Not Your Average High Tunnel Project
Partners: K-State Research and Extension, Live Well Crawford County, Crawford County Commissioners, City of Pittsburg, Southeast Kansas CTEC (Career and Technical Education Center), Wesley House
# Wildcat Extension LEGS
**Local-Eat-Grow-Sustainability**

<table>
<thead>
<tr>
<th>Program</th>
<th>Date</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>What’s the Scoop on Poop? - Soil Fertility Basics</td>
<td>April 27</td>
<td>High Tunnel: C-TEC, 1301 E 27th Terrace, Pittsburg</td>
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<tr>
<td>Food Preservation 101 (Pre-requisite for Salsa and Pressure Canning classes)</td>
<td>May 18</td>
<td>Pittsburg Public Library, 308 N Walnut, Pittsburg</td>
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<tr>
<td>Mites, Blights and Parasites— Common Garden Problems and Solutions</td>
<td>May 22</td>
<td>High Tunnel: C-TEC, 1301 E 27th Terrace, Pittsburg</td>
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<tr>
<td>Preserving Salsa</td>
<td>June 22</td>
<td>Wesley House, 411 E 12th, Pittsburg</td>
</tr>
<tr>
<td>Not Too Much or Too Little— Irrigation Basics and Fall Gardening</td>
<td>June 29</td>
<td>High Tunnel: C-TEC, 1301 E 27th Terrace, Pittsburg</td>
</tr>
<tr>
<td>Pressure Canning</td>
<td>July 13</td>
<td>Wesley House, 411 E 12th, Pittsburg</td>
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<tr>
<td>Utilizing the Harvest</td>
<td>August 3</td>
<td>CR County Fair Grounds, Marvin Green Building</td>
</tr>
<tr>
<td>Beekeeping</td>
<td>August 3</td>
<td>CR County Fair Grounds, Marvin Green Building</td>
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<tr>
<td>Grants</td>
<td>August 31</td>
<td>Pittsburgh Public Library, 308 N Walnut, Pittsburg</td>
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<td>Entrepreneurship</td>
<td>September 21</td>
<td>Pittsburgh Public Library, 308 N Walnut, Pittsburg</td>
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<tr>
<td>Late Season Salads— Extending High Tunnel Production</td>
<td>September 28</td>
<td>High Tunnel: C-TEC, 1301 E 27th Terrace, Pittsburg</td>
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<tr>
<td>Business Plans</td>
<td>October 26</td>
<td>Pittsburgh Public Library, 308 N Walnut, Pittsburg</td>
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</tbody>
</table>
Agriculture Team

- Hands-on and off-site learning opportunities
- Connect youth to agriculture
  - Challenger Program
  - Public School Systems
  - 4-H Youth Development
- Subjects: soil fertility, common gardening problems, irrigation basics, beekeeping, extending high tunnel production
- Harvesting/storing produce
- Wesley House connection
- Horticulture Certificate Program
Family and Consumer Sciences/EFNEP

- Food preservation 101 (pre-requisite for salsa and pressure canning)
- Preserving Salsa
- Pressure canning
- Utilizing the harvest
- Late-season salads
- Wesley House/Farmer’s Market Healthy Recipes Demos
Community Vitality/Financial Management & Entrepreneurship

- Grants
- Entrepreneurship
- Business Plans
- Follow up requests
  - Small Business, Big Ideas
  - Farm Tour
  - Grant Workshops
Project Transition

- High Tunnel ownership transferred to Southeast Kansas CTEC.
- Plant Science Courses
  Horticulture Certificate Program
Results of Pilot Program
Factors Influencing Fruit and Vegetable Farmers’ Willingness to Participate in Market Outlets with a Food Justice Mission: The Case of Fresh Stop Markets

Margarita Velandia, Xuqui Chen, Jaqueline Yenerall, Susan Schexnayder, Carlos Trejo
University of Tennessee

Keiko Tanaka, Heather Hyden, Karen Rignall
University of Kentucky
In the US, low-income households tend to eat less nutritious diets when compared to higher-income households (USDA, ERS).

US low-income are more likely to have challenges associated with food access, budget allocation, time to prepare healthier foods, and perceptions of affordability of healthier foods (USDA, ERS).

Fresh Stop Markets (FSM) is an example of a market model aiming to increase access to local, fresh, healthy foods in food-insecure neighborhoods in KY.
What are Fresh Stop Markets (FSM)?

FSM pop up every two weeks during the growing season, June-November, at churches, businesses and community centers. Shareholders pay on an income-based sliding scale, two weeks before each pick up date. Each bag contains nine varieties of fresh, local, mostly organically-certified vegetables and some fruit: $6 if paying with SNAP; $12.75 for limited resources; $27 for higher income; and, $43 for Food Justice Shares. Everyone gets the same bag regardless of what they pay.
Farmer Survey

• **Objective:** Evaluate fruit and vegetable farmers’ willingness to sell produce through Fresh Stop Markets (FSM).

• **Data:** Contact list of 961 farms obtained from PTP program and TN Ag Enhancement program for TN farms, and KY Proud program for KY farmers. Survey was sent to farmers in East TN (32 counties, including Knox County), and the Lexington, and Louisville KY area (14 counties).

• **Survey:** We used a mix-mode survey (Web and mail survey versions). Web version—sent to 245 TN farms between February and March 2020. Mail version sent to 716 farms (KY and TN farms which had not completed web version by April or did not have an e-mail address); 161 responses were obtained for a 17% response rate.

• **Survey design:** Includes 22 to 27 questions depending on respondent selections (food justice, WTP in FSM, market outlets, farmer and farm business characteristics).
Activities related to the food justice mission (n=161)

- Donate food products: 40%
- Sell produce at FM in low-income neighborhoods: 25%
- I accept SNAP or WIC: 25%
- Discounts to low-income families: 15%
- Run an educational program: 15%
- Leader or volunteer: 10%
- Other: 10%

Note: The graph shows the percentage of activities related to the food justice mission based on a sample size of 161.
## Summary Statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm gross revenue &lt; $25,000</td>
<td>0.6410</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>&gt; 25% of income from farming</td>
<td>0.5901</td>
<td>0</td>
<td>1</td>
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<tr>
<td>Household income &lt;$100,000</td>
<td>0.6779</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Acres in F&amp;V</td>
<td>7.1776</td>
<td>0.06</td>
<td>60</td>
</tr>
<tr>
<td>Total acres in production</td>
<td>47.0264</td>
<td>0.06</td>
<td>1500</td>
</tr>
<tr>
<td>Selling produce at FM</td>
<td>0.4845</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Selling produce through CSAs</td>
<td>0.1366</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Selling produce to restaurants</td>
<td>0.1118</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>&lt;10% of produce donated to charity</td>
<td>0.7586</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Age</td>
<td>56.2432</td>
<td>27</td>
<td>89</td>
</tr>
<tr>
<td>Bachelor or graduate degree</td>
<td>0.6218</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Farm located in KY</td>
<td>0.6121</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
Q9.1. Would you be willing to sell produce through Fresh Stop Markets if:
Prices paid are 25% below retail prices (e.g., Farmers' Markets). You can sell up to 30% of your produce through this market outlet.

- Yes Please go to Q9.2.
- No Please go to Q9.3.

Q9.2. Would you be willing to sell produce through Fresh Stop Markets if:
Prices paid are 30% below retail prices (e.g., Farmers' Markets). You can sell up to 30% of your produce through this market outlet.

- Yes Please go to Q10
- No Please go to Q13

Q9.3. Would you be willing to sell produce through Fresh Stop Markets if:
Prices paid are 20% below retail prices (e.g., Farmers' Markets). You can sell up to 30% of your produce through this market outlet.

- Yes Please go to Q10
- No Please go to Q13
% of respondents WTS produce through FSM

- 25% below Retail price
- 30% below Retail price
- 20% below Retail price

- Yes
- No
# Preliminary Regression Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients</th>
<th>Marginal Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm gross revenue &lt; $25,000</td>
<td>0.5244*</td>
<td>0.1596</td>
</tr>
<tr>
<td>Bachelor or graduate degree</td>
<td>0.6652**</td>
<td>0.2024</td>
</tr>
<tr>
<td>Age</td>
<td>-0.0136</td>
<td></td>
</tr>
<tr>
<td>Selling produce at FM</td>
<td>0.6694**</td>
<td>0.2037</td>
</tr>
<tr>
<td>Offer discounts to low-income families</td>
<td>0.1858</td>
<td></td>
</tr>
<tr>
<td>Donate produce to Food Banks and/or other charities</td>
<td>0.3290</td>
<td></td>
</tr>
<tr>
<td>Educational program</td>
<td>1.0662***</td>
<td>0.3244</td>
</tr>
<tr>
<td>Leaders or Volunteers in organizations with food justice mission</td>
<td>-0.6405*</td>
<td>-0.1949</td>
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</table>
### Place-based qualities of resilient community food systems

- What are the dimensions of a RCFS?
  - a. What are the impacts to the supply chain of sudden, intermittent and long-term shocks?
  - b. What are the necessary place-based qualities to make a community food system resilient?
  - c. Who, or which organizations, holds the power to make change within RCFS?

### Community actors attitudes towards resilient community food systems

- How does community identity and resident knowledge relate to qualities of RCFS?
  - a. Who are the community actors that assist in forming a RCFS?
  - b. What are the perspectives of community members regarding what makes a RCFS?
  - c. What are the attitudes of community residents that support and challenge RCFS?

### Land-Grant University engagement within resilient community food systems

- What are LGU-E’s role in supporting RCFS?
  - a. How are LGU-E engaged in RCFS?
  - b. Do LGU-E services increase the ability for a community to establish RCFS? If so, how?
## OBJECTIVES

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Description</th>
</tr>
</thead>
</table>
| Place-based qualities of resilient community food systems                  | • Describe the dimensions of RCFS and their place-based qualities related to Community Capitals Framework  
  • Assess if there are common characteristics of RCFS amongst different place-based communities that allow for response to sudden, intermittent and long-term shocks |
| Community actors attitudes towards resilient community food systems         | • Identify common attitudes and perceptions of RCFS  
  • Compare values of residents that have experienced disaster that support and challenge RCFS                                                   |
| Land-Grant University engagement within resilient community food systems   | • Determine current LGU-E’s engagement in RCFS and potential roles in the future  
  • Understand the strength of relationships LGU-E has with community actors of RCFS                                                        |
PLACE-BASED COMMUNITY

Place-Based

• Collective Action
• Partners will determine particular place-based community (locale or region)

Understand place-based qualities utilizing Community Capitals Framework (Emery & Flora, 2006)

• Built
• Financial
• Political
• Social
• Human
• Cultural
• Natural

Identify personal values and attitudes that impact individual decision making

• Food access
• Relationships
• Equity
• Independence and financial security
• Environmental health
FOOD SYSTEMS

Resource Management → Production → Processing → Distribution and Marketing → Consumption and Food Access

Research Focus: direct to consumer and mid-tier supply chain
Resilience is the capacity of a system to withstand shocks and external pressures while maintaining its basic structure, processes and functions. Resilient systems have buffering capacity, which enhances their ability to adapt to changes, learn from past mistakes and recover from disturbances (Schipanski et al., 2016, p. 601).

Resilience focuses on increasing the ability of systems to adapt and change with little long-term loss of function or potential for growth (U.S. Economic Development Administration, n.d.)
COMMUNITY ECONOMIC DEVELOPMENT

• Understanding of community economic development practices and methods
• Through facilitative discussions, social capital development, ability to support resilience capacity for communities, including food systems.
• While CED practices and theories are critical to the understanding of the research, the ability to measure the success of CED practices does not appropriately align with the research study; rather, CED processes of facilitation, social capacity and collective action will be utilized as a method of the research.
RESILIENT COMMUNITY FOOD SYSTEMS

• Ability for a place-based community food systems to withstand shocks and pressures while maintaining basic structures, processes and functions of and within the supply chain and ensure continued access to food for community residents.

• Indicators:
  • Sustainable and sound infrastructure for distribution channels
  • Buffering capacity to withstand shocks within production practices, processing facilities, aggregation and distribution channels, and food retailer capacity
  • Leadership and social capital support for community food businesses and residents
  • Policy that supports bounce-back to normal practices
EXTERNAL ACTORS

- Government Departments
- Non-Government Organizations
- Colleges and Universities
- Political actors and associations
- Funders
LAND-GRANT UNIVERSITIES

• Each college and university are governed differently
  
  Morrill Act of 1862 = public Land Grant Universities
  
  • 1887: Hatch Act- Agriculture Research Stations
  • 1890: Historically Black Colleges
  • 1914: Smith Lever Act- Extension Services
  • 1994: Tribal Colleges and Universities

• Current roles
HYPOTHESES

1: Place-based qualities that are most significant for RCFS are sound infrastructure, buffering capacity to withstand shocks throughout the supply chain, leadership and social capital within the community, and political support for returning to equilibrium.

2: Community residents that have relationships within their community and have experienced a disaster (natural or human-based) are more likely to support RCFS.

3: LGU-E can improve capacity for RCFS through technical assistance and community capacity support.
METHODS AND DATA ANALYSIS

- Participatory Action Research
- Co-create knowledge and understand together
METHODS AND DATA ANALYSIS

Figure 1: Sequential Exploratory Mixed Methods Design, formatted from Hesse-Biber, 2010 pg. 463
## REVIEW: PLACE-BASED

<table>
<thead>
<tr>
<th>Questions</th>
<th>Objectives</th>
<th>Hypothesis</th>
<th>Who/ How/ Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place-based qualities of resilient community food systems</td>
<td>What are the dimensions of a RCFS?</td>
<td>Describe the dimensions of RCFS and their place-based qualities related to Community Capitals Framework</td>
<td>Who: 4 case study groups with participants including farmers, processors, distributors, restaurants, institutions, consumers, LGUE staff, coalition members, local food coordinators, etc.</td>
</tr>
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<td>• What are the impacts to the supply chain of sudden, intermittent and long-term shocks?</td>
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<td></td>
</tr>
<tr>
<td>• What are the necessary place-based qualities to make a community food system resilient?</td>
<td></td>
<td></td>
<td>How: snowball sampling to determine participants in case study;</td>
</tr>
<tr>
<td>• Who, or which organizations, holds the power to make change within RCFS?</td>
<td></td>
<td></td>
<td>1. In-depth interviews with participants</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. Secondary data analysis (census, ESRI, ERS) and development of snapshots that depict pre and post conditions for two foresight discussions</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>3. Foresight focus groups</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Analysis: Coding and theme development from interviews to determine appropriate analysis for secondary research and snapshot creation utilized in foresight focus group; overall case comparison analysis will involve triangulation between three components as well as insight from the resident surveys utilized to inform</td>
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</table>
## REVIEW: COMMUNITY ACTORS

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<tr>
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<td>• Who are the community actors that assist in forming a RCFS?</td>
<td>Compare values of residents that have experienced disaster that support and challenge RCFS</td>
<td>How: utilize interviews from Hypothesis #1 to inform themes that may be appropriate to include in survey in addition to attitudes and values; develop survey and utilize stratified sampling with a sampling frame of households within the geographic area of each case study</td>
</tr>
<tr>
<td></td>
<td>• What are the perspectives of community members regarding what makes a RCFS?</td>
<td>Community residents that have relationships within their community and have experienced a disaster (natural or human-based) are more likely to support RCFS.</td>
<td>Analysis: bivariate analysis between case study regions, income, education, career, political affiliations to understand similarities and differences across cases; additionally reflection and analysis between findings from secondary data snapshots</td>
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<td></td>
<td>• What are the attitudes of community residents that support and challenge RCFS?</td>
<td></td>
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<td>What are the attitudes of community residents that support and challenge RCFS?</td>
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<td></td>
<td>Analysis: bivariate analysis between case study regions, income, education, career, political affiliations to understand similarities and differences across cases; additionally reflection and analysis between findings from secondary data snapshots</td>
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</table>
# REVIEW: LAND GRANT UNIVERSITIES

<table>
<thead>
<tr>
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<tr>
<td>Land-Grant University engagement within resilient community food systems</td>
<td>What are LGU-E’s role in supporting RCFS?</td>
<td>LGU-E can improve capacity for RCFS through technical assistance and community capacity support</td>
<td>Who: 4 case study groups with participants including: farmers, processors, distributors, restaurants, institutions, consumers, LGUE staff, coalition members, and local food coordinators</td>
</tr>
<tr>
<td></td>
<td>• How are LGU-E engaged in RCFS?</td>
<td></td>
<td>How: develop specified interview questions for LGU-E staff and case study participants; foresight focus group observation regarding extensions involvement</td>
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<tr>
<td></td>
<td>• Do LGU-E services increase the ability for a community to establish RCFS?</td>
<td></td>
<td>Analysis: Case comparison coding and theme development from interviews and focus group specific to LGU-E engagement</td>
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<tr>
<td></td>
<td>Determine current LGU-E’s engagement in RCFS and potential roles in the future</td>
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<td></td>
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<tr>
<td></td>
<td>Understand the strength of relationships LGU-E has with community actors of RCFS</td>
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</table>
ESTIMATING THE ECONOMIC CONTRIBUTION OF THE LOCAL FOOD SYSTEM IN TENNESSEE

Oluwatooni Ajayi*, Enefiok Ekanem, and Mary Mafuyai

A Paper Presented at the Food Distribution Research Society 2020 Virtual Annual Meeting
October 13, 2020
This presentation focuses on the effect of consumers buying locally produced food on the economy.

**Economic Impact**
- **$5.47B**
  - The District’s food economy produced $5.47 billion in economic impact in 2016

**Employment**
- **8.0%**
  - Percentage of the District employment directly employed in the food economy in 2016

**Labor Income**
- **$579.3M**
  - Labor Income generated by the food economy
Local food systems are characterized by small scale, localized production with direct-to-consumers sales.

Through channels such as farmers' markets, Community Supported Agriculture (CSA) and intermediate sales to local grocery retailers, restaurants, and institutions such as schools and hospitals.
INTRODUCTION – The Local food System

• There is no consensus for the definition of the local foods system.

• For some local foods has a geographical connotation; so its food produced within 400 miles of its origin or within the State in which it is produced.

• For other local food is based on market arrangements that include direct to consumer sales. Such arrangements include Farmers Markets, Community Supported Agriculture (CSA).

• For this study, local food is defined as food produced, processed, and distributed within the study area.
• **Increasing consumer demands**

for local produce driven by the belief that the purchase of local food options is healthier and more supportive of the local economy.

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### Direct to consumer sales

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales</th>
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<tbody>
<tr>
<td>1997</td>
<td>$511,000,000</td>
</tr>
<tr>
<td>2007</td>
<td>$1,200,000,000</td>
</tr>
<tr>
<td>2012</td>
<td>$6,100,000,000</td>
</tr>
<tr>
<td>2015</td>
<td>$8,700,000,000</td>
</tr>
</tbody>
</table>

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• The USDA identifies LFS as one of its pillars of agriculture and rural economic development.

• Between 2009 and 2015 the USDA invested over $1 billion in more than 40,000 local and regional food system projects.

• Therefore, understanding the impacts of these investments is crucial.

*Data Source: United States Department of Agriculture (2015)*
Review of the Literature

• There are several methodological approaches to the study of LFS.

• Some studies assessed the economic impact of a specific component of the local food system,

• Other studies focused on the use of a framework such as the opportunity cost framework.

• For every study on the economic impact of the local food system—the specific indicators of economic impact such as employment, total output, and economic multiplier have a positive impact on the economy
<table>
<thead>
<tr>
<th>Local food system</th>
<th>Study Area</th>
<th>Author</th>
<th>Economic Impact</th>
</tr>
</thead>
</table>
| Food Shed         | Knoxville     | Hellwinckel et al., (2014) | - Economic multiplier 1.51  
                        - employs 6,000 people and  
                        - adds an additional $82 million to the economy |
| Farmers Market    | Oklahoma      | Henneberry et al., (2009) | - $31.5 million in gross sales  
                        - Contributes 140 jobs |
| Food hubs         | New York      | Jablonski et al., (2016) | - gross output multiplier of 1.75  
                        - employment multiplier of 2.14 |
| Food System       | Michigan      | Connor et al., (2008) | - Contributes 18,000 jobs to the economy  
                        - Produces an Output of $200 million |
| Farmers market    | West Virginia | Hughes et al., (2008)  | - $2.4 million in output |
Rationale for the Study

• Limited information for these impacts for Tennessee

• There is a need to evaluate the contribution of local foods across all potential sectors—this includes producers’, processors, and distributors.

• In a bid to raise an awareness for the growing demand of locally grown food and its consequent effect on the economy:

• This study provides a comprehensive approach to evaluating the economic impact of the local food system using the state of Tennessee as an example of a region
Objectives

This specific objective of this study was to:

• To measure the gross economic contributions of Tennessee’s local food system using the IMPLAN’s input-output model
Hypothesis

To test the hypothesis that the local food system in Tennessee, has a positive contribution on the total state output, employment, and labor income in Tennessee.
Methodology
Economic Contribution Analysis

• An economic contribution study measured the economic activity (in terms of jobs, labor income, taxes, etc.) of existing businesses and industries and estimates their contribution to the local economy.

• This study measured economic effect via:
  
  - Economic Multipliers
  - Total Output
  - Employment
  - Labor Income
  - Direct, Indirect and Induced Effects
The Input Output Model specifies how different inputs are assembled to produce a unit of output. The output of one industry will appear as the input of the other.

<table>
<thead>
<tr>
<th>Purchases by Sales of</th>
<th>Industry 1</th>
<th>Industry 2</th>
<th>Industry n</th>
<th>Total sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry 1</td>
<td>$x_{11}$</td>
<td>$x_{12}$</td>
<td>$x_{1n}$</td>
<td>$X_1 = \sum_j x_{1j}$</td>
</tr>
<tr>
<td>Industry 2</td>
<td>$x_{21}$</td>
<td>$x_{22}$</td>
<td>$x_{2n}$</td>
<td>$X_2 = \sum_j x_{2j}$</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Industry n</td>
<td>$x_{n1}$</td>
<td>$x_{n2}$</td>
<td>$x_{nn}$</td>
<td>$X_n = \sum_j x_{nj}$</td>
</tr>
<tr>
<td>Total purchases</td>
<td>$X_1$</td>
<td>$X_2$</td>
<td>$X_n$</td>
<td></td>
</tr>
</tbody>
</table>

The Input – Output Model
The input output transactions for this study were based on secondary data sources which are national averages from:

- U.S. Department of Agriculture Census of Agriculture,
- CEW: Census of Employment and Wages (Bureau of Labor Statistics - BLS)
- REA: Regional Economic Accounts (Bureau of Economic Analysis – BEA),
- U.S. Department of Labor Statistics,
- CBP: County Business Patterns (Census Bureau),
- NIPA: National Income and Product Accounts
- BEA: Bureau of Economic Analysis

- All which are contained in IMPLAN
Result & Discussion
Economic Contributions of the local food Systems in Tennessee

- Direct effects: $23,556,934,934
- Indirect Effects: $7,740,982,713
- Induced Effects: $4,292,906,911

$37.5 billion

Is the total effects of the local food system in Tennessee
The Local food system contribution to employment in Tennessee

Direct effects: 99,690 jobs
Indirect effects: 41,431 jobs
Induced effects: 27,306 jobs

The region’s local food system directly provides 99,690 jobs.
The Local food system contribution to Labor Income in Tennessee

- $2,676,626,473
- $1,526,969,241
- $2,691,301,806

Indirect effects
Direct effects
Induced effects
Economic Contributions of the local food Systems in Tennessee

<table>
<thead>
<tr>
<th>Multiplier Type</th>
<th>Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Multiplier</td>
<td>1.47</td>
</tr>
<tr>
<td>Income Multiplier</td>
<td>2.56</td>
</tr>
<tr>
<td>Employment Multiplier</td>
<td>1.69</td>
</tr>
<tr>
<td>Value Added Multiplier</td>
<td>2.063</td>
</tr>
</tbody>
</table>

This table shows the Tennessee's local food system's Income, Employment, Value -added multipliers.
Conclusion

• Findings show that LFS have significant positive contributions on the total state output, employment, and labor income in Tennessee.

• Therefore, a strengthened local food system is an avenue for further economic development in the region of Tennessee.

• Future research should explore a unanimous and strengthened framework in evaluating the local food system, to model a method that can be applied to several definitions and interpretations of the local food system.
QUESTIONS?