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Identifying the 10 Most-Pressing Issues Facing Local Food Systems in the Southern Region

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This study was conducted to develop a list of the most-pressing issues facing local food systems in the Southern Region. A Delphi study that surveyed key informants across the Southern Region of the U.S. was used to develop the list. In the first round, informants were asked to list the three most-pressing issues. In the second round, they ranked all of the issues, which was used to create the top 10 issues: profitability, support for local food systems, education of the public, farming practices/knowledge, marketing and promotion, accessibility and affordability, lack of farms and farmers, regulations and certifications, infrastructure, and coordination of efforts. In the third round, informants indicated their level of agreement with the inclusion of the issues in the top 10. A key element of this list of issues is their interconnected nature and understanding that addressing one issue will likely affect others, indicating the need for a systems-based approach for addressing local foods. How these issues present will be different by location, so a one-size-fits-all model of local food systems is unlikely to be successful.

Keywords: Delphi study, local food systems, southern region, issue identification

Introduction

While interest in local food has grown (Palma et al., 2013) and efforts are ongoing across the southern region of the United States, there is a need for collaboration that looks beyond isolated approaches (Lamie et al., 2013), including between land-grant universities (Palma et al., 2013). In 2016, a Southern Extension and Research group (SERA 47: Strengthening the Southern Region Extension and Research System to Support Local & Regional Foods Needs and Priorities) was begun with the goal of strengthening local food systems in the Southern Region (Southern Rural Development Center, n.d.), which is in line with similar objectives to increase

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Extension participation in local food systems (Thomson et al., 2011). Addressing local food systems requires long-term changes and a systems-wide approach (Dunning et al., 2012).

SERA 47 sought to minimize duplication among efforts in the region by gathering Extension and research personnel to engage in a more holistic approach. In addition to personnel across the region, the project also includes individuals with expertise in a variety of areas, such as horticulture, sociology, and economics, because multiple disciplines have expertise in local food systems (Benson et al., 2012; Palma et al., 2013; Thomson et al., 2011). SERA 47 was developed to help accomplish cross-disciplinary collaboration in the region. SERA 47 consists of participants from 16 universities in 13 states and territories.

SERA 47 began with five working groups, one for each of the following objectives: identify the most-pressing issues facing local food systems in the southern region, create learning communities of land-grant professionals, design a resource repository, strengthen impact measurement of local food, and identify successful models of local food systems (Southern Rural Development Center, n.d.). The groups were chosen during a brainstorming session at SERA 47's meeting. SERA 47 was supported by AFRI funding from 2016 to 2017, but no additional grant funding has supported the group's efforts since then.

We were a part of the issue identification group, which completed its work first to help inform the activities of the remaining groups. Past research has identified priorities but typically only for individual states (Benson et al., 2012; Thomson et al., 2011). We used the Delphi method to develop a priority list of issues facing local food systems in the southern region.

Methods

The Delphi method involves trying to get experts in a particular subject area to reach consensus about an issue (Okoli & Pawlowski, 2004). Through successive survey rounds, the experts identify and then reach agreement about issues. While a normal survey allows respondents to identify the issues each believes are important, the Delphi method's multiple rounds allow respondents to see how others respond and then provide feedback on all issues (Okoli & Pawlowski, 2004). This group decision-making process provides higher-quality results compared to providing an average of individual responses of an expert panel (Okoli & Pawlowski, 2004). Members of the identifying issues working group acted as a review panel to ensure that the questions in the study's three rounds of Delphi questionnaires were usable for participants and met the needs of SERA 47.

SERA 47 members from 13 land-grant universities provided a list of key informants with knowledge about local food in their respective states/territories (Tables 1, 2, and 3). Land-grant universities are uniquely placed to provide expertise for local food issues because they are connected to producers, consumers, and other local agencies (Palma et al., 2013). SERA 47 members were instructed to list anyone who could provide information about local food systems.

Because the members were housed in universities, this likely led to a list of key informants who were mostly university affiliated.

The largest groups of the key informants on the initial list represented Extension faculty (35.6%), county agents/faculty (21.0%), and research faculty (12.4%). However, other informants from nonprofit organizations and one informant from a state department of agriculture were included. The initial list consisted of 22.7% representatives from 1890 land-grant institutions. The only states and territories in the southern region not represented in the study were the U.S. Virgin Islands, which does not have a representative engaged in SERA 47, and Kentucky, which did not have a SERA 47 member provide a list of key informants. SERA 47 members could list as many or as few individuals as they preferred, which varied from 1 to 29 across states/territories, though the typical number was between 15 and 20 per state/territory.

Table 1. Number of Respondents by Round by State/Territory

	Initial List	Round 1	Round 2	Round 3
Alabama (AL)	1	0 (0.0%)	0 (0.0%)	0 (0.0%)
Arkansas (AR)	15	4 (26.7%)	3 (75.0%)	3 (75.0%)
Florida (FL)	27	10 (37.0%)	8 (80.0%)	8 (80.0%)
Georgia (GA)	16	2 (12.5%)	1 (50.0%)	1 (50.0%)
Louisiana (LA)	31	10 (32.3%)	6 (60.0%)	2 (20.0%)
Mississippi (MS)	19	10 (52.6%)	5 (50.0%)	9 (90.0%)
North Carolina (NC)	29	9 (31.0%)	2 (22.2%)	4 (44.4%)
Oklahoma (OK)	17	5 (29.4%)	1 (20.0%)	1 (20.0%)
Puerto Rico (PR)	16	10 (62.5%)	8 (80.0%)	7 (70.0%)
South Carolina (SC)	18	2 (11.1%)	2 (100.0%)	1 (50.0%)
Tennessee (TN)	15	6 (40.0%)	2 (33.3%)	1 (16.7%)
Texas (TX)	9	1 (11.1%)	1 (100.0%)	1 (100.0%)
Virginia (VA)	19	7 (36.8%)	2 (28.6%)	4 (57.1%)

Note. There were no participants included from Kentucky and the U.S. Virgin Islands on the initial list. Only respondents from round 1 were asked to complete rounds 2 and 3.

Table 2. Round 1 Respondents' Demographics by State

	1890 ^a	Ext. faculty	County faculty	Res. faculty	Other/ not listed	Other faculty	Admin.	Spec., non-faculty	Prog. Asst.	Reg. Coor.
AR	0	1	0	0	0	0	1	1	0	0
FL	0	8	0	1	0	0	1	0	0	0
GA	0	1	0	0	0	0	0	0	1	0
LA	1	2	3	1	1	0	0	0	0	3
MS	0	8	0	1	0	0	1	0	0	0
NC	5	0	5	0	0	5	0	0	0	0
OK	0	2	0	1	1	0	0	1	0	0
PR	0	3	0	3	1	2	1	0	0	0
SC	0	1	1	0	0	0	0	0	0	0
TN	2	2	2	1	0	0	0	1	0	0
TX	0	0	0	0	0	0	1	0	0	0
VA	2	6	0	0	1	0	0	0	0	0

^aRespondents from 1890 institutions are included in the job category areas.

Table 3. Number of Respondents by Round by Demographic Characteristic

	Initial List	Round 1	Round 2	Round 3
1890 Institution ^a	53	10 (18.9%)	5 (50.0%)	5 (50.0%)
Extension faculty	83	34 (41.0%)	22 (64.7%)	26 (76.5%)
County agents/faculty	49	11 (22.4%)	3 (27.3%)	4 (36.4%)
Research faculty	29	9 (31.0%)	5 (55.6%)	3 (33.3%)
Other/not listed	25	4 (16.0%)	1 (25.0%)	0 (0.0%)
Other faculty	21	6 (28.6%)	3 (50.0%)	3 (50.0%)
Administrator	16	5 (31.3%)	4 (80.0%)	5 (100.0%)
Specialist, non-faculty	10	3 (30.0%)	1 (33.3%)	2 (66.7%)
Program assistant	8	1 (12.5%)	0 (0.0%)	0 (0.0%)
Regional coordinator	5	3 (60.0%)	2 (66.7%)	1 (33.3%)

Note. Only respondents from round 1 were asked to complete rounds 2 and 3.

^aRespondents from 1890 institutions are included in the job category areas.

There were 233 individuals on the list of key informants who were asked to participate in the study through Qualtrics. The first round consisted of an initial email soliciting participation, followed by three reminders. There were 76 responses, for a 32.6% response rate, in the first round. Various factors may have reduced the response rate. The project's short timeline meant it was not feasible to increase the number of contacts with respondents (Dillman et al., 2014; Keeney et al., 2006). Although there is no minimum number of respondents required to conduct a Delphi, the small size of the sample could have created bias in the responses (Mullen, 2003).

In the first round, participants were asked to identify what they believed to be the three most-pressing issues facing local food systems in the southern region in an open-ended question. The definition of local was left to the discretion of the respondents. All responses were sorted into categories to avoid duplication of issues in subsequent rounds of the Delphi. Two coders, who were members of this author team, analyzed the first round of responses separately using Glaser's (1965) constant comparative method before meeting to discuss the categories. After the meeting, some categories were merged (Schmidt, 1997). In the event of disagreement, the conservative option was to keep items as separate categories to avoid erroneously merging categories. Some individual items were not sorted into categories because the responses were vague or unclear. Some individual responses fit into multiple categories because of the open-ended nature of the question.

Only those who participated in the first round were sent the second round of the Delphi to target those already engaged in the project. There was an initial email, which was followed by two reminders. There were 40 second-round responses (52.6%). The participants ranked all 13 issue categories from 1 = *most-pressing issue* to 13 = *least-pressing issue*. To calculate results, the highest-ranked issue received one point, the second-highest issue received two points, and so on all the way to 13. While the tentative goal was to find the ten most-pressing issues, the final decision was made based on the large gulf between ranking scores for the 10th- and 11th-ranked

items. In the second round, respondents could provide open-ended feedback, leading to the alteration of two items' descriptions, which is explained in the results in Table 4.

In the third round, those who participated in the first round were asked to identify their level of agreement (1 = *disagree* to 5 = *agree*) for the issues that were included in the top 10 list, as well as their level of agreement (1 = *disagree* to 5 = *agree*) for the three issues excluded from the list. This served to confirm agreement with the developed list. The decision was made to send the third-round questionnaire to all first-round respondents instead of only second-round respondents to avoid attrition issues and to give those engaged in the study's first round (but not the second round) the opportunity to provide feedback on the items. An initial invitation was sent, followed by two reminder emails. There were 42 responses in the third round (55.3%). Thirty-four individuals (44.7%) completed both the second and third rounds.

Results

Round 1

In the first round, respondents listed what they believed to be the most-pressing issues facing local food systems in the southern region. There were 13 categories (Table 4), which were then used for the second round of the study.

Table 4. Categories Developed from First Round Responses and Their Descriptions (N = 76)

Category	Description
Accessibility/affordability	Refers to community members not being able to access and/or afford local food
Aging out of current farmers and lack of new farmers	Refers specifically to the problem of current farmers getting older and the difficulty for new farmers finding affordable land and breaking into the market
Coordination of efforts	Refers to need for all parties involved to be working together and sharing information
Education of the public	Refers to need for public knowledge of local food production and how to make healthy food decisions
Farming practices/knowledge	Refers to the need to educate farmers in production of food and business management of their farms
Infrastructure	Refers to lacking facilities, equipment, technology, and distribution channels
Lack of farms and farmers	Refers to supply problems caused by a lack of local production due to insufficient farms, farm labor, and diversity of farm production
Lifestyle/culture	Refers to patterns of lifestyle choices that lead to poor health outcomes, including buying cheap, unhealthy food
Marketing and promotion	Refers to need for improvements in how local foods are marketed and promoted to local consumers

Category	Description
Profitability ^a	Refers to factors affecting farmers financially, which includes production costs, difficulty for smaller producers to be successful, and competition from lower-cost products
Regulations ^b	Refers to regulations in food safety, production, and selling in communities
Support for local food systems	Refers to need for policy, financial, and research support for local food systems, including farmers and community members
Weather and environment	Refers to impacts from weather and environmental issues

^aAfter round 2, description was changed to “Refers to factors affecting all farmers financially, including production costs and competition from lower-cost products.”

^bAfter round 2, category was changed to regulations and certifications, and description was changed to “Refers to regulations in food safety, production, and selling in communities, as well as third-party certifications.”

Round 2

For the second round, respondents ranked all categories from the first round (Table 5). Because there were 40 respondents for the second round, the lowest number of points an issue could receive was 40, while the highest number of points possible was 520. Profitability was the highest-ranked issue (181 points), followed by support for local food systems (238 points). The tentative goal of SERA 47 was to determine the 10 most-pressing issues, though the final number was not decided until the ranking list was developed. As it happened, the second-largest difference between ranking scores of any items was between the 10th- and 11th-ranked issues, creating a natural divide between items included and excluded on the final list. The three issues excluded from the top 10 were aging out of current and lack of new farmers (333 points), lifestyle/culture (352 points), and weather and environment (377 points). The second round’s questionnaire had an open-ended item to allow respondents to provide additional feedback, which led to the rewording of two items’ descriptions. The description of profitability in the third round was rephrased to de-emphasize focus on operation size to be more inclusive of all operations. Regulations was changed to regulations and certifications, and the description was revised to include certifications.

Table 5. Results of Ranking Issues (n = 40) in Second Round

	<i>M (SD)</i>	Points	Pt difference ^a
1. Profitability	4.53 (3.19)	181	
2. Support for local food systems	5.95 (3.91)	238	57
3. Education of the public	6.45 (3.71)	258	20
4. Farming practices/knowledge	6.48 (3.38)	259	1
5. Marketing and promotion	6.53 (3.04)	261	2
6. Accessibility/affordability	6.58 (3.36)	263	2
7. Lack of farms and farmers	6.60 (3.84)	264	1
8. Regulations	6.75 (3.87)	270	6
9. Infrastructure	7.03 (3.79)	281	11
10. Coordination of efforts	7.58 (3.62)	303	22

	<i>M (SD)</i>	Points	Pt difference ^a
11. Aging out of current and lack of new farmers	8.33 (4.00)	333	30
12. Lifestyle/culture	8.80 (3.66)	352	19
13. Weather and environment	9.43 (2.96)	377	15

Note. 1 = highest priority, 13 = lowest priority. A lower mean and point total indicate the issue was ranked as a higher priority.

^aPoint difference between the issue and the next highest-ranked issue.

Round 3

In the third round, respondents indicated the levels at which they agreed or disagreed with the inclusion or exclusion of items in the top 10 list (Tables 6 and 7). The majority of respondents agreed with the inclusion of each item on the top 10 list. The highest levels of agreement were for marketing and promotion ($M = 4.69$, $SD = 0.56$), profitability ($M = 4.67$, $SD = 0.90$), and support for local food systems ($M = 4.61$, $SD = 0.74$). Table 6 shows the levels of agreement with the items excluded from the top 10 list. More respondents agreed than disagreed with the exclusion of those items.

Table 6. Respondents' Level of Agreement with Inclusion of Issues in the Top 10 ($n = 42$) in the Third Round

	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	<i>M (SD)</i>
Marketing and promotion	0	0	2	9	31	4.69 (0.56)
Profitability	2	0	0	6	34	4.67 (0.90)
Support for local food systems	0	2	0	10	29	4.61 (0.74)
Farming practices/knowledge	0	1	1	18	22	4.45 (0.67)
Accessibility and affordability	0	3	4	8	27	4.40 (0.94)
Education of the public	0	3	2	15	22	4.33 (0.87)
Regulations and certifications	2	1	4	10	25	4.31 (1.07)
Lack of farms and farmers	0	5	4	7	26	4.29 (1.07)
Infrastructure	1	2	4	12	23	4.29 (1.00)
Coordination of efforts	2	1	6	8	25	4.26 (1.11)

Note. 1 = "Disagree" and 5 = "Agree."

Table 7. Respondents' Level of Agreement with Exclusion from the Top 10 ($n = 42$) in the Third Round

	Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Agree	<i>M (SD)</i>
Lifestyle/culture	2	8	9	5	18	3.69 (1.33)
Aging out of current farmers and lack of new farmers	6	8	4	12	12	3.38 (1.45)
Weather and environment	8	9	5	6	14	3.21 (1.57)

Note. 1 = "Disagree" and 5 = "Agree."

Discussion and Recommendations

The primary takeaway from this project is the developed region-wide list of issues facing local food systems. Similar research has not been found that explicitly creates a priority list for local and regional food systems beyond the state level, though research delving into the importance of these various issues is abundant. As efforts move forward to improve local food systems in the southern region, awareness and understanding of all of these issues are necessary to avoid unnecessary pitfalls. In particular, it should be noted that none of these issues occurs in isolation. For instance, if profitability increases, accessibility and affordability could be harmed. As a system, changes affecting one issue are likely to affect others directly and/or indirectly. For improvements to local food systems to be sustainable, most if not all of these issues need to be addressed. As such, the diversity of these issues means there is a need for diversity in the response to these issues. Representatives from different academic disciplines, aspects of the local food systems, and locations need to share with each other how they have experienced and addressed these issues in their respective geographic and issue areas.

All of the issues, even those excluded from the top 10 list, are important, but in an era of decreasing funding for universities, there will be limits to what efforts can occur. The goal of this project was to determine which issues were the highest priority to inform a region-wide effort to support local and regional food systems, not which issues were or were not important.

Another aspect that needs addressing is understanding that these issues can look different in different locations. For example, local food issues in the Mississippi Delta may present themselves differently from those in the Atlanta metropolitan area. While the purpose of this project was to develop a priority list of issues for the entire region, there is unlikely to be a universal answer for all locations, given differences in demographics, the types of agriculture that can occur in different locations, and differences in policies among the various local and state governments in the region. Still, region-wide work should continue so that lessons learned in one

area can be shared with other locations to avoid duplication of efforts in terms of research and outreach efforts by universities in their efforts to support local and regional food systems.

The next steps of SERA 47 will be using the priority list of issues to help inform future efforts of the remaining working groups on the project. Like all applications of this priority list, the working groups need to decide the best way to use the findings to help inform their future efforts. The remaining working groups are addressing how to measure impacts, establishing learning communities, developing a resource bank that universities can use, and analyzing successful models of universities supporting local and regional food systems.

The Delphi method was useful for determining a region-wide list, and it would be advantageous to have similar efforts happen within individual states. While multiple states were included in this study, data collection was done in a manner to represent the region, so a more tailored design would be needed to understand state-specific priorities.

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