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A farmer-designed food assistance pilot program

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Abstract

The Mississippi Delta experiences persistent food insecurity, particularly among older adults. While produce prescription and food box programs have been implemented, they are often grant funded and difficult to sustain, and they typically exclude participants from the program design process. This pilot study used a community-based participatory research (CBPR) approach to design and test a home-delivered food assistance program led by local farmers, serving homebound older adults in Quitman County, Mississippi. The project team partnered with the Happy Foods Project, a coop-

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erative of Black, Indigenous, People of Color (BIPOC) farmers, to co-develop a six-month program providing culturally familiar produce, curated recipes, and weekly delivery. Twenty homebound older adults participated. Mixed methods were used, including participant and farmer surveys, in-depth interviews, and triangulated qualitative analysis. Participants and farmers reported high satisfaction with the program's delivery, cultural relevance of foods, and strengthened community connections. Themes from the qualitative analysis were Community Connection, Innovative Approach, Financial Access, Participant Knowledge, and Health Behaviors. Farmers noted increased market access and guaranteed income. This pilot demonstrates that a farmer-led, CBPR-designed food assistance program can address barriers to healthy food access while supporting local agricultural livelihoods. Findings highlight the importance of centering participant and farmer input in program design, particularly in rural contexts. Future research should explore scalability and long-term impacts.

Keywords
food assistance, program design, community-based participatory research, food box, older adults, local agriculture, pilot study, rural health, food access

Introduction

Health concerns, hunger, and food insecurity are pressing issues in Mississippi, and particularly in the Delta region, where structural inequities have shaped persistent poverty and limited access to healthy foods (Connell et al., 2019; Cosby & Bowser, 2008; Freshour & Williams, 2023; Holmes et al., 2022; Neaves et al., 2008). The Delta is the former floodplain of the Mississippi River in northwestern Mississippi that contains thousands of acres of black alluvial soil, which is largely favorable for agriculture and served as the setting for much of the state's complex history of plantations and slavery (Crockett et al., 2025; Saikku, 2005). Ten of the 18 counties that make up the Delta region in Mississippi experience high rates of food insecurity and hunger, far exceeding national averages (Nguyen et al., 2021). These disparities are rooted not only in economic hardship but also in the enduring effects of discriminatory policies and market exclusion faced by small-scale farmers, particularly farmers of color (Elufisan, 2023; Freshour & Williams, 2023; Hinson & Robinson, 2008; Holmes et al., 2022; Kline et al., 2024).

Older adults are disproportionately affected by food insecurity due to a combination of fixed incomes, mobility limitations, and health concerns (Gualtieri & Donley, 2016). For the purposes of this study, "older adults" refers to individuals aged 65 and above (Centers for Disease Control and Prevention [CDC], 2024; National Council on Aging, 2022). Nationally, older adults experiencing food insecurity consume fewer essential nutrients and are more likely to report poor health, depression, and reduced ability to perform daily activities (Gundersen & Ziliak, 2015). In the rural Delta, lack of public transportation and long distances to grocery stores exacerbate these challenges (DiNatale, 2022; Rankin, 2021).

Various produce prescription and food box programs have been implemented in the Delta of Mississippi to address such issues (Fernandez et al., 2023; Stermer, 2024; Turner, 2019), but most are dependent on short-term grant funding and rarely involve participants in program design. Furthermore, these programs often source produce from wholesalers or food banks (Bell et al., 2014; Briefel et al., 2021; Cabili et al., 2021; Carty et al., 2017; Short et al., 2023; Vos et al., 2024), missing opportunities to connect with and support local farmers.

Community-based participatory research (CBPR) offers an approach for designing programs that are not only culturally relevant but also community-owned. CBPR principles require participants and researchers to engage as equal partners, ensuring that community priorities shape program goals, implementation, and evaluation (Israel et al., 1998; Wallerstein & Duran, 2010). Participants in CBPR projects are able to shape the program to address what matters to them in a way that best suits their daily lives while also deciding how success should be measured (Duncan & Fassiotti, 2018). This approach can improve both the quality of interventions and the likelihood of their sustainability. Using CBPR has a history of improving program design, implementation, and outcome

success (De Las Nueces et al., 2012; Doustmohammadian et al., 2022; Israel et al., 1998; Wallerstein & Duran, 2010).

Similar CBPR-based and food systems-focused interventions, some in rural contexts, have successfully addressed structural barriers by integrating community priorities into intervention design and leveraging local food networks (Doustmohammadian et al., 2022). Doustmohammadian et al. conducted a systematic review of CBPR interventions aimed at improving food insecurity, in which 12 studies were reviewed. Each reported significantly positive results relating to food access, availability, and utility; however, no studies measured sustained food security post-intervention. The researchers found that three studies included local farmers in intervention design and implementation, two of which included farmers in a rural setting, in Malawi (Kansanga et al., 2021; Madsen et al., 2021).

The literature shows that local agriculture–based programs in low-income areas improve nutrition, food security, and farmer income (Ball et al., 2018; Doustmohammadian et al., 2022; Kansanga et al., 2021; Madsen et al., 2021). Ball et al. (2018) engaged local farmers as part of a community action coalition that planned and implemented a farmers market next door to a Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) office. Stakeholders in their program noted that engaging farmers in the planning and implementation phases led to the program's success; the farmers market increased fresh produce availability for WIC participants and income for participating farmers (Ball et al., 2018). Kansanga et al. (2021) found that encouraging agroecological practices (e.g., crop diversification, composting) through farmer-to-farmer training among rural, smallholder farming households improved dietary quality, but only for participating farm families.

This brings us to our research question: could the CBPR approach succeed in improving food access and farmer income in the Mississippi Delta? CBPR with farmers in the Mississippi Delta would require rethinking who is positioned as the expert in the research process. Delta farmers—particularly Black farmers, who have faced generations of land loss, discriminatory lending, and exclusion from USDA programs—bring deep agrarian, cultural, and societal knowledge that is rarely centered in formal research (Crockett et al., 2025).

Research Methods

This pilot study used a CBPR approach with an explanatory sequential design to explore the functionality and impact of a food assistance program designed and led by local farmers to serve homebound older adults in Quitman County, Mississippi. This study was determined to be exempt by the University of Mississippi's Institutional Review Board (Protocol #23x-289). All participants were provided letters of informed consent prior to participating in this study.

Program Design

The project team used CBPR guiding principles to equitably engage farmers and food program participants in every stage of the research process (Israel et al., 2001). CBPR was necessary to maximize the usefulness of the research by all partners and the community at large, enhance the study's validity by incorporating community-specific expertise, and empower the community to shape the research in the way that best meets their needs (Israel et al., 1998).

Three researchers from the University of Mississippi's Community First Research Center for Wellbeing and Creative Achievement (CREW) partnered with a local farm organization, the Happy Foods Project (HFP), to design this study. HFP is a consortium of Black, Indigenous, People of Color (BIPOC) farmers in the Delta region of Mississippi who collaborate on farmer-to-farmer training programs and develop alternate market entry points for farmers in Mississippi. Market diversification and reliable payment options are well-established needs among vegetable farmers in the Delta of Mississippi (Kleiner & Green, 2008; Kline et al., 2024). HFP works to meet these market needs by developing programs for small-scale farmers to participate. Farmer participants in this pilot study consisted of five farmers working cooperatively under HFP: four males and one female, with ages ranging from 50 to 91 years old. The partnership between HFP and CREW reflects the recommended CBPR model and aligns with food

system planning principles that emphasize shared governance, local production, and community control (Brown et al., 2019; B. Israel et al., 2001; B. A. Israel et al., 1998).

CREW, which had funds available from the Walmart Foundation to address local food insecurity, approached HFP in January 2023 and held a virtual discussion about designing a collaborative project. CREW personnel described their previous experiences with food box programs. The director of HFP stated that HFP had been working toward doing a similar program and expressed an interest in pilot-testing a home-delivered food assistance program to serve homebound older adults. HFP farmers had been giving away food they could not sell to some of their neighbors and had been seeking a way to do this on a broader scale. The project team (CREW researchers and HFP farmers) decided to use the funds to run the pilot study in HFP's Delta home community, Quitman County, Mississippi. Piloting in Quitman County was not only convenient for testing HFP's delivery capacity, but it also had an optimal population for program enrollment.

The project team decided to create food boxes containing 15–20 pounds (7–9 kg) of produce along with recipe cards developed by CREW researchers. Farmers on the project team identified produce familiar to the priority population, like tomatoes, okra, purple hull peas, summer squash, etc. Each type of produce was included in at least two of the curated recipes provided, and all recipe ingredients were tailored to suit the cookware, appliances, and household staples the priority population could easily access. Recipes included healthy adaptations of the priority population's traditional recipes, such as baked or grilled green tomatoes instead of the traditional deep-fried green tomatoes. The pilot program was designed to last six months.

During the period of this pilot study, the HFP lead farmer coordinated with the other five farmer participants to aggregate the produce and then deliver food boxes to participants' residences every Friday afternoon. The farmer making deliveries notified participants via telephone 4–6 hours prior to their food box delivery to ensure that someone would be present to receive the food box. If a participant needed to reschedule or have their food box delivered elsewhere, the participant could contact the delivering farmer via telephone with the changes.

Setting

At the time of the program, Quitman County had a higher percentage of its population made up of older adults, disabled people, and people living in poverty than the total Mississippi population. In 2023, the total population of Quitman County was 5,546, with 18.6% ages 65 and older, 13.3% under age 65 with a disability, and 32.1% living in poverty (U.S. Census Bureau, n.d.). The state of Mississippi's population was 17.6% ages 65 and older, 12.6% under 65 with a disability, and 18% in poverty (U.S. Census Bureau, n.d.).

Sampling Methods

The study was limited to 20 participants due to constraints in the production of specialty crops. Participants were selected using purposive sampling based on homebound status and county of residence. All participant recruitment was in-person, based on best practices in rural areas, and a recommendation from the local elder care center (Estabrooks et al., 2017; Scott et al., 2016; Young et al., 2020). The project team went door-to-door handing out recruitment flyers to eligible households. Recruited participants voluntarily shared program information with neighbors, friends, and family, so a snowball effect contributed to our sampling methods as well (Naderifar et al., 2017).

Farmers and participants were interviewed when the program concluded. To recruit for post-program interviews, one CREW researcher called participants on the phone numbers they provided during their initial program registration. If the call was not answered, team members left voice messages requesting a returned call and called again at a different time if the message was not returned. If the second call was not answered, the project team did not call a third time.

Instrument Development

Surveys were developed to assess farmers' and participants' experiences with the program. One researcher from CREW and the director of HFP

collaborated to identify points of interest to include in the survey instruments. Points of interest identified for farmers included satisfaction with delivery, payment, processes, quantity expected to purchase, community interaction, and farm impact. Points of interest relevant for participant surveys included satisfaction with delivery, recruitment, food quantity and quality, and well-being. The CREW researcher designed the surveys around those points of interest. Survey questions for both farmers and participants were scored on a Likert scale (*very dissatisfied* to *very satisfied*), with open-text sections provided for participants to explain their responses.

Two CREW researchers and the director of HFP developed an interview protocol to clarify survey responses (Draucker et al., 2020). Farmer interviews included questions about impacts on farm operation and production pre- and post-program, market involvement, and interest in participating in other community programs. Participant interviews included questions about opportunities for improvement based on the participants' food and schedule preferences, comfort with recipes provided and meal preparation, eating habits during and after the program, and health choices post-program.

Data Collection

In keeping with this study's explanatory sequential design, the study team collected and analyzed the data in two phases: first, we administered the survey to collect quantitative data, then followed up by conducting qualitative interviews to contextualize the quantitative results (Draucker et al., 2020). Paper surveys were administered to farmers by one CREW researcher and the HFP director at the end of the program, with surveys delivered at the time of produce purchase and collected during the following week's purchase. A similar design was used for program participants at months 3 and 6, with surveys delivered with food boxes and completed copies picked up during the following week's delivery.

The CREW researchers shared aggregated farmer and participant survey results with HFP farmers for validation. Together, the project team and HFP farmers decided to implement additional telephone interviews with willing farmers and participants to get more detailed responses and allow participants with low English literacy the opportunity to share their experiences. This approach is consistent with explanatory sequential designs and participatory qualitative methods used in rural food system evaluations to capture lived experiences and inform responsive program adjustments (Draucker et al., 2020; Quiroz et al., 2025). One CREW researcher conducted the telephone interviews. All interviews were digitally recorded and transcribed verbatim using Trint transcription software (Trint, n.d.).

Data Analysis

The project team used triangulation to analyze farmer and participant data from surveys and interviews (Carter et al., 2014). Because responses from both farmers and participants were used to answer the same research questions, the data were analyzed together. First, Likert scale data were numerically entered into a spreadsheet. *Very Dissatisfied* was coded as a 1, *Dissatisfied* was coded as a 2, *Neutral* was coded as a 3, *Satisfied* was coded as a 4, and *Very satisfied* was coded as a 5. The project team calculated the mean for each survey question in each group of participants and used SPSS to run a paired-samples *t*-test with $\alpha < .05$ (Norman, 2010; Pearson, 1931).

Second, qualitative survey responses and interview transcripts were analyzed using inductive content analysis to identify codes and categorize codes into themes (Schutt, 1999). Two members of the project team coded the transcriptions. The coding process involved reading and rereading individual qualitative responses and identifying underlying concepts (codes) (Kleinheksel et al., 2020). Categorizing codes into themes involved reviewing concepts across farmers and participants to group similar codes into themes (Kleinheksel et al., 2020). The project team used Microsoft Excel to organize codes and themes.

The project team used farmer and participant validation to verify conclusions drawn from survey analysis; following survey analysis, the project team conducted telephone interviews in which researchers explained survey results and read anonymized quotes to participants. The participants were asked

to confirm whether the identified themes and key quotes accurately represented their experiences (Carter et al., 2014).

Results

As shown in Table 1, 17 of 20 participants completed the mid-point survey, 14 completed the end-point survey, and eight agreed to participate in post-program interviews. The 12 remaining participants were not interviewed because three participants had switched phone numbers, one participant had passed away, and eight participants did not answer the phone or return the phone calls. All five farmers completed the survey, and one farmer participated in a post-program interview. Two farmers did not answer or return phone calls, and another two farmers returned calls but were unavailable for interviews.

Table 1. Number of Respondents per Data Collection Method

Participant Group	Data Collection Method	Number of Respondents
Food Program	Mid-point survey	17
	End-point survey	14
	Interview	8
Farmer	End-point survey	5
	Interview	1

Likert Scale Survey Data

While 17 participants completed the mid-point survey, only 14 completed the end-point survey. The mean and standard deviation of participant survey responses for each question in the mid-point and end-point surveys are shown in Table 2. Participant ratings of their program experiences remain high, indicating positive experiences throughout the study.

Descriptive statistics were not conducted for farmer surveys because each farmer ranked all categories as 5, *Very Satisfied.*

Qualitative Survey and Interview Data

Interviews and qualitative survey responses across farmers and participants identified 5 overarching themes: *Community Connection*, *Innovative Approach*, *Financial Access, Participant Knowledge*, and *Health Behaviors*.

Community Connection

The food box program created a sense of connection between participants and farmers delivering food boxes, and farmers felt a stronger connection with their community. As homebound older adults, participants valued the weekly personal interaction and made comments like this one from Participant 10, "It is a joy to look forward for box delivery. The delivery person is very kind and respectful," and Participant 13, who said, "The young man [who delivers the food boxes] is very courteous

Table 2. Central Tendency of Food Program Participant Survey Responses

Survey Questions	Mid-point Survey Response Mean (*SD*) (*n* = 17)	End-point Survey Response Mean (*SD*) (*n* = 14)
1. How satisfied are you with your overall experience?	4.94 (.24)	5.00 (0)
2. How satisfied are you with food box delivery?	5.00 (0)	4.93 (.27)
3. How satisfied are you with the patient recruitment process?	4.93 (.27)	4.93 (.27)
4. How satisfied are you with the food quantity in each box?	5.00 (0)	4.86 (.36)
5. How satisfied are you with the food box delivery frequency?	4.88 (.5)	4.86 (.36)
6. How satisfied are you with the types of food in each box?	4.88 (.5)	4.93 (.27)
7. How satisfied are you with the recipe cards in each box?	5.00 (0)	4.85 (.36)
8. Please rate the impact the program has had on your wellbeing.	5.00 (0)	5.00 (0)

and friendly. He is always on time with a smile." Farmers were also encouraged by participants. Farmer 2 stated,

> I know that the work that I do is having a positive impact in the community in which I live. The program has given my farm [the opportunity] to reach out into the community and provide positive experiences to my fellow residents.

Innovative Approach

Participants and farmers alike complimented the program's innovative design taking the nuances of location and needs of farmers and participants into consideration through active engagement with the relevant community (as is required in CBPR). Participant 1, who had to pay a neighbor to drive them to the grocery store, stated, "This is a blessing to have the delivery to our front door. It's simple and easy. And I don't have to worry about getting to the store." Farmers focused on the program's systematic details, like payment and scheduling. Farmer 3 said, "The food box delivery system is well put together. The food box delivery is always on time. The payment is fair. It's easy and understandable. The planning is well thought out." Farmer 4 stated, "When we dropped off produce, we were paid the same day. I wish we could have grown more."

Financial Access

Access was a topic of discussion for both participants and farmers, although in different ways. Participants lacked access to produce due to income. Participant 10 stated, "[The program] has brought fresh vegetables to me, which I would not have had. It helps me so much. The fresh food is so good." Participant 2 stated, "We all living on a fixed income. We're senior citizens here and it's hard coming up with what you could spare. … It's enough veggies to keep me out the grocery store for a week."

Farmers were previously limited in their access to local markets and, by extension, income. Farmer 5 stated, "I have been able to get my produce into the hands of more people in the community. My farm is able to reach people that I may not have otherwise had contact with." Having a guaranteed market helped expand some farmers' production; as Farmer 1 stated, "It motivates me to grow more knowing that I can definitely sell my produce weekly without a doubt."

Participant Knowledge

Lack of health or cooking knowledge was not a barrier for participants, as they each reported feeling comfortable with the produce in the food boxes. Participant 8 said, "I cook everything in my box. Delicious every week." Participants explained that the recipe cards were helpful but not necessary, as Participant 9 said:

> [My diet has] changed considerably because I don't have the best food that I used to have [before getting the box], and the canned vegetables aren't really good for you. I am enjoying the recipe cards; I can have different varieties of meals with this. Fruits and vegetables are extremely nutritious; this is serving as a very positive impact on my life. Healthy eating and living are extremely important.

Participant 11, like most others, reported cooking frequently and used the cards as a supplement, stating, "I have tried some of the recipes and we enjoyed them. We get to the point we want change up, so the recipes have been a plus for us."

Health Behaviors

Surveys from participants also discussed how their health behaviors changed during the program. Participant 1 stated, "We are eating more vegetables, and the quality of the vegetables can't be beat." Participant 3 explained, "I feel healthy; fruit and veggies are important for life." Post-program interviews also revealed the program made changes to some participants' lifestyles. For instance, Participant 5 said, "With those boxes, I'm trying to lose weight and eat more healthier. I exercise a little bit more." Participant 4 said, "I'm eating different and eating vegetables and stuff, like, that I haven't been eating. I make sure I get enough vegetables in my body."

Discussion

Over the course of our study, nonsignificant survey results suggest that participants' opinions of the home-delivered food assistance program did not change and remained highly positive throughout. This stability in perception likely reflects a ceiling effect: participants entered the program with meaningful unmet needs and responded positively early on, maintaining satisfaction as the program continued. Future studies should consider incorporating baseline surveys prior to program enrollment to capture the full arc of participants' experiences.

While this study's findings align with a growing body of literature on home-delivered food assistance (Bell et al., 2014; Briefel et al., 2021; Vos et al., 2024; Zimmer et al., 2022), it also advances the field in three ways: by demonstrating that accounting for local nuance in food program design improves health behaviors; by identifying access—rather than knowledge—as the primary barrier to healthy food consumption; and by establishing farmers as equal partners whose inclusion strengthens both program quality and community outcomes. Many of our findings are consistent with prior research, while also offering important points of comparison. Like Vos et al. (2024), participants in this program valued the predictability of home delivery and the relief of avoiding grocery store trips—a convergence across geographically and demographically distinct populations that strengthens the case for delivery-based models as a structural intervention rather than convenience. Notably, however, this study served a rural population where transportation barriers are compounded by geographic isolation (DiNatale, 2022; Stuff et al., 2006; Wright, 2018), suggesting that the logistical relief of home delivery may carry even greater significance in rural contexts than in the urban and suburban populations studied by Vos et al. (2024) and others. Program designers working in rural settings should treat delivery infrastructure as a foundational investment.

The social benefits observed here also reflect findings from Bell et al. (2014) and Ross et al. (2022), who found that regular delivery interactions helped reduce social isolation among homebound participants. Yet while these studies document social connection as an incidental benefit of delivery programs, this study's community-centered, farmer-led design suggests that social connection can be more deliberately cultivated. Future research should examine whether it is the delivery model itself, the relationship with delivery staff, or the broader sense of being cared for that drives social connection, and if that produces stronger and more sustained social outcomes.

This study further corroborates findings that home-delivered food box programs allow participants to prioritize health despite financial barriers (Bell et al., 2014; Briefel et al., 2021; Vos et al., 2024; Zimmer et al., 2022). Briefel et al.'s (2021) finding that their program served as a gateway to broader nutrition assistance enrollment is particularly worth noting alongside our results. Together, these studies suggest that food box programs can function not only as standalone interventions but as entry points into larger safety net systems. Replication studies examining whether community-led programs lead to higher rates of downstream benefit enrollment would be a valuable contribution to this literature.

Dietary improvements observed in this study are consistent with Kempainen et al.'s (2023) finding of increased fruit and vegetable intake during a food box program, and with Vos et al.'s (2024) report of sustained healthy cooking behaviors after program completion. Lasting behavior change remains one of the more elusive outcomes in nutrition intervention research. As consistently recommended in food security research, future community-based studies should consider monitoring the sustainability of health behavior and food access changes after project completion (Doustmohammadian et al., 2022). Additionally, we suggest that future studies systematically examine which program features—duration, food familiarity, food quality, or convenience—are most predictive of long-term change, especially across subgroups such as older adults, families with children, or individuals with chronic illness.

Farmers in our study reported increased access to an untapped market and a greater sense of community connection through serving homebound neighbors, findings that parallel Bell et al.'s (2014) documentation of food box personnel feeling deeply committed to their community role, and

Tripp et al.'s (2021) observation that uncompensated farmers in another program expressed positive reactions and recruited other farmers to donate food. However, this study diverges from Tripp et al. in a meaningful way: rather than relying on farmer volunteerism, this program compensated farmers at a fair market value. Positive farmer outcomes—motivation, community connection, peer recruitment—were achieved through equitable compensation rather than goodwill toward their community, which may improve program sustainability, as Tripp et al. suggested after their program ended.

This pilot study advances the literature on food assistance and rural community-based programs through three novel contributions.

Participant-led design improves food utilization. By engaging participants throughout program planning, we ensured that all foods provided were culturally familiar, seasonally appropriate, and paired with recipes suited to local cooking practices and available appliances. Participants in this study reported using every item in their food boxes and expressed confidence in preparing meals with or without the provided recipes. This stands in contrast to charitable food systems such as food banks and pantries, where unfamiliar or inaccessible items often lead to underutilization or waste (Grier-Welch et al., 2021; Wade et al., 2022). This finding aligns with food system research demonstrating that the cultural relevance of food increases program adoption and impact (Molenaar et al., 2023; Tursunova et al., 2020; Ziso et al., 2022), and reinforces the argument that participant co-design is not simply a procedural nicety but a mechanism for improving outcomes. Future studies should test whether the degree of participant involvement in program design—from consultation to full-co-development—is associated with proportional improvements in food utilization and health behavior improvements.

Access, not knowledge, is the primary barrier. Many nutrition assistance interventions are premised on the idea that limited dietary knowledge drives unhealthy eating (Munt et al., 2017; O'Leary et al., 2025; Shepherd et al., 2006). This study's findings challenge that idea, as participants already understood the value of healthy foods and expressed a desire to consume more fresh produce but lacked consistent access. While recipe cards and nutrition education have shown benefit in some contexts (Bell et al., 2014; Briefel et al., 2021; Cabili et al., 2021), other research confirms that knowledge without access yields minimal change (Dong et al., 2022; Munt et al., 2017; Shepherd et al., 2006). This study contributes a perspective from a rural, low-resource region to that debate, suggesting that in contexts where structural access barriers are pronounced, interventions should prioritize removing those barriers before layering on educational components (Brown et al., 2019; Payán et al., 2021). Practitioners designing programs for rural or underserved populations should critically examine whether their program theory of change accurately reflects participants' actual barriers.

Farmers as equal partners in program delivery. Unlike many food assistance models that position farmers solely as suppliers, or, in some cases, as uncompensated donors (Tripp et al., 2021), this program compensated farmers at fair market value and included them in all stages of planning and evaluation. This approach increased farmer motivation, diversified market opportunities, and deepened community connection. Comparable models in local food system literature have shown that when farmers are treated as equal stakeholders, programs can simultaneously advance community food security and farm viability (Quiroz et al., 2025). This dual benefit represents an important message for the field: food assistance programs do not need to extract value from farmers to serve communities. Future research should examine the long-term economic and programmatic outcomes for farmers in compensated versus uncompensated models and explore how fair-market farmer partnerships can be structured to support program scalability.

Taken together, these findings carry clear implications for both researchers and practitioners in local food system development and food assistance. Programs that engage stakeholders—both participants and farmers—from the earliest stages of design are better positioned to achieve buy-in,

cultural relevance, and sustainability. Researchers interested in replicating or building on this model will find established methodological guidance in the CBPR framework, which provides a well-documented approach to equitable stakeholder engagement throughout the research process. This study also has direct practical implications for funding and program sustainability. The research team used findings from this pilot to secure larger grant funding to explore the home-delivered food assistance model as a sustainable business avenue for farmers, demonstrating that rigorous, community-grounded pilot work can serve as a foundation for scaling impact. Future studies should examine replication across diverse rural contexts, test the model's adaptability for different agricultural seasons and crop types, and evaluate long-term outcomes for both participant health and farmer economic stability.

Limitations

The sample size for both food program and farmer participants was fixed due to funding limitations; thus, the statistical analysis was limited. In-person survey delivery and pick-up may have persuaded participants to inflate their survey responses to continue receiving food boxes. Limited literacy was reported by several participants at the conclusion of the program, which may have led participants to choose the exact same rating (e.g., "strongly agree") all the way down, to finish the questionnaire as quickly as possible or not respond at all. This limitation was somewhat mitigated by the interviews after the program's conclusion.

Conclusion

Our exploratory mixed-methods study used CBPR to examine the functionality and impact of a farmer-designed and -led home-delivered food assistance program. Farmers who participated identified the food assistance program as innovative due to its inclusion of stakeholders throughout the program development process. Participants shared changes in their finances, lifestyle, community connections, and access to fresh produce due to the program. Moving forward, future studies should involve stakeholders, including potential participants, in the design of food programs and examine whether this design limits food waste, improves healthy eating behaviors, and encourages community connection among participants.

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