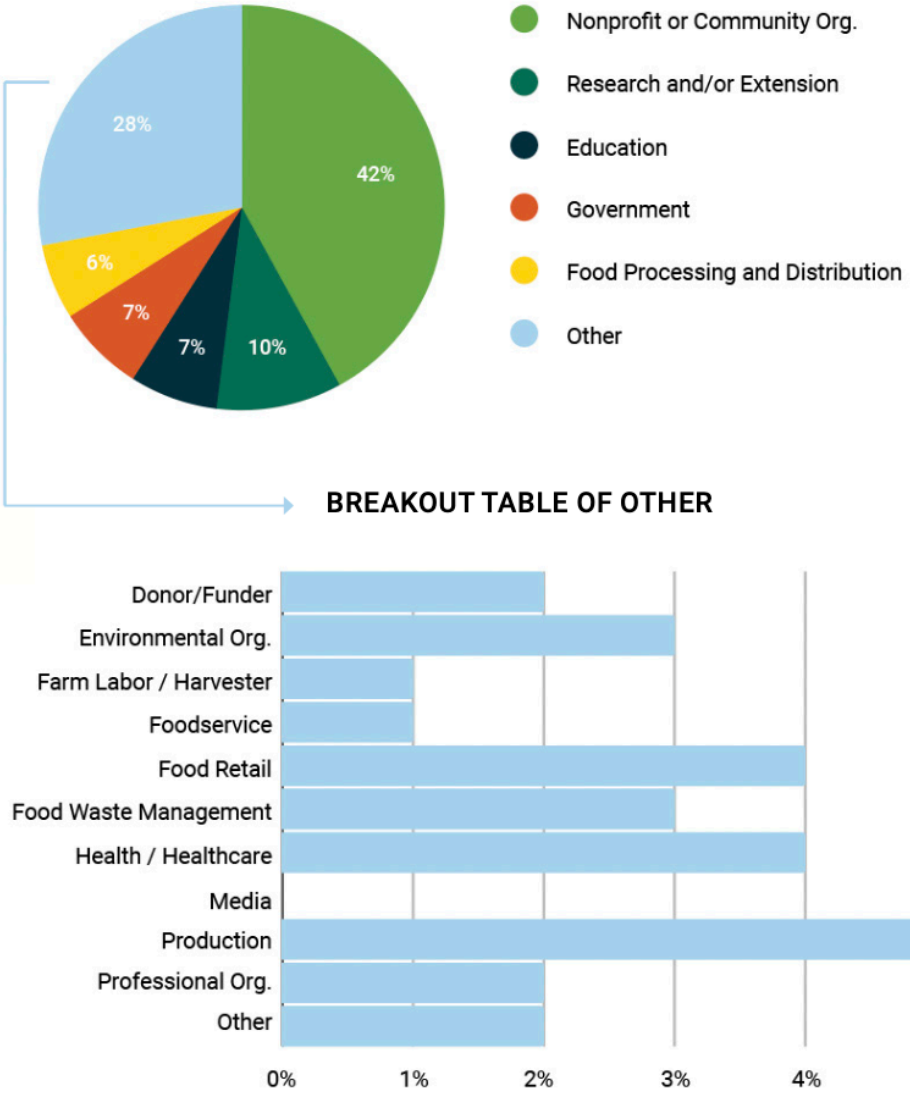
Survey Respondents by Sector

Respondents worked across many food system sectors. The presurvey asked respondents to identify their primary sector of food systems work, selecting only one option. The greatest number of respondents by far worked for nonprofit or community organizations (n = 111, 42%). The next most common sectors were Research and/or Extension (n = 26, 10%), Education (n = 19, 7%), Government (n = 19, 7%), and Food Processing & Distribution (n = 16, 6%). The remaining 10 sectors made up 25% of respondents, and an additional 6 respondents wrote in other sectors that we could not reallocate to existing categories: advocacy, consultant (2), a financing program, and communications.

The high proportion of participants working in nonprofit and community organizations is not surprising, given both the importance of nonprofits for food access and alternative food

systems work, and the familiarity of many nonprofits with using and participating in research. Still, the overrepresentation of nonprofit workers and other office-based workers compared to food systems professionals working on and in the ground should be taken into account as we review listening session findings.

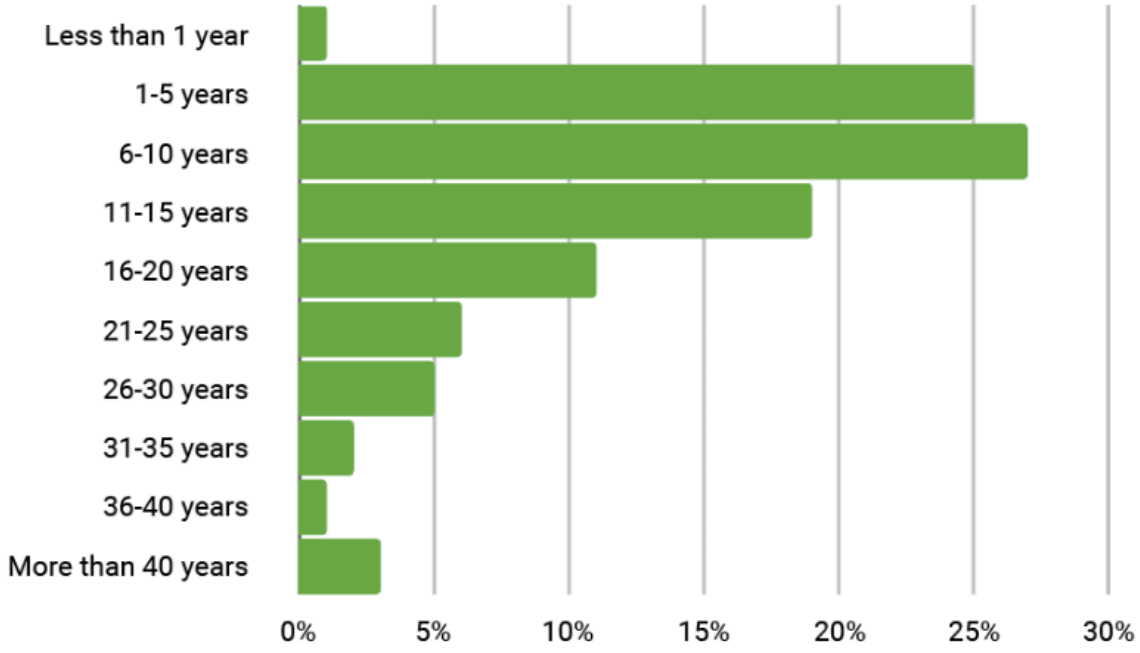
FIGURE 3. SURVEY RESPONDENT SECTORS



Years of Experience

We asked survey respondents how many years they had been involved in food systems work and sorted their open responses into the categories listed in Figure 4. The majority of respondents had been doing food systems work for between one and ten years, and an additional 29% had worked in the food system for 11 – 20 years. Eighteen percent of respondents had more than 20 years of experience, and just 3 respondents had less than one year.

FIGURE 4. YEARS OF FOOD SYSTEMS WORK EXPERIENCE



Note. n = 243; 21 respondents did not answer the question.

Personal Demographic Information

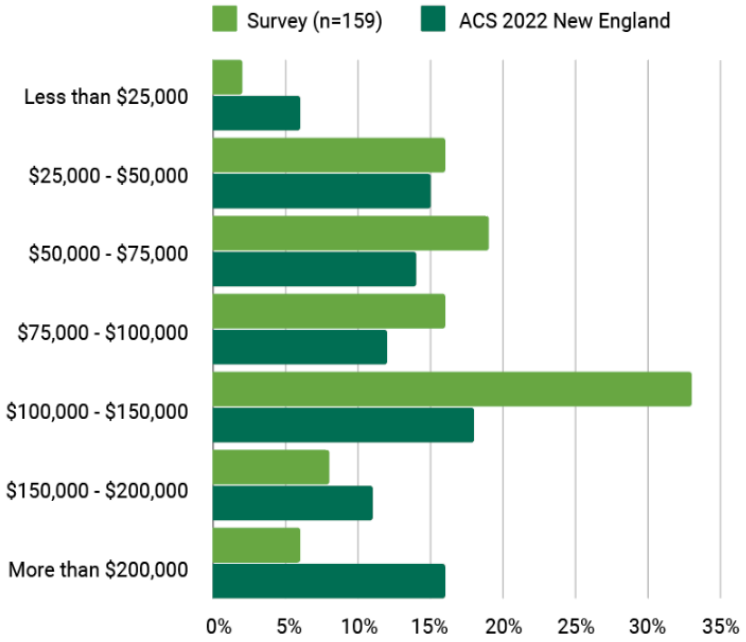
We closed the survey by asking respondents about their personal demographics and identities. These questions had a lower response rate than the other questions on the survey, likely due to both the personal nature of the questions and their location at the end of the survey

Household Income

We asked respondents to report their annual pre-tax household income. Out of 264 total respondents, 72 skipped the question and 33 selected "prefer not to answer," leaving 159 responses. Eighteen percent of respondents made under $50,000 annually. Just over a third had household incomes between $50,000 and $100,000 a year. Another third had household incomes of between $100,000 and $150,000 a year, and the remaining 14% reported household incomes of greater than $150,000 annually.

We compared the annual household incomes reported in our survey with the 2022 American Community Survey 1-year data aggregated to the New England Division (Figure 5) (U.S. Census Bureau, 2022a). Relative to the region, we had a greater proportion of respondents making $25k to $150k annually, and smaller numbers in the lowest and highest income categories, suggesting that our sample had over-representation from moderately low-income and middle class respondents and under-representation of higher-income individuals and people experiencing poverty.

FIGURE 5. ANNUAL HOUSEHOLD INCOME: COMPARISON OF SURVEY RESPONDENTS TO ACS 2022 NEW ENGLAND REGION DATA

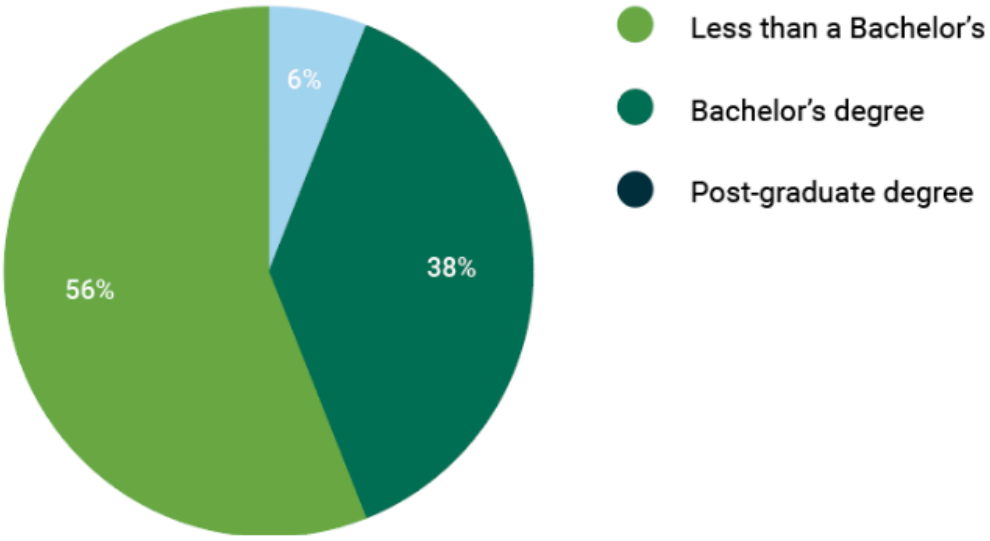


Educational Attainment

We asked survey respondents to report their highest level of educational attainment. A total of 188 respondents answered the question; 71 skipped the question and 5 selected "Prefer not to answer." Our findings are summarized in Figure 6. In general, presurvey respondents were highly educated. More than half (n = 106, 71%) had a post-graduate degree. Another 38% (n = 71) had a bachelor's degree. Of the remaining eleven respondents (6%), one had less than a high school diploma, one had a high school diploma, six had completed some college, and three had an associate's or technical degree.

According to the 2022 American Community Survey, 19% of New Englanders have a post-graduate degree and 24% have a bachelor's degree (U.S. Census Bureau, 2022b). Our survey respondents therefore have a much higher level of educational attainment than average. This is in line with the kinds of work most participants performed; many nonprofit, research, extension, education, and government jobs require or encourage employees to have at least a bachelor's degree. Our study's focus on research utilization may have also attracted employees from those organizations with research experience often achieved through higher education.

FIGURE 6. EDUCATIONAL ATTAINMENT OF SURVEY RESPONDENTS



Race, Ethnicity, and Language

We asked respondents to select their racial and ethnic identities in a single question and allowed respondents to select as many options as applied. A total of 186 respondents answered this question; 70 skipped the question and 8 selected "prefer not to say." Our findings are summarized in Table 4. Ten participants selected 2 or more races and/or ethnicities, and the remaining 176 selected one race or ethnicity. Of these, 159 respondents, or 85% of all who answered the question, identified as white alone. By comparison, 73% of New Englanders identify as white alone per the 2022 ACS (U.S. Census Bureau, 2022c).

TABLE 4. RESPONDENT RACE AND/OR ETHNICITY

RACE/ETHNICITY	1 SELECTION	2 OR MORE SELECTIONS
Asian	4	5
Black or African American	5	1
Hispanic	3	3
Latino	1	2
Native American or Alaskan	0	1
Native Hawaiian or Other Pacific Islander	0	2
White	159	8
Other	4	2
Unique participants with one selection	176	
Unique participants with two or more selections	10	

Note. n = 186. 70 respondents skipped the question; 8 selected "Prefer not to say."

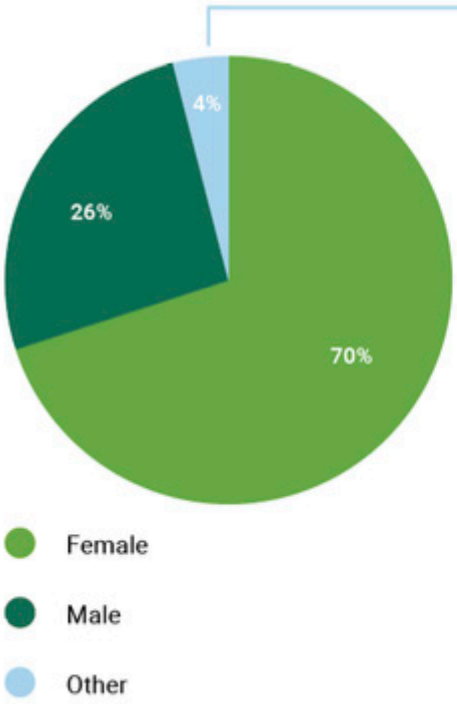
We also asked respondents to report the primary language they spoke at home. Of the 183 individuals who answered this question, all but two wrote in English. These remaining two respondents both spoke English and Spanish at home.

Gender and Sexuality

We closed the survey by asking respondents to select their gender identity and their sexual orientation. Both questions allowed respondents to select multiple answers and write in if the existing categories did not apply.

Of the 186 respondents who reported their gender identity, 70% (n = 130) were female and 26% (n = 49) were male (Figure 7). The remaining seven respondents (4%) each selected a different combination of gender identities, depicted in the breakout table below.

FIGURE 7. GENDER OF SURVEY RESPONDENTS

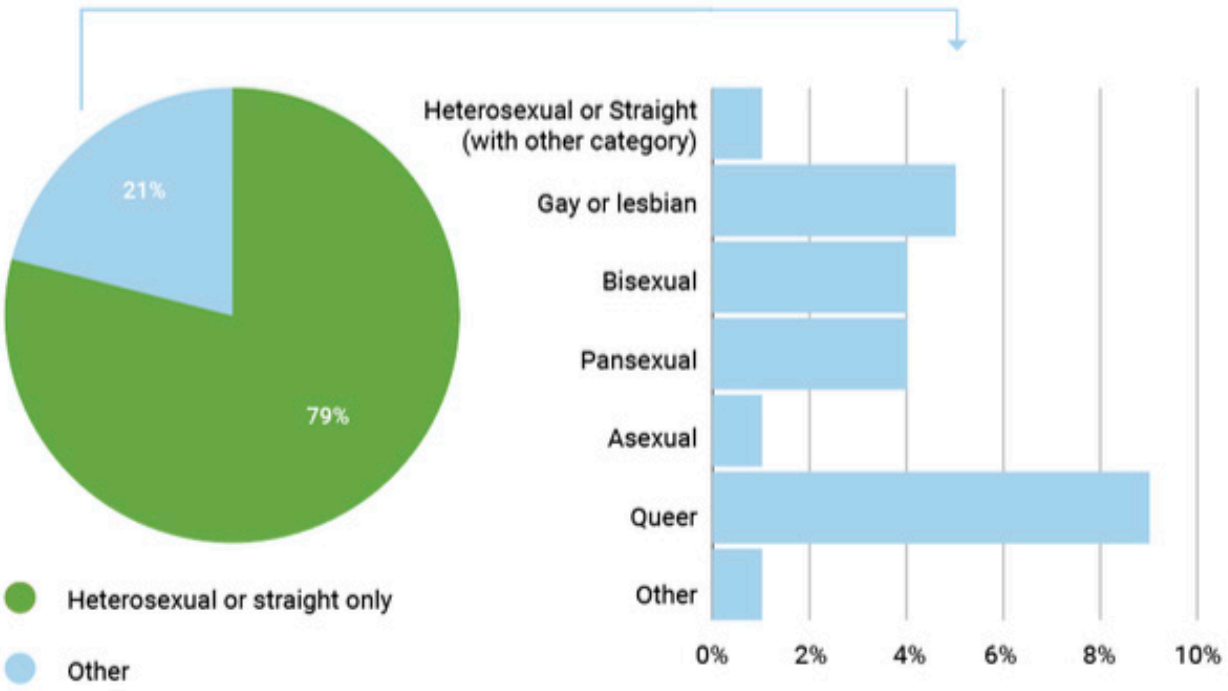


Androgyne	1
Female, Genderfluid	1
Female, Nonbinary	1
Genderfluid	1
Nonbinary	1
Nonbinary, Androgyne, Genderfluid, Other Genderqueer	1
Transgender	1

Our question on sexuality had the lowest response rate of any of the demographic questions, as we expected due to the personal nature of the question and the novel practice of asking sexuality in survey research. Seventy-five respondents skipped the question, and 19 selected "prefer not to answer," leaving a total of 170 responses. Responses are summarized in Figure 8.

Out of the 170 respondents who answered the question, 135, or 79%, selected the category of "Heterosexual or straight" alone. The remaining 21% (n = 35) selected a mix of other categories, with 28 selecting just one category and seven respondents selecting multiple.

FIGURE 8. SEXUAL ORIENTATION OF SURVEY RESPONDENTS



Preliminary Survey Open Response Questions

We used the open response questions in the preliminary survey in two ways. During the listening tour, we reviewed open responses in advance of each session to identify common themes and conversation starters for each state or group. For the post-facto analysis, we used the open responses in the preliminary survey to help us understand where participants stood in terms of their interests, goals, and experience with research.

What is going well?

We compiled open responses to the question "What about your food systems work is going well?" into the Word Cloud below. We condensed responses into theme words and scored based on frequency of appearance. The top 5 most frequently mentioned themes were Collaboration, Funding, Networking, Awareness, and Relationships.

What is not going well?

In addition to asking respondents what was going well about their work, we also asked what was not working well, and why they thought that was. We analyzed their responses using the codebook we developed from reviewing listening session notes for Question 1: What drives the research needs of participating stakeholders? Five of these codes emerged as common themes among the challenges survey respondents faced.

The most frequent and relevant theme we identified was the **need for funding**. This was true even among donors and funders; as one Connecticut funder stated, "farm margins are often very slim, making financial sustainability a challenge." Common challenges to financial stability included the time and resources required to apply for private funding, a lack of available state funding, and inefficient use of what funding was available.

Respondents discussed multiple challenges with the current funding system. Several mentioned that navigating and applying for grant funding required significant time and expertise. Many noted that government funding for agriculture was designed for large-scale farmers, as opposed to the small-scale farms more typical to New England. Several saw opportunities for more efficient use of funding through collaboration. As a New Hampshire respondent stated, "at times, organizations are duplicating efforts and compete for funding. I think it would be beneficial if more groups could work together for similar goals. Everyone has expertise or niches in certain areas and that can be better leveraged for the good of those being served."

Another major challenge mentioned by survey respondents was **processing and distribution efficiency**, especially in smaller-scale local food supply chains. Respondents discussed how there was "abundant supply" of food, but that there was not sufficient infrastructure at either end of the supply chain. Specific challenges included the high cost of transporting local food, lack of processing infrastructure (for instance, for peeling and cutting produce), and lack of capacity for food rescue to reduce food waste. As one respondent stated, "to help small- and medium-

scale farms to become more profitable in-state/regional markets, processing and supply chain infrastructure need to scale up so that farmers can more efficiently transport and process their goods effectively to reach consumers." Many respondents felt that the central problem for local food systems was not the capacity to produce enough food to meet demand, but the capacity to efficiently allocate supply. These findings highlight the need for the current system to bolster connective infrastructure to streamline market equilibrium and avoid deadweight loss.

The next most common codes among responses about what was not working included **outreach and communication, improve food access, and farmer and farmworker DEI (diversity, equity, and inclusion).**

Respondents saw **outreach and communication** as an essential tool for overcoming many of the challenges they mentioned. A respondent from Massachusetts with over 50 years of experience mourned that "over the years working with farmers has diminished" and called for a return of "having them at the table." Others discussed the importance of consumer education. A respondent working in food waste bemoaned the "lack of public/business education about food buying, storage, preparation, and disposal" and recommended "outreach and public awareness campaigns," particularly at schools.

Respondents also called for **improving food access**. As a Vermont respondent stated, "food access continues to be an area where it is hard to move the needle." Some of the obstacles to food access respondents mentioned had straightforward solutions—like language barriers—whereas others were embedded systemic struggles, like income disparities. Many respondents regretted the current reliance on the charitable food system instead of addressing root issues. As one respondent stated, "The reliance on the charitable food system to continue to feed people who do not have enough money to live a healthy, stable life is unsustainable. We desperately need upstream solutions to address housing, transportation, wages, and other things that would make it possible for people to purchase food." They went on to say, "the

charitable food system needs consistent, reliable resources in the form of government funding in order to continue to do the work of feeding people all across the state," emphasizing how the **need for funding** threaded throughout the discussion of challenges.

We used the code **farmer and farmworker DEI** to categorize social issues faced by people working in farming, including diversity (i.e., attract diverse new farmers, especially farmers of color), equity (i.e., fair wages and labor conditions for farmworkers, fair prices for small farmers), and inclusion (i.e., reducing barriers to land access, expanding federal benefits for food producers). In the survey, many respondents discussed the low wages for farmworkers and foodservice workers and challenges to farm viability. These difficult labor conditions make it hard to retain food systems workers. As one participant noted, "There is talk about farmers needing to scale production to reach economies of scale, but they often cannot scale, due to a number of factors: labor shortage (which stems from a mix of housing shortage for labor, a lack of public transportation for workers who live further away, and low pay for ag workers), inconsistent markets for increased production, and/or a lack of desire to scale because it's either not good for the land, and/or their work/life balance." These intertwined challenges harm both farm owners and farmworkers and make it difficult to attract farming professionals across the board.

The themes respondents discussed in their answers to "what is not going well" will appear throughout this report. But the purpose of ASPIRES, and the aim of many of our participants, is not just to identify challenges, but to propose solutions. As we move on to other survey findings and then to listening session results, we will see many creative ideas for improving funding access, infrastructure, food access, communication, and farm careers, and suggestions for the role of research in designing and implementing these solutions.

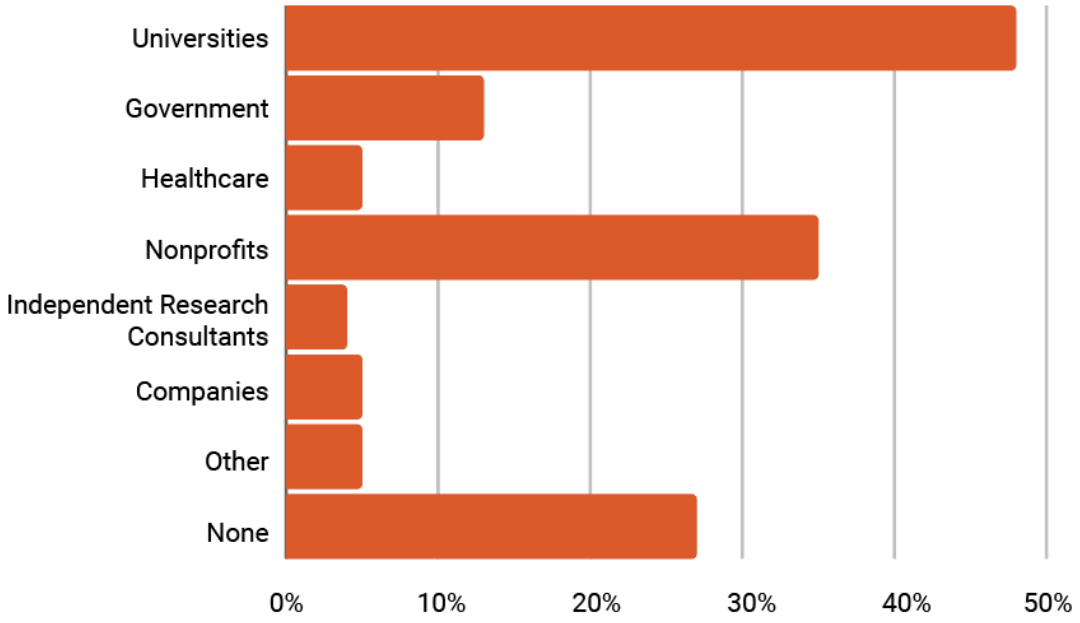
Research partners

We asked presurvey respondents if they used research or data in their work, and 172

respondents replied in the affirmative. We then showed these respondents an open response question asking if they had research partners, and if so, who they were. We coded the 130 responses to this question answers to assess common partner categories. Our findings are shown in Figure 9.

Just over a quarter of respondents (n = 35) replied that they did not have any research partners. Among the remaining 95 respondents, the most common partner type was universities (including Extension), reported by 4% (n = 62) of respondents. Nonprofits were also popular, with 35% (n = 46) of respondents listing nonprofit organizations among their research partners. Government trailed in third (n = 17, 13%), followed by health care facilities and private companies with 6 respondents each, and independent research consultants with five. Six respondents wrote in partners that fell outside of these categories.

FIGURE 9. RESEARCH PARTNERS REPORTED BY SURVEY RESPONDENTS



Data and Databases

We analyzed responses to the question "what data/research have you used, and how did you use it" to assess what resources stakeholders were already accessing to make informed decisions, optimize their operations, and stay competitive. The sources named by our respondents fell into five main categories: the federal government, state governments, universities, nonprofits, and internal data collection.

Survey respondents reported using many federal data sources, especially from the Census Bureau, the US Department of Agriculture (USDA), and the Centers for Disease Control and Prevention (CDC). Respondents turned to the Census for "data about income, poverty, and demographic breakdowns" and for general population overview. Many respondents reported that that USDA information on farm programs, loans, and disaster assistance were a cornerstone of their work. Specific USDA data sources named by our respondents included the Census of Agriculture; Natural Resource Conservation Service mapping data, data on utilization of USDA programs like Woman, Infants, and Children; the Farm to School Census and general school meal participation data; World Agricultural Supply and Demand Estimates; and results of USDA research funded by the Agricultural Marketing Service, the Economic Research Service, and the Agricultural Research Service. CDC data sources included the Behavioral Risk Factor Surveillance System, the Youth Risk Behavior Surveillance System, the Pregnancy Risk Assessment Monitory System, and the Maternity Practices in Infant Nutrition and Care Survey. Several respondents also utilized data from state government sources. Specific state data mentioned included data on state food access programs like 3SquaresVT, state data on school meal participation and local sourcing, and data from state departments of health.

Many respondents used university research, whether they worked in partnership with university researchers or accessed data on their own. State agricultural colleges and extension services were the most commonly mentioned, especially the University of Vermont, the University of New Hampshire, and the University of Connecticut. Respondents also used data from a wide range

of nonprofit organizations. Several mentioned the American Farmland Trust, the National Young Farmers Coalition, and New England Feeding New England, as well as many smaller state-level organizations.

Respondents from a variety of fields collected and analyzed their own data to aid in decision making. Respondents working in the charitable food system collected data on patrons and program utilization, respondents who sold food (be they farms, food hubs, etc.) analyzed sales data and web analytics, and respondents working in food waste reduction kept metrics on food rescue, compost, and more.

How is research/data valuable

The responses to the survey question "In what ways was using research/data valuable to your work?" fell into three overarching themes: Economic and Market Development, Informing Local and Regional Planning, and Maximizing Human Health and Well-Being.

For Economic and Market Development, respondents emphasized that data is crucial for making informed decisions that drive strategic planning, resource allocation, and program development. Through the use of hard data, organizations stated that engaging in research and data collection allows them to evaluate the effectiveness of their initiatives, demonstrate impact to funders, and guide investments that foster economic resilience and market sustainability. As one Maine respondent noted, "We especially want to be able to quantify the economic impact of farms and food systems in Maine over time, the economic impact of protecting farmland and investing in farm(s)". In framing how data can be used in the bigger picture of strategic planning, one respondent said, "Data is hugely valuable in informing my work (i.e., how I conceptualize farming issues and decide what to focus on). I also use data to support ideas and narratives that I share as part of my work…".

Many respondents used data as a foundation for Local and Regional Planning: to understand

community needs, shape policy, and advance advocacy efforts. Respondents noted that research allows for a deeper comprehension of the specific challenges and opportunities within local contexts, enabling the design of targeted interventions that align with regional priorities. For example, one respondent said the use of data "…helps inform a more useful allocation of our resources as we move through constant innovation, exploring, testing, and refining new ways of doing business." Respondents also noted that data enhances the credibility of their efforts, making it easier to influence policymakers and secure the necessary resources to address pressing issues. One participant expanded on this point by writing, "Using data and evidence to inform policy and programming is a key part of our mission. It is essential to have an understanding of the current and historical situation in order to make the best decisions."

Finally, respondents stated that research and data was indispensable for tailoring programs to meet community health needs—and therefore Maximize Human Health and Well-Being. Respondents used data to identify gaps in services, understand barriers to access, and develop solutions that improve health outcomes. One community organization employee noted, "Understanding what people actually want or the challenges they face in fulfilling their food system wishes (i.e. they may want to buy from a farmstand but the hours don't align with their work schedule, etc.) is very helpful in generating workarounds and solutions." Survey participants felt that grounding their work in evidence allowed them to create more effective health interventions, advocate for policy changes that promote well-being, and ensure that their efforts are responsive to the most vulnerable populations. "We need to demonstrate benefit in order to possibly gain insurance coverage for food as medicine.", said one survey respondent.

Results Section 2: What drives participants' research needs?

We first analyzed listening session notes to assess what the underlying drivers were behind participants' needs for research and data. Much of this discussion occurred in response to the

question “how would the information [gleaned from a certain research question] be beneficial?” but the various needs participants had for research and data were threaded throughout the sessions.

Listening session participants were driven by the desire to improve the food system in their areas of expertise, including consumer health, diversity and wellbeing of farmers and farmworkers, increasing and optimizing use of local food resources, and food system sustainability. These themes overlapped with our findings for what research topic areas are needed and for how participants see research contributing to food systems futures and will be covered in those sections to follow.

Regardless of subject area, participants shared three main motivations for pursuing research: to inform their own work, to inform policy, and to advocate for funding.

Inform work

Participants sought to make research-informed decisions about where to focus attention and resources to optimize the effectiveness of their work. While this desire transcended sector, it was particularly common among participants working in food distribution, food access, and education and technical assistance.

Many participants wanted a better understanding of where and how local products were being sold and consumed. One Connecticut participant wanted to know how much food was sold through farmers’ markets so that they could have “a baseline for growth and improvement.” Another, who was working to start a food hub, wanted research on the relationship between the “availability of fresh produce and consumption” and what might be “preventing it from being better utilized” so that they and their colleagues could decide “where to focus attention and resources” in terms of food processing, education, and presentation. And a participant in a regional session for food processors and distributors wanted to know what, if any, technological

tools for food hubs led to greater sales and operational success to help them answer several questions, including "the return on investment of different options," whether investing in new technology was worth it, and whether it make sense to share "data and inventory…among values-aligned entities."

Participants working in food access wanted research that assessed the efficacy of various food security and nutrition programs. Some participants aimed to make existing programs more inclusive. A Connecticut session attendee wanted to understand barriers to enrolling in and using SNAP and WIC benefits, be it "transportation, eligibility of food choices, types of food choices," or administrative burden. A Food Solutions New England session participant wanted to examine what was available to food assistance program participants with dietary restrictions to "increase participation in available programs," "regain confidence in programs," and increase available assistance. Others wanted to assess the potential of new programs. Another Connecticut participant wanted to look at the potential for covering Food as Medicine programs under Medicare and Medicaid to increase the "comparability of interventions" and identify "models for different applications."

Many attendees worked in technical assistance, be it for Extension, government, or nonprofit organizations. A participant from Connecticut wanted to understand how many farmers made a living from production farming to allow them to "inform and adapt programming for new and beginning farmers." And a Vermont session attendee wanted to know how farmers and food businesses learned about, engaged with, and benefited from financial and technical assistance to "identify those that are being left out" and "increase [the] impact and efficiency of resources."

Inform policy

Participants did not only want research to inform where to direct resources in their own work; they also wanted research to inform policy creation for food and agriculture, and they wanted to be able to cite research in advocating for policy on topics they cared about.

Many participants wanted to evaluate existing policies to assess if and how they should continue, and if and how they could be improved. A participant in the regional food processing and distribution listening session wanted to see evaluations of different local food purchasing incentive programs for schools, including the state-level programs and the USDA Local Food for Schools cooperative agreement, to "allow us to determine the most effective programs that can be sustained/funded annually and maximize their effectiveness." A New Hampshire session attendee asked how long protected farmland stayed in productivity and thought that research results "could be beneficial as a means to encourage more frequent use of access/affordability provisions in farmland conservation easements, particularly in high value real estate markets."

Others knew from experience that existing programs needed reforming and wanted research to help them make that case. One Connecticut participant wanted to "look at all the land in [Connecticut] that benefits from the [agricultural tax exemption] to understand how it is actually being used" so that the state could "redesign what is required" to qualify for the exemption and stop its misuse. Another wanted to research alternatives to the federal crop insurance program that would work better for small farmers and to help them "[make] the case for a sustainable relief option."

Others wanted access to research that would help them make the case for new programs to policymakers. A Connecticut attendee wanted to research the "potential health outcomes of different food as medicine interventions" as well as their "potential cost savings to the state" in order to "demonstrate that these types of programs are win-win." A Food Solutions New England session attendee asked how "wind damage impacted farm infrastructure…and operations over the last five years" to help them improve available infrastructure and also "[make] the case for better insurance coverage of temporary infrastructure" and create "increased understanding/ reclassification of infrastructure that is being promoted as an adaptation to climate change." A Maine participant wanted to know "What value could be derived from having another food

focused entity (e.g., USDA) be involved with fish/seafood" to help "expand all of the benefits available to farmers to fishers (e.g., mental health supports)."

A participant in the regional food processing and distribution session asked a meta-question about policy. They wondered, across the board, what the impact was of local, state, and federal policy on food hubs, and whether public or private funding was more effective. This research would help food hub operators decide "how much attention to dedicate to policy advocacy" in the first place.

Advocate for Funding

The third practical use our participants had for research was to help them advocate for funding. Some wanted to evaluate existing grantmaking programs to assess if funding was going to the right place and/or to advocate for it to continue. Others working on the vanguard wanted help making the case for funding programs historically ignored by governments and other grantmakers. And others wanted to assess where funding was going and if it was distributed equitably.

Many participants wanted evaluations of existing grant programs to help ensure that funding was going to the right place. A Food Solutions New England participant asked about "the impact of supports for farmers," including direct outcomes and multiplier effects, to help "make the business case for more funding" as well as to "improve delivery" and "deprioritize or change the programs that are proving less effective." A Massachusetts participant asked "what additional middle of the supply chain infrastructure is needed" to get to 30% local food by 2030 in order to "drive private [and] public investment in a strategic way." And a Rhode Island attendee proposed an "aggregate analysis of programs that are channeling local food into any access point for the food insecure" to "[support] fundraising, [sustain] organizations doing the work, [and to assist] advocacy for sustainable funding from [a] public source."

Other participants worked in areas that grant programs did not yet sufficiently address. A Connecticut participant proposed "surveys of community farms [and] urban ag in multiple cities" to assess "how much urban ag is happening and what are the impacts." They hoped to use this research in part to "[demonstrate] the value of urban agriculture" and "secure more funding." A Vermont participant was curious about the "effects of mutual aid projects" during and after the COVID-19 lockdowns in order to "[make] the case for providing state funding to mutual aid [projects]."

Several participants wanted to research funding itself to improve funding distribution. One Food Solutions New England participant asked about "racial equity in grant-making," wondering "what are the actual limitations that federal funders face" in order to "help move towards solutions" and to fund "organizations that could fund other groups. Another asked what the impact was "of unrestricted funding to frontline communities compared to restricted," and if there were "less formal structures to meet [the] needs [of] community members [relating to] equity, sovereignty, [and] justice." They noted the "tension between access to resources" and that the "demand for proving you are stewarding resources efficiently creates a struggle for power."

Results Section 3: Research Needs

Listening session participants proposed a wide range of research to assist their work and investigate possible food system solutions, spanning producer, consumer, and policy issues.

Their research questions fell into three main categories: (1) processing, distribution, and farming infrastructure, (2) farming professions, and (3) new markets and alternative food systems.

Processing, Distribution and Farming Infrastructure

Session participants were in favor of strengthening regional food systems but needed more information about current capacity and whether available infrastructure could support growth.

They discussed many categories of infrastructure, including land and farming equipment, food storage facilities, processing facilities, transportation of food, and channels for distribution.

First and foremost, participants requested an assessment of current regional food system infrastructure. One stakeholder proposed “an asset map visualization of existing, inactive, and underutilized infrastructure to identify barriers for producers to get to market and identify areas for improvement.”

Participants agreed that increasing local food production was not just a matter of growing more food, but would require more markets, processing infrastructure, cold storage, and even community infrastructure such as farmer and farmworker housing. Participants had many questions about future “bottlenecks” that food systems growth could bring. For example, one stakeholder in Maine summarized “does Maine has adequate land and aspiring producers to grow all of the food it needs, and if that is the case, can processing and distribution capacity keep up? Would this be viable (e.g. economically profitable) for all parties?” Before setting on a path to growth, stakeholders needed research to help them understand current and projected food system needs.

Participants had creative proposals for exploring and testing food system infrastructure. For example, one person shared “can there be a pilot project for public ownership of critical food/ farming system infrastructure, like dairy processing, or aggregation/distribution?” Another had the idea of using farm stands as more holistic distribution areas: “we have seen tremendous changes in farm stands [providing] more products to create more of a full shopping experience for its customers…could be helpful for other farm stands to learn and spread this model throughout the state and region.”

Land use and availability was a prominent area of interest for stakeholders. In addition to increasing equitable access to land, stakeholders wanted decisions about land use to be

grounded in research. Participants asked questions such as "[what is the] long term trajectory of protected farmland – does it remain in productivity?" and "how will climate-induced migration add development pressure to farmland areas?" Another stakeholder tied together land access and food access concerns through their "proposal to examine and provide analysis on all 'brownfields,' particularly near or that include residential neighborhoods in our most vulnerable communities…examine residential parcels to identify soil health prior to allowing folks to grow in their backyards where we know soil health is an issue."

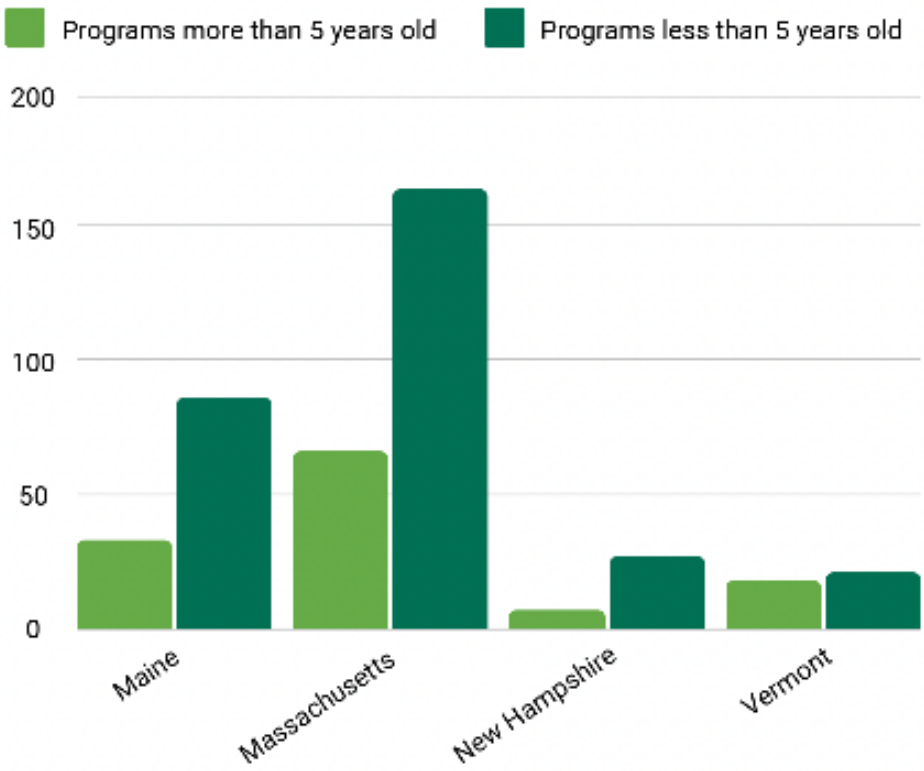
New Markets and Alternative Food Systems

Participants also offered many research questions about new markets for food and food products, especially about benefits to farm income, food security, and food waste reduction. Stakeholders had numerous ideas for increasing flow to current alternative sales markets as well as new areas for food and food product distribution.

Farm to Institution

Farm to Institution was a major area of interest for stakeholders. Programs like Farm to School that prioritize and/or subsidize purchases of local and regional food by institutional foodservice operations are increasing in prevalence nationwide, and New England has been a strong early adopter. While there is a growing body of research demonstrating the benefits of these programs, stakeholders had many questions, including: "where and when farmers actually benefit from selling to institutions," what the impact is of "forward contracting as a tool for institutions to buy more locally/regionally grown food," and "[USDA Agricultural Marketing Service] Local Food for Schools incentives: will they produce a viable revenue stream for farmers; will they increase nutrition for students; what is the impact on school budgets?" Across the board, stakeholders wanted a better understanding of best practices, benefits, and support needs for Farm to Institution. The figure below shows that the majority of schools participating in farm to school have joined in the last 5 years, indicating a recent surge in interest in this program.

FIGURE 10. LENGTH OF PARTICIPATION IN FARM TO SCHOOL BY SCHOOL FOOD AUTHORITIES (SFAS)



Secondary and Non-Capitalist Food Markets

Stakeholders were curious about how secondary food markets impacted farmer income, food access, and reduction of food waste. Questions included:

- What are the logistics of creating a secondary market with food? Is the trajectory similar to the recycling industry?
- I know [Rhode Island] is looking into the economic impact of "second state food businesses. That's an area we need more research and data to advocate for resources for scaling food businesses.
- "[Research should] asses the landscape of food recovery at a broader level; what are the limiting factors and competing incentives of food recovery; where is convenience of recycling food lessening optimization for higher level use?"

These questions reflect stakeholder's desire to increase food utilization and decrease food waste. While these questions about secondary markets touched on other themes like food distribution and processing infrastructure and logistics, we have separated them out into their own categories. Participants' other questions about processing and distributing food were asked with the goal of scaling up local food systems. These questions, on the other hand, focused on how to maximize use of currently available food.

Farming as a Profession

Participants posed several research questions seeking to improve farm and farmworker livelihoods and farm viability and thus improve the appeal of a career in agriculture.

Encouraging New Farmers

Many stakeholders were interested in attracting younger generations to farming and posed research questions along these lines. One participant wanted research about the "social norm shift looking at the public perception of farming as a career, [such as] working with youth to change how they see farming as an occupation." Other stakeholders discussed "creating incentive[s] to farm" and "programming for new and beginning farmers" as additional steps to support entrance to the farming profession. These questions were grounded in concern over the increasing age of farmers in New England; we have provided the statistics on Vermont farmers by age in Figure 11 below as an example. As farmer demographics shift older and older, encouraging younger farmers will be essential to supporting the regional food system.

FIGURE 11. BREAKDOWN OF FARMERS BY AGE

There are barriers to new farmers entering the field, among them access to land. Stakeholders called for research to help "ensure access to land for historically marginalized producers," including "BIPOC, LBGTQIA+, young and beginning farmers." One asked "what would be needed in terms of political will and next steps to launch a national endowment for agriculture to support land access and equipment purchases?" Another wanted to investigate how to provide access to farmland that had been lost to "disuse."

Some stakeholders discussed land access and succession planning for aging farmers hand in hand. One stakeholder asked "how do we continue to support farmers who are looking at succession planning and want to transfer their land to someone who's going to keep it in agriculture?" Another asked, "how do we create policies that will incentivize affordable, equitable access to transition farmland from current operators to the next generation" as opposed to opening farmland to the general real estate market.

Viability of Farming Professions

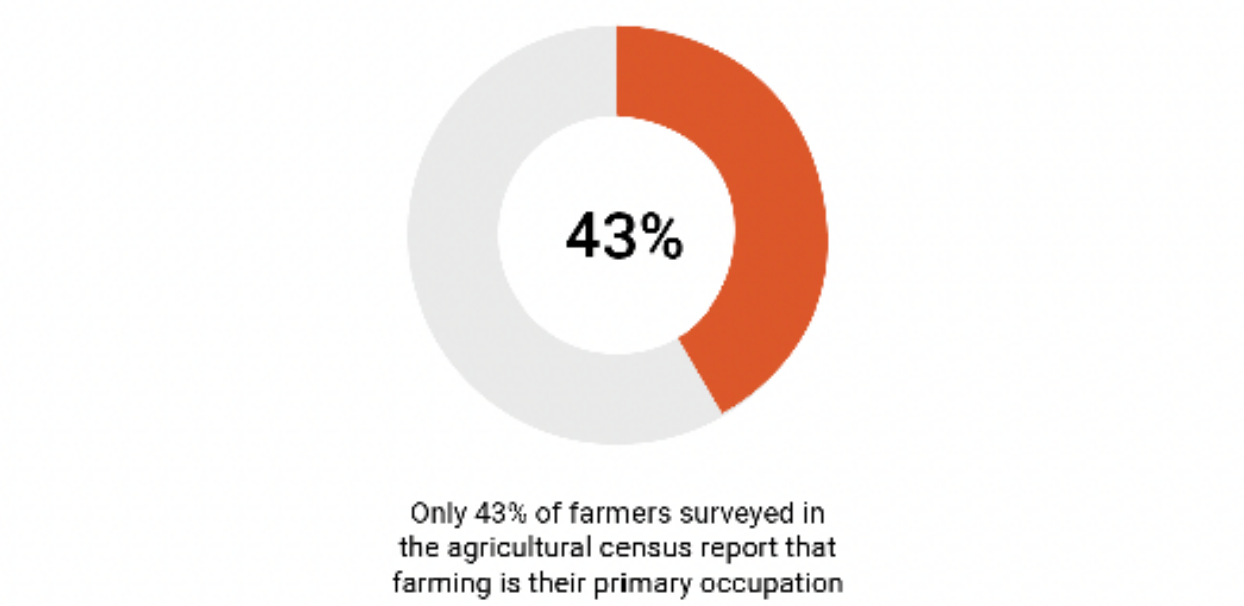
In addition to asking questions about supporting farm business viability, stakeholders asked questions related to the viability of farming for individuals. These questions centered around farmer wellbeing, health care, mental health care, and the ability to make a living wage.

Several participants asked about the ability to earn an individual income through farming. As one participant put it, "how many farmers are reliably making a living off production farming? What are the criteria/indicators that make this possible?" Similar comments included "how can we support farm workings making a full living...without needing another job?" or "what factors are needed to make farming an economically sustainable job?" These questions are grounded in real data; according to the 2022 NASS Census of Agriculture, most U.S. producers are not able to sustain themselves off farming alone.

For all producers counted in the 2022 Agricultural Census, only 43% of them considered farming

to be their "primary occupation," a number that has remained consistent since the 2017 Ag Census. Of those counted in 2022, 36% of producers spent more than 200 days or more working off the farm."

FIGURE 12. DATA ON FARMING AS A PRIMARY OCCUPATION



Stakeholders inquired about other factors important to supporting farmers in their careers. Some asked about farmer training and education; one discussed "farmer training/support and farm viability being more closely aligned…[offering] farmer training/support [that] includes building a career trajectory for non-farmers and or/students to get into farming." Others asked about how to support farmer wellbeing and access to resources, including "mental healthcare for farmers and farm workers," "healthcare access," "affordable farm housing," "retirement planning," and "childcare."

Results Section 4: Research Approaches

Our next step in data analysis was to review the listening session notes to examine what methods and approaches to research participants recommended—or recommended against.

Across the board, stakeholders needed access to applied research that was responsive and respectful to their fields and that could help them advocate for policies and funding to continue their work.

Accessible & Appropriate Data

Stakeholders needed research to be readily available, easy to understand, and relevant to their needs. Many participants felt that available data, especially the NASS Census of Agriculture, did not fit their needs and was not conducted frequently enough. Several participants requested "something that is more localized and happens more often," and suggestions included statewide agricultural censuses or surveys that broke data down along county or even "hyperlocal" lines. Two stakeholders named the Iowa Farm and Rural Life Poll as an example for how to collect farm-level data on a more frequent local basis. Several participants also called for data collection to be more consistent and had suggestions for how to gather data more frequently, including "real time citizen science type of platform like E-bird tracking local food production" and a "centralized inventory management nutrition analysis software platform" for K-12 school foodservice.

Many also proposed synthesizing existing data and making it accessible for stakeholders to answer specific research questions. Examples included combining food systems data and climate change data to help build a road map for increasing local production and conducting a literature review of the greenhouse gas emissions of diets including grassfed meat compared to plant-based diets.

Quantify Costs and Benefits

Stakeholders were unified in their ask for research that quantified the cost and benefits of their programs, both to help them make decisions and to make the case for their programs to funders and policy makers. These fell into two main categories: traditional economic impact research, and research that quantified other program impacts.

Requests for economic impact research ranged from the broad to the specific. Participants asked several general questions, including "[help] understanding economic impact of local food" and "researching and prioritizing the economic value of ag/aqua production." Specific targets for economic impact research included local food purchasing incentive programs, universal free school meals, food assistance programs like SNAP, comparing independent food retailers to big box stores, renewable energy in agriculture, and tax incentives for food donation.

Stakeholders proposed quantifying many impacts beyond the economic. Many of these centered around consumer health, including "potential health outcomes of different food as medicine interventions," "the impact of industrial or community crop growing on social determinants of health," and the impacts of Covid-era food access programs. While many stakeholders proposed looking at the economic impact of school food programs, a New Hampshire participant proposed looking at the non-economic benefits, asking: "How does access to nutrition (type of nutrition/quality of food) impact student behavior in the classroom and safety of students and staff/teachers?" And a Massachusetts participant asked the overarching question: "Do multiple food system interventions in a community add up to more than the sum of its parts? What is the multiplier effect - which combination has the greatest impact in which environments?"

Reciprocity

Stakeholders were unified in asserting that food systems research should be reciprocal: it should focus on necessary practical issues, "[center] the voices/experiences" of affected communities and should take steps to communicate those findings back to communities so that results can be incorporated into decision making.

While many participants did speak in favor of survey research, others cautioned that "people are tired of surveys" and that research needed to be respectful of the capacity of its participants. These ideas connected with the need for "appropriate and accessible data collection" explored

earlier: data collection ought to be purposeful and necessary, and when asking people to participate in research, we should be sure we are asking the right questions in the right way to be most useful to food systems work on the ground. Several stakeholders also suggested more participatory research that involved communities more deeply in the research process.

Hand in hand with the call for reciprocity were suggestions for improving science communication. A Food Solutions New England participant asked "How do we make existing and emerging research more accessible to enable communicators the chance to share it forward?" and suggested that "maybe this is a moment to upend how research is presented." Participants suggested both high-tech and low-tech ideas for improving communication of research results. Several participants proposed accessible online databases, such as a "searchable tool of farms, processors, distributors, storage facilities, aggregation that exists and their profile (using RWJ model); county and zip code level both; profile affinity (e.g., type, size of farm (acres), crops, farm sales)." But another asked "How do we get the latest information on [regenerative agriculture] most accessible to farmers that isn't social media" and proposed "more opportunities for in-person farmer gathering." Like with the suggestions for research methods, stakeholders asserted that science communication needed to be tailored to its audience to be as useful as possible.

Results Section 5: How can research be a part of food systems' futures?

The final question we asked to analyze the listening session notes was how stakeholders anticipated using the research they proposed. This question is a companion to our first question of what drove research needs, and many of our findings likewise came from answers to the discussion prompt "how will this information be beneficial?"

We identified three themes around research implications: economic impact and market

development, informing local and regional planning, and maximizing health and well-being. These themes connect to earlier results and point to shared values of economic agency, informed decision making, and wellbeing of community members.

Economic Impact and Market Development

Listening session participants wanted research to help identify how growing regional food systems can be economically viable. Though they proposed a wide range of research questions related to strengthening the regional food systems, calls for "economic impact assessment[s]," "impacts on budgets" and "market expansion opportunities" were a recurrent thread in discussions.

These questions addressed all points of the supply chain, including production, processing and distribution, and consumption and food access. One stakeholder suggested research into specialty crops in New England, including "what are production yields, pricing…how much is being produced for direct to consumer versus for larger wholesalers?" They explained that "specialty crops are a significant focus of the local food system, and we tend to have the least amount of information about them." Another stakeholder wanted to better understand "the broader impact on the local economy of universal meals [in schools]." Lastly, another stakeholder suggested studying outcomes of food as medicine interventions, wanting to know "what are the potential cost savings to the state?" When prompted for "why this information would be beneficial," the stakeholder shared, to "demonstrate that these types of programs are win-win (health for participants, savings for the state)." While these examples span different topics, they highlight the desire for participants to better understand the economic impact of focus areas in the regional food systems.

Informing Local and Regional Planning

Stakeholders made it clear in discussions that they wanted information to inform local and regional planning. To be able to make informed decisions, stakeholders needed more

information on topics such as community engagement and inclusivity, education, climate change, agricultural practices, policy and infrastructure, and land use.

When asked how information from proposed research questions would be useful, stakeholders stated that they would "allow us to develop a strategy," present "opportunity to create a roadmap," or help inform an "implementation plan." Stakeholders wanted to make sustainable decisions to build capacity in the regional food system.

Participants needed more accessible and appropriate data, as identified in the previous section, to allow for better decision making. They pointed to areas where more context specific data (beyond the agricultural census) could help address gaps in regional knowledge. A Connecticut participant shared that the "Witness to Hunger program and the CARE initiative have provided excellent qualitative data in New Haven; engaging community members as researchers; useful for illustrating what higher level observed data looks like more clearly." Another participant, in relation to dietary preferences, noted that "existing data do not work well with small, rural areas."

Maximize Health and Wellbeing

Maximizing health and wellbeing was a clear food systems priority among our stakeholders. They spoke to this theme when discussing producers, consumers, and the environment.

Stakeholders wanted research to help improve food security, including by increasing the efficiency of charitable food programs and broadening access to food is medicine interventions. They also needed transparent information to help consumers make informed food choices. Examples of how stakeholders described these research needs included "close the gap in communication to both SNAP recipients and farmers," "help drive healthy food into the charitable food system," and asking "what are the food preferences of our neighbors to ensure the charitable food system is as equitable and dignified as it could be?"
As we discussed in Section 3, stakeholders also wanted to improve the lives of farmers and

farmworkers. They proposed many ways that research could contribute to this goal, including through creating better training programs, identifying roads to business viability, and informing improvements to healthcare access and insurance options for small farmers.

Lastly, stakeholders wanted research to help improve environmental health and wellbeing. They wanted to better understand how certain practices or programs impacted environmental health, and to in turn inform producers and consumers how growing, buying, or consumption practices affect the environment. For example, one stakeholder proposed looking into "the effects of flooding on soil health" and asked "what are the interventions that can be introduced on flood prone land?" Another stakeholder wanted to address the relationship between farmer wellbeing and environmental wellbeing, asking "how can we ensure incentives are going to farmers who are already using practices that mitigate climate change, rather than incentives only for people who aren't yet to switch to climate-friendly practices?"

CONCLUSION

Summary

During the course of the ASPIRES listening tour, we met with 344 food system professionals across 24 sessions and heard from 264 individuals in our pre-session survey. Our discussions produced a wide range of research questions to assess the current state of New England's food system and identify alternative system pathways leading to a brighter food systems future.

Survey respondents identified five main challenges to their food systems work. First, respondents identified a bottleneck in small and midscale processing and distribution infrastructure as a key barrier to growing local and regional food markets. They called for scaling up infrastructure and increasing efficiency to reduce food waste. High rates of food

insecurity and reliance on the charitable food system were also high priority challenges. Respondents wanted to improve food access by addressing upstream issues like income inequality, and, in the meantime, reduce barriers to the charitable food system for those who need it. There is no regional food system without regional food producers, and our respondents were concerned about the dual challenges of farm viability and farmland access. They discussed the need for succession planning, increasing farmland access for new and marginalized farmers, improving the economic reality of operating a farm business, and improving working conditions, wages, and access to healthcare for farmers, fishers, and farmworkers alike.

The final two challenges named by survey respondents were not challenges within the food system itself, but rather challenges to increasing the power to change it. Respondents identified many barriers to current funding systems for food and agriculture. They called for more funding, for funding opportunities to be easier to navigate and apply to, for farm grants to be better suited to New England agriculture, and for organizations to make more productive use of funding through collaboration. Finally, respondents saw a need for improved outreach and communication in food systems work, especially consumer education.

Listening session participants had many suggestions for how research could help them overcome these challenges. They described needing research for three main reasons: to inform decision-making in their own work, to inform local, state, and federal policy, and to help them build a case to advocate for funding. Participants had several requests for research design and dissemination. First, they called for frequent collection of farm-level data on a state or regional basis to supplement the NASS Census of Agriculture. Many also requested assessments of both economic and non-economic program impacts. At the same time as they called for new data collection, they had many suggestions for improving research utilization. They suggested creative ways of synthesizing existing data and proposed making data available for researchers and food systems professionals in online databases. They also identified the need to improve

communication of research results to stakeholders and tailor that communication to the intended audience.

Recommendations

The goal of the ASPIRES Listening tour was to help the FSRC construct a community-informed research agenda. After analyzing the results of the preliminary survey and listening sessions, we offer the following recommendations.

Grow Capacity for Program Evaluation

Many of the research ideas suggested by participants fell under the umbrella of program evaluation. These ranged from small-scale to large-scale. Participants wanted assistance evaluating their own programs to help them make improvements and decide how to direct resources in the future. They also requested evaluations of the funding behind many of their initiatives. They wanted to investigate who received grants, how those grants were used, and the impacts of grant programs. For instance, multiple participants who worked in the Farm-to-Institution space requested research on the USDA AMS Local Food for Schools Cooperative Agreement, wondering about the short and long-term impacts of a single year of additional funding for local food procurement at schools, and which strategies were most successful.

The FSRC can respond to these requests through two types of funding opportunities. To address the need for internal program evaluation, the FSRC can facilitate and fund partnerships between local organizations and applied researchers at UVM. The Center for Rural Studies has a strong background in program evaluation (though we acknowledge the potential conflict of interest in recommending ourselves through this report). Graduate students in applied UVM programs like the Masters in Food Systems and the Masters in Public Administration could also be strong potential partners in executing program evaluation for New England food systems initiatives. To address the call for evaluation of larger state and federal funding programs, we

recommend that the FSRC fund academic research to evaluate the efficacy of the interventions named herein.

Quantify Economic and Non-Economic Program Impacts

Along with requesting small and large scale program evaluations, participants needed research to help them quantify the economic and non-economic impacts of food systems programs. Like with program evaluation, some requested impact assessments of their own work to help them direct resources and make a case for additional resources, and others requested impact assessments beyond their organizations to identify what kind of interventions had the greatest effects on the economy and other measurable issues like population health.

While economic impact studies have decreased in popularity in academic research, they remain important for those working on the ground to evaluate and advocate for their programs. In the past, the CRS carried out economic impact research and had a license for IMPLAN, the most common economic impact analysis tool, but UVM has not held an active IMPLAN license for several years. The FSRC could fill this gap by purchasing IMPLAN licenses for the New England states and providing access to training, along with facilitating and funding a partnership program between organizations and UVM researchers as recommended above for program evaluation. Because of the difficulty of publishing economic impact research in academic journals, applied researchers are likewise the better targets for this work. On the other hand, evaluating the non-economic impacts of food systems interventions (for instance, the effect of food as medicine programs on participant health) is ready fodder for longer-term academic research grants.

Develop an Asset Map and Needs Assessment for Local and Regional Food Systems Infrastructure

Several participants identified a need for an asset map of food systems infrastructure, including farmland, small and midscale processing facilities, and distributors and distribution routes

available to local and regional food actors. In addition to mapping assets, participants were interested in using maps to identify locations where additional infrastructure is needed. We recommend that the FSRC provide funding for spatial analysis experts to conduct environmental (i.e., farmland in floodplains) and built (i.e., processing and distribution infrastructure) geographic food systems research.

Investigate Farm Viability, Land Access, and Farm Careers

Listening session participants expressed concern over the continuation of farm careers in New England. Their concerns fell into three main categories: preserving and facilitating access to farmland, growing the viability of farm businesses, and improving the health and wellbeing of farmers, farmworkers, and fishers. Many UVM researchers have a long history of research into these areas, and UVM Extension offices like the Center for Sustainable Agriculture, Agricultural Business, and Bridges to Health are working to address these issues on the ground in Vermont. The FSRC can fund additional research on these topics as well as facilitate connections between research, Extension in and out of state, and local and regional organizations.

Focus on Research Accessibility and Communication

Throughout our discussions, listening session participants called for improved research utilization, data access, and research communication. We have several recommendations to address these requests.

First, participants correctly identified that a lot of food systems research is produced and published without being communicated to stakeholders for practical implication. To improve utilization of existing research, the FSRC could create smaller, short-term funding opportunities for literature reviews of common topics like food access interventions and farm-to-institution, along with companion outreach materials to communicate the state of the research to stakeholders.

Several participants recommended that the FSRC house open datasets to increase data accessibility and reduce research participant burden. Implementing this recommendation may be complex and intersect with issues of data privacy but could also mark a sea change in how we conduct food systems research in New England. We suggest that the FSRC further investigate if and how to implement this idea.

Finally, alternative system pathways and food system solutions identified by research will only take root if successfully communicated back to those working to improve food systems on the ground. We recommend that the FSRC continue to make research communication a focus of its work. The FSRC should require that all grants include appropriate, targeted stakeholder communications, and should facilitate access to resources like graphic design, venues for communicating research to stakeholders, and general communications expertise.

Limitations and Future Research

Listening tour participants were a convenience sample: our project partners reached out to their contact lists and invited those willing to join us. As such, we cannot say that our findings are representative of New England food systems professionals or of regional food system needs. While we heard from at least one individual in each of the identified food system sectors, there was an overrepresentation of office workers—most notably in nonprofit and community organizations, but also in research, extension, and government. Though we do not have population metrics on food system professional demographics, our sample was more highly educated, whiter, and more female than the general New England population.

We also did not conduct any listening sessions with consumers who are not food system professionals. In the initial planning stage of this project, we considered holding sessions with participants in food access programs like SNAP, food as medicine, and food banks to assess barriers and solutions from their perspectives. We changed this plan after advice from project partners that these populations in their states were overburdened by research and not

appropriate audiences for this tour.

The food systems sectors underrepresented in this study—especially farmers—are likewise asked to participate in research at a high rate. To address the limitations of this study, we recommend beginning with literature reviews to assess the state of the research on barriers and potential solutions for New England food systems consumers, especially those experiencing food insecurity, as well as food systems sectors including production, foodservice, food retail, and food waste management.

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