Beyond Direct Education and Facilitation: Revisiting the Role of Extension in Community & Regional Food Systems Development

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Abstract. The fundamental issues that community and regional food systems aim to address are inherently systems problems, yet many Extension programs continue to focus food system development efforts on activities and actors that directly support the food value chain. While important, the impact of these interventions is limited. Drawing from interviews with directors of four of the nation's leading Community and Regional Food Systems Extension programs, this article makes a case for rethinking Extension's role in community and regional food systems development in relationship to key leverage points through a typology of Extension roles and corresponding examples.

INTRODUCTION

The fundamental issues that community and regional food systems aim to address—e.g., socioeconomic and health inequities and environmental degradation—are inherently systems problems (Hassanein, 2003; Rittel & Webber, 1973). Yet many Extension programs continue to focus food-system development efforts on activities and actors that directly support the food value chain (Clark et al., 2017; Raison, 2010). Although important, the impact of these interventions is limited. As Raison (2010) and Guion (2009) highlighted more than a decade ago, Extension's efficacy relies on programs' ability and willingness to adapt their roles in response to evolving and increasingly complex systemic issues. More recent research has further specified key areas in which Extension has an important role in supporting systemic change within and beyond food systems, such as by supporting education and dialogue around race and community building (Walcott et al., 2020), public policy (Walcott & Triezenberg, 2020), and public health (Backman et al., 2022; Linnell et al., 2020). Building on this scholarship and drawing from interviews with directors of four of the nation's leading Community and Regional Food Systems Extension programs, this article makes a case for rethinking Extension's role in community and regional food systems development in relationship to key community and societal leverage points. We present this case through a typology of Extension roles and corresponding examples.

Community (or local) food systems integrate culturally responsive food production, processing, distribution, consumption, and disposal to enhance the environmental, economic, social, and nutritional health of a particular place (Community Food Systems Division of Extension, 2023, adapted from Edgar & Brown, 2013, and Garrett & Feenstra, 1999). Regional food systems "operate at various scales and geographies to supply some significant portion of the food needs of [a given region's] population" (Ruhf & Clancy, 2022, p. 15). They may be described by various characteristics, such as landscape, land uses [and production systems], and broader socioeconomic factors (Ruhf & Clancy, 2022). Although Ruhf and Clancy (2022) emphasized the importance of distinguishing local from regional food systems, given the unique strengths and challenges of each, they also highlighted that strengthening local and regional food systems is essential for achieving broader food system change.
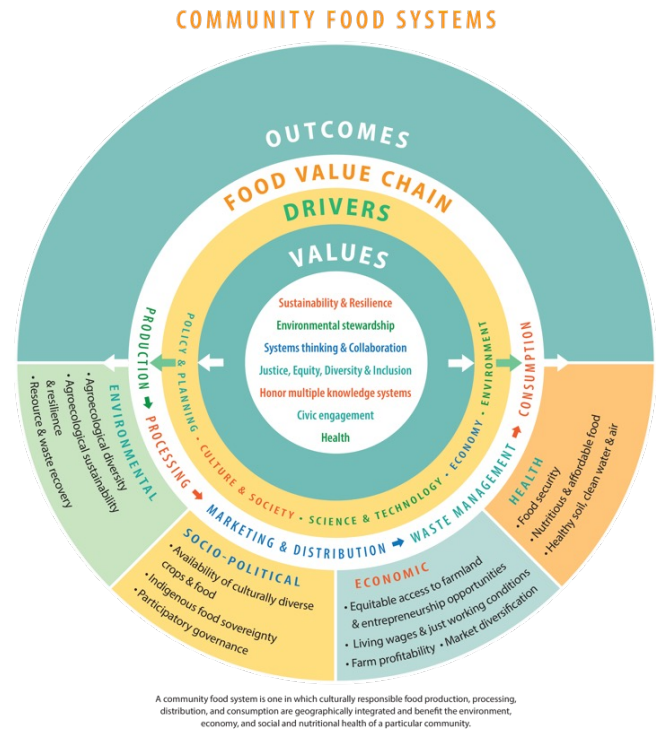
Indeed, investment in community and regional food systems has intensified over the last 3 years, particularly as the COVID-19 pandemic and climate-change research have revealed shortcomings of conventional food supply chains and the unique potentials of community and regional food systems (Niewolny et al., 2022; Raja, 2020). In contrast with conventional food systems, which are driven by profit maximization, community and regional food systems together promote a broader set of values, including human health, social justice, environmental sustainability and stewardship, and resilience (Niewolny et al., 2022; Ruhf & Clancy, 2022). The values and goals of community and regional food systems align with Extension's mission to address public needs through science-based,

systems-oriented approaches in applied community contexts (Colasanti et al., 2009; National Institute of Food and Agriculture, 2023; Niewolny et al., 2022).

Although important, Extension programming that focuses on the food value chain is unlikely to achieve lasting impacts at the system scale without corresponding changes to the higher-order food system drivers that ultimately shape outcomes (see Figure 1; Allen et al., 2003; Clark et al., 2017; Holt-Giménez, 2010; Holt Giménez & Shattuck, 2011; Levkoe, 2011). As illustrated by the iceberg model, a metaphor commonly applied in systems thinking, interventions at the level of system drivers have greater leverage in influencing a given system than do interventions solely at the level of direct events or activities (Academy for Systems Change, 2023; Davelaar, 2021; Kim, 1999; Meadows, 2009). Drivers also act as intermediaries between values and direct activities, and focusing intentionally on them can help ensure that direct activities align with core values while addressing root causes (see Figure 1; Bizikova et al., 2021; Funnell & Rogers, 2011). Drivers define the enabling environment for food systems— in other words, what does a given state's regulatory schema, economic landscape, or any other large system enable in terms of food system development? Does the enabling environment support large-scale commodity producers or a more diverse range of types of production? In Bronfenbrenner's (1994) cornerstone ecological model of human development, drivers and the enabling environment are analogous to exosystems, which are the broader social and environmental contexts that indirectly influence an individual's or system's development. In program theory and evaluation literature, the preconditions for enacting a theory of change function similarly to drivers. In essence, preconditions are "the necessary and sufficient conditions required to bring about a given long term outcome" (Center for Theory of Change, 2023). By first determining intermediate changes or systems drivers that must be made to achieve a long-term end goal, food system actors are more likely to create lasting outcomes and impacts at the system level (Funnell & Rogers, 2011). Figure 1, which synthesizes and builds on several existing food system models and frameworks (Bizikova et al., 2016, 2021; Community and Regional Food Systems Project, 2013; Community Food Systems Division of Extension, 2023; Glickman et al., 2022; International Centre for Tropical Agriculture, 2019; Niles et al., 2017; Parsons & Wells, 2019), details this dynamic process for community and regional food systems.

The purpose of this paper is to identify and highlight points where Extension can intervene on food system drivers—specifically, policy and planning—to advance the development of community and regional food systems. Food system planning, according to the American Planning Association (2023), refers to "the collaborative planning process of developing and implementing local and regional land-use, economic development, public health,

Figure 1. Community and regional food system conceptual model.

COMMUNITY FOOD SYSTEMS

A community food system is one in which culturally responsible food production, processing, distribution, and consumption are geographically integrated and benefit the environment, economy, and social and nutritional health of a particular community.

Note. Community and regional food system model illustrating values, drivers, direct food supply chain activities, and outcomes, driving directionally from the center (values) to the outside (outcomes) of the circle. We created this model by synthesizing and building upon several other models and frameworks (Bizikova et al., 2016, 2021; Community Food Systems Division of Extension, 2023; Community and Regional Food Systems Project, 2013; Glickman et al., 2022; International Centre for Tropical Agriculture, 2019; Niles et al., 2017; Parsons & Wells, 2019).

transportation, and environmental programs and policies" to support local and regional agriculture; promote sustainable production practices; support local and regional food value chains and infrastructure; build community food security, equity, and nutrition; and reduce food waste. Planning and policy include such activities as conducting community food assessments, developing food system plans or integrating food systems into comprehensive plans and other plan areas (e.g., natural resources, land use, economic development), supporting local food policy councils, and developing policies to advance local and regional food systems. Food system planning also includes engaging and supporting communities in developing food system visions, goals, and strategies and implementing and evaluating these efforts (American Planning Association, 2023).

Because federally funded programs are prohibited from lobbying, Extension involvement in policy and planning is sometimes eschewed. However, as our research shows, Extension professionals can leverage myriad strategies in the policy and planning spheres to create more fertile ground for

community and regional food systems while staying within their professional purview. These strategies include direct education, capacity-building, partnership development, and articulation and advancement of a shared theory of change. Moreover, our research builds on ongoing discussions about the appropriate role of Extension in community and regional food system work by illuminating how Extension occupies a unique niche within the constellation of actors working to advance food system change.

METHODS

We conducted qualitative interviews with Extension program managers and staff in early 2022. The purpose of these interviews was to understand how leading Extension programs are engaging in food system planning and policy work, the specific outcomes emerging from this work, and the unique contexts and theories of change that inform their approach. Our selection criteria for interview participants included our joint knowledge of peer Extension food system programs around the United States, geographic diversity, and a review of program websites to scope the diversity of programming and approaches offered. Based on these criteria, we selected four program managers (or equivalent role) at programs widely recognized as leaders in food system planning and policy work in Extension, collectively representing the intercontinental West, the Midwest, the Southeast, and the Northwest.

Programs demonstrate diverse approaches and emphases in their programming and audiences. One focuses primarily on providing direct education and professional development to its statewide Extension educator team. Another emphasizes long-term community engagement and collaboration with its statewide partners and networks. The third focuses largely on relationship-building to support regional supply chain and economic development but also has significant resources devoted to direct technical assistance to producers. The fourth program employs a two-pronged approach, including direct technical assistance to producers and support for a statewide collaborative food system network of service providers. Two of the programs are highly integrated with their affiliated universities' faculty, research, and programs, while the other two operate more independently, instead working closely with statewide partners and networks. As established leader programs in the Extension food system space, each of the four selected programs emerged at least a decade ago: One of the programs began around 2006, while the other three programs were officially established between 2011 and 2013. Staffing numbers were difficult to determine in interviews, given all four programs' complexity and varying degrees of integration with university departments, research centers, faculty, and staff.

The four interviews lasted approximately 1 hour each and followed a semistructured, in-depth format. Interviews were conducted and recorded by using Zoom meeting software. Interviews were exploratory in nature and asked a broad array of questions regarding (a) program structure, staffing, and resources; (b) modalities of work, including planning, policy, and outcomes; (c) programmatic theories of change and theories in use, as detailed by Quinn Patton (2015) and Funnell and Rogers (2011); and (d) contextual factors influencing programs' work and approaches. These questions were developed iteratively and collaboratively between team members. The goal of these questions was to inform Extension-based community and regional food system development and to identify high-leverage strategies that play to Extension's organizational and positional strengths.

We transcribed the interviews by using Otter.ai transcription software and analyzed them through a "dynamic process" of coding and memoing (Hesse-Biber, 2017, p. 324) to identify patterns and key themes in the data. Coding was done by using Nvivo 12, a qualitative software program. Following an iterative process of inductive and deductive coding, one team member completed initial coding, which was followed by review and refinement by the entire team.

FINDINGS

The findings present three key strategies that the four interviewed programs applied in diverse ways to create more fertile ground for community and regional food system development. These strategies include (a) direct education and capacity-building, (b) partnership development, and (c) Articulation and advancement of a shared theory of change. Within each of these categories, we provide a few in-depth and illustrative examples rather than giving a broad but shallow overview. Our aim is to familiarize readers with (a) the diversity and types of activities/strategies that nationally leading community and regional food system programs in Extension are engaged in, (b) the resulting outcomes of those activities and how those outcomes reflect underlying values that underpin food system change (see Figure 1); and (c) approaches that other Extension food system programs might explore and adapt in their own contexts.

DIRECT EDUCATION AND CAPACITY-BUILDING

Programs engage in a spectrum of direct education and capacity-building activities, from delivering programming that primarily benefits participants to activities that foster network capacity and advance system change. Among Extension audiences, this finding may seem unsurprising; Extension is widely known for its role in delivering direct education. However, what distinguishes these four cases is their intentional investment in programming that explicitly works to realize core values of community and regional food systems (see Figure 1) rather than solely values-neutral content focused on food value chain activities, such as production and marketing.

Direct Education

One program marshals a wide array of resources to meet an identified need for agricultural financial management and recordkeeping programming tailored to Black, Indigenous, and People of Color and underserved producers. Although the program has previously offered a course on this topic, its organizers "struggled to reach farmers of color" and realized that they needed to "totally rethink how [they] could teach the course" to become more aligned with community and regional food system values. For this redesign, they hired a "full-time urban farmer of color with significant experience instructing financial management and recordkeeping for farmers." That staff member then worked with community partners with whom they had built trust over many years to design a culturally relevant course that is "inviting to people of color." Demonstrating their commitment to enacting community and regional food system values, they also secured resources to pay producers to participate in the course and have provided sustained support to producers following the course (e.g., assisting with securing loans, applying for federal programs to foster local food sales, coordinating the course cohort as an ongoing support network, and supporting other producer networks around the state).

The first iteration of the 6-month course ended up being extremely popular, with more than triple the expected enrollment for a total of 160 producers, with more than 90% of them identifying as Black. "It takes a tremendous amount of trust building and collaboration infrastructure to do that," which Extension has the unique potential to foster, given its multi-scalar reach. This program connects the dots between an identified statewide need, existing community partners, and an array of financial resources to design and deploy more equitable, culturally relevant programming that provides direct education while enacting community and regional food system values.

Capacity-Building

Two programs serve as backbone organizations for a statewide food system network. These programs often provide tailored trainings to strategically increase the impact of networks' efforts. For instance, one program has organized trainings on a variety of topics that are specifically requested by network members who wish to increase their impact in advancing certain kinds of strategic action and need particular skills and knowledge sets to do so. Examples of topics include effective communication; justice, equity, diversity, and inclusion; policy engagement; and ripple-effects mapping.

For this network, not only the topic but also the process of the trainings are critical for enacting values: "By getting people together and having the right combination of big-picture and specific conversation, of listening to outside experts and talking to each other to build relationships, that's where the magic happens." This process builds resilient and equitable network infrastructure by centering peer-to-peer learning and growing network members' capacity to respond to emergent issues at a "large-scale level and a tactical level." For example, because of preexisting network relationships, this network was able to quickly mobilize a coalition to step in and assist the state's Department of Agriculture in handling and distributing $2 million of federal farm-to-school money that it nearly had to forfeit due to lack of internal capacity. In sum, this approach moves beyond direct education into substantive capacity-building, conferring benefit to Extension programs by building the network's capacity to advance mutual community and regional food system values and development goals.

Similarly, multiple programs focus on building their network organizations' capacity to apply successfully for funding. As one program organizer described, "We recently hired someone who knows how to do fund development, and six of the network's nonprofits, at our expense, went through rigorous training to be able to develop their own capacity [for fundraising]. One of them tripled their funding base in one year. . . . It's in our best interest to see them stronger." This investment benefits programs by boosting collective success and reducing partners' needs for grant-application development support from Extension. It also demonstrates this program's commitment to community and regional food system values: Enabling partners to get funding they can distribute as they see fit in their own communities creates the conditions for thriving local economies and promotes justice and fairness.

Some program activities fall closer to the capacity-bridging end of the spectrum, which connotes increasing levels of mutual benefit and shared responsibility among all partners. In the policy realm, for example, some programs closely track state-level policy developments to identify promising policy opportunities and accordingly coordinate with strategic organizational partners who are able to advocate for and implement policies on the ground. As local organizations typically do not have the capacity to actively track state-level policy developments, and local-level advocacy and implementation are often outside the role or capacity of Extension, they each fill complementary, mutually beneficial, and strategic roles in the partnership. For instance, one participant described how when a farm-to-school policy opportunity arose in their state, their state network wanted to act swiftly because farm-to-school is an agenda priority for the network. The Extension program supported a state coalition of network members who had key issue expertise in farm-to-school to design a pilot program while working "behind the scenes" with policymakers "so that eventually we were able to get $5 million of state funding for it." During the pilot year, the state network distributed more than 300 grants to a variety of educational institutions. Due to the success of the pilot, the initiative was later passed as state

policy. Although the Extension program was not involved at the frontlines, it did support the network to advance shared policy priorities and distribute benefits widely among the community.

Extension is positioned effectively for marshaling resources and building capacity because it sits at the nexus of many actors while enjoying relative institutional stability and access to a broad swath of resources—from the local to the federal level, from public to private funders. By attending to structures and resources that shape action and seeking to redistribute power latent in those structures and resources, Extension has the potential to advance community and regional food system values cocreated with program participants and community partners. In turn, enacting these values can transform the enabling environment—or food system drivers (see the second ring on Figure 1)—such that programs come to directly reflect community needs and desires while building capacity to sustain long-term community participation in food system planning and policy processes. This implies that rather than having to intervene directly on all parts of the food system, Extension can intervene at the higher level of drivers to create a more favorable enabling environment (e.g., state or local policy landscape or regulatory schema, economy) for community and regional food systems and work with community partners on aspects beyond Extension's direct purview. These upfront investments in building community capacity often lead to "emergent" outcomes when future opportunities for community planning and policy action arise. One participant, for instance, talked about how their network acted on an unexpected opportunity at a state legislative session, resulting in $620,000 of state and federal funds for their state's Extension program to create a disaster-relief grant program for producers, more than half of which it distributed to Black, Indigenous, and People of Color producers.

As Extension food system programs seek to develop and implement programming that enacts community and regional food system values cocreated with community, several unique characteristics make them well suited to this work. Because of their community relationships and boots-on-the-ground work, they are able to listen carefully to community needs and desires and can aggregate this information across communities statewide to find common ground that statewide programming can then directly respond to. They can draw from a wealth of staff knowledge and connections to the state university system and otherwise marshal appropriate resources and expertise from their wide networks to offer appropriate programming. They can access significant funding, staff, and resources at local, state, and sometimes federal levels to support all of this work. In sum, Extension is uniquely positioned to serve as a source of programming, resources, research, and partnership because of its extensive reach, access to the university system, funding, capacity, and widely perceived credibility.

PARTNERSHIP DEVELOPMENT

Programs are working to build and sustain strategic partnerships to foster community and regional food system development. Because Extension work touches many systems and staff interact with stakeholders at the local, regional, and state levels, programs are well suited for strategically cultivating partnerships with people and organizations located at key food system leverage points. Although partnership-building is a common activity among Extension programs, these four cases stand out for their intentional, targeted focus on building partnerships that strategically advance mutual community and regional food system goals and values. Policy is one such key leverage point, and programs can align their activities with such values as civic engagement (see Figure 1) by developing strategic partnerships that have the potential to influence the long-term policy landscape. Three participants pointed to clear policy changes at the local and state levels as a result of their programs' partnership-building work.

Participants highlighted local and state politics as an important leverage point for building high-impact partnerships that can transform the enabling environment and rapidly advance community and regional food system development. In the context of a politically divided food system, for instance, devoting attention to individual local issues represents an important way for programs to restore trust and cultivate important connections. As one participant explained, "We're trying to be more strategic . . . be more responsive to county commissioners, to supporting opportunities for agricultural economic development, or value-added agriculture that's responsive to local natural resource constraints or to the diversity of agriculture that we want to see in different types of areas" around the state.

For example, one participant shared a particularly salient example of the power of strategic partnership-building work. For context, the majority of Denver's Colorado-grown food supply is produced by larger-scale producers in rural areas outside the Denver metropolitan area, yet historically these producers were not included in the City of Denver's food policy planning processes. This oversight resulted in policies that did not reflect the realities, needs, or priorities of these producers or their rural communities and created a tense relationship between rural producers and urban food planners and policymakers.

To address this gap, the program engaged in extensive, long-term relationship-building with urban stakeholders and larger-scale rural producers, who were then invited to participate in a meeting in rural western Colorado to discuss Denver's food planning and policymaking efforts (Jablonski et al., 2019). As a result of this meeting and subsequent dialogue, the City of Denver "has fundamentally shifted how they're pursuing urban food policies because of some of the [relationship-building] work that we supported and funded,

and the people we brought to the table." As an external third party, Extension played a key role in this outcome by building relationships to bring disparate stakeholders together and providing technical expertise around food system issues.

Through investing in lasting partnerships, programs are establishing themselves as sources of reliable data and trusted partners in community research. One program has become trusted as the go-to for the latest knowledge in its state because it has built a positive reputation over many years of community-engaged work: "We've become the place that [the U.S. Department of Agriculture] or community groups come to when they want to find out what's really going on. . . . [T]hey know we're outward-facing, and we're talking to communities, listening to them." By building partnerships that enable programs to hear and respond to communities' stated needs, programs are earning community confidence and trust that they are operating in the best interest of the public. This work, in turn, brings more food system stakeholders to the policymaking table, widening the net of Extension's reach and impact. This precondition is key to effecting change in the planning and policy spheres, guided by shared community and regional food system values.

Extension food system programs are well positioned for the work of building and sustaining strategic partnerships. They are able to bring disparate stakeholders together because they have an established statewide presence and many connections that support forging new partnerships. They possess and have access to technical expertise around a wide range of community and regional food system issues, and widespread public perception of Extension as a trustworthy, "impartial" source of knowledge enables them to bring more people to the policymaking table. Likewise, programs' understanding of the nuances of community and regional food systems as they relate to broader community issues positions them to effectively facilitate and mediate, with the aim of creating as much impact as possible for all parties. Extension enjoys relatively exceptional access to funding, staff, and other resources to support this work.

ARTICULATION, COORDINATION, AND ADVANCEMENT OF A SHARED THEORY OF CHANGE

Beyond building strategic partnerships, programs are collaborating with strategic and community partners to develop collective visions and strategies for enacting community and regional food system values. These shared visions tend to apply theories of change that advance comprehensive, long-term strategies and require broad participation across communities and networks. A theory of change specifies "the central processes or drivers by which change comes about for individuals, groups, or communities" (Funnell & Rogers, 2011, p. xix) and carefully considers causal linkages—how a given cause specifically relates to one or more outcomes—in its formulation. A theory of change, therefore, necessitates

a systems-thinking approach that seeks to understand the many interacting parts of a given system. Programs' active application of theories of change reflects their advancement of "systems thinking and collaboration" as a core value (see Figure 1). Although many Extension programs and their partners operate within a set of community and regional food system values and goals that are generally assumed to be shared, these four programs are actively working to intentionally align their program activities with articulated theories of change that may be explicitly shared with their food system partners and networks. Articulating a shared theory of change and a vision resulting from that theory of change is not only helpful for program planning and building fruitful collaborations but "essential to inspire, mobilize, and keep a collective of people on track toward their goals. . . . The vision, buttressed by policy and democratic governance, is what determines where people are able to buy food, how much they pay, whether farmers earn decent incomes, and whether the food is healthy" (Anderson, 2019, p. 55).

One program's theory of change centers on building basic trust across the state with a wide variety of food system stakeholders through relationship-building and restorative justice approaches: "If we can come to a shared vision across the state on where we want agriculture and food systems to be, and figure out how to bring people together, then we can better understand their experience and how we come to better outcomes that are going to meet our goals." As this program is situated in a state intensely divided by politics and geography, its participants consider the deep, slow work of relationship- and trust-building across the food system to be a vital precondition for creating an inclusive shared vision. This program's partnership-building work to support a more robust and inclusive food planning and policymaking process in the City of Denver, discussed in the previous section, illustrates how this program is intentionally working to advance its theory of change.

Two programs have articulated theories of change related to collective impact in the food system, referring to a type of strategic, collaborative network structure featuring "centralized infrastructure, a dedicated staff, and a structured process that leads to a common agenda, shared measurement, continuous communication, and mutually reinforcing activities among all participants" (Kania & Kramer, 2011). These two programs actively operate as backbone organizations for statewide collective impact networks. In each case, their theory of change guides their program strategy, including being selective in the funding opportunities they pursue and building partnerships proactively and continuously rather than ad hoc for grants. As a result of these strategies, "when there is appropriate funding available, we are in a better position to immediately get to work with our partners, rather than having to spend valuable time during the grant period just building partnerships" before they can delve into the grant's substance.

For one of these programs, a foundational component of its collective impact theory of change was the development of a state food charter that lays out a shared vision for the state's food system, along with strategies and action recommendations for achieving that vision. Initially published in 2010 and updated in 2022 (Scalera et al., 2022), the charter has been so integral to the program's strategy that it was described as a "precondition" in our interview. There are numerous examples of how this charter has codified and promoted a shared agenda that has guided collective action and attracted resources.

In one example of this strategy in action, several organizations with key issue expertise mobilized around a specific agenda priority of the state food charter related to farm-to-institution sourcing and then designed and piloted a program while working "behind the scenes" with policymakers "so that eventually we were able to get $5 million of state funding for the pilot." During the pilot year, the network distributed more than 300 grants to school districts, early childhood education centers, and other types of educational institutions. Following the pilot's success, the initiative was later passed as state policy. Although Extension was not involved on the frontlines in this case, it was working behind the scenes to support the network in advancing this agenda priority, underscoring how Extension's support for collective impact strategies is crucial for advancing community and regional food system goals.

Although programs vary in their specific approach to their theories of change, a clear pattern emerged: Being intentional in pursuing a theory of change rooted in community and regional food system values is important for creating program plans, getting grants, and implementing activities that are proactive and synergistic with other community and regional food system efforts. Extension food system programs are well suited to support theories of change involving collective impact strategy because they touch communities across the state and can serve as a stable backbone, guiding strategic and cross-cutting planning across temporal, disciplinary, and geographic scales. As programs increasingly invest in articulating and strategically advancing collective impact-related theories of change, their role as backbone organizations and statewide conveners for food system networks becomes more significant; we explore this idea in more detail in another paper (DeMets & Day Farnsworth, forthcoming).

DISCUSSION

As we interviewed only one program manager (or equivalent role) from each program, this report presents a partial view of each program and does not encompass all staff perspectives. Taking cue from Clark et al.'s (2017) study of Extension educators, future research might explore different perceptions among different staff roles within a given program. Furthermore, as we aimed for depth over breadth for this research, we interviewed participants in only four Extension food system programs. Given the unique contexts of different states, programs, and staff roles, our findings may not be generalizable. They are still useful, however, building on previous research by (a) highlighting distinct and specific roles that Extension can play to advance food system change and (b) informing possible strategies for Extension programs looking to align their activities with shared community and regional food system values. Although echoing previous research contending that Extension has key roles to play in advancing food system change (Clark et al., 2017; Colasanti et al., 2009; Niewolny et al., 2022; Raison, 2010), our findings further this discussion by illustrating how attending to the level of intervention is vital for advancing particular food system change goals and how Extension is particularly well suited to intervening at the level of system drivers. Future studies could build on this work by investigating the relationships between level of intervention, program activities, and outcomes by Extension and other food system actors.

When discussing program activities and outcomes, we expected to hear about more traditional food systems planning than we ultimately did. Rather, participants highlighted policy much more frequently than planning as a systemic driver and program focus. When participants did describe planning-related activities, they typically discussed them without characterizing them as "planning." This detail raises questions about how Extension defines and understands planning and why planning is often overlooked and underrepresented as a possible intervention. It also raises broader questions about the perceived and actual efficacy of planning as a tool for community and regional food system development and prompts examination of whether planning could be more effective in this space. We posit that participants' de-emphasis on planning may reflect many food system practitioners' perceptions or experiences of planners as disengaged from food system issues (Raja, 2020).

And yet we also see an opportunity for Extension to support food system planning efforts, such as community food assessments and plan development through facilitating processes, collecting and analyzing data, and lending staff capacity and/or technical expertise to food policy councils. University of Missouri Extension's "Missouri EATS" program (2023) and Iowa State University Extension's Community Food Systems Program (2023) offer models of how other programs might support more formal food system planning efforts.

By contrast, as evinced in the examples in this paper, policy was surprisingly well represented as a tool that leading programs are leveraging to advance food system change. In states with little or disjointed community-based food policy activity, Extension programs might consider incorporating more policy work into their program strategies and activities. Future research might

explore Extension's interventions in planning and policy as drivers of food system change in more depth.

Network-building and Extension's role as a backbone organization emerged as critical activities for enacting planning and policy work. This result echoes previous findings demonstrating that Extension and its core partners often serve a central role as food system connectors, building relationships and networks among community and regional food system actors (Feenstra et al., 2021; Schiff, 2008). Beyond this more impartial role of building relationships, our research suggests that Extension could be an active network participant and vital coordinator of network activities, facilitating and advancing collective community discussions around shared values, theories of change, and strategies for pursuing them. By coordinating ongoing collective action, Extension programs may be more effective in moving toward values-aligned programming and catalyzing enduring impacts.

CONCLUSION

Most Extension staff are familiar with the roles of marshalling and distributing resources to the community and being a resource and knowledge hub in collaboration with community partners; indeed, the role of Extension in and beyond food systems has long been a subject of lively dialogue (Clark et al., 2017; Colasanti et al., 2009; Niewolny et al., 2022; Raison, 2010). But beyond simply the role of Extension, the participants in the four leading programs we studied demonstrated that they are intentionally working to ensure that within these roles, their program activities are aligned with core community and regional food system values to influence system drivers and structures, particularly through collective action and policy change.

By becoming aware of the structures and scales in which Extension has significant and unique influence and by seeking to operate within and reshape these structures and scales to reflect shared values, these programs are creating the conditions for lasting community and regional food system change. Therefore, we suggest that not only the role but also the level of intervention are critical in determining whether a program will create lasting system change. This suggestion is not to imply, however, that direct education and facilitation are no longer important or relevant roles for Extension; rather, these remain core strengths that Extension can draw from to build community capacity for grassroots and civically engaged food system action (Raison, 2010). Meanwhile, the roles and activities of partnership-building and strategic network coordination to develop and deploy shared theories of change serve as driver-level interventions. To the extent that programs can act in these multiple roles in concert and intentionally align these roles and their implied activities with community and regional food system values, they may be more likely to create lasting systemic changes.

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