

A Statewide Model for Strengthening Local Food Systems and Advancing Nutrition Security

Evaluation and Impact of North Carolina's
Local Food Purchasing Agreement

About the Authors

This report is the result of a multi-year research study led by Appalachian State University in partnership with Resourceful Communities. The study was designed to evaluate local food systems initiatives, with a focus on understanding the impact of community-based food programs on farms, food hubs, and program recipients.

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Table of Contents

- Introduction..... 3
- USDA Local Food Purchasing Agreement in NC 3
- Research Design 4
 - Evaluation Approach..... 5
 - Data Collection, Recruitment and Participation..... 6
- FarmsSHARE Outputs 6
 - Summary of Experiences with FarmsSHARE..... 7
 - Awareness of the FarmsSHARE Program..... 9
- Systems-level Impacts 10
 - FarmsSHARE boosts economic vitality across the food system 11
 - Strengthens local food system infrastructure 12
 - Building trust and resilience through local partnerships..... 14
 - Improves food and nutrition security for North Carolina households..... 15
 - FarmsSHARE delivers health outcomes 20
- Strengths of the FarmsSHARE Model 22
 - Opportunities to Grow and Innovate..... 23
- Key Actions to Move FarmsSHARE Forward 25
- References 28

Introduction

Agriculture serves as the backbone for North Carolina’s economy, with 50,000 farms contributing more than \$100 billion to the state’s annual revenue (NCDA, 2023). According to the 2012 census of agriculture from the United States Department of Agriculture (USDA), small to medium-scale farms in the US operated 48 percent of all farmlands and accounted for one-fifth of agriculture sales, but only made-up five percent of US net farm income (USDA-NASS, 2022). These small- and medium-scale growers face barriers to consistent, reliable markets and lack adequate infrastructure. At the same time, North Carolina ranks 10th in the nation for food insecurity, with 11% of residents unsure from where their next meal will come (Feeding America, 2023; USDA ERS, 2025). Households with limited access to healthy foods contribute to high rates of obesity and diabetes, further contributing \$16.6 billion annually in NC healthcare costs (NCDHHS, 2023; CDC, 2023; GlobalData, 2023).

In recent decades, the concept of local food systems has emerged as a strategy to bridge this divide, strengthening connections between farms and communities (Low et al., 2015). Local food systems emphasize place-based production and direct-to-consumer distribution, often through farmers’ markets and food hubs, with goals of supporting producers and expanding access to healthy foods (Martinez et al., 2010). However, without targeted interventions, the higher costs and limited infrastructure of local foods risk reinforcing, rather than reducing, existing inequities in access and diet-related health outcomes.

The Local Food Purchasing Agreement (LFPA), known as FarmsSHARE in North Carolina (NC), addresses these multi-faceted challenges. By aggregating purchases from small- and medium-scale farms and channeling them through food hubs for redistribution across the state’s food pantry network, FarmsSHARE simultaneously expands markets for producers and delivers fresh, local foods to food-insecure households (CFSA, n.d.). Grounded in principles of promoting positive health outcomes, the program leverages food hubs as vital intermediaries that connect agriculture, nutrition, and community health. This study evaluates the 2024 LFPA-funded FarmsSHARE program in NC, examining its outputs, economic impact, stakeholder satisfaction, organizational capacity, and contributions to nutrition security and health outcomes.

USDA Local Food Purchasing Agreement (LFPA) in NC

In 2021, the USDA launched the USDA Local Food Purchase Assistance Cooperative Agreement Program (LFPA) with funding from the American Rescue Plan to enhance nutrition security by allowing state, Tribal, and territorial governments to procure locally grown food and distribute it through food pantries, schools, and charitable organizations (Atwell et al., 2023). As of May 2023, all fifty states and Washington, D.C.; three territories; and at least twenty-nine Tribal governments had signed cooperative agreements with the USDA to implement LFPA. Recent work to evaluate LFPA’s initial reach suggests that it is generating more economic opportunities for local farmers by connecting them with federal food procurement programs

(USDA-AMS, n.d.). Roughly \$691 million of the dollars invested through LFPA allow for direct purchases from local farms, strengthening local and regional food systems (Atwell et al., 2023).

LFPA is executed in NC by the Carolina Farm Stewardship Association (CFSA) under the name FarmsSHARE. The FarmsSHARE initiative is a statewide program launched by CFSA in 2020 in response to the COVID-19 pandemic to support small farms and laid-off hospitality workers, using initial funding from the Blue Cross NC Foundation to create a fair, local food distribution network. In 2023, FarmsSHARE began receiving USDA LFPA funding through the NC Department of Agriculture & Consumer Services (NCDA&CS) to support expanding the work to serve food-insecure households across NC (CFSA, n.d.).

The program links four stakeholder groups: farmers, food hubs, and community-based organizations (CBOs) that distribute locally sourced, healthy food boxes to food-insecure household recipients. LFPA funding is distributed to food hubs who purchase locally grown and produced foods from farmers at a fair market value.

Food hubs then distribute the food at no cost to households in communities with high rates of food insecurity through community-based organizations (Figure 1).

Figure 1. How FarmsSHARE Works



Research Design

FarmsSHARE Stakeholders

The evaluation focused on NC’s 2024 FarmsSHARE program and its key stakeholder groups (Figure 2):

Figure 2. Four Key Stakeholders of the FarmsSHARE Evaluation



Farmers

Local, small- and medium-scale producers growing or raising food within North Carolina.



Food Hubs

Regional organizations that purchase from local farmers and then assemble and distribute food boxes through CBOs.



CBOs

Community-based organizations (CBOs) with food distribution programs, including food pantries, health centers, schools, and housing authorities.



Recipients

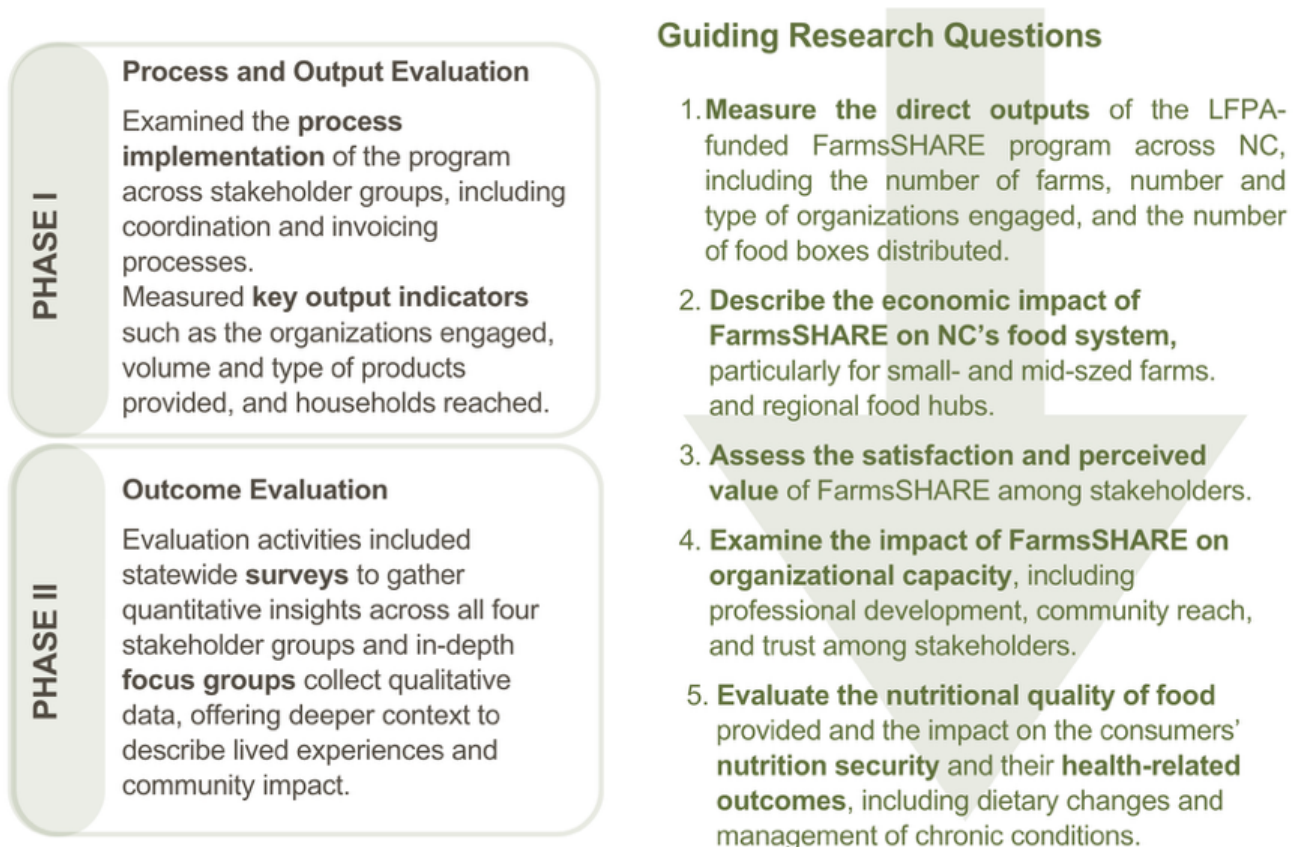
Individuals and households who receive the FarmsSHARE food services (food boxes).

The purpose of this study is to conduct a systems-based evaluation of the 2024 LFPA-funded FarmsSHARE program across North Carolina by assessing the effectiveness of the program in promoting community health, enhancing food and nutrition security, and fostering economic opportunities for small- and medium-scale North Carolina farms.

The FarmsSHARE evaluation used a two-phase, mixed-methods approach to assess the FarmsSHARE program, moving sequentially from (1) examining implementation processes and outputs to (2) measuring outcomes and impacts through quantitative surveys and qualitative focus groups (Figure 3).

The evaluation is the result of a multi-year research study led by a team from Appalachian State University and Resourceful Communities. The project was conducted in close collaboration with the leadership team at the Carolina Farm Stewardship Association, who served as subject matter experts, providing critical review of research materials and facilitating connections with key stakeholders. Their contributions helped ensure that the evaluation was relevant, accessible, and firmly grounded in the experiences of the FarmsSHARE program across North Carolina. The study was reviewed by the Institutional Review Board at Appalachian State University and deemed exempt from further review.

Figure 3: Evaluation Description and Research Questions for the 2024 LFPA-FarmsSHARE Program



Data Collection, Recruitment and Participation

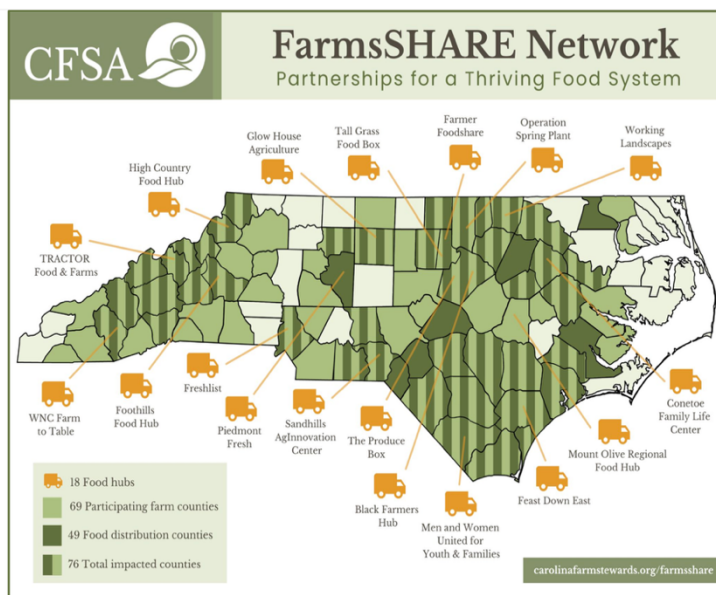
During the 2024 FarmsSHARE program, the data was collected through invoices, surveys, and focus groups to assess program reach and stakeholder experiences. Invoice data documented participating farmers and organizations, local food quantities, and delivery patterns to households across North Carolina. Surveys employed convenience sampling and were administered to farmers, food hubs, CBOs, and program recipients (Etikan et al., 2016).

A total of 314 stakeholders completed the surveys, representing 100% of food hubs, 48% of farmers, 77% of CBOs, and 34% of recipient households. **Most participating farms (84.5%) were classified as ‘small-scale farms,’ with annual gross = farm income under \$350,000** (USDA-ERS, 2025). Recipient households typically included one to two working-age adults with children.

Focus group recruitment was voluntary and conducted through program records and snowball sampling, with 105 participants across 14 virtual or in-person sessions representing all stakeholder groups. Group sizes of 5–13 participants allowed rich discussion, and data collection continued until thematic saturation was reached, capturing a comprehensive range of stakeholder perspectives (Guest et al., 2020).

FarmsSHARE Outputs

Figure 4. Participating FarmsSHARE food hubs, farms, and impacted counties in North Carolina, 2024



A total of 112,216 food boxes were distributed through a network of 178 community-based organizations (CBOs). On average, CBOs received deliveries three times per week. FarmsSHARE provided \$2.95 million in direct payments to 312 small- and medium-scale farms spanning 78 counties in North Carolina (Figure 4). **The 18 participating food hubs collectively invested \$4.6 million across the program, generating a total economic impact of \$7.9 million** (Shideler, 2019). The processing time for reimbursement of FarmsSHARE food boxes was less than 30-days, reflecting the efficiency of financial transactions within the program.

Most farmers reported selling vegetables, fruits, and eggs to FarmsSHARE, amounting to 1.2 million pounds of fresh produce alone. Additional food items included meat (69%), herbs (69%), grains (63%), honey (56%), and dairy (31%). The most common method of supplying food to FarmsSHARE was through raw products from farmers, boxed by the Food Hub and distributed to the CBO network (Figure 5).

Figure 5. Example of a FarmsSHARE Food Box, 2024



Summary of Experiences with FarmsSHARE

Stakeholders were asked how likely they were to recommend FarmsSHARE to their peers, and the program scored very high, with an average rating of 88.5 out of 100. Survey results also showed that farmers, food hubs, and CBOs were highly satisfied, with average ratings around 4.6–4.8 out of 5. Most organizations (85–96%) agreed that the program provides good value, is worth the effort, and is the best choice for their needs. **Nearly all food hubs (88%) said FarmsSHARE is easier to use than other market channel.** Overall, all stakeholder groups shared similarly positive views as described within Figure 6. One food hub described it as “our flagship community program.”

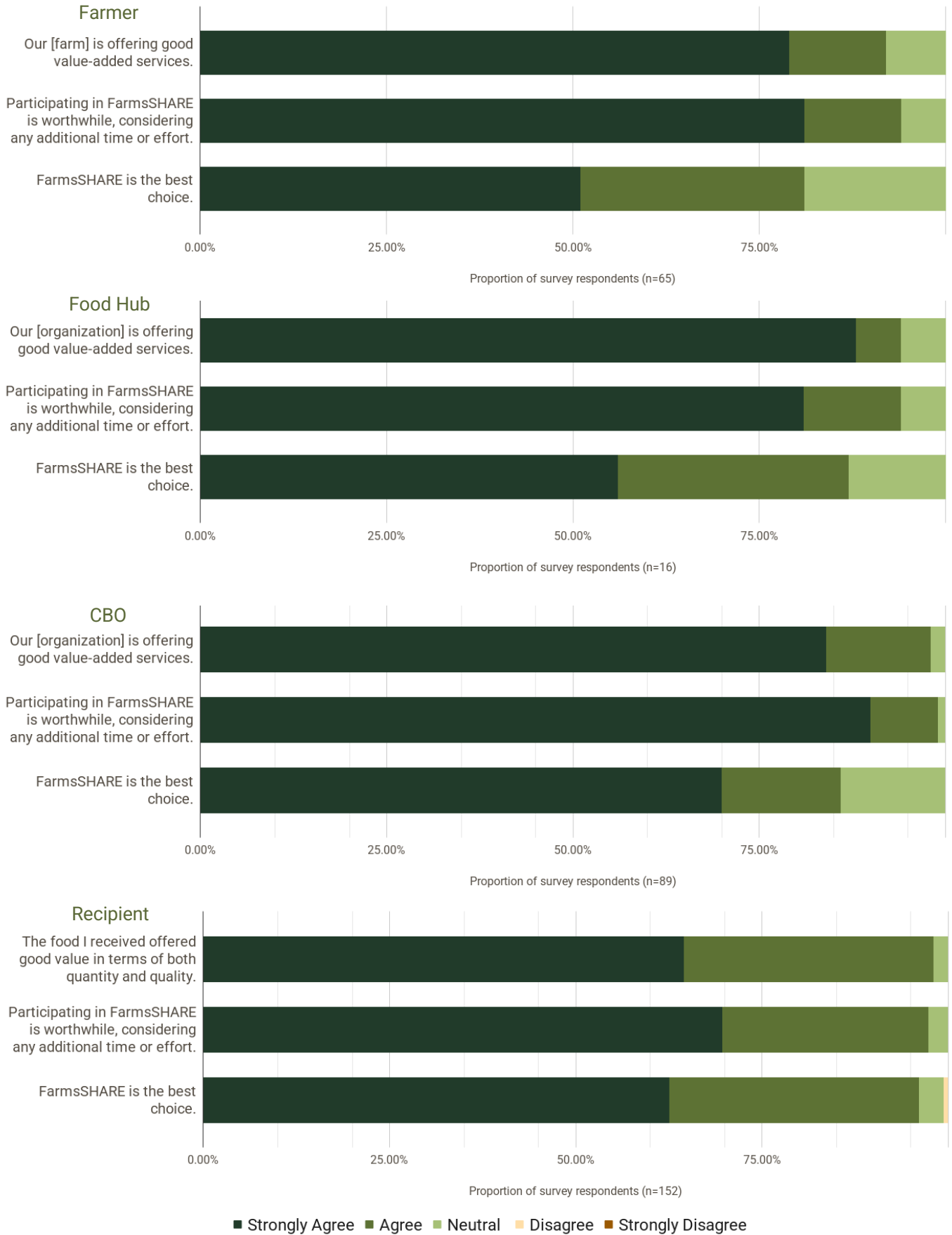
Most of the recipient households (86%) joined FarmsSHARE through participating in a screening at local community organizations. The process of enrolling recipients in FarmsSHARE showed evidence in ensuring those with the greatest need received access to fresh, local food. Recipients could pick up their boxes at the CBO (63%) or have them delivered (37%), making the program accessible for different schedules and mobility needs.

Recipients describe the food as a perfect '10 out of 10' in freshness and quality.

Recipients praised the quantity, quality, and freshness of the food:

- 94% found it convenient
- 90% rated it better than other food options, including the grocery store
- 90% said FarmsSHARE food was superior to other sources provided by the organization

Figure 6. Stakeholders' Perceived Value of the FarmsSHARE Program in North Carolina, by stakeholder group, 2024 (Hege, 2025)



Awareness of the FarmsSHARE Program

Familiarity with the FarmsSHARE program varied across stakeholder groups (farmers, CBOs, and recipients), with farmers reporting the highest overall familiarity.

- More than three-quarters of farmers indicated being either extremely (52.5%) or very (26.2%) familiar with the program, and none reported being unfamiliar.
- Among community-based organizations (CBOs), a similarly high level of awareness was observed, with 68.5% reported being extremely or very familiar with FarmsSHARE, and an additional 20.7% were somewhat familiar.
- In contrast, program recipients reported lower familiarity overall. While nearly one-third (32.9%) were very familiar and 11.7% were extremely familiar with the program, 29.9% indicated being somewhat familiar, and 18.3% reported no familiarity.

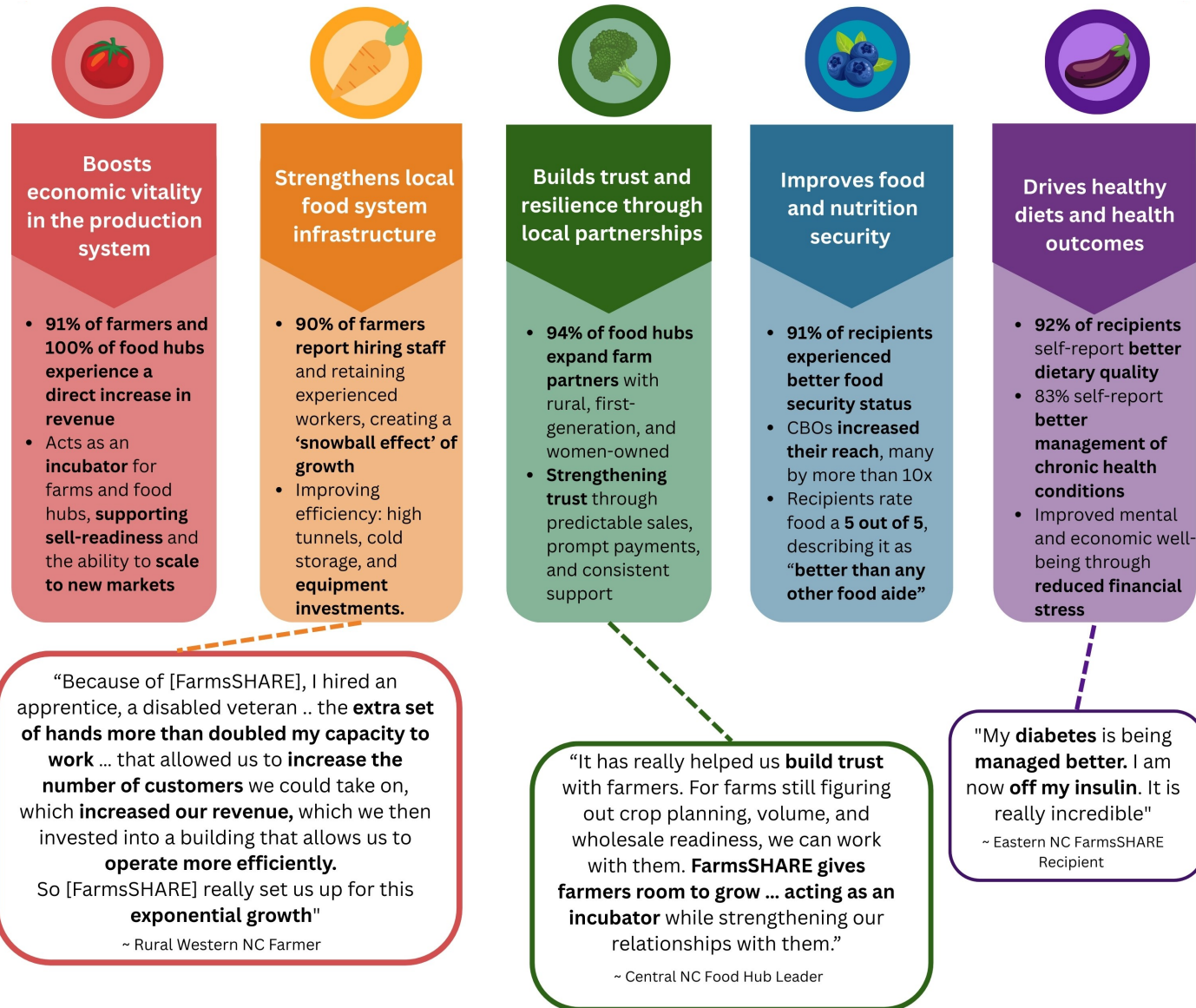
Systems-level Impacts

The LFPA-funded FarmsSHARE program generates systems-level impacts that extend beyond direct outputs within the food supply chain. Findings from participant surveys and focus groups highlight **five key impacts of FarmsSHARE**:

- 1) It boosts economic vitality for small- and medium-scale farms,
- 2) Strengthens local food system infrastructure,
- 3) Builds trust and resilience through local partnerships,
- 4) Improves food and nutrition security, and
- 5) Drives healthy diets and health outcomes.

Figure 7 and the section below present these systems-level impacts in detail, highlighting the program's contributions across economic, infrastructure, nutrition, and health domains.

Figure 7. FarmsSHARE's Impact Across the Food System: Key Themes from Stakeholder Focus Groups



FarmsSHARE provides a consistent and predictable market for small- and medium-scale farms across North Carolina. At the farm and food hub level, FarmsSHARE generated a direct increase in revenue, as reported by 91% of farmers and 100% of food hubs. Farmers consistently recounted transformative impacts on their sales, with one noting the program allowed them to “quadruple our business,” while another shared that their “revenue has increased tenfold.” Farmer survey respondents shared that FarmsSHARE provides an “excellent price point for small and medium producers.” The majority (86%) agreed that their farm sold more food at fair market value because of the program, with over half strongly agreeing. It enabled food hubs to “say yes” to more farmers and farm products, even small batches. Farmers can “set the price for this program,” providing flexibility for food hubs to “buy it at whatever price the farmers are offering it to us”. This extends to **food hubs serving as economic engines, providing a stable income stream to support farmers and manage cash flow effectively.**

Notably, these gains extended to rural, first-generation, and Black, Indigenous, and Persons of Color (BIPOC) farmers, for whom reliable market access is especially critical in overcoming structural barriers. FarmsSHARE invested \$1.1 million directly in BIPOC-owned farms and it is shown to create meaningful opportunities to launch and support first-generation and historically underrepresented farms. In an open-ended answer, one farmer shared, **“As a young, first-generation farmer trying not to take on considerable debt and being highly limited by land access, having a market channel [FarmsSHARE] that’s easy to sell to and does good for the community really lifts the burden of having to market our own products off of our shoulders.”** For farmers in rural areas, the program has created new market channels. One food hub participant explained, “the biggest benefit that we’ve seen is that farmers actually have a market that’s close by. They’re not having to take their products hours away [to Raleigh].”

The program acts as an “incubator,” supporting farmers to develop sell readiness for wholesale markets and gain the skills and confidence to scale their operations.

Partnering with FarmsSHARE food hubs opens doors for farmers to reach new and expand current markets and customers, including institutions like schools, universities, and hospitals (82% of farmers). Many emphasized that FarmsSHARE provides a “guaranteed market and profit,” reducing financial risk to expand to new markets, with one participant noting it “started a ripple of increasing our wholesale sales.”

FarmsSHARE provides economic benefits not only to farmers but also to CBOs and the households they serve. By supplying high-quality produce at no cost to the organization, the program helps CBOs “cut food costs in our budget,” enabling them to reallocate limited funds to other necessities or expand programming without sacrificing other resources. In some cases, the increased volume of services has even allowed

CBOs to hire additional staff. The program also supports local businesses, with one CBO noting its “full circle” impact in helping “keep my neighbors that are small farmers... up and running.” **For households, FarmsSHARE alleviates significant financial burdens, allowing recipients to avoid making “trade-offs between paying for food and paying for other items (rent, utilities, gas)” and freeing resources for other essential needs, such as transportation to work.**

Strengthens local food system infrastructure

FarmsSHARE reinforced local infrastructure by enhancing the capacity of farms, food hubs, and community-based organizations. **The stable revenue stream empowers predominantly small- and medium-scale farms to invest in critical infrastructure and equipment, making their farms safer, more profitable, and more productive.** Farmers invested in high tunnels, irrigation systems, solar-power, cold storage, packing equipment, new barns, and other essential tools (81%). These investments allow farms to expand operations, such as by making greenhouses bigger or adding Caterpillar tunnels, and enable more year-round production.

Within the farmer focus groups, many described using the program’s reliable revenue to improve efficiency and productivity: one farmer explained, “we took that revenue and invested into infrastructure and equipment for the farm, upgrading facilities, packing equipment, and even purchasing a two-wheel tractor essential for our operations.” Others were able to fund major projects, such as building an educational barn or expanding high tunnels and irrigation systems, noting that technological upgrades decrease our labor needs and our carbon footprint.

Larry of Davis Farms Sandy Creek says FarmsSHARE has allowed him to invest in new equipment and reach more people without the additional costs of marketing and distribution.



Farms reported extending the growing season due to increased purchasing power by food hubs (89.4%) and more than half of farms expanding the types of food produced (72%). Farmers can plan their production almost a year out, manage cash flow effectively, and make bulk purchases of supplies like seeds, with farmers cutting costs up to 75%. Increased revenue has also helped farmers reduce debt by paying off existing equipment.

Food hubs highlighted that the program enabled essential investments in equipment and facilities, with one noting, “cold storage is key ... we secured additional funding to install custom walk-in freezer and refrigerator units to manage the produce,” while another described a collaborative approach: “we created a program for shared equipment... we have two mobile refrigerated units that we can take out to farms.”

The program also bolstered human infrastructure: guaranteed sales allowed farmers to hire and retain experienced staff.

- Nearly 90% of farmers and 93.5% of food hubs reported hiring additional staff, with many offering more benefits to current staff (i.e. retirement packages or additional pay).
- One farmer explained, guaranteed sales allowed them to “hire an agricultural apprentice, a disabled veteran and bring him and keep him on.”
- The addition of staff created a positive ripple effect. A farmer described it as a “snowball impact,” stating that the new employee **“more than doubled my capacity to work,** which allowed us to increase the number of customers we could take on to sell, which then increased the revenue...which we then invested into a building”. This, they said, “really set us up for this exponential growth now and in the future”.

FarmsSHARE lays the groundwork as a foundational scaffold upon which other programs are built.

A food hub manager explained, “I’ve used this program to build all the other programs that our food hub offers because I’ve liked it so much”. The established packing systems and volunteer days for FarmsSHARE make it possible to add other box programs, such as the Medicaid Healthy Opportunities Pilot, on top of it. The program also expanded operational systems at hubs, providing consistent work for teams every week and helping them to “solidify the model for working with farmers and getting the overall operations in place to be successful.”

All organizations reported improvements in **food safety practices** (farmers: 64.2%; food hubs 87.5%; and CBOs: 69.2%) and a **decrease in food waste** (farmers: 64.2%; food hubs 87.5%, and CBOs 71.0%).

- **FarmsSHARE supported farms in adopting formal food safety plans,** with one farmer noting, “We had to submit a food safety plan,” helping them to think about some things in advance for safe production.
- Several farmers credited the program with achieving Good Agriculture Practices (GAP) certification, with one sharing, “Because of FarmsSHARE, we were able to get certified on the farm... it really started a ripple of opening up new markets.”
- Food hubs supporting FarmsSHARE farmers provide additional training and practical guidance, including post-harvest handling, cooling, and produce preservation.

Participation in FarmsSHARE enhanced CBOs ability to expand their own infrastructure and operational capacity to handle the influx of fresh food. **A significant impact was the investment in cold storage solutions at the community-based organization level.**

- For example, one CBO in Durham, successfully secured nearly \$250,000 in funding from the Golden Leaf Foundation to install two custom 10x20 walk-in units (refrigerator and freezer). This major infrastructure upgrade improved their ability to source and safely store fresh, local produce.
- Other organizations noted the need for large coolers and vehicles with refrigeration for transportation. After participating in FarmsSHARE, most CBOs are more willing and able to source local food for their food distribution, even when it comes at a higher cost.
- Notably, 91% of CBOs reported being more likely to prioritize local food sourcing after participating in FarmsSHARE.

The program's success also led to an increase in CBO volunteer engagement, as community members wanted to “be part of a great initiative.” Some organizations were able to hire additional staff to manage the increased volume of food and services. CBOs adapted their programming to accommodate the fresh produce. One organization designated a specific day of the week for a farmer's market style distribution. Many CBOs expanded their hours and days of operation due to the program.

Building trust and resilience through local partnerships

Respondents in all stakeholder groups strongly agreed or agreed that the program helped them build new community partnerships (composite scores of farmers = 4.1; food hubs = 4.2; CBOs = 4.3). All food hubs expanded the number of farm partners and 93.8% expanded the number of CBO partners (e.g. food pantries or community health centers).

Because of FarmsSHARE, 93.8% of food hubs reported expanding the diversity of farm partners, reaching more rural, first generation, and BIPOC growers. In the open-ended responses, food hubs also reported partnering with more women-owned farms.

FarmsSHARE food hubs established deep trust with farmers through consistent, high-volume sales and prompt, reliable payments.

- Farmers within the focus groups highlighted the value of this predictability, which contrasted sharply with the uncertainty of farmers' markets or the unreliability of larger wholesalers who might cancel orders or reject products.
- This reliability reportedly “reduces stress for us farmers and builds strong, lasting business relationships with the hub.”
- Another farmer shared, **“if I had to choose between FarmsSHARE or other market channels, I'd pick FarmsSHARE 100%”.**

Beyond financial and market support, the program facilitated knowledge sharing, logistical assistance, and community building.

- Farmers noted the value of food hub services, with one saying, “it feels like you have your own office and admin staff” helping navigate certifications and grant applications.
- In times of crisis, this partnership proved essential; food hubs shared that they recruited “volunteers for harvest and clean-up after Hurricane Helene” and offered cold storage when farmers lost power, demonstrating a deep level of mutual support.
- Building trust extends beyond the food hub to the CBO and recipient relationships. Recipients reported having strong relationships with the CBO staff and volunteers, often describing them as “basically family”.

Recipients in the focus groups described that they would create “buddy systems” to share recipes and swap vegetables.

One recipient shared, “this food was a tool for making me feel less alone”.

The quality of the food and farmers’ market style distributions helps reduce potential shame associated with receiving food assistance, with many recipients noting that “it doesn’t feel like a handout”. **This dignified approach to FarmsSHARE fosters a sense of belonging, self-efficacy, and trust across the program.**

Improves food and nutrition security for North Carolina households

FarmsSHARE comprehensively improved food and nutrition security for North Carolina households by strengthening all four pillars of the food security framework: availability, access, utilization, and stability. The program benefits farmers, food hubs, community-based organizations (CBOs), and recipient households, creating a mutually reinforcing system that expands local food infrastructure and improves household food outcomes (as shown below in Figure 8).

Figure 8. FarmsSHARE’s Impact on the Four Pillars of Food Security

Pillar	Definition (HLPE 2017)	Impact of FarmsSHARE	Supporting Evidence
Availability <i>(Is there enough food?)</i>	Sufficient quantities of food of appropriate quality are consistently supplied through domestic production, imports, or food assistance.	Increased quantity and quality of food in communities, particularly in underserved and rural areas. Enabled farmers to expand production and provide fresh and nutrient-rich foods.	<ul style="list-style-type: none"> • 91% of recipients agreed the program improved their food security status. • Farmers reported producing “10,000 pounds more per month” for CBOs. • CBOs expanded food boxes from 25–30 families to over 100.
Access <i>(Can people get to the food?)</i>	Individuals and households have adequate economic, social, and physical resources to obtain appropriate foods for a nutritious diet.	Improved physical and economic access to food via home delivery and centralized pick-up sites at CBOs. Reached rural populations and food deserts, increasing CBO capacity to serve more households.	<ul style="list-style-type: none"> • 94% of recipients said the program helped overcome transportation barriers. • CBOs increased staff or service times/locations to reach more households • Farmer: <i>“It provides food into food deserts where many don’t even have options to go buy food.”</i>
Utilization <i>(Is the food healthy, safe, and used well?)</i>	Proper biological use of food, requiring a diet with sufficient energy and nutrients, safe water, adequate sanitation, and health care.	Supported safe and healthy food use through culturally appropriate, fresh produce, education, and food safety practices. Encouraged home cooking and diet diversity.	<ul style="list-style-type: none"> • 95% of recipients used all or most of the food items. • 92% agreed households liked the food; • 88% rated it better than other food aid. • Recipient: <i>“The food was fresher, it lasted longer.”</i>
Stability <i>(Is the food supply reliable over time?)</i>	The other three dimensions (re: availability, access, and utilization) are secure and reliable over time, without risk of sudden loss due to shocks or cyclical events.	Offered consistent, predictable food access for households and reliable income for farmers and hubs, though reliant on continued funding.	<ul style="list-style-type: none"> • 88% of recipients said the program relieved financial strain. • Produce often lasted “up to 2 weeks” in households. • Farmer: <i>“The guaranteed market changed how much we decided to produce.”</i>

Availability: Supplying Sufficient Quantity and Quality of Foods

Participation in FarmsSHARE was associated with improved food security status among households served. Overall, 91% of recipient survey respondents strongly agreed or agreed that the program helped ensure they had enough food until they could purchase more. For one single mother of four, the program was described as “a lifeline when I couldn’t afford extra groceries after paying bills.”

FarmsSHARE directly increased the physical supply of high-quality, fresh food within communities, particularly in underserved areas. Food hub respondents reported significant increases in both the quantity and quality of food they distributed to CBOs. The program provided fresh produce, including staples and specialty items such as bok choy, kohlrabi, mushrooms, goat cheese, and local honey. One food hub explained that they worked with CBOs to ensure boxes contained “exactly what the recipients asked for.” About 82% of recipients agreed (38% strongly, 44% somewhat) that the program provided a greater variety of foods.

Farmers emphasized that the program created a “direct pipeline for fresh, local food for food-insecure households”.

- Multiple farmers highlighted the role of FarmsSHARE in serving food deserts, with one stating, “It provides food into food deserts where many don’t even have options to go buy food”
- Another shared, “We love that the folks who benefit from this program are our friends, neighbors, and those who really need access to fresh food the most.”
- Farmers also noted the unique role of FarmsSHARE as a vital resource following natural disasters, as one farmer noted “after Helene, the FarmsSHARE box continued to be the most dependable food resource for those displaced from their homes and schools.”

The guaranteed sales outlet enabled farmers to significantly expand production volume.

One farmer reported their farm “went from probably just our retail sales to increasing by probably 10,000 pounds a month that goes out to the [community-based organizations]”.

Another said, “having a guaranteed, you know sales outlet has changed the amount of food that we’ve decided to produce. We can produce a lot more because we know we will sell it, and it is going to people who need it.” Most farms also extended their distribution season, with 88% agreeing (63% strongly, 25% somewhat) that the program increased the length of time fresh food was available from their farm.

Community-based organizations also expanded the number of households served because of increased food availability. For example, one CBO in Pender County increased service from 200–300 families a month to over 1,100, and another expanded food boxes from 25–30 families to more than 100 per month. These expansions also allowed organizations to extend services to summer programs when school meals were unavailable.

One CBO reported serving “ten times our previous reach of folks,” while another, distributing 1.3 million food boxes annually, crediting FarmsSHARE for this growth.

Access: Reaching Households through Trusted Partners

FarmsSHARE improved access to food by creating distribution points in areas that previously had none and by partnering food hubs directly with CBOs to reach rural and underserved communities. CBOs described their regions as lacking intermediate food access between major retailers, highlighting the program as a “catalyst” for reaching previously unserved populations. The program expanded into new counties, allowing organizations to reach communities they had been “working to get to” for years.

About 60% of CBOs hired additional staff or expanded hours, while 55% reported that service capacity (times and/or locations) increased because of FarmsSHARE. Home delivery and centralized pickup options were particularly critical for recipients without reliable transportation, with 94% stating that the program helped overcome transportation barriers. One participant shared, “One of the obstacles is transportation; FarmsSHARE provided a healthy outlet for us.” Recipients consistently described the program as “very convenient,” “organized,” and “seamless.” Home delivery was noted as being particularly convenient for households.

Economic access also improved. FarmsSHARE provided food at no cost, helping households avoid trade-offs between paying for food and other essential expenses, allowing recipients with limited funds to obtain fresh local produce. Farmers also emphasized that many recipients could not otherwise afford these foods, noting, “Our price point used to be inaccessible to a lot of these populations,” which highlighted the program’s role in bridging gaps in affordability.

Utilization: Supporting Safe and Healthy Food Use

FarmsSHARE promoted effective use of food through culturally appropriate, fresh, and safe items. Recipients described food as “top notch” and “a hundred times better than our grocery store,” noting freshness and peak ripeness, which preserved nutrient content and extended shelf life up to two weeks or more.

Food was more effectively used when it met recipient preferences and food choices.

- Food hubs often tailor box contents based on community feedback and cultural relevance to minimize waste.
- Many CBOs offer a "client-choice" model, allowing recipients to "pick whatever fruits and vegetables they may like".

This restores dignity and ensures households receive food they will use. The exceptional freshness of the produce means it has a long shelf life, often lasting "up to 2 weeks" or even "a month" with proper refrigeration.

High levels of utilization were shown within the recipient survey results, including that:

- 95% of recipients reported using all or most food items,
- 92% agreed that boxes contained food their household liked, and
- 88% rated FarmsSHARE produce as superior to other foods received from pantries or other food relief organizations.

Boxes contained staples (vegetables 100%, fruits 94%), protein sources (eggs 81%, meat 69%), dairy (31%), and local honey (56%).

Recipients consistently praised the diversity and cultural appropriateness, with 94% rating options as excellent or very good. CBOS rated the nutritional quality very high (M=4.67 out of 5), with nearly 80% giving it the perfect "5-level" score.

Nearly 90% of recipients reported trying new fruits and vegetables for the first time, a finding that also extended to children within participating households.

Food hubs and CBOs supported utilization by offering education and wraparound services. About 53% of food hubs engaged in new advocacy work, and 32% launched education and community outreach initiatives. CBOs (84.2%) utilized these programs to expand nutrition education, transportation support, housing assistance, and pharmacy services, with 88% of recipients reporting access to additional resources. Approximately 90% of recipients accessed new recipes or nutrition cards to improve culinary skills and cook more at home.

Utilization requires safe food. FarmsSHARE promotes this by encouraging farmers to develop food safety plans and pursue certifications such as GAP. Farmers also emphasized that they grow produce without chemical fertilizers, with many following organic practices or standards.

Stability: Providing Consistent and Reliable Food Support

FarmsSHARE strengthened stability by ensuring predictable food distribution, reliable income for farmers, and operational support for food hubs and CBOs. Farmers valued the guaranteed market, enabling long-term operational planning. One grower stated, "There was no substitute for knowing how much you were going to have to deliver on a schedule, and for how much you were going to get paid." The program also

smoothed seasonal revenue peaks and valleys and ensured prompt payments, which helped with cash flow and planning.

FarmsSHARE served as a stabilizing force for food hubs and community partners, the program offered a scalable and reliable source of revenue that many described as essential; one participant noting that the program had been “instrumental” in keeping their organization operational. The program also contributed to operational stability, with its low administrative burden and predictable food supply allowing CBOs to expand staff hours and dedicate specific days to distribution, creating a routine like a “farmer’s market every Monday.”

FarmsSHARE offered a consistent and dependable source of fresh food. For recipients, this stability also provided financial relief: 88% of recipients noted they avoided trade-offs between food and essential expenses like rent, utilities, or transportation. Recipients described the pickup and delivery process as “very convenient,” “organized,” and punctual, with clear communication that accommodated their schedules.

“FarmsSHARE made a real difference in my life. I no longer had to choose between buying food and paying for rent or utilities”

Despite these strengths, the program faced funding instability, posing a severe risk to long-term stability. Sudden loss of grants forced farmers to reduce production, CBOs to scale back distributions, and households to lose access. One farmer reported, “Removing the FarmsSHARE program was a huge portion of our yearly revenue... it caused a tremendous challenge for our farm,” while a CBO leader explained, “It was hard when they depended on us for this food, and then we didn’t have it to give.” **Stakeholders consistently called for sustained and predictable funding to ensure the program could operate year-round and maintain a reliable contribution to food and nutrition security.**

FarmsSHARE drives healthy diets and health outcomes

By connecting local farmers, regional food hubs, and CBOs, FarmsSHARE supports nutrition as a cornerstone of health and well-being (Bimbo, 2012; Salois, 2012). Survey results indicated that 90% of recipients strongly agreed or agreed that FarmsSHARE helped improve their health or the health of their household. In addition, 84% self-reported that participation in the program improved their physical health, including their ability to engage in daily activities such as work, feeling healthier, and/or having more energy.

FarmsSHARE not only provides more food but also better food in terms of nutrition (92.0%). Most CBOs rate the nutritional quality as a 5.0 (i.e. very nutritious, containing a broad range of fresh fruits, vegetables, and other healthy items). The program leads to a self-reported “overwhelming increase in their fresh fruit and vegetable intake” and helps families move away from processed foods. The variety encourages recipients, including children, to try new vegetables like bok choy. One recipient noted, “I just feel healthier

in the summer when I have more fresh fruits and vegetables. It just makes me feel like I have more energy". They emphasized the food's nutritional value, leading to a "happy gut and belly and a happy heart!"

A significant number of recipients (83%) reported improvements in managing chronic health conditions.

- CBOs have observed clients' "blood sugar numbers have dropped," with some even going "off her insulin as a result of FarmsSHARE".
- Recipients confirm these results, stating that they are better managing or controlling their type 2 diabetes or that "my blood pressure levels are now closer to normal".
- The program is seen as helping to fight diet-related diseases like diabetes and heart disease.

From providing financial relief to preserving dignity, the program supported self-efficacy and mental health of recipients. The program allowed households to avoid making difficult trade-offs between buying food and paying for other necessities like rent or gas. This reduces stress, particularly for parents who can now provide "a good wholesome meal for my child" without constant worry. One recipient noted it saves parents from "lots of stress". Many CBOs noted offering a client-choice model that allows recipients to have choice in selecting their own food. One recipient stated, "This doesn't feel like a handout."

In some regions, the program connected food access with health care. Some CBOs integrated health screenings, like blood pressure and sugar/ glucose checks, directly at food distribution sites, allowing them to provide a holistic approach to their services. Recipients also noted that the program provided an opportunity for them to participate in more health services and screenings and even suggest further collaboration with hospitals and medical clinics.

FarmsSHARE Connects Food and Healthcare

The flexibility of the FarmsSHARE model – particularly its ability to be scaled and adapted to community needs – opens the door for food hubs, including the High Country Food Hub, Working Landscapes, and FreshList, to establish partnerships with healthcare providers to fill gaps in coverage for food-based care.

The program helped food hubs establish standards of practice for Food is Medicine boxes: from farm sourcing to packing and delivery logistics. These standards now serve as the foundation for food hubs to deliver Food is Medicine boxes in their communities.



FreshList's Food is Medicine boxes ready for distribution at their warehouse.

Strengths of the FarmsSHARE Model

The FarmsSHARE model offers multiple advantages by leveraging local food systems and community-based organizations to create direct economic, social, and health impacts. Economically, it provides small- and medium-scale farms with stable markets for their produce, eggs, meats, dairy, and other farm products, allowing them to expand production, invest in infrastructure, and diversify crops. Similar to findings from recent studies on healthy food prescription programs, FarmsSHARE provides reliable and equitable markets by offering fair pricing and predictable demand, particularly benefiting smaller scale farms (Ridberg et al., 2019). The predominance of farms earning less than \$150,000 annually underscores the program's role in supporting smaller producers who are often excluded from larger supply chains.

Trust is a central component of the model; focus group participants consistently emphasized that the relationships built between farmers, CBOs, and recipients foster confidence in the quality and safety of the food, encouraging recipients to use and enjoy it. This trust, coupled with the delivery of high-quality, fresh, and locally sourced foods, promotes healthier eating habits. Predictable payments, high-volume sales, and transparent relationships reduce uncertainty for farmers (Miller et al., 2023). Literature also suggests that client-choice food assistance models and culturally relevant food offerings help reduce stigma and improve participation among recipients (Akobundu et al., 2004; Seligman & Berkowitz, 2019).

Rural communities benefit as the program increases access to fresh, healthy foods in areas where grocery options may be limited, strengthening the local food economy and supporting resilience during crises such as hurricanes. Community-based organizations gain capacity-building benefits, including operational tools, distribution models, and opportunities to offer companion programming like cooking classes, nutrition education, and wellness screenings, which elevate their impact and broaden their service offerings.

Consistent with previous studies on CSA-type healthy food box interventions, this stakeholder survey confirms that these programs contribute to **CBOs being able to enhance the quantity, quality, and cultural diversity of the food being distributed to households experiencing food insecurity** (Lyles et al., 2013).

Findings from our survey suggest that FarmsSHARE is strengthening food and farm business systems by

- increasing revenue (by selling products at fair market value),
- expanding access to new markets,
- hiring additional staff, and
- fostering new partnerships.

FarmsSHARE prompted food hubs to expand the diversity of their farm partners, such as reaching more with BIPOC-owned growers (Hege, 2025).

At the household level, FarmsSHARE advances all four pillars of food security, availability, access, utilization, and stability, which mirrors frameworks adopted in recent public health nutrition research (HLPE,

2017). Studies of produce prescription programs in multiple U.S. states report that such programs help food-insecure people make measurable dietary improvements, see increases in fruit and vegetable intake, and reduce food insecurity (Ridberg et al., 2019). Recipients reported trying new fruits and vegetables, preparing balanced meals, and observing improvements in health and well-being, highlighting the direct impact of the program on diet and nutrition.

FarmsSHARE contributes to the growing body of evidence connecting food system interventions with clinical and population health outcomes.

The broader “Food is Medicine” literature shows that programs providing medically tailored meals, medically tailored groceries, or produce prescriptions are associated with improved diet quality, enhanced disease management, and reductions in health care costs (Mozaffarian et al., 2022). Specifically, the American Heart Association’s scientific statement emphasizes improvements in diet quality and food security from such interventions, even if clinical outcomes show more variability (Lichtenstein et al, 2021).

The strengths of FarmsSHARE include market reliability for farmers, infrastructure investment, trust-building, client dignity, improved food access and utilization, and measurable health outcomes. These features align with current research, which emphasizes that addressing food insecurity and improving nutrition requires systems-level approaches that integrate agriculture, health, and community development (Berning, 2012; Bimbo, 2012). FarmsSHARE functions as both a community economic development strategy and an anti-hunger initiative by contributing to and reinforcing the growing evidence base at the intersections of local food systems and population health.

Opportunities to Grow and Innovate

A core challenge identified across stakeholder groups is the lack of sustained funding to support the program. Farmers and CBOs underscored that the uncertainty of funding is the most destabilizing factor, leading to disruptions in supply chains and significant operational setbacks. Sustained funding could also enable forward contracting with local small- and medium-scale farms, allowing for better production planning, income stability, and reliable supply of local foods to CBOs. The sunset of initial state funds and the non-award of federal LFP Plus dollars have already led to program discontinuation in some regions. For farmers, these halts have forced cutbacks in acreage, created surpluses of unsold produce, and threatened farm viability, as one farmer described: “Removing the FarmsSHARE program is a huge portion of our yearly revenue... it’s going to cause a tremendous challenge for our farm.” For CBOs and recipients, sudden gaps in funding mean the disappearance of a reliable source of healthy food, creating stress for families and undermining community trust: “It’s hard when they’re dependent on us for this food, and then we don’t have it to give,” one CBO leader noted.

Findings indicate that while FarmsSHARE is well recognized among farmers and community-based organizations, there remains room to strengthen program visibility among food recipients.

- The gap in familiarity with the FarmsSHARE program, particularly at the recipient-level, suggests an opportunity to enhance communication and outreach strategies.
- Increasing the use of consistent branding, clear messaging about FarmsSHARE’s role in providing local food, and greater collaboration with distribution partners could help recipients better identify and connect with the program.
- Additionally, incorporating educational materials, signage, or storytelling that highlights participating farms and organizations could reinforce awareness.

Strengthening these touchpoints would not only improve familiarity but could also deepen engagement and community appreciation for the local food system that FarmsSHARE supports.

Looking forward, stakeholders highlight the importance of securing both short-term and long-term funding streams to sustain local food purchases, and to invest in infrastructure such as cold storage, transportation, aggregation, and logistics capacity. Research suggests that stable funding and infrastructure investment are central to food system resilience and farmer viability (Seligman & Berkowitz, 2019). Beyond philanthropy and grant funding, there is growing momentum to embed programs like FarmsSHARE into health system financing through Food is Medicine models and Medicaid innovations. Several states, including North Carolina, have already incorporated nutrition supports, medically tailored meals, or produce-prescription benefits into Medicaid Section 1115 demonstration waivers (i.e., “Food is Medicine Waivers”), using this flexibility to pilot food-based care interventions (Hanson, 2024). In fact, a systematic review found that as of mid-2023 nineteen approved or pending 1115 waivers include nutrition components, demonstrating a rapidly expanding policy space for integrating food and health (CMS, 2023). MassHealth’s “Flexible Services Program,” under a 1115 waiver, is one example: recipients in the nutrition component showed differences in health care utilization compared to a matched comparison group (e.g., reduced hospital use) (Hager et al., 2024).

Policy design constraints must be considered. Specifically, CMS guidance currently limits enrollment in food-based interventions under in-lieu-of-services (ILOS) rules or 1115 waivers to six months per program year, which may undercut the potential to treat chronic conditions over longer durations (Stotz et al., 2024). Moreover, Food is Medicine programs should be designed to complement existing federal nutrition programs (e.g. SNAP, WIC) (Food is Medicine Coalition, 2024).

Embedding FarmsSHARE into healthcare pathways, where clinicians prescribe local food boxes and insurers reimburse them, would create a resilient bridge between agricultural and health systems

Future research should examine how to structure sustainable reimbursement models, align billing and referral systems, and evaluate outcomes longitudinally. Pilot partnerships with Medicaid managed care plans or accountable care organizations (ACOs) could test cost-effectiveness, health outcomes, and implementation feasibility. In doing so, the model can feasibly evolve from a philanthropic program into a reimbursable food-based care intervention, focusing on supporting both farmer livelihoods and population health in a sustainable framework.

Limitations to the Evaluation

Though the survey achieved a strong response rate, the study's survey design presents limitations. The cross-sectional nature of the survey captures only a snapshot in time, limiting our ability to assess the long-term impact of the program (Wang, 2020). Because survey distribution depended on partner organizations and voluntary participation, responses may overrepresent individuals and organizations with higher engagement or greater capacity to respond. In addition, the timing of administration may have shaped participation and responses: the June–July organizational survey coincided with peak seasonal demands, while the August–September recipient survey captured experiences at the close of the growing season. These factors may contribute to response bias and limit the representativeness of the results. Finally, food and nutrition security and health outcomes were self-reported, which may introduce recall or social desirability bias and should be interpreted with caution.

Key Actions to Move FarmsSHARE Forward

Building upon lessons from the LFPA FarmsSHARE Program, several key action items emerge as critical to sustaining momentum, supporting farmers and food hubs, and improving health outcomes for North Carolinians.

- 1) Stakeholders emphasized the need to secure sustained and diversified funding. This includes advocating for ongoing state appropriations, leveraging philanthropic investment, and exploring innovative financing mechanisms such as Medicaid Section 1115 waivers, managed care contracts, and blended funding models that combine healthcare reimbursement with federal nutrition programs such as SNAP, WIC, and GusNIP (Seligman & Berkowitz, 2019).
- 2) The integration of FarmsSHARE into health systems through Food is Medicine initiatives is a vital priority. Partnerships with healthcare providers, insurers, and accountable care organizations could position FarmsSHARE as a reimbursable service, aligning food distribution with patient care pathways while demonstrating its potential to reduce healthcare utilization and improve diet-related health outcomes (Hanson et al, 2024). Such integration would require the development of shared referral, billing, and evaluation systems to ensure seamless connections between agricultural producers and clinical providers.

- 3) Investment in infrastructure and capacity building is another crucial step. Cold storage, aggregation facilities, and distribution logistics are needed to strengthen the resilience of food hubs and enable farmers to scale production for institutional and healthcare markets. Technical assistance for crop planning, wholesale readiness, and business development can further support long-term farmer participation, with a particular focus on equity by prioritizing historically underserved producers (CFSA, n.d.). Ensuring stability for farmers and CBOs will also require multi-year funding commitments and the creation of bridge funds to prevent service disruptions when major grants sunset. Such continuity is vital for sustaining trust with community partners, preserving stable markets for farmers, and ensuring families receive dependable access to fresh, healthy food.
- 4) Enhancing awareness and strengthening the FarmsSHARE brand are critical next steps in expanding the program's impact on local food systems and community health. Although FarmsSHARE is highly recognized among participating farmers and community-based organizations, findings suggest that many food recipients remain less familiar with the program itself. Increasing visibility and consistent branding across all touchpoints (from farm partners to food distribution sites) will help clarify FarmsSHARE's role as a statewide initiative connecting local farms with families in need. Key actions include developing a unified visual identity and messaging toolkit for all partners; integrating the FarmsSHARE name and logo into packaging, signage, and outreach materials; and creating communication materials that highlight the program. Expanding storytelling through social media, partner websites, and earned media can further elevate FarmsSHARE's profile while showcasing its health and local food system economic benefits. Strengthening brand recognition will help deepen engagement and position FarmsSHARE as a cornerstone of North Carolina's local food and health system infrastructure.
- 5) Finally, FarmsSHARE must move beyond short-term pilots and become embedded in durable policy and payment structures. By investing in infrastructure, aligning with healthcare financing, and securing sustained funding, North Carolina can build a resilient local food system that not only strengthens farm economies but also advances health outcomes within the community.

These actions represent the next stage of growth: transforming FarmsSHARE from a promising emergency response model into a cornerstone of food-based healthcare and community-based economic development.

Conclusion

Leveraging the success of FarmsSHARE, federal programs can establish best practices for scaling similar interventions nationally. Key strategies include providing multi-year funding commitments to stabilize production and distribution, integrating local food programs into food-based care pathways, and ensuring technical assistance for farmers and food hubs to enhance operational capacity (Hoey, 2018). Strengthening FarmsSHARE's visibility, consistency in branding, and community awareness will be essential to deepening its impact on local food systems and advancing access to nutrient-dense foods across North Carolina. Furthermore, routine monitoring and evaluation can generate evidence for economic, nutritional, and health impacts, supporting both model development and continuous program growth. By combining sustained investment, cross-sector collaboration, and rigorous evaluation, the FarmsSHARE model offers a blueprint for advancing small- and medium-scale farm viability, community nutrition security, and population health.

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