



# REFRESH FOOD + TECH POLICY PLATFORM



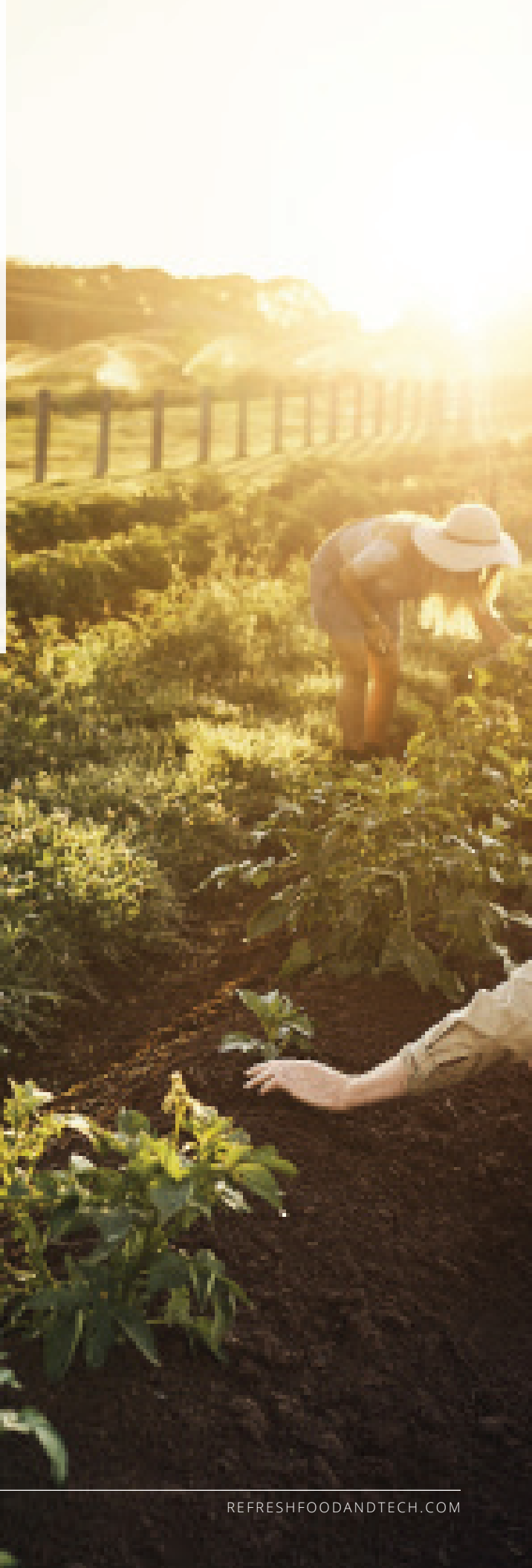
**REFRESH**

## | PURPOSE

The Refresh Food + Tech Policy Platform provides a broad policy framework for implementing the Refresh Working Group's mission to promote ethical innovation and the responsible use of technology in the U.S. food system. It guides the working group's policy, education, and outreach activities, including:

1. **Educating policymakers** at the local, state, and federal level on emerging technologies and AI as an emerging infrastructure of the food system.
2. **Advocating for thoughtful policies** that support data-driven innovation across the agriculture and food sectors.
3. **Engaging and empowering people** working in agriculture, food, and public health to help shape policies that promote the positive application of data-driven technologies in the food system.

Whenever individual Refresh Working Group members act on behalf of or represent the collective group, the Policy Platform serves as the foundation for these efforts.





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# WHO WE ARE

The Refresh Working Group (RWG) brings together food, agriculture, and technology experts from across the United States to ensure the positive application and responsible use of emerging technologies and data across these sectors. We represent 21 states, 38 individuals, and multisector stakeholders from across the agriculture, food, and technology industries, including distribution, retail, and consumer goods.

Our goal is to ensure robust and healthy agriculture, and food marketplaces where innovation thrives and where small and big players alike can drive positive improvements throughout the global food system. We are motivated by the concepts of resiliency and food sovereignty, the notion that a community not only has the right to healthy and sustainable food but also that they should control the systems through which that food is grown, processed, and consumed. We also note the ways the COVID-19 pandemic has reshaped our global food system and the new challenges posed by the pandemic for food security, on-farm food loss, and worker safety. And we see the opportunities for transforming the food systems of the future to create better equality, equity, and social justice.

We recognize the limits and opportunities for data-driven technologies to increase food security and efficiency while reducing the environmental impact



of the national food supply chain. We rely on technological innovation to support our work in addressing concerns and promoting positive outcomes. We have worked together to describe the intersection of technology with our work, and the policy positions that we believe will enable us to take full advantage of advancements within the digital sphere.

Our ability to leverage technology to accomplish this purpose depends, in part, on policies that support the outcomes outlined in the five policy focus areas that we have identified:

## 5 Policy Focus Areas

- 1 Physical and Digital Food Security
- 2 Data Protection
- 3 Supply Chain Transparency
- 4 Broadband Expansion
- 5 Digitally-Skilled Workforce

Recognizing that no good policy is one-size-fits-all, we present these five policy focus areas along with our recommendations for next steps, as we have evaluated them with the context of federal, state, and local needs. By establishing common rules of the road for the use of data and technology in the food system, stakeholders can be confident that they are acting responsibly while taking advantage of the opportunities offered by technological advancements in agriculture and food.







# THEORY OF CHANGE

Our working group is diverse, but unified around the goal of leveraging big data and emerging technologies to create a more equitable food system. This includes improving food production, distribution, and consumption, and ensuring the environmental health and sustainability of our planet. We want an equitable, transparent, and competitive food supply chain that nourishes and serves the public good. In pursuit of this, our theory of change is motivated by: equity, sustainability, technological progress, and multi-stakeholder collaboration.

## EQUITY

We recognize that a central component in our efforts to improve our food system is addressing persistent structural inequities in agriculture, food, and technology that have and continue to disproportionately impact women, people of color, and rural communities. We recognize that racial and economic disparities in COVID-19 infection rates are, in some cases, driven or exacerbated by treatment of workers of color in farm fields, meat processing facilities, and more.

## SUSTAINABILITY

It is imperative that we ensure the environmental health and sustainability of our global food system for the next generation; we must leverage digital tools and promote innovation in agriculture and food in order to achieve important agro-ecological outcomes and mitigate the effects of climate change.

## MULTI-STAKEHOLDER COLLABORATION

Public policies and governance of our food system and the data-driven technologies being applied within it concern all of us. Farmers, entrepreneurs, researchers, corporations, nonprofits, and nutritionists must share knowledge across sectors in order to ensure smart, context-specific regulation of emerging technologies that fosters accountability and innovation in a rapidly changing landscape.





# POLICY PLATFORM

## PHYSICAL AND DIGITAL FOOD SECURITY

Today, more than 40 million people across the United States are food and nutrition insecure and rely on food assistance programs in order to feed their families.<sup>1</sup> In addition to increasing the risk for diet-related noncommunicable diseases such as obesity, low consumption of nutritious foods can also suppress a person's immune response and resilience against viruses like COVID-19. There are four primary dimensions of physical food security that have been defined over time by food systems and hunger experts: 1) **physical availability** of food; 2) economic and physical **access** to food; 3) **food utilization**; and 4) **stability** of the other three dimensions over time.<sup>2</sup> The concept of nutrition security further holds that it is imperative to consider the healthfulness and **nutritive qualities** of available and accessible foods, beyond exclusively a diet's ability to satisfy a person's base caloric needs.

Emerging technologies are proving to be important tools to help achieve food and nutrition security because data-driven analyses of hunger, food loss and waste, and food availability can offer new insights and therefore, potential solutions, into these intractable issues. Some examples of how digital technologies are being mobilized to achieve food security include:

- Smart sensors and precision agriculture tools are collecting and analyzing data to help farmers optimize resources, deal with crop scourges, anticipate yields for precise planning, and avoid market shocks with predictive analysis.
- Mapping tools that identify under-resourced areas so that anti-hunger advocates can work to ensure equitable food access.
- New card and mobile app payment technologies are translating data from food purchases into coupons and recipes that incentivize healthy food purchases.

- Mobile markets are bringing fresh food to communities with few, if any, grocery stores, while data-driven food bank apps, like Feeding America's MealConnect, are making food available in economically disadvantaged and food insecure communities.
- Digital traceability systems, including blockchain and distributed ledger technologies, are facilitating data-sharing between supply chain stakeholders, which improves food safety and promotes trust in the validity of information being shared. Public initiatives such as the U.S. Food and Drug Administration (FDA) New Era of Smarter Food Safety Blueprint are standardizing key data traceability elements across the industry.

In order to leverage the full potential of these digital tools to address food insecurity, it is imperative to ensure the digital security of the food system. This includes ensuring the protection of computer systems and programs, IoT networks, mobile devices, and data at every point along the food supply chain from damage, cyberattacks, or unauthorized access.

We have only begun to explore the digital infrastructure that enables networked food systems, and we are cognizant that we may uncover new digital security risks not currently present in physical food systems.<sup>3</sup> Digital food security ensures that the data-driven tools we are using to enact positive changes in physical food security remain safe and secure.

## RECOMMENDATIONS IN PHYSICAL AND DIGITAL FOOD SECURITY

In order to ensure that technologies are leveraged and governed in ways that benefit the greater public good, we have articulated our recommendations for next steps in food and nutrition security, informed by our theory of change and desired outcomes:

- **SUPPLY CHAIN TRANSPARENCY:** Support innovations in data-driven



food safety and transparency, with goals of building accountability and trust throughout food supply and distribution chains and increasing the reach and efficacy of cold-chain infrastructure. Traceability should extend from the source location through the full supply chain, and this data should be clearly communicated to consumers.

- **FOOD LABELING REGULATIONS:** Enact uniform, trackable food labeling requirements to promote the best use of food through its final dispensation.
  - Uniform labeling of date, batch, and nutrient content helps ensure that food can be donated after its quality date if it poses no health risk, and helps reduce food waste. Lowering barriers to food donations promotes equity by minimizing food insecurity and allowing more low-income individuals to access a variety of foods. Reducing food waste increases sustainability within the food system by diverting food that would otherwise end up in landfills.
  - Food that is accurately labeled and traced can be upcycled into new products for human consumption or repurposed as feed ingredients for companion animals and livestock; this lowers prime costs for farmers and reduces the environmental footprint of pet food and livestock feed.
- **FOOD TRACEABILITY STANDARDS:** Create traceability standards through cooperative public-private partnerships, working groups, and/or task forces that allow rapid and effective responses to food safety issues.
- **HEALTH AND NUTRITION PROGRAMS:** Fund and administer public programs that advance healthy food incentives (like GusNIP), produce prescriptions, medically-tailored meals, and fresh food pharmacies. Simplify the approval process for online acceptance of electronic benefits transfer (EBT) payments, so local or independent grocers and farms can serve Supplemental Nutrition Assistance Program (SNAP) and Special Supplemental Nutrition Program for Women, Infants, and Children

(WIC) recipients via home computer or mobile device during and beyond COVID-19.

- **CYBERSECURITY FRAMEWORK:** Establish a cybersecurity framework for the agriculture and food industries<sup>4</sup> that will allow safe data collection and use.
- **LEGISLATOR COMMUNICATION AND ACCOUNTABILITY:** Improve the efficiency, effectiveness, and quality of communication to state and municipal legislators and hold decision-makers at all levels accountable for food system governance.
  - Reliable oversight of food sourcing, quality, production, warehousing, and consumer access, as well as monitoring of food program operations helps promote equity within food systems by ensuring that recipients of all backgrounds and income levels have access to high quality food.

## DATA PROTECTION

Data protection across the food system is essential to maintain stable, trusted relationships between individuals, advisors,\* companies, and governments.<sup>5</sup> Each party in this ecosystem has an interest in understanding and making the most of data-driven opportunities. We propose that common standards for data protection can support better outcomes for all stakeholders.

Data protection instills the fair and appropriate use of data. These principles can be applied throughout our food system by creating common understandings among farmers, processors, distributors, retailers, researchers, developers,



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and consumers. We have identified three overarching guidelines these entities should adhere to:

1. Provide stakeholders with appropriate levels of **access** and **control** over the data they create;
2. Enable **transparency** in the food system while keeping data safe and secure; and
3. Ensure a level of data **portability** throughout our food, agriculture, and data ecosystem, such that users can download their data in machine readable formats and transfer it to different service providers.

Data-driven technologies are helping us to be smarter about how we produce, distribute, purchase, prepare, and consume food. Some examples of how technology is helping provide solutions within the food system include:

- Farmers collect data about their farms from tractors, sensors, drones, and other tools. These data are about everything from the soil itself (e.g., soil organic matter, soil moisture, carbon content) and the crop at hand (yield, varieties, flavors), to the humans at work (e.g., rate of harvest, wages) and the farm's history (e.g., crop rotations, ownership, income).
- Data collected from sensors and other IoT devices can inform crop input decisions and define production practices on soil moisture and soil cation (fertilizer) movement through the root zone of the growing crop. Tracking these data points in soil enables farmers to improve the quality of their crops and decrease fertilizer runoff into the local watershed, benefiting other farmers, consumers, and the environment.
- Grocers can purchase predictive ordering platforms to better estimate how much of their food will be sold each day based on historical inventory and sales data, helping them to lower costs and reduce food waste.

Each type of data cited in the examples above is collected for a specific purpose that has helped determine any data protection standards that apply. As organizations use this data for research and development, farmers, consumers, and stakeholders across the digital food supply chain expect assurances that their personal information will be protected and that their economic interests remain viable. For example, there can be financial or other risks from inappropriate uses of farm-related data that can be mitigated through common standards.

## RECOMMENDATIONS IN DATA PROTECTION

Data protection is a rapidly evolving concept that has generated much debate and has catalyzed laws and standards around the world.<sup>6</sup> We want to help advance these conversations through critical data protection policies centered on transparency, control, and portability:

- **NATIONAL DATA PROTECTION FRAMEWORK:** Establish a national baseline data protection framework. Baseline rules for all businesses should encourage transparent data practices to build trust and enable operators to provide innovative services that deliver the value of technology to individuals and organizations. This includes the food

supply chain, where common standards for data protection can foster confidence in data analytics and provide clear guidance to organizations and establish expectations for individuals.

- **DATA ACCESS GUIDELINES:** Ensure access to data that is co-created by technology users and technology providers. Enact guidelines for interfaces enabling (data subjects) to manage data collection as well as other data rights. Facilitate the movement of data to different service providers by setting standards for compatible formats that enable seamless readability and ease of use across systems, including access to machine-readable copy of data that enables users to switch between providers.
- **DATA TRANSPARENCY:** Create transparency around how data—including personal information and farm data—is collected and used by original equipment manufacturers, analytics platforms, retailers, and other actors in the food system, including how it is processed and shared internally and with trading partners.
- **STAKEHOLDER EDUCATION AND RESOURCES:** Create easy-to-use resources that allow co-creators to access and download data, as well as request corrections and/or deletions of data about an individual, privately owned land, or an independent organization. Inform individuals about data use in the context of the services themselves, helping to make the information relevant and actionable for individuals. Clearly communicate the trade-offs inherent in sharing data in exchange for the insights that data analytics platforms can provide, and keep all stakeholders updated on changing data use policies. Data literacy is critical to ensuring a stable ecosystem built on trusted partnerships.

## FOOD SUPPLY CHAIN TRANSPARENCY

Modern food supply chains are built on a complex framework of relationships and transactions between farmers, processors, distributors, retailers, foodservice operators, and consumers. We tend to think of consumer preference as driving outcomes within this system, but key elements are opaque to the vast majority of individual shoppers. Farmers, for example, often lack access to the kind of useful market data that would help them determine a fair price and fair terms for their local market(s). By contrast, the distributors that farmers seek to sell to generally have access to large amounts of historical cost and pricing data that can give them significant advantages when drafting and negotiating the terms of purchase agreements. The farmer in these cases is often reluctant to speak out about the imbalances that result, for fear of losing current and future business, so consumers and even many commercial buyers remain unaware.

Lack of transparency along the food supply chain can also result in food loss and waste that is often unseen, ignored, or even explicitly accepted as a



reasonable cost of doing business. According to the Food and Agriculture Organization of the United Nations, at least one third—more than 1 billion tons—of all food grown for human consumption is lost or wasted annually. If food waste were a nation, it would be the third largest emitter of greenhouse gas emissions. This waste is occurring even as more than 820 million people go to bed hungry each night, in rich and poor countries alike. As a result, the Intergovernmental Panel on Climate Change and the United Nations Sustainable Development Goals have called for drastic changes in both food production and consumption patterns.

The COVID-19 pandemic has further revealed and exacerbated these causes of food loss and waste along the supply chain, as producers and purveyors alike have been forced to pivot to new business models or close entirely. Food that in early 2020 would have been destined for conferences, sporting events, schools, hotels, corporate dining, and restaurants abruptly went unpurchased and was consequently lost on farm fields and distribution warehouse shelves; meanwhile, food insecurity in nearby communities spiked. Long-term implications of COVID-19, including the impact of takeout and delivery business on food waste in restaurants versus households, remain unknown. Greater transparency along the food supply chain will mitigate future situations like this by providing a clearer path to food's best use in uncertain times.

Many new innovations and tools are cropping up to facilitate the transition to a more transparent food supply chain. Food Tank has noted nearly 20 apps that help consumers to redistribute and recover food that would otherwise turn into waste. Food packaging may also be addressed. But consumer behavior is only one small piece of the systemic issues that lead to wasteful practices, such as a lack of transparency of use by, sell by, expiration dates. Currently, these dates are inconsistent across products and retailers, and therefore, even

consumers who are motivated to reduce their household impact struggle to understand what food must be discarded and what is still safe to eat or use. Colinspect is one example of a food safety app that digitizes and streamlines safety and quality inspections. It allows foodservice operators to share data and inspection information with stakeholders like safety managers, corporate executives, government inspection agencies, and consumers. This level of transparency increases food safety and trust in the overall food system. Increased transparency made possible by new technologies may also be used in service to farmer profitability and sustainability goals, such as GHG reduction, food waste reduction, animal welfare, water and soil quality, accessibility and good labor practices.

Food waste may also be reduced at different points along the supply chain. Food terminals and private distribution warehouses can reduce food and energy waste by using state-of-the-art refrigeration, logistics software for load matching and route planning, and automated product handling strategies. These facilities, when placed strategically between food production regions and near secondary population centers, can improve the regional flow of food and make it possible for distributors to use targeted technologies such as hybrid or alternative fuel engines for delivery. Ensuring that food terminals are available for use by all sizes of wholesale sellers and buyers also improves market access for beginning farmers, supports product innovation, and improves food access in rural and urban neighborhoods.

### RECOMMENDATIONS IN FOOD SUPPLY CHAIN TRANSPARENCY

Policymakers and organizational leaders can support a shift toward more equitable practices in the food supply chains of their vendors and foodservice operators by drafting or adopting policies that require vendors to publicly



share information, such as data on average costs paid, volumes purchased, and the terms suppliers, workers, and other participants are subject to.

There are many existing efforts and broader initiatives that we recommend changemakers participate in or support, as well as areas we believe would benefit from greater focus, including the following:

- **EFFECTIVE LEGISLATION:** Advancing bills proposed in Congress that would reduce food waste and increase food access and security, such as:
  - **The Food Date Labeling Act**, a bill waiting to be reintroduced in Congress, that aims to make food date labels less confusing so less food is needlessly thrown out.
  - **The Food Recovery Act**, which directs the USDA to develop new technologies, encourage composting through conservation programs, and appoints a Food Recovery Liaison to reduce federal food waste.
  - **The Zero Waste Development and Expansion Act** to create a grant program to provide resources for infrastructure, technology, and outreach to achieve zero waste.
- **INFORMED DATA COLLECTION AND SHARING:** Participating in the Good Food Purchasing Program, which establishes metrics and reporting protocols for gathering and sharing meaningful information relevant to food supply chain sustainability and provides guidance for including these points in RfX and contract language.
  - Conducting wide-ranging research across the food supply chain at local, regional, and national levels to collect uniform data that can be leveraged to clarify misconceptions about market access, food access, loss and waste.
- **ACCESS TO DIGITAL TOOLS:** Supporting efforts to make data-driven

tools accessible to a broad range of supply chain participants and initiatives.

- Establishing flexible policies that do not place undue burdens on small, remote, or otherwise disadvantaged farms and organizations by creating requirements that can realistically only be met via tools that they lack access to.
- **BEST-PRACTICES IN SUSTAINABILITY:** Following precedents set in cities, such as Chicago, Austin, San Francisco, and New York City, where new laws are directing municipalities to divert food waste first to those in need, followed by livestock, biodigestion for energy production, and lastly to compost if no better option can be found.

## BROADBAND EXPANSION

Approximately 25% of the rural population in the United States lacks fixed broadband service at threshold speeds, according to the Federal Communications Commission.<sup>7</sup> In fact, many of these communities lack the infrastructure needed for high-speed internet. Even in rural areas that do have internet access, internet speed tends to be slower than that of non-rural areas.

This means that many rural businesses—from farms to farmers' markets—do not have reliable access to broadband internet that would enable them to utilize many of the latest technologies, from agricultural technologies to e-commerce tools and platforms. The benefits of rural broadband stretch even further by ensuring equitable access to a range of offerings, from





telemedicine to online education opportunities. In short, rural broadband is absolutely necessary to bridge the digital divide and bring the benefits of the digital economy to everyone in the United States.

A critical infrastructure that enables participation in the digital economy, high-speed broadband connectivity is essential to ensuring the economic strength and success of U.S. farms and other rural businesses. Locally-based rural electric cooperatives—like West Kentucky and Tennessee Telecommunications Cooperative (WK&T) Rural Electric Cooperative and Midwest Energy & Communications (formerly Midwest Energy Cooperative) in Southwestern Michigan—have successfully helped to build the infrastructure and provide services necessary to make rural broadband a reality with funding from the US Department of Agriculture and state and local agencies.

## RECOMMENDATIONS IN BROADBAND EXPANSION

In order to ensure that broadband internet access becomes a reality for everyone, no matter where they live throughout the country, the following guidelines should be considered:

- **FUNDING:** Providing competitive grant initiatives and other funding opportunities specifically designed for locally-based providers, small businesses, cooperatives, and nonprofit organizations to ensure successful implementation and actualization of these major infrastructure projects.
- **DIGITAL TOOLS:** Encouraging advancements in technology that make it possible to operate in environments with intermittent infrastructure. For example, on-device processing enables us to gain insight from data in remote areas without waiting to reconnect to the internet.
- **CABLE ACCESS:** Incentivizing the widespread development and deployment of terra fiber cable networks throughout agricultural and other rural communities to ensure that end users can benefit from the faster speeds these technologies provide.
- **SPECTRUM:** Making available ample radio spectrum to support fixed and mobile rural broadband deployments, including unlicensed and lightly licensed frequencies to support entry with lower investment and regulatory burdens.

## DIGITALLY SKILLED WORKFORCE

### FOCUS AREA INTRODUCTION

Many innovations in food and agriculture are already helping to create a more sustainable and resilient food system by enabling efficient means of growing, harvesting, processing, distributing, and, even, consuming

food. While technological advances are critical for addressing a number of challenges across the food supply chain—from reducing waste to increasing food security—there remains a scarcity of labor in the agriculture and food industries that makes it an incredible challenge to secure a stable workforce for farms, food storage warehouses, grocery stores, etc. throughout the food system.

Disruptions in the nation's food system, especially in farming and retail, require different skills than these sectors have traditionally demanded. In retail, for example, growth in e-commerce translates into a higher demand for IT skills to support grocery store and mobile market stocks and sales. And farmers often note the need to be a computer programmer or data scientist to effectively use precision agriculture tools these days.

The same technological advancements that can help the food system could also entrench existing inequities by threatening to further marginalize the communities already challenged to cross the digital divide. In order to ensure that everyone benefits from the transition to a data-driven food supply chain, investments must be made in building technical and digital skills, creating jobs, and making broadband internet accessible so that everyone can effectively use and benefit from these innovations.

In the technology industry, participatory design is a method of involving communities who will be the end-users of a product in the design and development process. The agriculture and food sectors have a long history of both community-driven or community-led programming and cooperative models that enable community control over agriculture and food businesses. Bridging participatory design and community-driven approaches together with already-existing models of economic empowerment programs may help to drive innovations in workforce development.

We've identified three core elements that we believe are needed in efforts to advance workforce readiness in food, agriculture, and technology. These core elements are workforce representation, skill-building, and lowering barriers:

- **WORKFORCE REPRESENTATION:** Commitment to and focus on equity through the use of participatory design and community-driven approaches in the creation of models or programs;
- **SKILL-BUILDING:** Thoughtful skill-building, training and/or Development and deployment of digital tools and technologies specifically to accelerate these components (participatory design, training/TA) co-owned and co-created by end users as the beneficiaries of these tools.
- **LOWERING BARRIERS:** Technical assistance components to address specific workforce or employment barriers

Numerous existing programs bring together some of these key elements. However, we believe a gap remains in the use of technology to expand the reach and accelerate the impact of these efforts. We are not yet aware of many examples that are systematically weaving together all three of these key elements.



Many programs, for example, use participant-driven design models, and/or include high-quality workforce training and job-support elements. In fact, Appetite for Change in Minnesota and Cooperation Jackson in Mississippi are addressing equity as a systemic issue that impacts a complex nexus of issues, such as food security, food sovereignty, and the digital divide. Their community-led approach is proving to dismantle food apartheid in their communities and producing successful outcomes because the system is designed by the folks whose needs are being met through these programs.

New technologies could help to scale these replicable program models if there were consistent opportunities to develop and design new tools in collaboration with these communities. Other promising programs that are hungry for meaningful collaboration with technology experts, include CT-Core, COFED, The Solidarity Economy Initiative (SEI), Restaurant Opportunities Center United, and the New Economy Coalition.

### RECOMMENDATIONS IN DIGITALLY SKILLED WORKFORCE

Technology training programs, investments in STEM, and education on innovative career opportunities in under-resourced communities, in particular, are key to closing the digital divide and supporting current and emerging workforce needs in the food supply chain. Experimenting and iterating with workforce pilot programs to test and identify the best means of eliminating systemic disparities in education, training, and work opportunities in ways

that address historic and contemporary inequities and empower and strengthen communities. Additional research into this area is needed, but we offer several recommendations that could help to close the digital divide, level the playing field, and expand employment opportunities nationwide:

- **WORKFORCE TRAINING:** Investing in training programs, agricultural technology career education, investments in STEM in under-resourced communities, such as the 2018 Farm Bill Rural Innovation Stronger Economy (RISE) Grant Program and the USDA's 2501 program.
- **BUSINESS TRAINING:** Training and technical assistance for food entrepreneurs, especially in communities often overlooked by traditional investors, in order to connect women- and POC-owned businesses to capital. (Examples include Fair Food Fund and Michigan Good Food Fund.)
- **DIGITAL SKILLS TRAINING:** Expanding industry-driven Upskilling programs, like Grow with Google and Amazon's Upskilling 2025 initiative, to strengthen the agriculture and food workforce.
- **COMMUNITY PARTNERSHIPS:** Implementing participatory design programs in order to bring community-led organizations together with participatory design teams at the local level to close the digital divide by creating opportunities for communities to become "high tech" and to co-create and co-own the technologies created by and for these users.



- 1 Center on Budget and Policy Priorities, <https://www.cbpp.org/research/food-assistance/policy-basics-the-supplemental-nutrition-assistance-program-snap>.
- 2 Food and Agriculture Organization of the United Nations, An Introduction to the Basic Concepts of Food Security, <http://www.fao.org/3/al936e/al936e00.pdf>.
- 3 In addition to our understanding of food security as food access, the Jahn Research Group at the University of Wisconsin-Madison notes that food security is also a matter of cybersecurity in that “the structure and operation of modern, highly ‘networked’ food systems (and the obvious requirement for functional energy and the involvement of transportation and other systems) fundamentally depends on networked information systems, some of which may not be secured from cyber attacks.”
- 4 <https://www.nist.gov/cyberframework/framework>
- 5 This issue area acknowledges and draws from existing discussions, norms, and principles already being devised by other groups working on this important issue, including: 1) Ag Data Transparent Principles; 2) American Farm Bureau data privacy principles; and 3) Google’s Privacy Principles.
- 6 Some of these conversations include the establishment of transparency and privacy principles, such as AgData Transparent Principles, American Farm Bureau Data Privacy Principles, Ag Gateway’s Privacy and Use Whitepaper, Google’s Privacy Principles, and the U.S. Chamber Privacy Principles.
- 7 <https://www.fcc.gov/reports-research/reports/broadband-progress-reports/eighth-broadband-progress-report>





For more information, go to

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