

Realizing nutrition equity in urban food systems: Insights from food justice leaders about mechanisms of implementation

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Abstract

Commonly used measures for assessing local food systems, such as food security or healthy food access, do not provide guidance into the series of actions involved in transforming these outcomes.

To address this gap, our research brief presents lessons learned from a community action research project about implementation mechanisms (i.e.,

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series of linked actions) involved in community-led efforts to transform urban food systems to achieve goals of nutrition equity. Our data are derived from the perceptions of 18 community leaders identifying as Black, Indigenous, and People of Color (BIPOC) planning to implement food justice initiatives in Cleveland, Ohio, United States. Content analysis revealed 10 themes and related indicators reflecting mechanisms of implementation and impact of community-led food justice initiatives. Findings underscore the importance of implementation mechanisms that influence changes in community power, food culture and norms, and healthy food retail while mitigating risks of gentrification. Future research is needed to operationalize these mechanisms of implementation to provide guidance for action planning, decision-making, and accountability within urban food systems.

Keywords

food system, community health, health equity, community action research, urban

Disclosures

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Ethics Approval

All procedures performed in this research were in accordance with the ethical standards of the Case Western Reserve University institutional review board and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from participants included in the study.

Introduction and Literature Review

The food system, encompassing all stages from production to consumption, is a vital yet often overlooked system shaping community well-being. Despite its significant impact, the industrialized and globalized nature of the food system limits perceived agency for change. Shifting from global to local food systems can provide more direct opportunities for communities to exert influence to shape the complex set of factors structuring foods available locally (Karetny et al., 2022). Nevertheless, food system complexity often leads to black box understandings of the specific mechanisms that might generate systemic transformation to enhance community well-being.

In this research brief, we explore how community members might exert influence to transform local food systems. Specifically, we present lessons learned about the mechanisms of implementation (i.e., series of linked actions) and impacts related to community-led changes within urban food systems. Our findings provide preliminary insights into themes and potential ways to quantify mechanisms of implementation and impact that may advance nutrition equity—defined as having freedom, agency, and dignity in food traditions resulting in holistic health (Freedman et al., 2022). Our work aligns with calls to develop measures of implementation mechanisms to better understand how strategies work in the real world (Lewis et al., 2022).

Centering Community Perspectives to Understand Food System Dynamics

We engaged those most proximate to nutrition inequities in efforts to uncover the mechanisms of implementation and resulting effects to advance the goal of nutrition equity. Our guiding theory of change underscores the need to engage diverse knowledge sources, such as community members with expertise based on lived experiences, to transform outcomes of local food systems to achieve nutrition equity (Freedman et al., 2022). This aligns with calls to integrate diverse knowledge sources to counteract the deficiencies of science-based knowledge dominating understandings of the complexity of food systems (Brock et al., 2024).

Our lessons learned are based on the perspectives of urban food justice leaders identifying as

Black, Indigenous, and People of Color (BIPOC), groups often excluded from food systems research (Brock et al., 2024). Engaging these perspectives is particularly relevant for achieving nutrition equity since BIPOC communities experience disproportionate burdens related to the food system, from limited access to land for agriculture to the embodiment of inequities in the form of chronic disease (Myers & Painter, 2017; Penniman, 2018; Walker et al., 2021). This population may offer unique perspectives to guide real-world implementation intended to transform urban food systems.

Food System Performance: Trends and Challenges for Assessing Change

Our research is informed by system dynamics structuring nutrition equity, which aligns with calls for measures that reflect the evolving factors influencing food systems (Freudenberg et al., 2018). System dynamics perspectives align with understandings of the food system as being “not simply a linear chain of processes, but rather a network of interacting components defined by multiple trade-offs and feedback loops that is embedded in a broader institutional and environmental context” (Wiltshire et al., 2024, p. 452). Together, these dynamics have the potential to generate emergent properties leading to “health, wealth, connection, and capacity in our communities” (Meter, 2011, p. 7).

Dominant methods for assessing local food systems do not account for dynamic complexity nor do they provide guidance about the mechanisms of implementation to realize positive outcomes for community well-being. Instead, discrete metrics, such as food insecurity, are commonly used as a single indicator of local food system performance. Food insecurity is measured annually in the United States (US) to assess how many households lack sufficient money and resources for adequate food. At least one in 10 Americans persistently experienced food insecurity over two decades of measuring this outcome with worse trends among racialized groups, people with very low incomes, and female-headed households (Rabbitt et al., 2024). Another common metric is access to full-service food stores. The USDA’s “low-income and low-

foodstore-access” (LILA) measure considers poverty, distance to stores, and vehicle access as interrelated indicators influencing food access (Rhone et al., 2022). From 2015-2019, about one-third of low-income households lived in LILA areas, with little change in the percentage of census tracts defined as LILA during this time-frame (Rhone et al., 2022). These metrics focus on defining problems without documenting the processes involved in implementing solutions. This can lead to solutions centered on external problem-solving agents (e.g., chain grocers to solve LILA problems), which can increase the risk for unintended consequences like green gentrification (Alkon & Cadji, 2018; von Braun et al., 2021). Green gentrification refers to the ways that green infrastructure, like urban farms or farmers markets, may result in increases in nearby property values, triggering displacement of long-time residents (Anguelovski et al., 2022).

There has been some movement to develop tools for assessing the performance of the dynamic dimensions of food systems. The Food Systems Dashboard (Fanzo et al., 2020) is one example for assessing the complexity of global food systems. This dashboard includes multifaceted measures mostly focused on outputs (e.g., fruit yield, pesticide use per area of cropland) and outcomes (e.g., cost of a healthy diet, share of women among owners or rights-bearers of agricultural land) (Fanzo et al., 2020). The New York City Food Metrics Report is an example for assessing local food systems (Freudenberg et al., 2018). Many of the metrics in this report focus on outputs or outcomes resulting from implementation (e.g., number of snack or vending machines in New York City public schools, number of farmers market locations) rather than mechanisms of implementation. The Community Food System Resilience Audit Tool is another tool for assessing local food system performance that begins to move toward assessing mechanisms of implementation, although its focus is on the jurisdiction level rather than community-led changes (Campbell et al., 2022). Taken together, these trends reveal the need for measurement tools focused on processes involved in transforming local food systems through community-driven implementation.

The Present Study

In this research brief, we present lessons learned about implementation mechanisms and related indicators of community-led efforts to transform urban food systems to achieve goals of nutrition equity. These lessons emerged from a community action research project rooted in the lived experiences of BIPOC food justice leaders. Our goal was to gather lessons to begin to quantify the actions and resulting effects involved in implementation of community-led food justice initiatives within urban food systems.

Applied Research Methods

Our lessons emerged from a community action research project aimed at increasing implementation of community-led food justice initiatives by BIPOC leaders in Cleveland, Ohio, U.S. A systems-change intervention was implemented as a part of this study.

Study Design

One component of the systems-change intervention was a six-month fellowship offering group sessions, mentoring, peer support, and networking to boost leaders' capacity. Fellows dedicated 10 hours monthly and received a US\$1,500 stipend. The program helped fellows refine their food justice visions, create action plans, enhance leadership skills, and connect with a support network to access resources. We conducted two fellowship cohorts from December 2022 to May 2023 and December 2023 to May 2024, facilitated by three staff each year. The study was approved as exempt by the Case Western Reserve University IRB (STUDY20220691).

Participants

Participants applied to the fellowship through a competitive process involving a written application and interview. Selection was made by the study's advisory council and fellowship staff. Out of 63 applicants, 38 were interviewed, and 21 (33%) were accepted. One declined, and two opted out, leaving 18 who completed the entire program. Participants could consent electronically to join the research study, which operated separately from the fellowship program.

Data Collection

Participants completed a baseline survey including demographic information, which was conducted using REDCap software (Harris et al., 2009; Harris et al., 2019).

At the program's start, each fellow or team created a vision board to outline their transformation proposition and key components of their food justice initiative. The transformation propositions detailed the change they aimed to bring, their unique skills, and how their initiative would disrupt the status quo of the local food system. Our team developed and tested this tool through with five community partners. Methods for using the tool, including the vision board template, are described elsewhere (Boswell et al., 2021).

For this analysis, we used data collected at the beginning of the fellowship related to two questions about what would happen if fellows' visions turned into action: "What difference will your vision make in 6 months, 12 months, and 5 years?" and "How does your vision advance the health of body, mind, and spirit of people in your community?" Data were collected during working sessions facilitated by fellowship staff with each fellow or team of fellows. These lasted about 2.5 hours and were conducted in person or virtually. Responses were recorded by staff onto fellows' vision boards.

Data Analysis

Demographic information was analyzed descriptively using Excel. Vision boards were analyzed using content analysis (Mayring, 2015). For this analysis, 6- and 12-month effects were organized as short-term, and 5-year effects as long-term. Content analysis was conducted based on a codebook informed by existing frameworks related to nutrition equity (Freedman et al., 2022), community-engaged research (Organizing Committee for Assessing Meaningful Community Engagement in Health & Health Care Programs & Policies, 2022), and quality improvement (Leis & Shojania, 2017; Reed et al., 2016). The codebook was updated iteratively after reviewing all the vision boards and integrating feedback from fellows. The final codebook included mechanisms related to different dimensions of implementation: Plan, Do, Reflect, and Activate. A summary of findings was presented

twice to the study’s community action research team for feedback and refinement.

Results

Eighteen fellows participated in this study, with 72% identifying as Black or African American and 72% as female. Half had at least five years of experience working in the food system (see Table 1). Our analysis of the vision board data identified 10 themes related to four dimensions of implementation (i.e., plan, do, reflect, activate) that could be assessed over short- and long-term timescales. We organized the themes into mechanisms and related indicators involved in the dynamic process of transforming urban food systems to achieve nutrition equity. Table 2 includes a summary of results by (1) dimension of implementation based on different stages of an initiative, (2) mechanism of

implementation reflecting the series of actions involved to achieve implementation goals, and (3) indicators of implementation after different durations of implementation (i.e., 6 to 12 months, 5 years).

Short-Term Indicators

Short-term indicators of the implementation mechanisms to achieve nutrition equity were perceived to be realized after 6 to 12 months of implementation. Most of these were related to “planning” and “doing” dimensions of the implementation of community-led food justice initiatives with a few indicators related to “reflecting” on early signs of impact.

The “connecting” mechanism of implementation (Mechanism 1) included indicators representing a series of actions related to building and strengthening trustworthy relationships with community and organizational partners. In the short term, indicators focused on networking with other food justice leaders, building relationships with community partners, and establishing linkages with key decisionmakers (e.g., funders, government officials). More than half of the participants identified connecting with a dedicated team of partners and volunteers as an indicator of success after 12 months of planning. Clarifying the primary audience for the initiative and identifying the skills and strengths of this audience were additional indicators related to the planning dimension.

The “growing” mechanism of implementation (Mechanism 2) included indicators intended to strengthen local capacity to realize nutrition equity. In the short term, indicators focused on personal growth and capacity building for leaders and teams, like participation in leadership training or creating a shared vision and action plan. Insights from fellows highlighted that community-led food justice initiatives vary in readiness for implementation. Early-phase initiatives might have “growing” indicators related to learning

Table 1. Self-identified Demographic Characteristics of Fellowship Participants (N=18)

| | <i>n</i> | % |
|--|----------|-----|
| Race* | | |
| Black or African American | 13 | 72% |
| American Indian or Alaska Native | 2 | 11% |
| Asian | 1 | 6% |
| White | 1 | 6% |
| Choose not to respond | 3 | 17% |
| Latine or Hispanic | 2 | 11% |
| Gender* | | |
| Female | 13 | 72% |
| Male | 5 | 28% |
| Nonbinary or Queer | 2 | 11% |
| Age | | |
| 18–24 years | 1 | 6% |
| 25–34 years | 7 | 39% |
| 35–44 years | 3 | 17% |
| 45–54 years | 4 | 22% |
| 55–64 years | 3 | 17% |
| Experience Working in the Food System | | |
| 1 year or less | 3 | 17% |
| 2–4 years | 6 | 33% |
| 5 or more years | 9 | 50% |

* Option to choose all that apply.

Table 2. Implementation Mechanisms and Related Indicators of Community-led Food Justice Initiatives Designed to Achieve Nutrition Equity

| Dimension of Implementation | Mechanisms of Implementation | Definition of Mechanism | Indicators after different durations of implementation | | |
|-----------------------------|------------------------------|--|---|--|--|
| | | | Short-term (6–12 months) | Long-term (5 years) | |
| PLAN | 1. Connect | Build and strengthen trustworthy relationships with community and organizational partners. | <ul style="list-style-type: none"> • Network with other food justice leaders. (1a) • Build relationships with community partners. (1b) • Establish linkages with key decision makers. (1c) • Form dedicated team of partners and volunteers. (1d) • Clarify primary audience and identify their skills and strengths. (1f) | Leaders across food justice projects are connected. (1g) | |
| | DO | 2. Grow Capacity | Build local capacity to realize nutrition equity. | <ul style="list-style-type: none"> • Complete trainings for leader development. (2a) • Create shared vision, action plan, and marketing approach. (2b) • Research to see what works with existing resources. (2c) • Develop or test small-scale prototype. (2d) • Secure space for programming. (2e) • Begin or expand programming. (2f) | <ul style="list-style-type: none"> • Scale initiatives to different communities. (2g) • Expand scope of work of initiatives. (2h) • Multiple community members leading work. (2i) |
| | | 3. Raise Awareness | Spread the word creatively to reach different groups. | <ul style="list-style-type: none"> • Host small-scale events or field trips to program sites to attract people. (3a) • Marketing campaign to reach more people. (3b) • Message development to engage decision makers. (3c) • Pitching to secure investments. (3d) | |
| | | 4. Secure Resources | Secure resources to implement food justice initiatives led by the community. | <ul style="list-style-type: none"> • Garner funding to pay for program costs. (4a) • Provide stipends for community participation. (4b) | <ul style="list-style-type: none"> • Own space or land to implement programming. (4c) • Community runs programming autonomously. (4d) |
| | | 5. Change Narratives | Create and tell new narratives about community-led food systems change. | | <ul style="list-style-type: none"> • People know where their food comes from. (5a) • Share stories about food cultures and histories. (5b) • Amplify origin stories of diverse food justice initiatives. (5c) |

continued

Table 2, continued.

| Dimension of Implementation | Mechanisms of Implementation | Definition of Mechanism | Indicators after different durations of implementation | |
|-----------------------------|------------------------------|--|---|---|
| | | | Short-term (6–12 months) | Long-term (5 years) |
| REFLECT | 6. See and Feel Change | Witness signs of freedom, hope, and dignity in food traditions resulting in holistic health. | <ul style="list-style-type: none"> • Community vibe at events. (6a) • Feel a sense of belonging and connection. (6b) • Community members deeply engaged. (6c) | <ul style="list-style-type: none"> • Vibrant programming. (6d) • Intergenerational engagement. (6f) • Loving relationships between all species. (6g) |
| | 7. Describe Processes | People reached by food justice initiatives and evidence about what works and doesn't work based on learning by doing. | <ul style="list-style-type: none"> • Assessment of pilot program to guide future work. (7a) • Number of people participating in initiative. (7b) • Availability of produce grown in the community. (7c) • Number of community members selling products at local markets. (7d) | <ul style="list-style-type: none"> • Initiative is financially stable. (7e) • Evidence-based model for establishing food business. (7f) • Systems linking food justice initiatives to institutions. (7g) • Supply chain and procurement models to source locally grown foods to schools, grocery stores, restaurants. (7h) • Linkages to diversified markets. (7i) |
| | 8. Measure Outcomes | Show meaningful improvements in economic opportunity, food security, healthy food access, and holistic health and reduce the risks of gentrification and displacement. | | <ul style="list-style-type: none"> • Livable wage jobs created. (8a) • Reduced nutrition related disease and food insecurity. (8b) • Elimination of food waste. (8c) • Variety of produce grown in community. (8d) • Elimination of food apartheid. (8e) • Improved physical and mental health. (8f) • Wealth creation for community residents. (8g) • Community ownership of land, buildings, and homes near food justice initiatives by legacy residents of the neighborhood to reduce the risk of gentrification. (8h) |
| ACTIVATE | 9. Advocate | Grow collective support and champions for nutrition equity and establish strategy for policy change. | | <ul style="list-style-type: none"> • Advocate for businesses and healthcare to invest in food justice initiatives. (9a) • Clarify and advocate for a unified policy agenda to advance nutrition equity. (9b) • Join national coalitions to replicate and scale food justice initiatives. (9c) |
| | 10. Inform Policy | Translate insights to guide policy development and implementation at all levels. | | <ul style="list-style-type: none"> • Develop comprehensive toolkits and resources to reduce bureaucratic barriers to realize nutrition equity. (10a) • Inform implementation of food justice initiatives in different contexts and conditions. (10b) |

best practices and testing small-scale prototypes. Others may be ready to pilot projects, including indicators such as starting a community garden or a breakfast program. Some may be prepared to expand existing programs, including indicators like increasing urban farm production, adding content to apps or websites, or offering new classes.

The “raising awareness” mechanism of implementation (Mechanism 3) included indicators related to a series of actions to spread the word to reach different groups (e.g., community members, funders). In the short term, indicators of success included developing marketing campaigns to raise awareness and hosting small-scale activities to attract community members, such as cooking classes, food giveaways, and field trips to program sites. Additional indicators were related to attracting decisionmakers and people with resources, such as crafting messages about how community-led food justice work is broadly beneficial to different sectors or successfully pitching ideas to secure more resources (e.g., money, time, space, volunteers). These were directly connected with the “secure resources” mechanism of implementation (Mechanism 4) that included indicators, such as securing space (e.g., land, building, kitchen, food retail) and funding to pay for program costs.

While the reflection dimension of implementation had more indicators after longer periods of implementation, a few were perceived to occur in the short term. These included a series of actions related to seeing and feeling change (Mechanism 6) that demonstrates the emergence of freedom, hope, and dignity in food traditions resulting in holistic health. Proposed indicators may be difficult to quantify, such as experiencing a community vibe and a sense of belonging among people engaging with food justice initiatives. The “describing processes” mechanism (Mechanism 7) aligns with output measures often included in assessment tools. In the short term, this mechanism of implementation provides evidence about activities conducted and their reach as well as lessons gained through learning by doing. Sample indicators related to these processes included how the results of pilot testing are used to guide future efforts, number of people aware of or participating in the initiative, availability of produce grown in the community, and the

number of community members selling products at local markets.

Long-Term Indicators

After five years of implementation, the proposed indicators of implementation were largely focused on scaling initiatives and advocacy to sustain them. They also included outputs and outcomes that demonstrate measurable impact resulting from implementation of community-driven food justice initiatives. The mechanisms of implementation were perceived to be interconnected. Accordingly, achieving indicators in the short term would modulate the dynamic process of transforming urban food systems to achieve nutrition equity over the long term.

The long term “connecting” mechanism of implementation (Mechanism 1) represented a series of actions that took trustworthy relationships to the next level. Mechanism 1 resulted in the creation of a network of leaders united across food justice initiatives to support each other, share lessons, and build collective power for community-led change. The “growing capacity” mechanism (Mechanism 2) focused on scaling initiatives geographically, such as a garden in every yard in a neighborhood or every city in the US having a food justice navigator. Scaling included expanded scope of work, such as integrating childcare into a food co-op model. It also included growth in the number of community leaders responsible for implementing food justice initiatives and running their programming autonomously (e.g., as a community anchored rather than an institutionally anchored initiative).

By five years, the “change narrative” mechanism of implementation (Mechanism 5) emerged. Mechanism 5 represented a series of actions involved in creating and telling new narratives about community-led food systems change, which were perceived to be transformative due to shifts in mindset. Indicators included more people knowing where their food comes from, amplifying diverse stories about food cultures, and counter-narratives about local food systems by highlighting the origins of community-led initiatives.

After five years of implementation, the “see and feel change” mechanism of implementation (Mechanism 6) included a range of success indicators, such as a “big garden with big community,”

kids engaging in the garden along with grandparents, and “deeply interconnected and loving relationships between all species.” The “describe processes” mechanism (Mechanism 7) included the development of effective implementation processes gained through experience. Sample indicators included evidence of what works for making an initiative financially solvent and development of procurement models to source locally grown foods in schools, grocery stores, and restaurants.

Nearly all participants prioritized the “measure outcomes” mechanism of implementation (Mechanism 8) as a goal after five years of implementation with a focus on indicators that demonstrate shifts in power, ownership, and agency within local food systems. Indicators focused on how implementation of community-led food justice initiatives result in meaningful improvements in economic opportunity (e.g., jobs created), food security (e.g., reduced nutrition related disease and illness, elimination of food waste), and healthy food access (e.g., variety of fruits and vegetables grown in the community, elimination of food apartheid). Together, these were perceived to result in broader impacts, including those more commonly associated with local food systems initiatives (e.g., improved physical and mental health) as well as wealth creation resulting in more community ownership of land, buildings, and homes near food justice initiatives by legacy residents of the neighborhood to mitigate the risk of gentrification.

Long-term indicators also focused on activating evidence for lasting change. The “advocating” mechanism (Mechanism 9) included actions involved in building support for policy changes. Sample indicators included creation of a unified policy agenda and joining national coalitions to scale food justice work. The “informing policy” mechanisms of nutrition equity implementation (Mechanism 10) focused on translating community-led insights into toolkits to reduce bureaucratic barriers and tailoring evidence to inform implementation of community-led food justice initiatives in other communities.

Discussion

Our research brief shares insights from a study where individuals affected by food system inequi-

ties helped define the mechanisms of implementation and related impacts to transform urban food systems. The community-engaged research process itself was as crucial as the findings (Brock et al., 2024; Michener & Ford, 2023). Through this approach, we shed light on the black box of local food system complexity, highlighting 10 implementation mechanisms and related indicators to guide community-led food justice initiatives seeking to advance nutrition equity (Figure 1). The findings provide insights into the series of actions involved in advancing freedom, agency, and dignity in food traditions resulting in holistic health within urban communities.

Lessons learned offer insights into the “how” of transformative change, highlighting food systems as dynamic processes influenced by numerous interconnected mechanisms. Our community action research uncovered mechanisms of implementation for shifting leadership of urban food system changes to individuals with lived experiences of nutrition inequities. For example, the implementation mechanism focused on securing resources for community-led food justice initiatives (Mechanism 4) demonstrates how indicators can generate feedback, creating ripple effects. Securing funding to cover program costs (Indicator 4a) may lead to acquiring space or land for future program implementation (Indicator 4c), ultimately enabling the community to autonomously manage the program over time (Indicator 4d).

Findings highlight important aspects of local food systems that lack standardized methods for measurement, such as the strength of partner trust (Mechanism 1) or strategies to mitigate gentrification and displacement due to implementation of food systems change (Mechanism 8). Recent developments introduce measurement frameworks corroborating the need for operationalization of these mechanisms. The “community embeddedness” index for regional food system sustainability includes indicators, such as trust and reciprocity (Wiltshire et al., 2024). The “food justice” dimension of community food systems resilience includes indicators to limit unintended consequences of local food systems development, such as “jurisdiction supports land back and land reparations for BIPOC farmers” (Campbell et al., 2022, p. 112).

Figure 1. Proposed Implementation Mechanisms to Achieve Nutrition Equity in Urban Food Systems Through Community-Led Change



Green represents the “planning” dimension of implementation focused on relationship building, purple the “doing” dimension where activities are being developed and applied, blue the “reflecting” dimension to study processes, outputs, and impact, and orange the “activating” dimension focused on translating findings into policies and practices.

Connection to Existing Research

Our lessons build on an existing model of food system dynamics in racialized urban neighborhoods that was developed using participatory methods (Freedman et al., 2022; Glickman et al., 2022). This model illuminated a range of interrelated factors shaping the goal of nutrition equity (Freedman et al., 2022). Our findings offer guidance on actions needed to accelerate nutrition equity through efforts seeking to increase community power, align change with food culture and norms, improve healthy food retail, and reduce the risk of gentrification. They also align with some indicators of community food systems resilience (Campbell et al., 2022) and regional food system sustainability (Wiltshire et al., 2024).

Findings reinforce the need for implementation of activities designed to promote distributed and democratic leadership to shift power imbalances within local food systems (Campbell et al.,

2022; Freedman et al., 2022). Six of the 10 mechanisms of implementation were related to building community power (Mechanisms 1-4, 9, 10). These mechanisms were perceived to be interconnected. Thus, changes in one area, such as growing local capacity to implement food justice initiatives led by the community (Mechanism 2), will influence the pace of change in other areas, such as the ability to translate insights from community-led food justice initiatives to guide policy development and implementation (Mechanism 10).

Findings align with prior research suggesting the need for implementation activities intended to shift food norms and cultures to enhance community health and well-being (Campbell et al., 2022; Freedman et al., 2022). Our findings highlight the importance of implementing activities to generate new narratives about urban food systems (Mechanism 5) and to creatively document how these narratives are embodied through actions that demon-

strate freedom, hope, and dignity in food traditions that support holistic health (Mechanism 6).

As a dynamic process, these shifts in mindset are shaped by access to healthy foods in the local food system. Our findings highlight that increasing access to healthy foods requires multiple interconnected actions. This might begin by hosting small-scale events to attract people to the food access site (Indicator 3a) leading to insights that can guide future work (7a) to increase the number of community members selling their products at local markets (Indicator 7d). Overtime, these insights may lead to a financially stable food access site (7e), evidence-based models for establishing successful food businesses in urban food systems (7f), and ultimately to elimination of food apartheid (8e). Food apartheid attends to the whole food system rather than one part (e.g., supermarkets) emphasizing the ways the food system is structured along lines of race, class, gender, and their intersections (Brones, 2018).


Lastly, findings highlight the importance of implementing assessment activities to examine unintended consequences of changes within urban food systems. Most of the outcomes of implementation considered to be measurable over time reinforced the need for examining how implementation efforts intentionally reduce risks of gentrification. These included indicators to demonstrate meaningful improvements in economic opportunity and community wealth building, food security because of job security, healthy food access and the elimination of food apartheid, and holistic health—mental, physical, and spiritual—resulting

from community-led food justice initiatives.

Limitations

Our research has limitations. Fellowship participants' perspectives do not represent all community leaders, especially in rural areas. As a visioning exercise, data were based on leaders' aspirations for food justice initiatives over five years without considering implementation barriers, like funding and capacity, which could affect the pace of achieving success. We did not focus on measurement of these indicators, as gaining wider consensus is needed before operationalizing.

Conclusion

This research brief showcased an approach for engaging food justice leaders to identify implementation mechanisms and related effects within urban food systems. Insights shed light on a series of linked actions to support community-led food justice initiatives seeking to advance nutrition equity. Future research should align these indicators of implementation with existing assessment tools to avoid duplication and achieve consensus on the most relevant measures for practical application. A long-term focus is essential to examine how progress on these indicators of implementation fosters nutrition equity through community-driven change. 

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