

On the Path to a Resilient Urban Food System in a Rural State: A Mixed-Method Needs Assessment of Urban Producers and County Extension Agents in Arkansas

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Urban Agriculture

“Growing and raising food crops and animals in an urban setting for the purpose of feeding local populations”

(Goldstein, Bellis, Morse, Myers, & Ura, 2011, p. 4)

- Based on a greater focus on organics, sustainability, and food security
- Addresses food justice, food security, and community resilience
- Challenges include accessing consumers
 - Lack of marketing and processing infrastructure

(McClintock, 2017; Peters, 2010; Rogus & Dimitri, 2014)

Purpose

Bridge	the gap between urban farmers and the Extension service in Arkansas
Determine	the needs of urban farmers in Arkansas through semi-structured interviews
Understand	the awareness, perceptions, and barriers of Cooperative Extension agents toward urban agriculture through a survey

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Interviews with Urban Farmers

A Qualitative Investigation

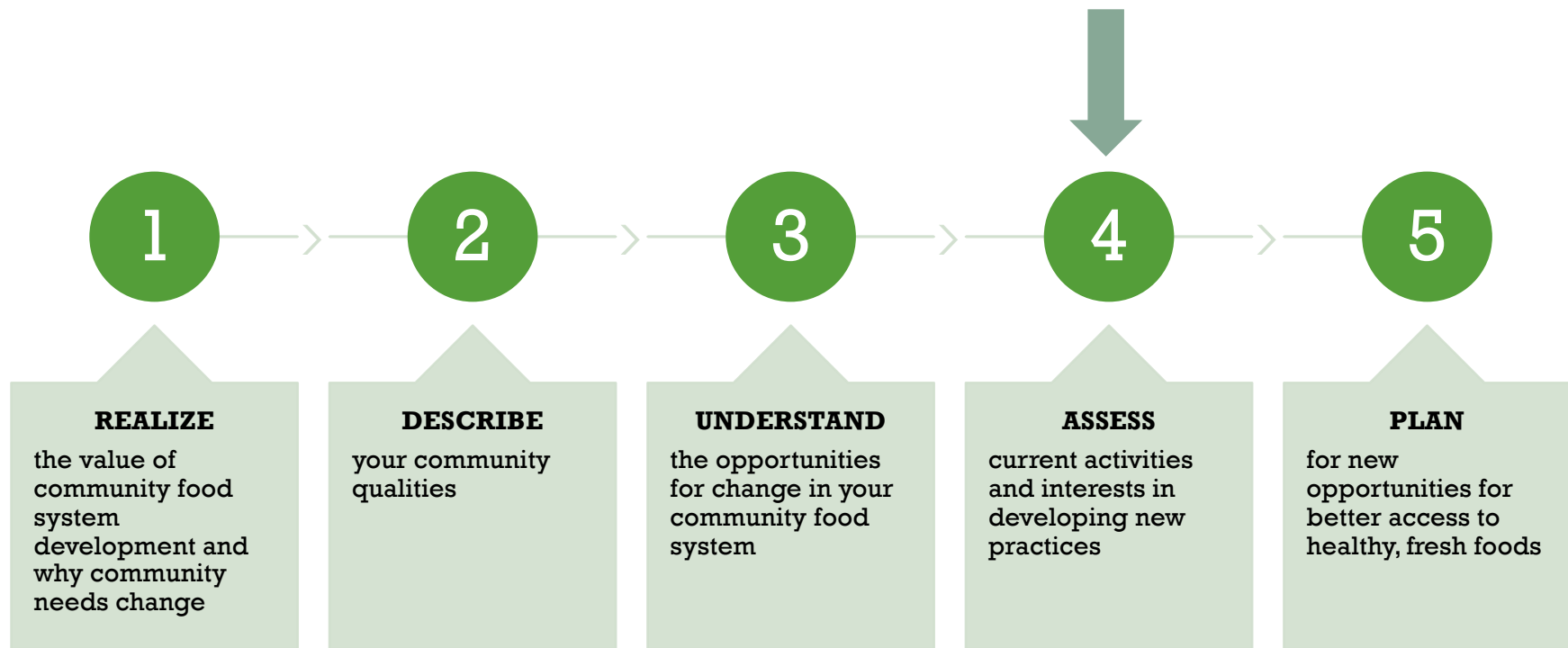


“A community food system supports farmers and ranchers to sustainably produce a variety of local foods (**Production**), creates ways to move (**Coordination**) local foods to the places (**Markets**) where we live, work, learn, and play so that we value and have access to healthy, fresh food and clean water (**Consumption**) in our community.”

(Perez, 2016, p. 6)

Community Food System Development Framework for Change (CFSD)

Steps for CFSD Framework



- Provides Extension educators with the ability to learn more about specific community needs
- Involves multiple groups (learners, educators, community members, etc.)
- Forms a baseline to guide future program development

Needs Assessment

(Schaefer, Huegel, & Mazzotti, 1992; Seevers & Graham, 2012)

Research Questions

for urban farmer interviews

What is the context of urban agriculture in Arkansas?

What research and resources would be most beneficial to Arkansas' urban farmers?

How can Extension serve Arkansas' urban farmers regarding resources, training, and technical assistance?



Instrument
development



Snowball sampling



16 interviews

1 hour each

Interview
Methods

Data Analysis



**Transcription of
audio files**



**Hand-coding with
Microsoft Word**



**NVivo 10 to
develop themes**

Results

RQ1: What is the context of urban agriculture in Arkansas?

- Sustainable practices
- Small-scale, fewer than 10 acres, diversified, and sustainable farming within city limits that engages with the market, the community, or both

RQ2: What research and resources would be most beneficial to Arkansas' urban farmers?

- Best practices
- Production systems
- Restrictions and interactions with city, policy, and zoning

RQ 3: How can CES serve Arkansas' urban farmers regarding resources, training, and technical assistance?

- Take advantage and improve reputation of CES
- Expand on points of contact with farmers
- Trainings and workshops

Results

- **General needs were identified:**
 - **Market pricing and strategies**
 - **Co-ops**
 - **Access to appropriate equipment for small-scale farms**
 - **Maintenance/retention of an operational workforce**

Conclusions

- **What is the reputation of CES with Arkansas urban farmers?**
 - Participants had positive perceptions of the helpfulness of CES
 - CES did not have enough resources specific to small-scale, organic-type farms
 - Most participants were open to increased communication and collaboration with CES

Conclusions

- **Many participants were unable to articulate beyond their specific needs**
 - Did not fully understand the scope of CES resources or did not believe CES resources related to their urban operations
 - Lack of understanding of CES involvement with local food programs

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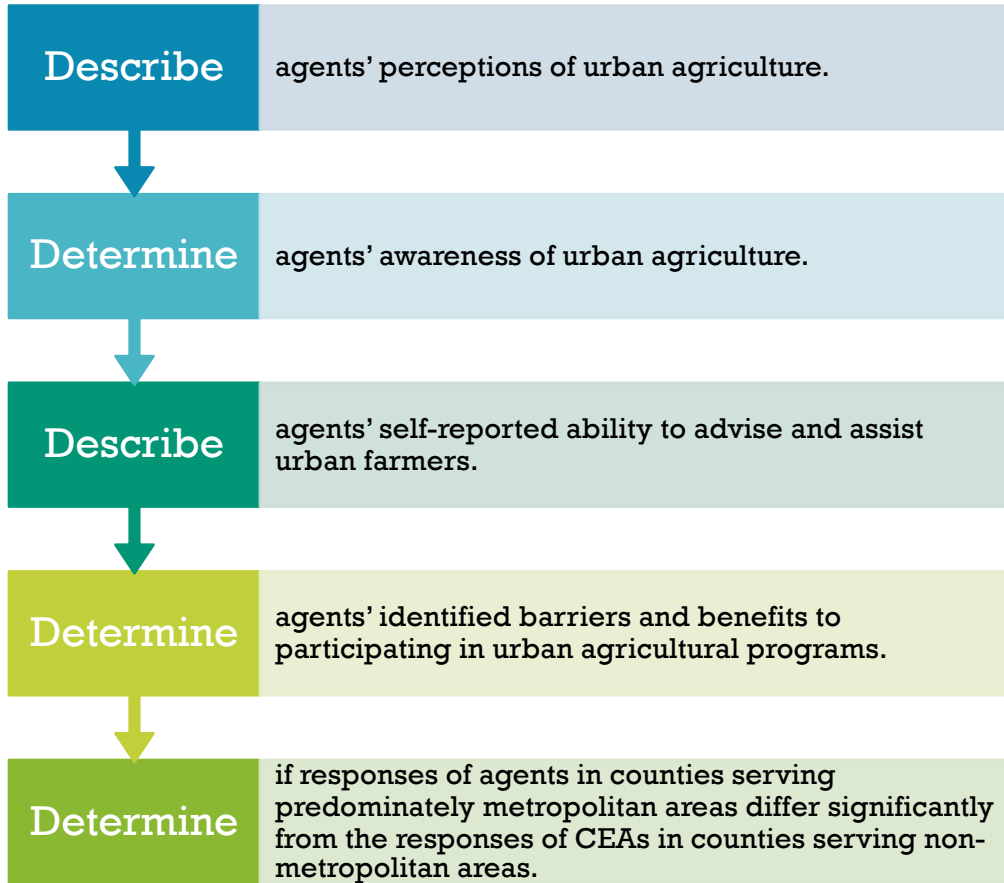
A Survey of County Agricultural Agents

A Quantitative Investigation

Theoretical Framework

Builder, Weaver, & Warrior Work

- **Understanding change-oriented activities through social movement literature helps contextualize the nature and limitations of alternative food and agricultural networks** (Stevenson et al., 2017)
- **Warrior Work:**
 - Political arm of social change framework, acting as resistance to the dominant system
- **Builder Work:** ←
 - Reconstruction, and operates to create alternative food systems and models within the economic sector
- **Weaver Work:** ←
 - Develops linkages between the divergent actors warrior (political) and builder (economic) work



Research Objectives for Extension agent survey



Survey Methods

- **Instrument development:**

- Informed through qualitative interview data
- Face and content validity supported by expert review (Agricultural Education, Communications, and Natural Resources)

- **Survey constructs:**

- Perceptions
- Awareness
- Ability
- Barriers



of urban agriculture

- **Likert-type scale**

- **Pre-test with think-aloud questioning and pilot test**

Data Analysis



57% RESPONSE RATE



**DESCRIPTIVE STATISTICS TO ESTABLISH
FREQUENCIES, MEANS, AND
PERCENTAGES FOR EACH OBJECTIVE**



**KRUSKAL-WALLIS (ONE-WAY ANOVA)
TEST TO COMPARE GROUPS**

Results and Conclusions

Agents in less populous regions of Arkansas have differing perceptions and knowledge of urban farming

Definition of urban farming in Arkansas developed in previous study was supported by these findings

- 56% agreed with *“small-scale, fewer than 10 acres, diversified, and sustainable farming within city limits that engages with the market, the community, or both”*
- 65% agreed with *“farming in and around urban areas”*
- 60% agreed with *“farming within city limits”*
- 72% agreed with *“farming that involves community”*

Results and Conclusions

Participants described medium-to-low levels of sustainable practice usage in their counties

- Contradicts the previous study
- Indicates high use of sustainable practices among urban farmers in the Northwest and Central regions of Arkansas

Observable benefits

- Increased access to healthy food
- Urban agriculture can enhance community food security (Rogus & Dimitri, 2014)

Results and Conclusions

Assisting Urban Agricultural Clients

- 74.0% believed “CES is a valuable resource for urban farmers”, but 62.0% agreed “CES should provide more urban agriculture resources”
- Preferred program types by agents and urban farmers: face-to-face communication and on-site farm demonstrations
- 71.9% indicated they were “not knowledgeable at all” or “slightly knowledgeable” about urban farming
- 40.3% of participants indicated that they were “confident” or “very confident” of their ability to assist urban agricultural clients

Future research

- Investigate why agents report little knowledge of urban agriculture but higher confidence in assisting urban farmers

Results and Conclusions

Assisting Urban Agricultural Clients

42.1% disagreed that it is difficult to assist urban farmers

Potential for increased collaboration between CES and urban farmers

50% agreed that “there is not enough need for it in my county”

66.6% of participants were from counties with populations 50,000 or below

May be an indicator of how the rurality of a state affects urban farming growth



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Conclusions for the Mixed-Method Approach

What did we learn from the overall investigation?

Overall Conclusions



Needs assessments allow trust building between CES and these populations

Increases the visibility and knowledge of CES

Could encourage increased participation and use of CES programs and resources



Bridges populations that have not traditionally worked together



Relationships between CES and alternative food systems should be categorized by *cooperation, dialogue, and co-learning* (Reynolds, 2011)

Needs assessments are a unique tool that allows the integration of all three concepts

Implications for Practice

- **Understanding the perceptions and knowledge of agricultural agents regarding urban and sustainable agriculture**
 - Growing aspect of the agricultural sector, often populated in Arkansas by people with non-traditional agricultural backgrounds
 - May not understand all services and resources available through CES
 - Understanding the baseline data of perceptions, knowledge, and barriers of CEAs will help with future programming in urban, sustainable agriculture

Recommendations



Other states are encouraged to conduct mixed-methods needs assessments with urban or sustainable producers and the county agents who could potentially provide them with information and resources.



Needs assessments provide CES with valuable information

Relationship-building tool



Determine a local definition of urban farming to guide future program development



Curricular Applications

- Currently working with Arkansas Extension Specialists to develop a local foods curriculum and training for Arkansas Extension agents
- College curriculum is mainly focused on traditional agriculture
 - Curriculum appropriate for non-traditional agriculture students to prevent barriers between conventional and sustainable agriculturalists in the field



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