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Local Food Systems Course for Extension Educators in North Carolina: Summary of an Innovative Program

Abstract

Interest in local foods began in the early 2000s and has grown substantially over the past decade and a half. Although Extension is addressing local food systems in many states, training and materials in this program area are nascent. To address this circumstance, we developed a graduate course on local food systems for Extension educators. Post-course evaluations indicate increased confidence and knowledge related to local food system facilitation, implementation, and evaluation. Students cited site tours and panel presentations as the most effective course aspects and suggested improving the course by adjusting content to account for varying levels of familiarity with local food systems.

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Introduction

Interest in local foods has been growing substantially over the past decade and a half. Recent estimates put the value of the U.S. local foods market at \$8.7 billion, including direct sales to consumers, retailers, and institutions as well as to intermediaries, such as wholesale distributors (U.S. Department of Agriculture National Agricultural Statistics Service, 2016). In North Carolina, Extension recognized the increasing activity, interest, and potential around local foods in the state and named local foods as a flagship program in 2012.

Although Extension is addressing local food systems in many states, training and materials for this program area are nascent (Colasanti, Wright, & Reau, 2009; Thomson, Radhakrishna, & Bagdonis, 2011). Efforts are under way in North Carolina to streamline and design new local foods programs and training. A 2012 needs assessment of North Carolina Cooperative Extension (NCCE) identified a number of areas of local foods training needs important to NCCE educators. To address this circumstance, and build the capacity of NCCE educators, we developed and implemented a graduate course on local food systems. The graduate course format was selected as it aligned with the 3-hr professional development credit required for NCCE educators every 5 years. Additionally, a similar course format had previously been successful in introducing NCCE educators to organic agriculture (Creamer, Baldwin, & Louws, 2000).

The course, Local Food Systems for Extension Agents, centered on two overarching objectives. At course completion, Extension educators would be able to

1. explain the benefits and challenges of local food systems to a variety of audiences, including farmers, and
2. identify the structure and components of food systems and lead or facilitate a collaborative process of aligning these with agricultural and general community strengths to strengthen local food systems.

Course Content Planning and Delivery

We applied an innovative course development approach using a participatory stakeholder method. Ideas for course topics and content, including suggestions for lecturers and panelists, were elicited through 10 facilitated sessions with over 40 stakeholders representing different sectors of local food system development. Table 1 shows a summary of course sessions. The course syllabus and recordings of lectures and panel discussions are publicly available on the NCCE Local Food web portal: <https://go.ncsu.edu/localfoodlectures/>.

Table 1.

Sessions in Local Food Systems for Extension Agents Course

Session title	Content
Introducing Local: Where We Have Been and Where We Are Going	This session covered the evolution of the global food system and the drivers of local food system development. It included an introductory lecture about globalization in the food system, a panel about the evolving heritage of food and farming in North Carolina, a lecture about using logic models for program planning, and a site visit to an incubator farm that had been developed as part of a participatory community process.
The Bottom Line: Economic Opportunities and Challenges of Local Food Systems	This session covered the principles of economic, business, and community development related to local food systems. It included a webinar about business legal structures and panels about the triple bottom line, funding methods, and marketing/branding of local foods. It also included lectures about basic business planning and risk management and a tool kit for growing local food economies. Site visits were to a local artisan goat dairy farm engaged in value-added

	processing and agritourism and a regional grocery chain with a renewed focus on local foods purchasing.
Value Chain: Farm to Fork (two sessions)	These sessions provided an overview of value chains, including how value chains preserve and promote consumer-identified values in local food systems, the importance of collaboration in value chains, and how to work with the businesses along a value chain. The sessions included a webinar about community and economic impact potentials of local food systems and two panels and a lecture focused on how regional values drive value chain development in two parts of the state. A lecture addressed supply chain upgrading and market channel selection for success in retail agriculture. Site visits in two regions of the state were to farms engaged in niche pork and beef production, a farm-to-table restaurant promoting economic development and agritourism, a farmers' market facilitated by Cooperative Extension, and a value-added processing facility focusing on local and regional products.
Food as a Common Denominator: Bringing Everyone to the Table	This session included guidance on how to engage with diverse communities and stakeholders, including ways to address the barriers to and facilitators of systems change and strategies for conducting institutional and structural interventions and maintaining community ownership of projects. The session included a webinar about community gardens, a panel about food access projects, and lectures about structural inequalities in the food system, how to promote community participation, and introductions to the community capitals and collective impact frameworks. There also was a site visit to a community center that engages youths in food production and marketing as a tool for building community engagement and addressing community health disparities.
Understanding and Influencing Regulatory Policy and Frameworks/Local Leaders: Framing Local Policy	This session covered identification, assessment, and verification of potential policy or regulatory issues in local food systems; strategies for addressing these issues; and the appropriate role of Extension educators in addressing them. The session included a webinar about distinguishing precepts of government, law, and policy and panels about Extension involvement in food councils and farm-to-school projects. Two site visits were included; one was to an urban farm and included discussion of municipal regulations and zoning, and the other was to a "healthy corner store" project and included discussion of a state bill that would

provide funding for such stores.

The 2-day course sessions were held monthly for 6 months in different locations around the state. Thirteen students completed the course for credit, and one for noncredit professional development. Students represented a variety of Extension program areas, as indicated in Table 2.

Table 2.

Representation of Extension Program Areas by
Students in Local Food Systems for Extension Agents
Course

Program area	Role	Number of students
Family and consumer sciences	Agent	5
	Extension associate	1
	County Extension director	1
Local foods	Agent	2
Agriculture and natural resources	Program assistant	1
4-H youth development	County Extension director	1
Community and rural development	County Extension director	1
Other	North Carolina Agricultural and Technical State University agricultural education graduate student	1

Course Evaluation and Discussion

Evaluations were conducted before the course, after each session, immediately after the course ended, and 6 months after the course ended. On the basis of the course objectives, we assessed outcomes for the following topic areas:

- evaluation of community assets,
- challenges and benefits of local food system development,

- use of logic models,
- facilitating collaborative processes,
- local foods programming in Extension, and
- implementation of local foods projects.

Figure 1 shows students' pre-course and post-course confidence ratings related to knowledge and skills addressed by the course, and Figure 2 shows the percentages of participants who experienced increases in confidence/knowledge related to the course topic areas. The data demonstrate that participation in the course improved students' confidence/knowledge related to a number of local foods topics. Percentages of participants indicating increases in confidence/knowledge ranged from 38% to 85%; for areas for which students reported higher confidence/knowledge before the course, we observed less confidence/knowledge gain. The highest gains observed were associated with students' ability to evaluate community assets as they relate to building a local food system, and the lowest gains observed were associated with students' ability to support implementation of local foods initiatives in their communities.

Figure 1.

Pre-Course and Post-Course Confidence Ratings of Students in Local Food Systems for Extension Agents Course

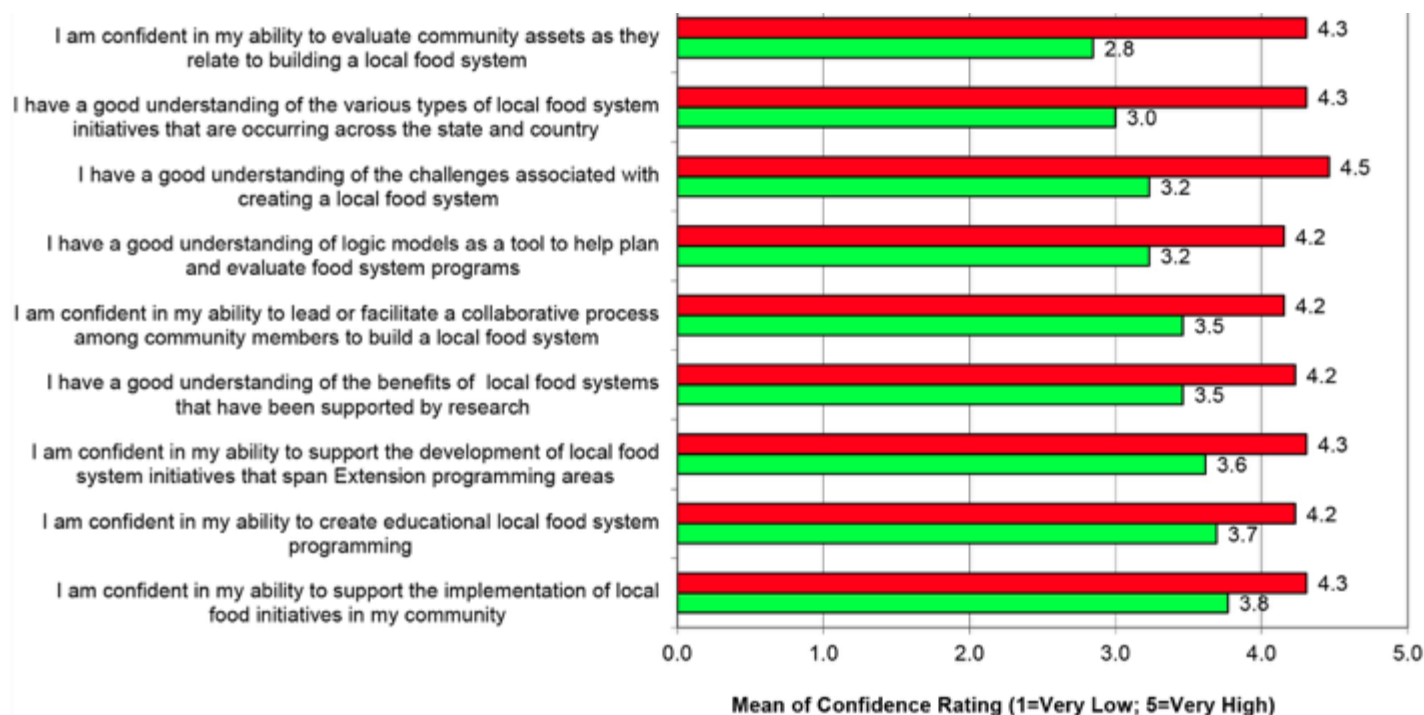
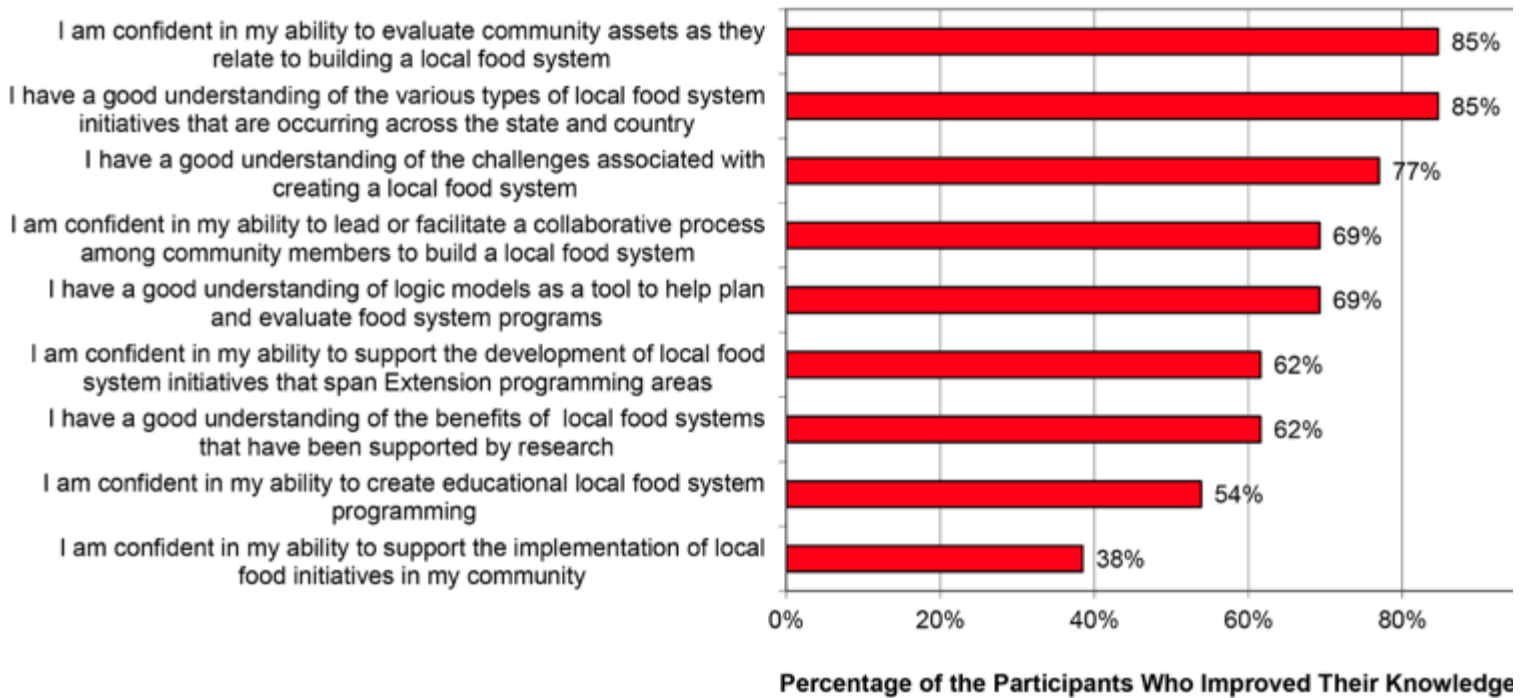


Figure 2.

Impact of Local Food Systems for Extension Agents Course on Building Students' Confidence/Knowledge



We analyzed students' responses to open-ended questions asked at the end of each session. Table 3 summarizes these responses. Generally, students reported that (a) they had a better overall understanding of local food systems and a better understanding of how to be an effective facilitator; (b) the site visits and panel presentations were the most effective aspects of the course; and (c) repetitive content and technical difficulties were the least effective aspects of the course. Additionally, students suggested that we could improve the course by shortening the sessions, including more group activities, and adjusting the content to accommodate varying levels of familiarity with local food systems.

Table 3.

Summary of Responses to Open-Ended Questions in Evaluation of Local Food Systems for Extension Agents Course

Evaluation

focus	Question	Sample student responses
Overall effects of course	How did today's session contribute to your capacity to support the building of local food systems in your community?	<p>Better overall understanding of local food systems:</p> <ul style="list-style-type: none"> • "Created more awareness [of] what [the] issues are and different sectors needed to support local foods." (Session 1) • "Opened eyes to the reality of social and economic factors that define 'Local Foods.'" (Session 3) <p>Better understanding of how to be an effective facilitator:</p> <ul style="list-style-type: none"> • "Helping me realize the questions to ask."

Also the role an agent can play in supporting the local foods market from a strategic viewpoint." (Session 2)

- "Helped me understand my role as community organizer." (Session 4)

Most effective aspect of course

Please give at least one example of what was most helpful for you.

Site visits:

- "Farm tours. Getting farmer's perspective." (Session 3)
- "The panel discussion as well as the farm tour. The tour gave great insight into a well thought out plan as well as an honest explanation of the pros and cons." (Session 2)

Panel presentations:

- "Panel on the first day—really helpful to hear [about] different economic perspectives." (Session 2)
- "The panel discussion of ag economics for Lenoir County was useful in [every] county situation." (Session 3)

Least effective aspect of course

What was the weakest part of today's session?

Repetitive or nonrelevant course content:

- "Logic model, only because [I] have already had [the] training course." (Session 1)
- "The Creamery was really neat but not so informative as it pertains to today's topic. But, great success story." (Session 2)

Technical difficulties (including with the Moodle website):

- "Better understanding of the website [Moodle], how to navigate it." (Session 3)

How to improve course

How could the session be improved?

Overly long sessions:

- "In class sessions too long—need to break up sessions more so we can stay focused on content." (Session 6)

More group work/discussion:

- "If we're going to do small group activities (which we should) have them be more engaging and informative." (Session 2)

Adjustment of content to accommodate existing knowledge:

- "Could consider a 2 part class and divide into LF1 & LF2 with basics as pre-requisite and 2nd class [addressing] more complex ideas. Some of us working in the field have seen sites or met experts before. Others were brand new to topic." (Session 6)

Note. LF = local foods.

Interviews with nine students were conducted 6 months after course completion. Six of the nine students had applied specific knowledge and/or relied on resources identified in the course to enhance food system projects. Four students noted that course content related to food hubs and incubator farms prepared them to be a knowledgeable resource in their own communities. Two students cited the valuable information gained through a panel discussion about operating an economically viable farmers' market; for example, one student explained, "I'm working with the farmers' market, so I was able to use some of the information that I learned when we went to the Lenoir County Cooperative Extension Office and talked with the director there. . . . she was the one that inspired me to get a manager for our little farmers' market." Alternatively, a student new to local foods reported, "I don't have a strong background in the production side of local foods. Seeing where farmers are coming from, what their issues are, being exposed to that world, was really memorable." In addition, students reported general knowledge increases related to the components and structure of local food systems, which equipped them with the capacity to share knowledge with others and inspire them to take future action.

Conclusions and Next Steps

The course described here addressed the need for local foods training for Extension educators, building students' capacity around local food system development. Evaluations indicated that students experienced increases in confidence and knowledge related to local food system facilitation, implementation, and evaluation. Students cited site visits and panel presentations as preferred course aspects and suggested adapting course delivery to account for varying levels of student familiarity with the topic. Six-month post-course evaluations demonstrated that students applied lessons learned about local foods markets/businesses and general food system components.

As interest in local foods continues to grow, there is a need for integrated training resources for Extension educators. For this one-time graduate course, grant funding was required to hire a full-time course coordinator to support the speaker logistics and intense travel of the face-to-face components and to offset student travel expenses. To ensure additional impacts from the infusion of grant support for the project, reduce future costs,

and make course delivery sustainable for the ongoing educational needs of NCCE, the course instructors are currently adapting course materials into an online professional development training series.

Acknowledgments

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