

DELTA ROOTS

The Mid-South Regional Food System Plan

Full Report
May 30, 2015



This document reviews the Mid-South Regional Food System Assessment and Plan

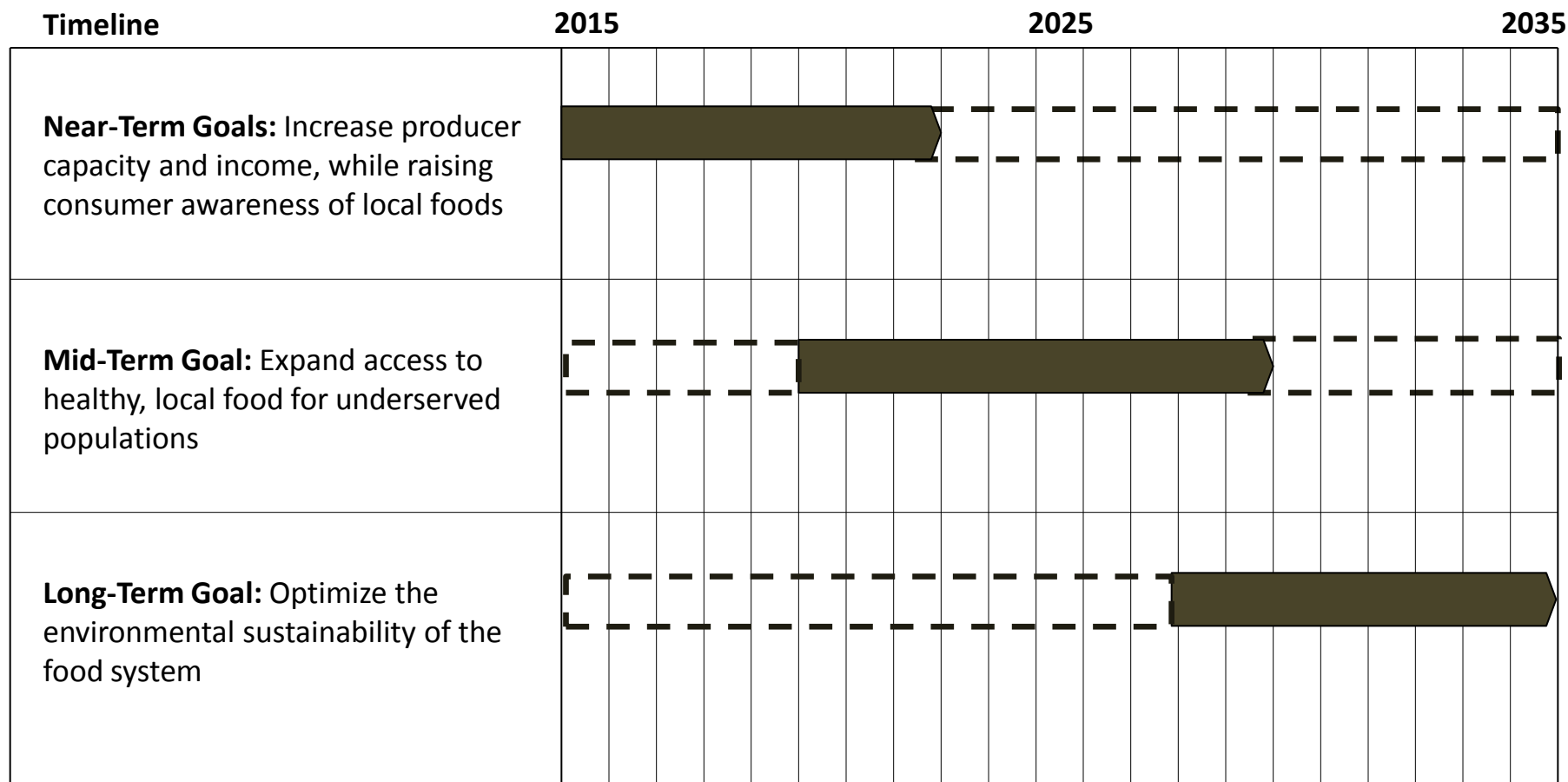
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The regional strategy increases capacity and awareness in the near term, as foundational to long-term food access and sustainability

Regional Strategy Summary



This 20-year plan will focus regional investment on the highest priority food business growth, access, and sustainability strategies

Objective

In January 2015, **East Arkansas Planning and Development District (EAPDD)** and the **Memphis-Shelby County Office of Sustainability** launched an assessment to inform a 20-year Mid-South Regional Food System Plan. This collaboration is an outcome of independent three-year U.S. Department of Housing and Urban Development Sustainable Community planning grants. Both plans identified the bolstering of local food systems as core to increasing regional sustainability and resiliency.

Bush Consulting Group Economic Insights for Strategy

Bush Consulting Group, specializing in industry driven economic development strategies, was engaged to identify the strongest business case for regional food system intervention, based on a deep understanding of regional assets, regional and national market dynamics, and the Mid-South’s competitive standing relative to other regions.

The resulting plan prioritizes critical strategies to support food business growth, improve healthy food access, and promote environmental sustainability throughout the Mid-South region. The analysis and recommendations within this report have been vetted extensively with stakeholders throughout the region, including industry members at all parts of the food value chain. A complete list of Steering Committee members and regional interviewees can be found at the end of this document.

Scope

This plan defines regional strategies spanning 15 counties – different from important local or state-level priorities pursued throughout the region. The resulting recommendations are meant to complement, align, and strengthen – not replace – local and state-wide efforts.



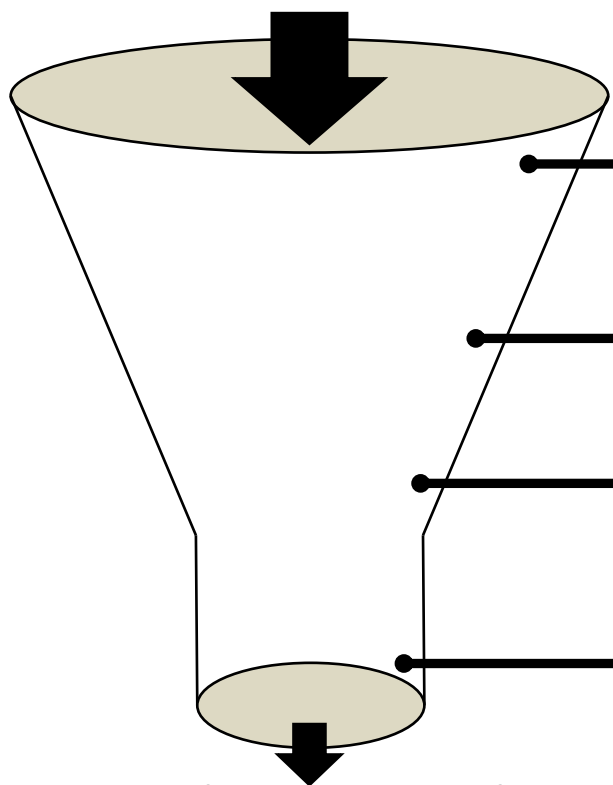
These 15 counties represent the combined planning districts of the reNEW East Arkansas Initiative and the Mid-South Regional Greenprint and Sustainability Plan. However, the plan, like the food system itself, necessarily draws on strengths and illuminates opportunities extending beyond this boundary.



A focused portfolio of strategic interventions was selected to build on existing, competitive strengths in growing markets

Strategy Development

Broad Food Business Growth, Access, Sustainability Objectives



Focused, Investment-Worthy Portfolio of Opportunities

Strategic Drivers	Questions to Address
Scale and Concentration	<ul style="list-style-type: none"> Is there enough existing regional activity to drive growth? If so, in what areas?
Decision Point 1¹: Focus on local produce, local meats, and national food processing assets to achieve regional objectives	
Company Champions	<ul style="list-style-type: none"> Are key players within potential focus areas willing to participate in planning and implementation?
Source of Growth	<ul style="list-style-type: none"> Is potential focus area growth outpacing the sector and economy? Is growth likely to come from local or non-local sales?
Competitive Advantage	<ul style="list-style-type: none"> Do existing strengths confer a differentiated position for the region? Can the region maintain its differentiation?
Decision Point 2¹: Select top priorities out of many possible interventions	

¹ Dozens of regional interviews, committee participants, and regional stakeholders vetted this analysis and informed the recommendations – please see the appendix for a complete listing



Interviews depicted a food system rooted in the Mississippi River Delta, rich with local food opportunities and complex challenges

Mid-South Food: A Regional Context

The Delta Roots of the Mid-South include a complex web of challenges and opportunities for a resilient regional food system:

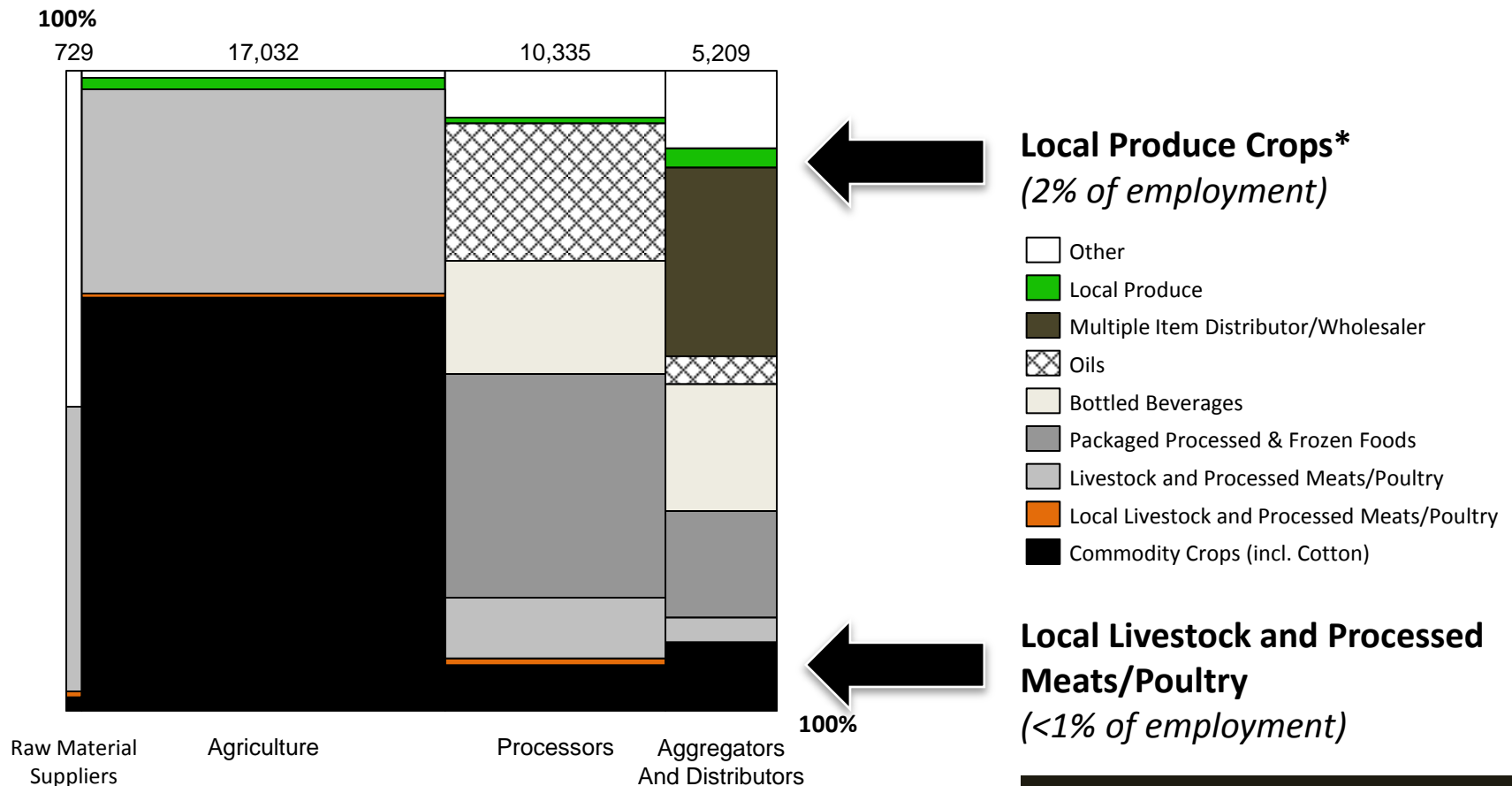
- Soil and water resources are ideal for large-scale commodity farming; leaving specialty crops little room to compete, and susceptible to aerial chemical damage
- Highly variable temperature, precipitation, and wind conditions add risk to an already limited growing season
- Widespread poverty is accompanied by high rates of urban and rural food insecurity and limited retail access
- Skills of the available workforce are not aligned with current farming and food processing needs
- Substantial, innovative philanthropic, government, non-profit, and academic investment in local, healthy food
- Increasing interest in regional food production in the face of Western US drought

This report does not discuss all of these themes in detail, but they are a critical backdrop to our understanding of the region's path forward.



Today, local produce, meats, and poultry account for a tiny sliver of the Mid-South's food system activity

Mid-South Food Employees, Total = 33,000



Local Produce Crops previously designated as Specialty Crops –Produce; excludes retail, specialized equipment, and supporting services, which tend to follow production activity growth
 Represents ~5% of total regional employment
 Sources: Hoover's Dun & Bradstreet database, 2012 USDA Census of Agriculture, Chambers of Commerce, ArkansasGrown.org, Deltafreshfoods.org, AR/MS MarketMaker, Localharvest.org, Steering Committee

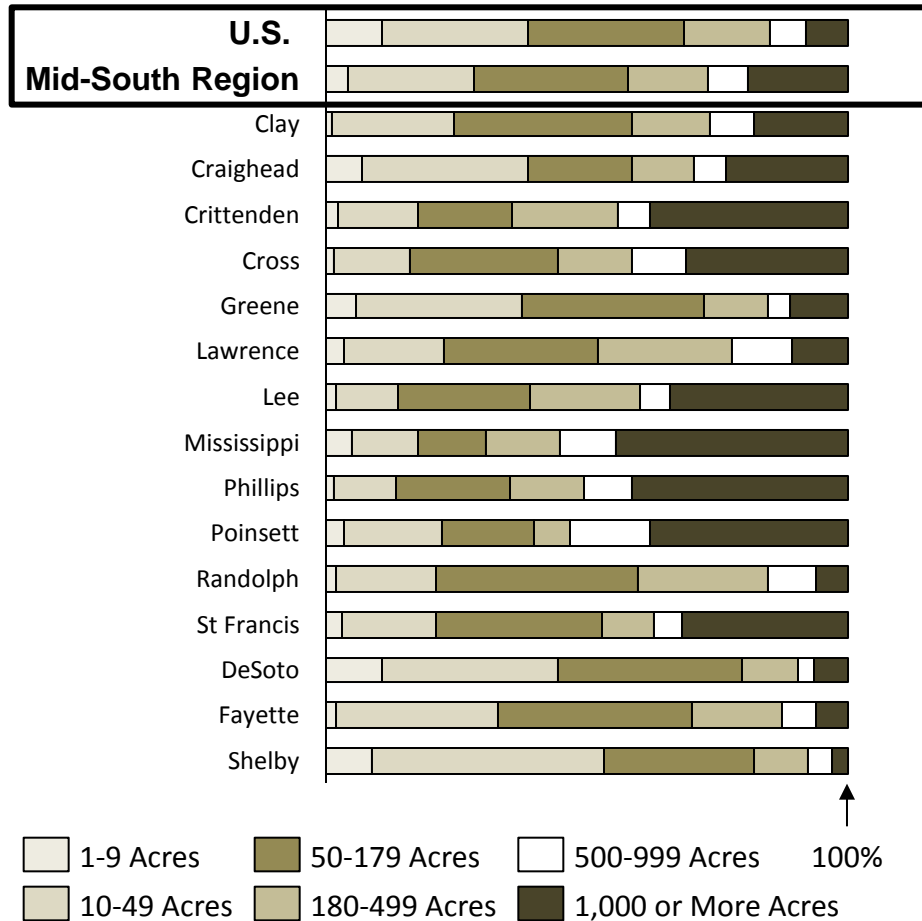
Of ~4.2 million acres of farmland in the region, less than 2,000 (0.05%) are used to produce specialty crops.



The Mid-South region's relatively low concentration of small farms will challenge a local produce or specialty crop strategy

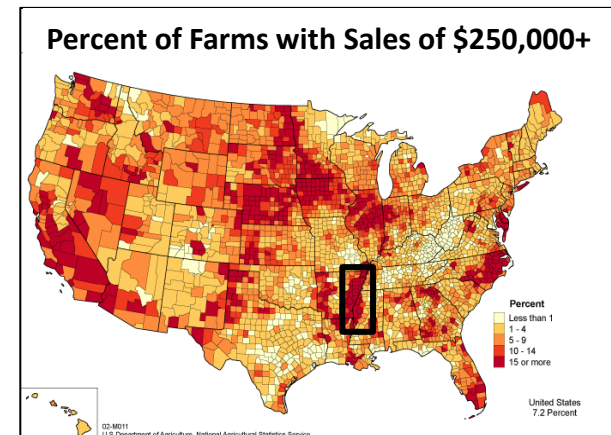
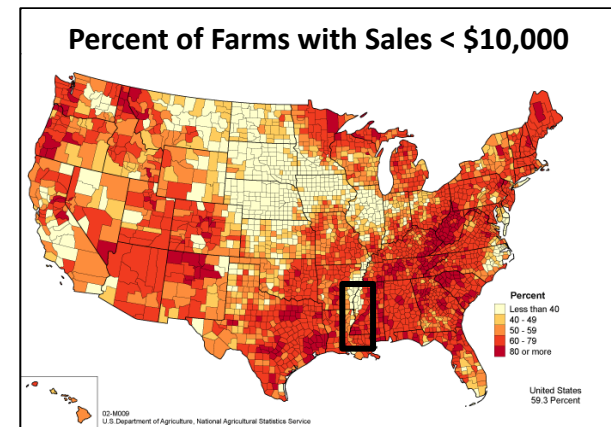
Mid-South Farm Distribution by Size

Acres



US Farm Distribution by Size

Annual Revenue



Source: USDA, Census of Agriculture, "County Summary Highlights", 2012; USDA, National Agriculture Statistics Service, 2002



Much of the region’s enabling activity focuses on supporting produce farmers and low income consumers

Enabling Food System Activity (Non-Commercial)

- 4 Rivers Fresh Foods
- Agricenter International
- Alcorn State University Mississippi Small Farm/ Agribusiness Center
- Alcorn State University Vegetable Processing Center
- Alt Consulting
- American Heart Association Teaching Garden
- Arkansas Biosciences Institute, Arkansas State University
- Arkansas Community Foundation
- Arkansas Delta Rural Heritage Development
- Arkansas Delta Seeds of Change
- Arkansas Farm to School
- Arkansas Grow Healthy Study
- Arkansas Grown
- Arkansas Heritage Sites, Arkansas State University
- Arkansas Local Food Network
- Baptist Memorial Healthcare Rehabilitation Garden
- BioDimensions
- Binghampton Development Corporation Urban Farms
- Blytheville Chamber of Commerce
- Boys and Girls Club Mississippi County
- Briggs Foundation
- Bring It Food Hub
- Church Health Center Wellness
- Clay County Strategic Plan
- College of Agriculture and Technology, Arkansas State University
- Common Table Health Alliance
- Community Foundation of Greater Memphis
- Community Foundation of Northwest Mississippi
- Community LIFT
- Conserving Arkansas’ Agricultural Heritage
- Craighead County Strategic Plan
- Cross County Strategic Plan
- Dale Bumpers College
- Delta Bridge Project
- Delta Center, Arkansas State University
- Delta Cuisine Commercial Kitchen and Food Incubator
- Delta Fresh Foods
- Delta Regional Authority
- Desoto County
- East Arkansas Enterprise Community
- East Arkansas Planning and Development District
- Departments of Education (AR, MS, TN)
- Downtown Jonesboro Association
- Edible Memphis
- Family Farmers Cooperative
- Farm Bureaus (AR, MS, TN)
- Farm to Table Conference
- Farmers Markets (see Appendix for list)
- Food Advisory Council of Memphis/Shelby County
- Food Bank of Northeast Arkansas
- Forge Arkansas
- Future Farmers of America (AR, MS, TN)
- Girls Inc. Youth Farm
- Greater Memphis Chamber of Commerce
- Green Leaf Learning Farm at Knowledge Quest
- Green Machine Mobile Market
- Greene County Strategic Plan
- GrowMemphis
- Healthy Convenience Store
- Hughes, AR Strategic Plan
- Hyde Family Foundations
- Institute of Food Science and Engineering, University of Arkansas
- Jonesboro, Arkansas Strategic Plan
- Jonesboro Regional COC and Existing Industry Association
- Kemmons Wilson Family Foundation
- Let’s Change
- Liveable Memphis and Community Development Council
- Local Foods, Local Places Osceola
- Main Street West Memphis
- Make Mine Mississippi
- Memphis Area Association of Governments
- Memphis Bioworks
- Memphis Botanic Garden
- Memphis Center for Food and Faith
- Memphis Healthy Churches
- Memphis Locally Grown
- Memphis Regional Community Foundation
- Memphis-Shelby County Office of Sustainability
- Metropolitan Inter-Faith Association
- Mid-South Community College Hospitality Management
- Mid-South Food Bank
- Mississippi Association of Cooperatives
- Mississippi County Arkansas Economic Opportunity Commission
- Mississippi Food Policy Council
- Mississippi State University Extension Agencies
- North Delta Vegetable Growers Association
- North Jonesboro Neighborhood Initiative
- Northwest Mississippi Community College Microfarming Program
- Osceola/South Mississippi County Strategic Plan
- Phillips Strategic Plan
- Pick Tennessee Products
- Poinsett County Strategic Plan
- Project Green Fork
- Randolph County Strategic Plan
- Rhodes College
- Roots Memphis
- Seven Harvest
- Shelby County Health Department
- Shelby County Schools
- Shelby Farms Park Conservancy
- Small Business and Technology Development Center, University of Arkansas
- SmartMule
- Soulsville Community Gardening
- Southern Bancorp Community Partners
- St. Francis County Strategic Plan
- St. Jude Children’s Research Hospital
- Tennessee Farm to School
- Tennessee Livestock Producers
- Tennessee Obesity Taskforce
- Tennessee State University Small Farm Program
- The Assisi Foundation of Memphis, Inc.
- The Kitchen Community - Memphis
- The Works, Inc.
- Urban Land Institute Memphis
- United Way of the Mid-South
- University of Arkansas Extension Agencies
- University of Tennessee Extension Agencies
- University of Arkansas-Pine Bluff Small Farm Program and GAP Training
- University of Memphis
- Uptown Community Garden
- Urban Land Institute - Memphis
- US Congressman Rick Crawford’s Office
- USDA Strikeforce
- West Memphis Strategic Plan
- Wilson Gardens
- Winthrop Rockefeller Foundation
- YMCA of Memphis and the Mid-South

Key:

- Includes Produce Focus
- Produce and Low-Income Consumer Focus
- Other Focus

Source: Steering Committee input and dozens of regional reports and websites
 Where applicable, commercial activity associated with these organizations has been separately captured in the core competence assessment (e.g., Roots Memphis)



Regional stakeholders selected 3 focus areas at the intersections of supply and demand, to best address food system objectives

Focus Areas to Assess for Feasible Intervention

Market / Product	Consumer-facing Retail		Institutions	Food processors	Other
	Food deserts/ income limited	Premium local food value prop			
Livestock and Processed Meats/Poultry	Local Meat Processing/Distribution ● ● ● ●			Value-Added Agriculture ● ● ● ●	
Commodity Crops					
Specialty Crops - Produce	Fresh, Local Produce Distribution ● ● ● ●				
Cereal				● ● ● ●	
Multiple-Item Distributor/ Wholesaler (incl. imported foods)					
Other					

- Commercial activity
- Potential health improvement
- Enabling activity
- Environmental impact
- Least Relevant Activity
- Most Relevant Activity

Selected Focus Areas



Focus Area 1: Local Produce



Consumers seeking local produce, and low-income markets needing fresh food access, are both critical targets

Consumer Market Segmentation

2014 Total Personal Income, \$MM

	Whole Population	Population Willing to Pay Up to 10% Premium for Local Food	Price-Sensitive Population
Low-Income (32% of population)	\$4,765	\$1,381 (29% of income)	\$3,383
Middle-Income (64% of population)	\$45,743	\$14,638 (32% of income)	\$31,105
High-Income (5% of population)	\$10,269	\$4,827 (47% of income)	\$5,443
Total	\$60,777	\$20,846 (34% of income)	\$39,931

Low-Income, Price Sensitive Consumers
 ← (Arrow pointing to Low-Income Price-Sensitive Population)
 } Other Price-Sensitive Segments Not Targeted

↑
Local Premium Consumer Market

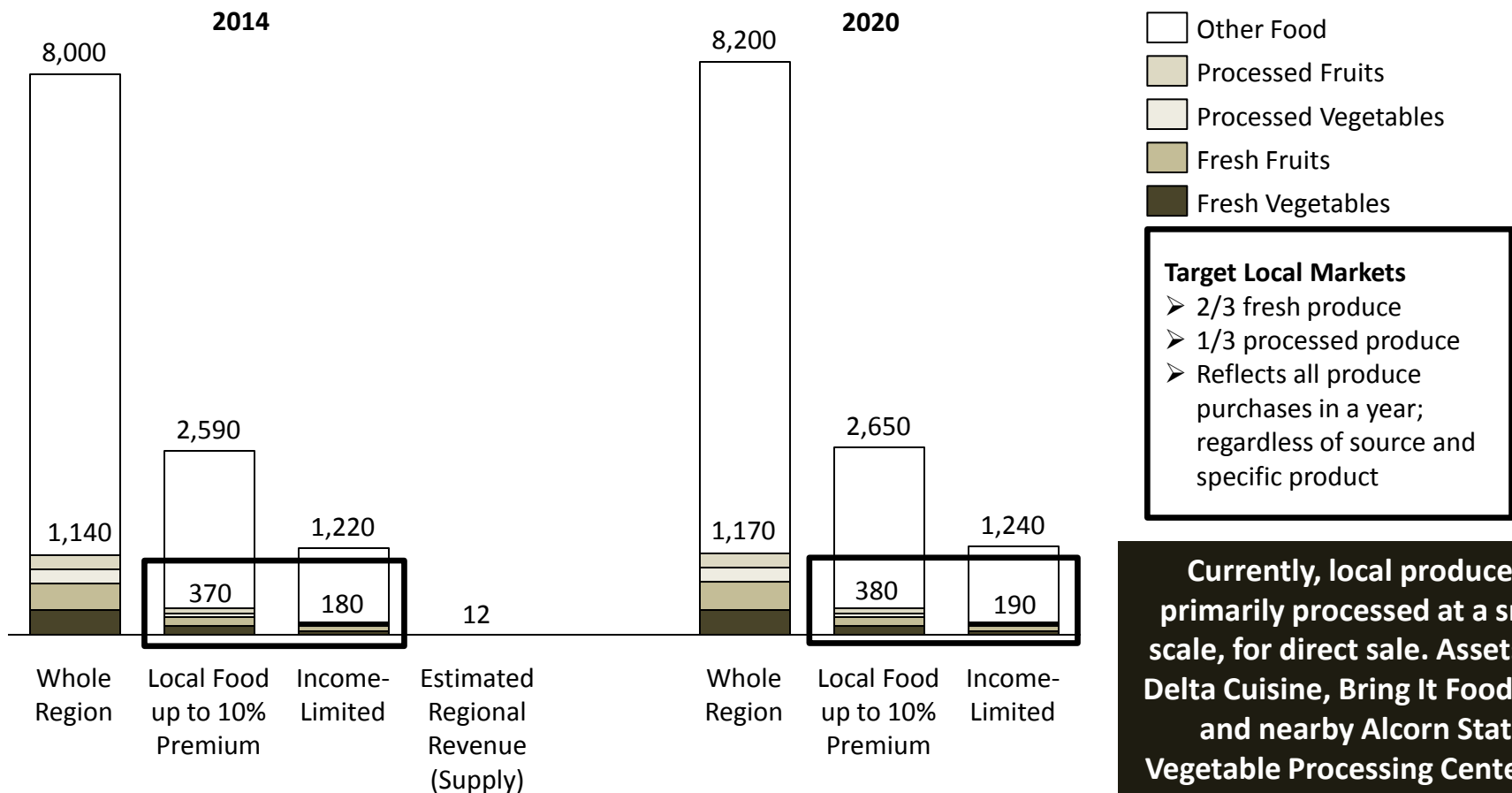
Sources: US Census Bureau income data by county and AT Kearney *Ripe for Grocers – The Local Food Movement* national market assessment; Local food demand figures on the following pages assume the population willing to pay a premium would choose local whenever available, resulting in a ‘maximum demand’ figure. As shown on the barriers page, even populations willing to pay a premium for local foods often require education about seasonality, preparation, storage, and other factors before they will consistently choose the local option first.



Income-limited consumers, as well as those willing to pay a premium for local food, represent a \$550MM produce market

Summary of Market Data and Assumptions for Regional Consumer Segments

Total Food Expenditures by Regional Consumers, \$MM



Based on projected regional population growth from 1.54MM in 2014 to 1.57MM in 2020
 Sources: USDA ERS Food Expenditure data, Census Bureau population and income statistics; AT Kearney
Ripe for Grocers – The Local Food Movement

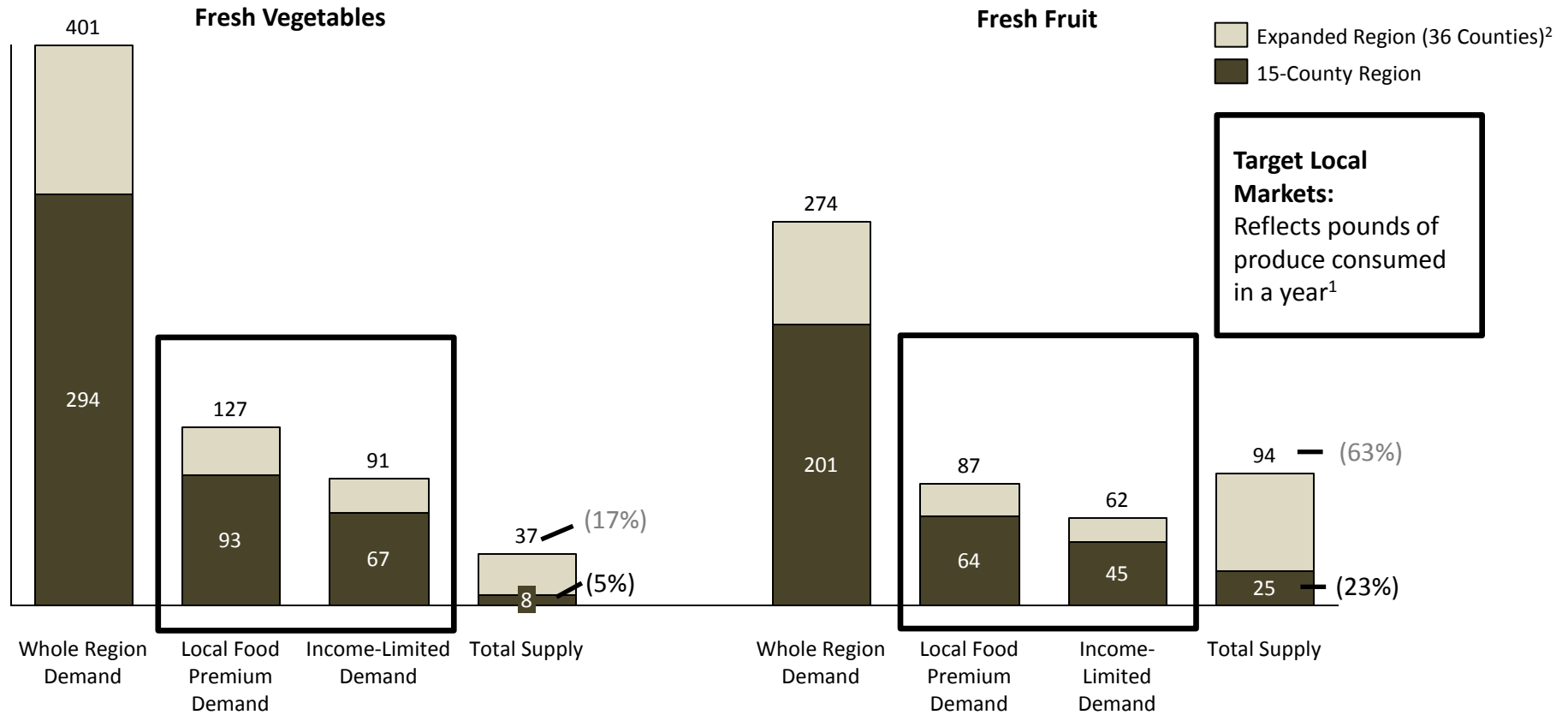
Currently, local produce is primarily processed at a small scale, for direct sale. Assets like Delta Cuisine, Bring It Food Hub, and nearby Alcorn State Vegetable Processing Center are under development to incubate these activities.



Regional farm production can meet 5% of the fresh vegetable and 23% of the fresh fruit demand, unless the region is expanded

Regional Capacity to Meet Demand for Regional Consumer Segments

Produce, MMlbs¹



Target Local Markets:
Reflects pounds of produce consumed in a year¹

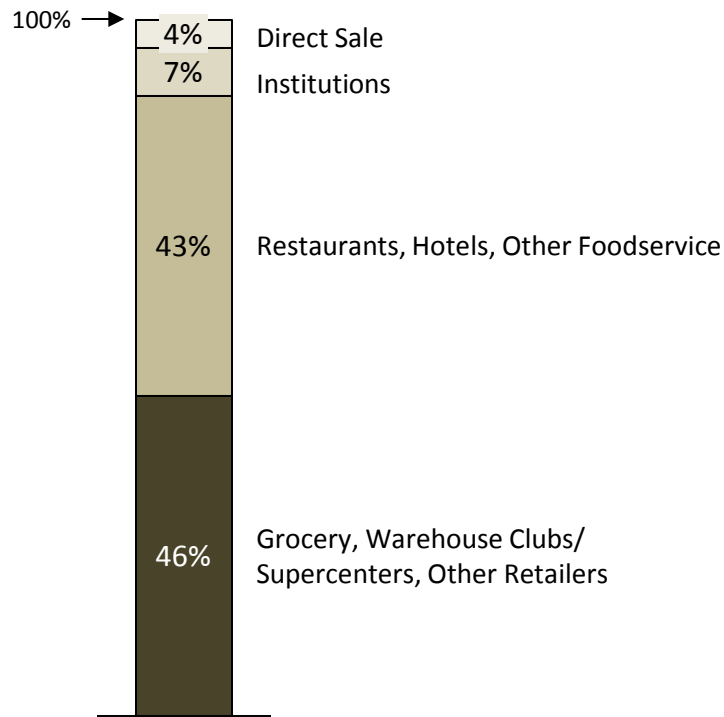
Sources: USDA National Agricultural Statistics Service Census, USDA ERS
 1 Assumes one person eats an average 131 lbs fresh fruit, and 192 lbs fresh vegetables per year, per USDA ERS Food Availability data
 2 Includes **Arkansas**, Desha, Jackson, Monroe, Woodruff in AR; Bolivar, **Coahoma**, **Leflore**, **Marshall**, **Panola**, **Quitman**, **Sunflower**, **Tallahatchie**, **Tate**, Tunica, MS; Crocket, **Hardeman**, Haywood, **Lauderdale**, Madison, **Tipton**, TN; counties in **bold** are most critical to expanding supply capacity



Most US food purchases happen at grocery- and restaurant-style retail, which source food based on quality, price, and availability

US Food Expenditures by Retail Category

% of Total Consumer Food Expenditures, 2102



US Food Expenditures by Retail Category

Retailer Purchasing Criteria

Rated Influence on Purchasing Decision; 1=low; 10=high



While different retail types vary slightly in ratings, price, quality, and availability are consistently the strongest purchasing drivers – these are the hardest for the region’s production to serve

1 Not exhaustive; full list provided in Appendix

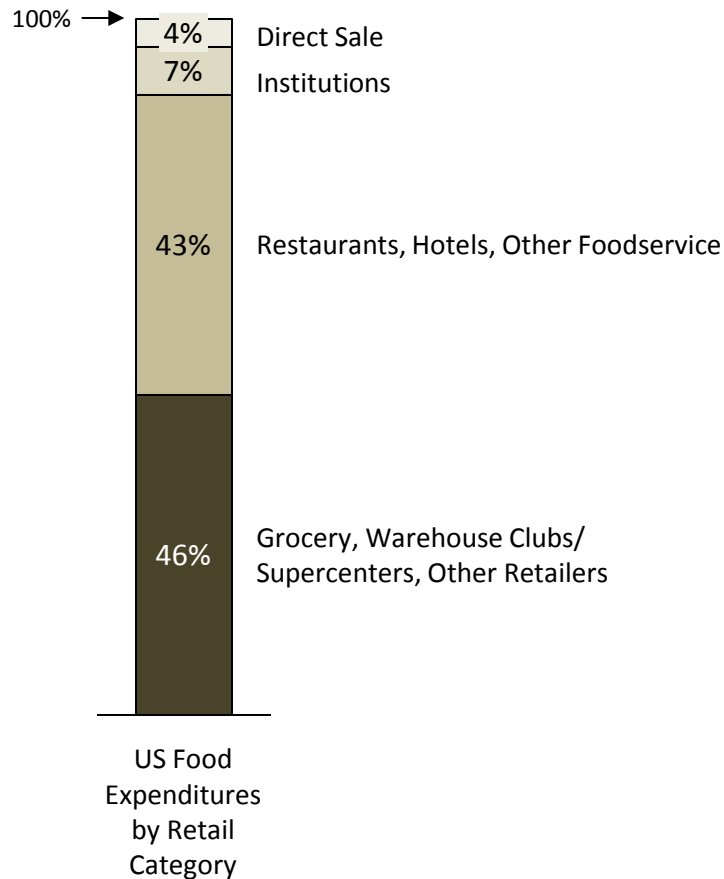
Sources: USDA ERS, Mid-South industry interviews, and previous Bush Consulting Group analysis; aggregate across value chain informed by B2B (not B2C) voice of customer research



In the Mid-South, local capacity limits produce availability primarily to farmers markets and independent restaurants

US Food Expenditures by Retail Category

% of Total Consumer Food Expenditures, 2102



Local Sourcing by Mid-South Retailers

Type	15-County Retail Profile ¹
Direct Sale	<ul style="list-style-type: none"> At least 27 farmers markets, many of which are growing and searching for additional producers and physical market space At least 3 multi-farm, and numerous single farm, community supported agriculture programs, which cite demand exceeding supply
Institutions	<ul style="list-style-type: none"> Driven by top-down leadership at Shelby County Schools and St. Jude Children’s Research Hospital Otherwise limited by strict cost requirements often at odds with small-scale local production
Restaurants, Hotels, Other Foodservice	<ul style="list-style-type: none"> At least 27 restaurants, most locally owned, in Memphis, TN and Jonesboro, Tyrone, and Wilson, AR Otherwise limited by availability of products key to each restaurant’s menu
Grocery, Warehouse Clubs/Supercenters, Other Retailers	<ul style="list-style-type: none"> At least 9 retail chains, including family owned businesses and national market leaders, have cited interest in local sourcing Limited execution in this region due to lack of sufficient quantity of consistent quality items available throughout growing season

Sources: Hoovers Dun & Bradstreet Database, Arkansas Grown, Delta Fresh Foods, Pick Tennessee Products, Project Green Fork, and regional interviews

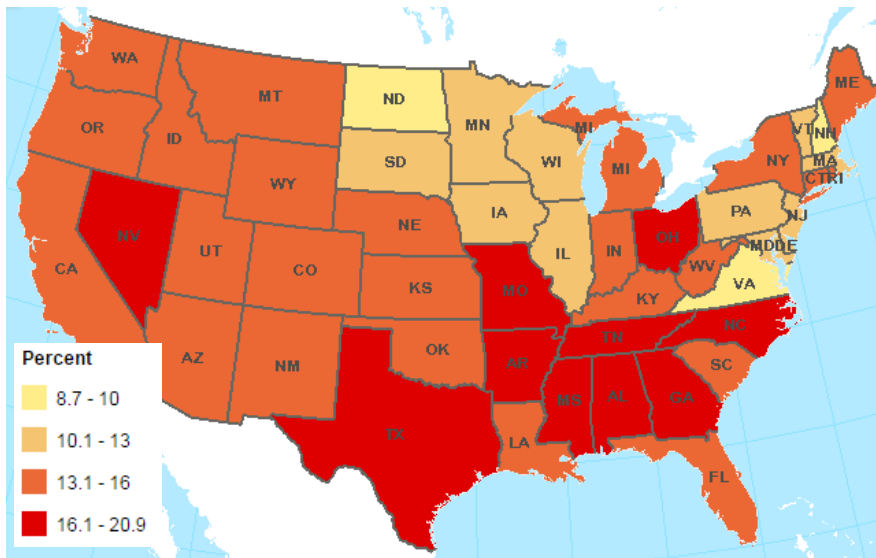
¹ Full list of verified locally sourcing retailers in Appendix



Many urban and rural portions of this region are “food deserts” lacking retail access to fresh produce and other healthful foods

Food Security Distribution

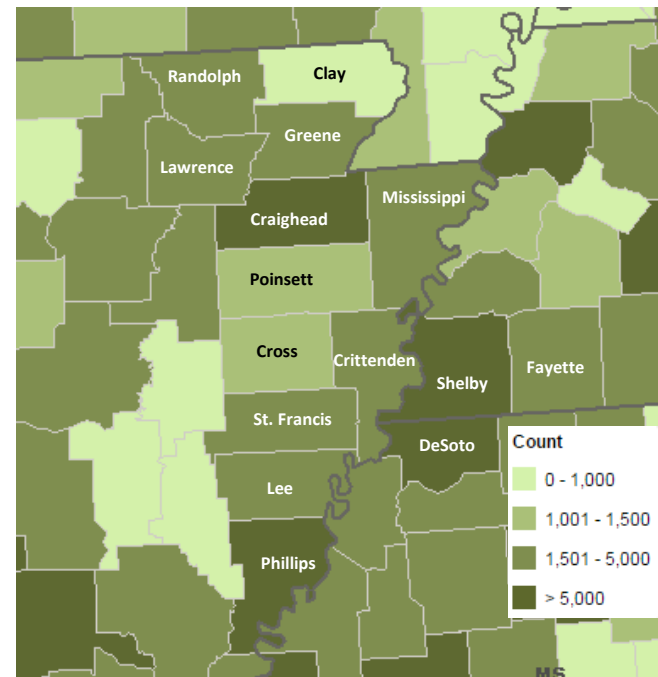
Percent of Population Food Insecure, 2012¹



Food insecurity is defined as “access by all people at all times to enough food for an active, healthy life”¹

Food Desert Distribution

No. of Low Income Population with Low Access to Stores, 2010²



Food deserts are defined as “urban neighborhoods and rural towns without ready access to fresh, healthy, and affordable food”³

1 Economic Research Service (ERS), Food Environment Atlas

2 Note: Map identifies number of people per county with low income and living more than 1 mile from a supermarket / large grocery store in urban areas or more than 10 miles in a rural area. Low income is defined as annual family income at or below 200% of poverty level

3 USDA, Agricultural Marketing Service, “Food Deserts”



Despite rich natural resources and community support, it is difficult for local farmers to make a living growing produce

Regional Producer Strengths and Challenges for the Local Produce Industry

	Differentiating Strengths	Industry-Cited Growth Barriers
Supply-Side	<ul style="list-style-type: none"> Fertile Delta soil Plentiful water/high water table Wide variety of produce grows well along Crowley’s Ridge, where topography limits commodity growth Unique urban farming and gardening models Substantial non-profit, government, academic, and foundation resources focused on farmer training 	<ul style="list-style-type: none"> Specialty crops are more resource-intensive than commodity crops; in the Delta, profitability per acre is higher for commodities Commodity crop farmers have invested substantial resources in equipment, and count on government subsidies each year Aerial chemical application to commodity crops can damage produce Technical assistance from some extension agencies focused on commodity crop farming; need for produce-focused technical assistance GAP certification is a challenge for small-scale producers Gap in younger generation’s farming knowledge and interest Sustainable farmer income and healthy food access objectives are often at odds Limited growing season/volatile weather Producer need for business planning information/training Local produce processing is difficult to scale in heavily regulated industry Traditional retail options are hard to address by a large, dispersed group of independent, small-scale growers

“I can grow commodity crops at \$258 profit per acre vs. \$160 for specialty crops”

“Most small produce farmers have other sources of income, or are retired”

“The costs of GAP certification is a major barrier to growth for small producers”

Source: 20 Regional industry and Food System interviews



Increasing local produce access also requires consumer education to make healthy, local options more competitive

Regional Consumer Strengths and Challenges for the Local Produce Industry

	Differentiating Strengths	Industry-Cited Growth Barriers
Demand-Side	<ul style="list-style-type: none"> Farmer’s Markets across the region continue to grow in popularity; both for food supply and as cultural centers/community meet-ups Mobile Markets, Healthy Corner Store Initiatives, and Harvard Law School Mississippi Delta Project/Food Law and Policy Clinic Assessment Expanding school garden efforts Substantial non-profit, government, academic, and foundation resources focused on fresh produce access and education Established network of regional food banks (Food Bank of Northeast Arkansas; Mid-South Food Bank) and local food pantries (often embedded in churches) focused on food distribution to those in need 2015 Local Food, Local Places technical assistance provided Osceola, AR; Delta Cuisine runner-up 	<ul style="list-style-type: none"> High regional concentration of poverty, hunger, and food deserts Sustainable farmer income and healthy food access objectives are often at odds Limitations on consumer knowledge about and willingness to prioritize local, fresh produce purchases – may choose other food based on price, convenience, availability, ease of preparation, shelf life, familiarity, cultural associations, appearance, taste, satiating power, resulting in a need for consumer education about competitive, healthy, local food choices

“Eating local food doesn’t mean ordering what you want, when you want it – it means eating what is in season and knowing how to prepare it”

Local produce supply should be scaled by first targeting consumers willing to pay a premium; philanthropic support will remain critical to connecting low-income populations to produce.

Source: 20 Regional industry and Food System interviews



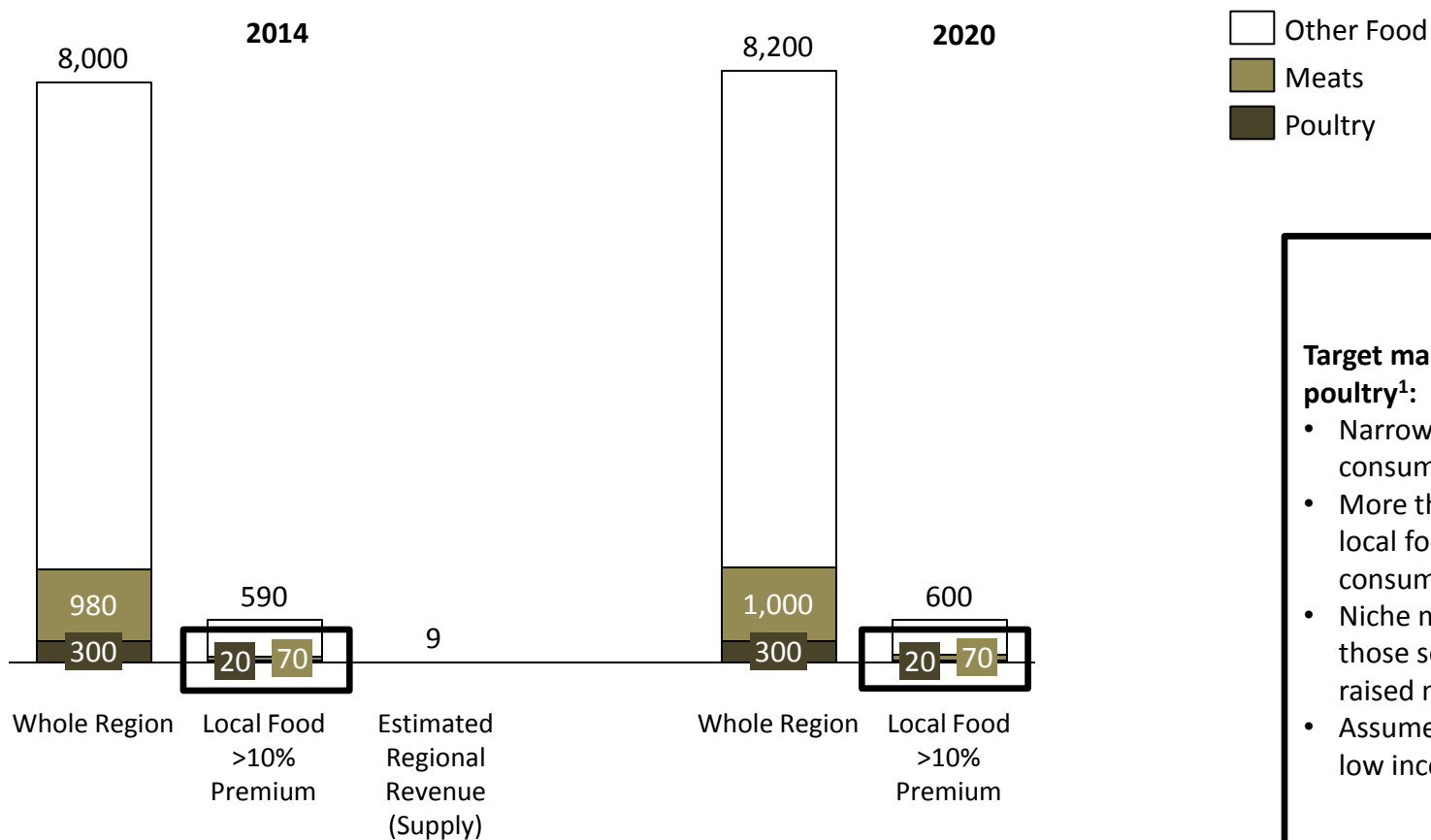
Focus Area 2: Local Meat and Poultry



Meat and poultry are a \$1.3B local market, but only \$90MM is spent by those willing to pay sufficient premium for local product

Summary of Market Data and Assumptions for Regional Consumer Segments

Total Food Expenditures by Regional Population, \$MM



Target market for local meat and poultry¹:

- Narrower than local produce consumers
- More than 10% premium for local food required; only ~9% consumers will pay this
- Niche market may overlap with those seeking more sustainably raised meats
- Assumes this does not include low income populations

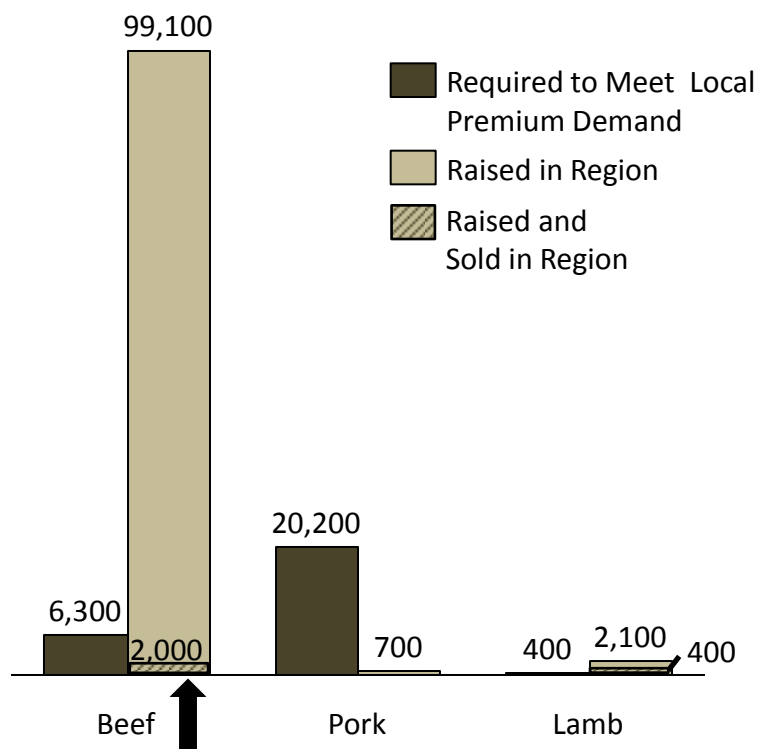
¹ Includes beef, pork, lamb, chicken, and turkey
 Based on projected regional population growth from 1.54MM in 2014 to 1.57MM in 2020
 Sources: USDA ERS Food Expenditure data, Census Bureau population and income statistics, study re: local premium



98% of the beef, chicken, and lamb raised locally is shipped out of the region, resulting in capacity shortages similar to local produce

Regional Meat Supply and Demand

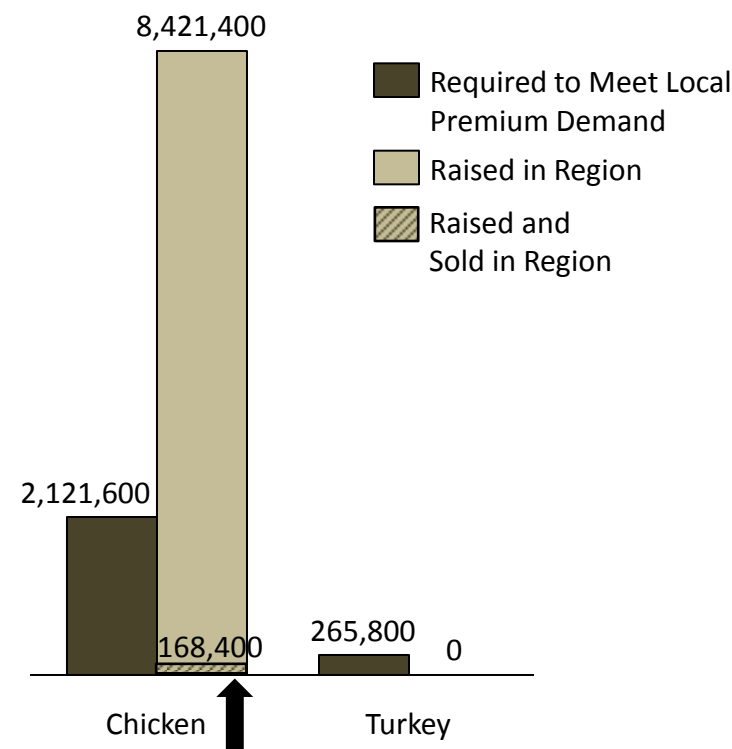
Heads of Livestock, 2014



90-95% finished in Western or Northwestern states, due to climate, grain availability, and processing plants

Regional Poultry Supply and Demand

Heads of Livestock, 2014



Almost all in Lawrence and Randolph counties, serving Peco's Batesville facility

Increasing supply for local markets will require changing existing business models or developing new producers.

National supply includes product sold to national accounts but distributed locally, without local branding

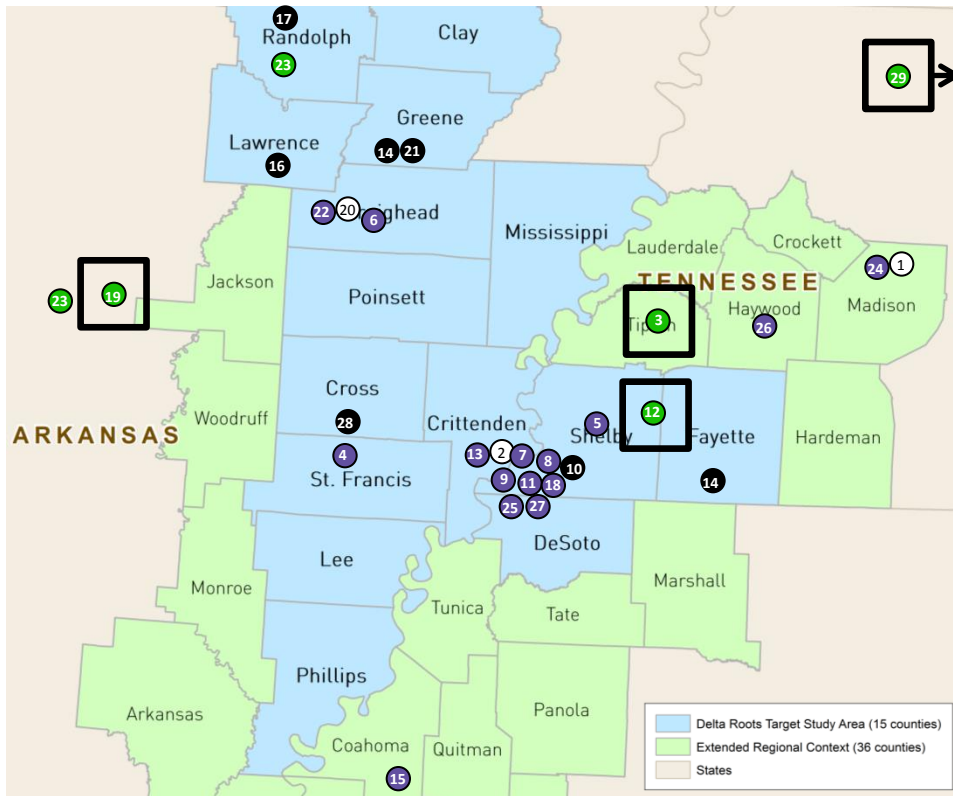
Sources: USDA ERS, USDA Agricultural Census, industry interviews re: % sold locally)



Most USDA-inspected processing in the region is large-scale for national markets, not slaughter and processing for local markets

Regional Meat and Poultry Processing Facilities

Not exhaustive outside target 15 counties



1. American Cold Storage
2. Americold Logistics
3. **Badr Halal Meat Processing**
4. Boar's Head Provisions
5. Brimhall Foods Co
6. Butterball
7. Charlie's Meat Market
8. Consolidated Poultry & Egg Co
9. Corky's Food Manufacturing
10. Dino's Italian Sausage
11. Empire Packing Co/Ledbetter
12. Fayette Packing/Keith's Farms
13. Fineberg Packing Co
14. Glenn's Deer Processing
15. J.R. Simplot Company
16. Karen Garber
17. Kempf's Custom Butcher
18. **Kim's Processing Plant**
19. **Meacham Packing**
20. Millard Refrigerated Services
21. Napier Meat/Custom Processing
22. Nestle Prepared Foods
23. Peco Foods
24. Pinnacle Foods Group
25. St. Clair Foods
26. Tripp Country Ham House
27. Vergos International Products
28. Wynne Meat Processing
29. **Yoder Brothers Meat Processing**

● **USDA Slaughter/Processing**
 Serve local livestock farmers for sale to local markets

● **USDA Processing**
 ○ **USDA Warehouse**
 ● **Custom-Exempt/On-Site Slaughter**

Source: ZeeMaps; USDA MPI-Directory; regional interviews, Bush Consulting Group analysis



Beyond additional processing capacity, local producers suggest need for specialized training and conversion support

Regional Strengths and Challenges for the Local Meat/Poultry Industry

	Differentiating Strengths	Industry-Cited Growth Barriers
Supply-Side	<ul style="list-style-type: none"> Existing commercial concentration focused on calf-cattle raising Good climate and soil for raising livestock, especially in areas where soil is too erodible or topography is too varied for row crops 	<ul style="list-style-type: none"> USDA/FDA regulation costs and complexity Insufficient USDA-certified processing for small-scale producers; there are regional producers who may be interested in investing in a new facility Most cattle finished and processed out of state, including weigh-cow processing Gap in younger generation’s farming knowledge and interest Producer need for business planning information/training Traditional retail options are hard to address by a large, dispersed group of independent, small-scale growers Land converted to row crops after rising corn/soy prices; will be costly to convert back Waste management costs

“At least 90% of the calves raised here will go out of state before they wind up as meat...to be in a drier climate, closer to grain, and closer to processors”

“If I want to process meat for a local market, I have to travel 160 miles each way to get to an inspected facility that can do everything I need at a competitive price”

Source: 12 Regional industry and Food System interviews

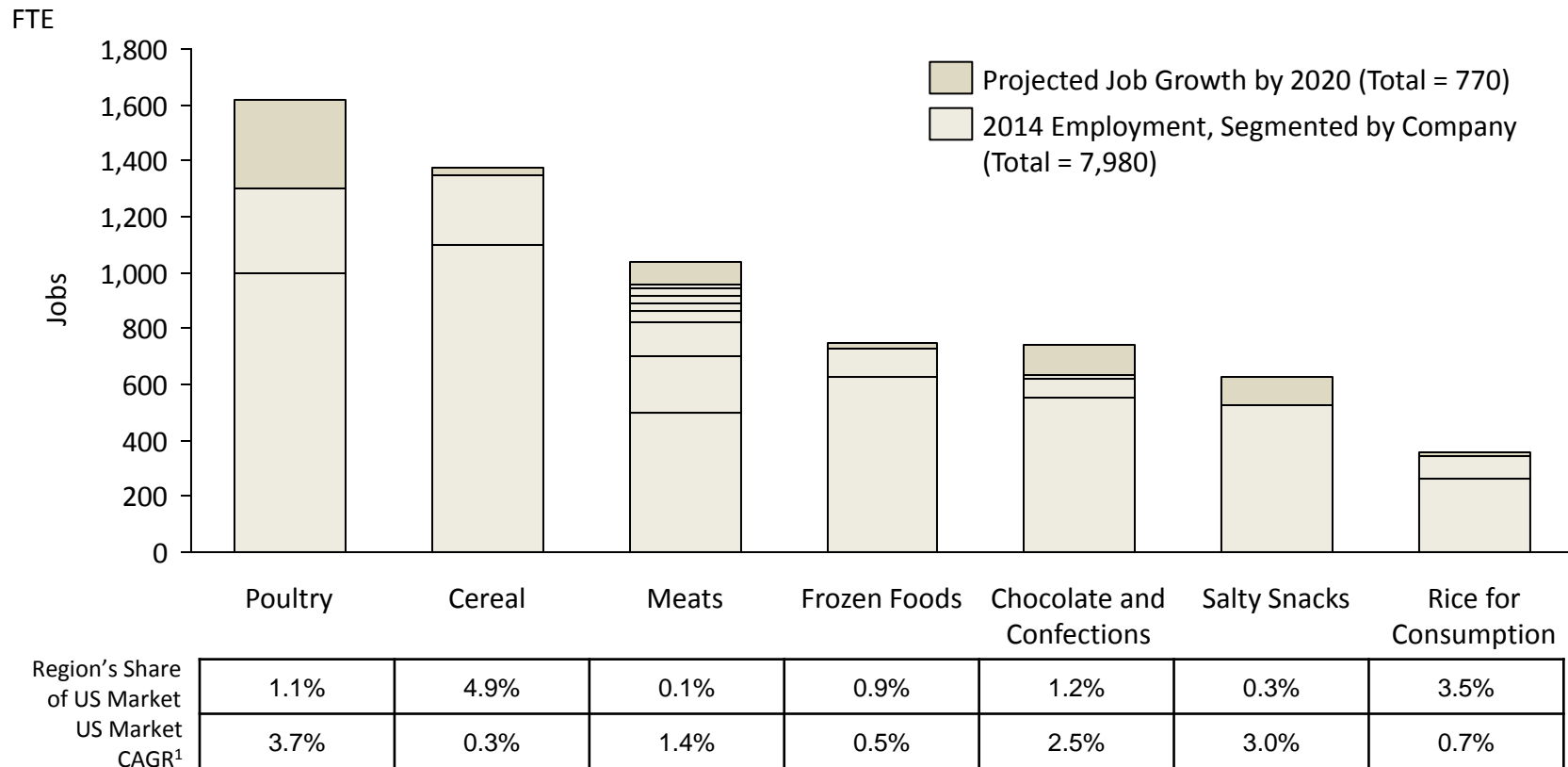


Focus Area 3: National Food Processing



The region's food processing activity is poised to grow, but is too fragmented to support narrowly focused intervention

Projected 2014-2020 Regional Job Growth Based on US Market Estimates



With the exception of meat processing and distribution, regional employment is dominated by 1-2 large companies per industry.

Poultry employment includes Peco's new facilities in Pocahontas and Corning

¹Compound Annual Growth Rate represents projected year over year growth of the US market for each industry

Sources: Bush Consulting Group Analysis using Asset Inventory data, MarketLine and IBISWorld Industry reports



Many of the strengths and challenges cited by food processors are common to other regional manufacturers

Regional Strengths and Challenges for Large Food Processors

	Differentiating Strengths	Industry-Cited Growth Barriers
Growth of Food Processing Businesses	<ul style="list-style-type: none"> Existing commercial concentration Land and infrastructure (water, sewer, highway) capacity Northeast Arkansas Existing Industries Association efforts 	<ul style="list-style-type: none"> Qualified workforce availability and turnover Wastewater management costs vary across the region; some are particularly high despite adequate capacity Transportation costs are rising due to lack of service reliability
Growth of Local Supply Chain (i.e., Processors as Customers)	<ul style="list-style-type: none"> Proximity to commodity agriculture 	<ul style="list-style-type: none"> Sourcing requires high volume, low price, consistent supply Well-established supply chains contracted and managed outside the region Need for additional local chicken houses driven by new processing activity
Improved Environmental Impact	<ul style="list-style-type: none"> Many waste streams are already recovered for value 	<ul style="list-style-type: none"> Unrecovered chicken feathers, blood, or eggshells are substantial waste streams requiring disposal, given unclear value as recycling inputs

“Workforce development is definitely the biggest need, similar to other industries with highly automated environments, where associates need to be familiar with technology and able to problem-solve”

Source: 12 Regional industry and Food System interviews



Regional Vision and Strategic Interventions



The region's vision centers on healthy local crops, livestock, and value-added foods for family-sustaining income and nutrition

Regional Vision

In 2035, we envision a Mid-South Region where:

- Specialty crops, livestock, and local food processing offer family-sustaining income for our residents
- Fresh and healthfully preserved local produce is accessible to, and chosen by, individuals at all income levels
- Waste is recovered for productive reuse throughout our food system



Five priority interventions, two cross-cutting activities, and two opportunities to watch address near-, mid-, and long-term goals

Regional Strategy

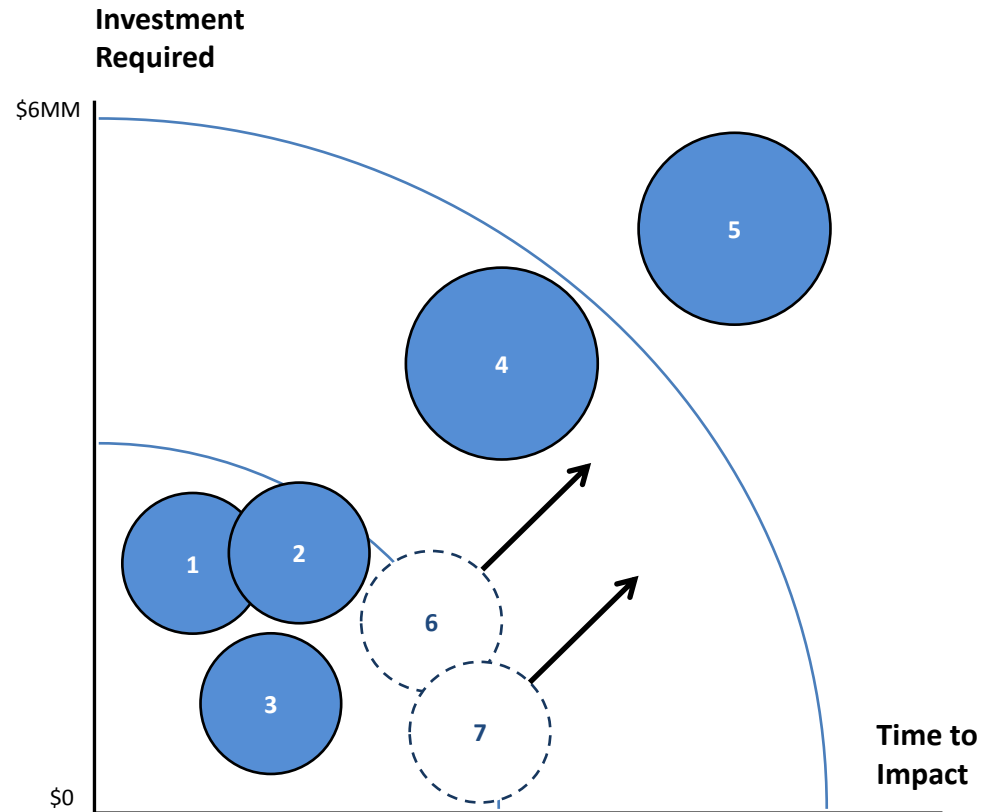
To pursue these objectives, the region selected:

- **Five Priority Interventions**
 1. Fund a Food Value Chain Facilitator
 2. Bolster New Producer Training and Support
 3. Develop a Regional Agritourism Narrative
 4. Enhance Food Desert and Low-Income Retail Models
 5. Expand Institutional Gardening and Composting
- **With Two Cross-Cutting Activities**
 - Food Bank and Pantry Partnerships
 - Waste Recovery/Environmental Sustainability
- **And Two Opportunities to Watch**
 6. Pilot Employer-Subsidized Community Supported Agriculture (CSA)
 7. Assess Feasibility of a New USDA-Inspected Meat Processing Facility

Many important efforts relevant to these goals are under way today; it is critical that they be maintained to reach mid-term and long-term goals.

- Bubble size indicates relative scale of impact
- Cost/impact will increase if implemented beyond pilot or feasibility assessment

Prioritized Interventions



<p>Near-Term Goals: Increase producer capacity and income, while raising consumer awareness of local food</p>	<p>Mid-Term Goal: Expand access to healthy, local food for underserved populations</p>	<p>Long-Term Goal: Optimize the environmental sustainability of the food system</p>
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A food value chain facilitator can connect existing resources to coordinate local supply and demand serving as a ‘lean food hub’

Intervention 1: Fund a Food Value Chain Facilitator

Goal: Develop a food value chain facilitator to coordinate transactions between local specialty crop and livestock farmers and processors with traditional aggregators, retailers, and restaurants. Implement in conjunction with New Producer Training and Support to achieve \$20MM in new annual revenue for local producers, doubling the current total, by 2025.¹

Small scale farmers’ ability to sell through traditional retail channels is a supply chain management challenge, even in regions with substantial local produce and livestock production. The Mid-South faces a critical need for innovation in coordinating a range of small-scale, independent farming activity, and moving the resulting product efficiently into the traditional distribution system. While interested in local sourcing, these distributors and retailers require large quantities of consistent quality products at certain prices to meet the needs of their customers. Traditional, warehousing food hubs add too much cost and shelf time to already low-margin, perishable product.

What’s needed instead is a go-to resource to coordinate transactions between buyers (traditional aggregators, restaurants, or retailers), small scale producers (farms or processors), and contracted transport partners. Ideally, pricing and production agreements will be established in advance of the growing season. This is a specialized type of food hub, according to the USDA Regional Food Hub Resource Guide. Many organizations in the region are already doing pieces of this activity (see next page); engaging and fully leveraging these resources will be a critical first step.

¹ Estimated 2015 revenue baseline is \$12MM for local produce (per USDA and Hoovers data) and \$9MM for local meats (2% of total meats revenue), including local processing

² Kowitz, B., *Special Report: The War on Big Food*, Fortune, May 21, 2015 <http://fortune.com/2015/05/21/the-war-on-big-food/>

³ FTE costs shown are salary plus benefits estimates based on Department of Labor/Bureau of Labor Statistics data in the 2010 Memphis, TN-MS-AR National Compensation Survey

Steps to Take:

- **By 2016:** Convene existing food hubs, extension agencies, marketing programs, producer programs, and processing assets to select organizational home and job description for facilitator
- **By 2016:** Hire experienced supply chain manager
- **By 2017:** Develop business plan, likely including selection of food hub management software (e.g., Local Dirt, Local Orbit, or Local Food Cooperative); contracted transport; and branding/packaging assistance. Engage producers and distributor/retailer purchasers in establishing annual, product-specific production goals and timelines. Begin with specialty crops, then expand into meats and processed goods. Build in systems to monitor regional customer preferences for organic/natural/sustainably sourced products to inform local producers over time.
- **By 2022:** Execute the plan, and promote the facilitator as the “go-to” connection point for producers and business customers of local food, such that the operation becomes self-sustaining.
- **Beyond 2022:** As farming capacity expands, evaluate regional opportunity to expand local processing/value-adding capacity.

Estimated Investment: \$1.7MM total over 10 years

Assumes \$75K for business plan, \$118K/year³ for facilitator salary/benefits (housed at an existing organization), and \$45K per year for data collection, online tool deployment, and promotion/engagement expenses. **Does not include** contracted transportation, packaging, or other infrastructure/overhead, to be determined by the business plan.



As production expands, data will help identify needs for increased processing, sustainability marketing, and food pantry partnerships

Intervention 1: Fund a Food Value Chain Facilitator (cont'd)

Existing Regional Assets to Leverage:

- **Existing Food Hubs:** 4 Rivers Fresh Foods (similar model but different geographic focus), Bring It Food Hub (similar model for restaurants, but takes possession of product)
- **Land Grant Universities/Extension Agencies:** Universities of Arkansas and Tennessee, Mississippi State University, and small farm programs at University of Arkansas Pine Bluff, Alcorn State University, and Tennessee State University
- **Supplier Databases and Regional Marketing Programs:** ArkansasGrown, Delta Fresh Foods, Delta Made, MarketMaker, Memphis-Shelby County Food Landscape Map, North Delta Produce Growers Association, Pick Tennessee Products, Make Mine Mississippi, Forge Arkansas, Arkansas Farm-to-School
- **Producer Programs:** Mississippi Association of Cooperatives, East Arkansas Enterprise Community/Seeds of Change, North Delta Mississippi Enterprise Community
- **Processing:** Delta Cuisine, Alcorn State Vegetable Processing
- **Retailers and Distributors Seeking Local Product (Appendix)**

Potential Funding Sources (in coordination with Intervention 2): Regional Foundations

- Community Foundation of Northwest Mississippi
- Delta Regional Authority – SEDAP
- Hyde Family Foundations – Livable Communities program
- Memphis BioWorks Foundation
- Southern Bancorp – Rural Revitalization

National Foundations

- Ford Foundation – Expanding Livelihood Opportunities program
- Heifer International USA – Arkansas program
- RSF Social Finance – Food and Agriculture Focus
- Surdna Foundation – Strong Local Economies Program

USDA Programs

- NIFA Community Food Projects, Small Business Innovation Research grants
- Rural Development Business/Industry Guaranteed Loans, Value-Added Producer Grants, Rural Business Investment Companies

Best Practice Models/Resources to Reference:

- Appalachian Sustainable Agriculture Project in Asheville, NC
- Red Tomato in Plainville, MA
- EcoTrust FoodHub in Western US
- Tuscorora Organic Growers Coop in Hustontown, PA
- Southern Sustainable Agriculture Working Group in Fayetteville, AR

Associated Opportunities to Watch:

- Support local food banks and pantries via identification of: farmers with excess crop needing gleaning and transport; sources of “seconds”, or healthy, delicious produce which is the wrong size, shape, or appearance for retail sale; and retailers willing to form a range of creative partnerships allowing discount purchase by food pantries; the Food Bank of Northeast Arkansas, Mid-South Food Bank, and Metropolitan Inter-Faith Association act as centralized aggregation and distribution points working creatively to provide more fresh produce, though regional production limitations make local sourcing difficult
- Watch for collaborative composting opportunities, or expansion of existing efforts like Project Green Fork
- Data gathered and connections created can build business case for investment in acreage conversion from commodity crops, protective farming infrastructure, and GAP certification; as appropriate, direct existing producers toward training and support resources for these activities (Intervention 2)
- As production of meats for local markets increases, monitor opportunities for shared transport to USDA-inspected processing, or cooperative investment in a new regional plant
- Verification of environmentally responsible sourcing practices may be possible via the facilitator or one of the engaged regional partners (see Eco Apple™ program at Red Tomato)
- Expansion beyond 15-county supply base may be critical to achieving demand; consider incorporating the remaining footprint of the Community Foundation of Northwest Mississippi and/or other counties shown on page 13, given USDA production data and 4 Rivers Fresh Foods leadership

Together with supply chain facilitation, new producer training and support is needed to meet local specialty crop and meat demand

Intervention 2: Bolster New Producer Training and Support

Goal: Expand existing training and support to develop 400 new or converted specialty crop and local livestock producers by 2025.¹

Currently, the region does not have capacity to meet demand for local specialty crops or meats. Large-scale farming is focused on commodity crops, cattle-calf raising for finishing out of state, and poultry housing owned by global processors. Training farmers to serve local markets is critical to a sustainable regional food system.

Technical assistance and funding are needed to ensure new farmers can work their way to family-sustaining wages or nutrition. Several existing training programs would benefit from referrals of vetted participants and data about market opportunities (Intervention 1). Beyond farming and business management, producers cite needs for information, technical assistance, and funding for:

- Good Agricultural Practices (GAP) Certification and FDA Food Safety Modernization Act (FSMA) compliance to allow access to traditional retail markets
- Protective farming infrastructure (hydroponics, hoop houses, high tunnels) for season extension, excessive rain management, and aerial chemical protection
- Acreage conversion from commodity crops or non-farmed land to specialty crop or local meat production, including needs for fencing, raw materials, equipment, and soil remediation

Producer training programs can connect farmers to resources and funding sources in these areas. As farms grow, they can be directed to local kitchen incubators or processing facilities. Finally, training should include opportunities to partner with local food banks and pantries to glean excess produce, or sell discounted seconds.

¹ “New producers” are individuals with less than 10 consecutive years of farm operation, or farmers which are newly diversifying into specialty crops or local livestock production, for either commercial or subsistence purposes. Assumes baseline of ~125 each of specialty crop and meat farms serving local markets and a need for at least 130 new producers to meet the \$10MM goal in Intervention 1.

² FTE costs shown are salary plus benefits estimates based on Department of Labor/Bureau of Labor Statistics data for mid-level managers in the 2010 Memphis, TN-MS-AR National Compensation Survey

Steps to Take:

- **By 2016:** Identify existing training programs interested in being part of a regional referral/promotion program. In exchange for participant referrals and complementary fund-raising, training programs will provide participant data to measure program completion, and track producer success over time.
- **By 2017:** Develop process to identify and vet training participants, and direct them toward appropriate training. Ensure promotion and recruitment efforts span the full geographic region and are accessible to limited resource farmers, including scholarship funding as appropriate.
- **2017-2025:** Direct new trainees toward appropriate programs, and use program completion/follow-up survey data to determine needs for additional funding support (such as GAP Certification, acreage conversion, protective infrastructure). Support complementary fundraising and distribution.
- **Through 2025 and Beyond:** Work closely with the food value chain facilitator (Intervention 1) to exchange data and monitor regional supply and demand dynamics, to ensure training programs match demand for local product. Monitor opportunities to enhance sustainable farming practices in a way that makes local producers more competitive and resilient.

Estimated Investment: \$1.9MM total over 10 years

Assumes \$75K/year² each for 2 FTE (one coordinator, one technical assistance), and \$35K/year for data collection and promotion/ engagement expenses. **Does not include** variable funds raised to subsidize training scholarships, GAP Certification, FSMA compliance, acreage conversion, or protective farming infrastructure for farmers.



Federal, state, and philanthropic funding is available to support and expand existing programs, and bolster individual producers

Intervention 2: Bolster New Producer Training and Support (cont'd)

Existing Regional Assets to Leverage:

- **Non-profit Training/Education Programs:** Roots Memphis Farm Academy, Agricenter International
- **County Extension Agencies:** University of Arkansas, University of Tennessee, Mississippi State University
- **Limited-Resource Farmer/Training Programs:** East Arkansas Enterprise Community/Seeds of Change; MS Association of Cooperatives; Small Farm programs at University of Arkansas Pine Bluff, Tennessee State University, and Alcorn State; Knowledge Quest/Green Leaf Learning Farm; Seven Harvest
- **High School, Community College, and University programs:** Shelby County Career Technical Education Agriculture courses; Northwest Mississippi Community College Microfarming program; Mid-South Community College Hospitality program; Arkansas State University College of Agriculture & Technology

Potential Funding Sources for the Intervention (in coordination with Intervention 2):

- Community Foundation of Northwest Mississippi
- Delta Regional Authority – States’ Economic Development Assistance Program
- Ford Foundation – Expanding Livelihood Opportunities for Poor Households
- Heifer International USA – Arkansas Program
- Hyde Family Foundations – Livable Communities program
- Surdna Foundation – Strong Local Economies Program
- The Assisi Foundation of Memphis, Inc. - Education & Lifelong Learning
- The Kresge Foundation – Environment program
- USDA AMS Specialty Crop Block Grants and Federal-State Marketing Improvement Program Grants (state administered)
- USDA NIFA Beginning Farmer and Rancher Development Program and Sustainable Agriculture Research and Education
- Wal-Mart Foundation State Giving Programs – Hunger Relief & Healthy Eating, Sustainability focus areas
- Winthrop-Rockefeller Foundation

Potential Funding Sources for Individual Producers:

- County Farm Services Agency Farm Loans, Farm Storage Facility Loans, and Microloans
- Farm Credit System loans
- Kiva Zip via Arkansas Local Food Network and other crowd funding (e.g., WeFunder, GoFundMe)
- USDA NRCS Regional Conservation Stewardship Program, Environmental Quality Incentives Program, and Farm/Ranch Lands Protection
- USDA Risk Management and Outreach programs and Whole-Farm Revenue Insurance

Best Practice Models/Resources to Reference:

- Grow Appalachia in Berea, KY
- North Carolina A&T State Cooperative Extension in Greensboro, NC
- Alabama Fruit and Vegetable Growers in Auburn, AL
- Appalachian Center for Economic Networks in Athens, OH
- Entrepreneurial Center for Horticulture in Bottineau, ND
- Growing Power in Milwaukee, WI

Associated Opportunities to Watch:

- As production of meats for local markets increases, monitor opportunities for shared transport to USDA-inspected processing, or cooperative investment in a new regional plant
- Connect new producers with existing farmer’s market and community supported agriculture outlets, as well as the food value chain facilitator, for a range of market opportunities
- Look for opportunities to transition subsistence farming into local enterprise by supporting participation farmer’s markets and local exchanges
- Expansion beyond 15-county supply base may be critical to meeting demand; consider incorporating the remaining footprint of the Community Foundation of Northwest Mississippi and/or other counties shown on page 13, given USDA production data and 4 Rivers Fresh Foods leadership



Agritourism can bring new revenue to Mid-South producers, and connect residents deeply with the roots of their own food system

Intervention 3: Develop a Regional Agritourism Narrative

Goal: Develop a cohesive narrative to highlight the region's unique attributes through established promotional efforts to reach \$3MM in agritourism revenues in the 2022 census¹

Agritourism is an opportunity for farms to gain additional revenue by welcoming visitors for a variety of educational and recreational experiences, including: farm tours, pick-your-own produce, festivals, fee hunting or fishing, volunteering, and sustainability demonstrations. These activities raise consumer awareness about the origins of food, and what it really means to "eat local." Attractions can be marketed to visitors from within and outside of the region, and should increase with the successful implementation of Interventions 1 and 2.

From 2007 to 2012, state-wide participation in and revenues from agritourism tripled in Arkansas, Mississippi, and Tennessee. However, agritourism participation and revenue in the 15-county region decreased almost 10%.¹ To ensure the Mid-South shares in the agritourism opportunity, the region must target resources toward engaging farmers *and* incorporating the region's unique narratives fully in statewide promotional efforts. This means connecting and leveraging assets across state lines – packaging experiences that allow Memphis tourists to connect more deeply with the food they consume, and celebrating the urban and rural culture, history, and food system on both sides of the Mississippi.

A Heritage Tourism field guide has been developed by Dr. Ruth Hawkins, Director of Arkansas Heritage Sites at Arkansas State University, for the reNEW East Arkansas plan. This guide may serve as a useful reference in developing the broader regional narrative.

¹ 2007 and 2012 USDA Census of Agriculture data; 2012 baseline for 15-county region is 102 farms reporting at least \$1.02MM in receipts from agri-tourism activity

<http://arkansasnews.com/news/arkansas/agritourism-growing-state>

² FTE costs shown are salary plus benefits estimates based on Department of Labor/Bureau of Labor Statistics data for mid-level managers in the 2010 Memphis, TN-MS-AR National Compensation Survey

Steps to Take:

- **By 2016:** Convene existing assets to define and articulate unique regional narrative (including elements such as Crowley's Ridge Produce, catfish and other aquaculture, Delta farming history, product-specific festivals, ASU rural heritage sites, Memphis farm-to-table or urban farm tours, etc.) to be added to or expanded within existing promotional efforts. Refer to the reNEW East Arkansas Heritage Tourism field guide by Dr. Ruth Hawkins to create a narrative informed by leading tourism research.
- **By 2017:** Incorporate statewide and extension-related agritourism resources into all new producer training, including opportunities or support for producers to incorporate branded communications into their own activities
- **Through 2022 and Beyond:** Ensure regional narrative is incorporated into regional and state-level promotional efforts, and updated as the producer base expands

Estimated Investment: \$380,000 total over 7 years

Assumes ¼ FTE time at \$75K² rate and \$35K/year on data collection and promotion/engagement expenses



Agritourism is heavily promoted by state resources, offering opportunities to highlight additional regional stories

Intervention 3: Develop a Regional Agritourism Narrative (cont'd)

Existing Regional Assets to Leverage:

- **State-wide Collaborations:** State departments of agriculture, AR Agritourism Initiative, TN Department of Tourist Development, MS Agritourism Association, and their partners
- **Cooperative Extension Services:** Universities of Arkansas, Tennessee, and Mississippi agritourism support for farmers
- **Promotional Efforts:** Arkansas Grown, Delta Made, Forge Arkansas, Make Mine Mississippi, Memphis-Shelby County Food Advisory Council Food Landscape Map, North Delta Producers Association, Pick Tennessee Products, "Agritourism in the Natural State" brochure, Arkansas State University Heritage Sites, and farmer's markets across the region
- **Other:** Agricenter International

Potential Funding Sources:

USDA Programs

- AMS Farmers Market Promotion Program
- NRCS Conservation Stewardship Program, Environmental Quality Incentives Program, and Farm and Ranch Lands Protection Program
- Rural Cooperative Development Grants and Rural Business Investment Companies

Best Practice Models/Resources to Reference:

- 30 Mile Meal Map in Athens, OH
- Alabama Black Belt Heritage Area in Southern Alabama
- "Bon Appétit Appalachia!" Tourism Mapguide, Appalachian Regional Commission in Washington, DC
- East Austin Urban Farm Tour in Austin, TX

Associated Opportunities to Watch:

- Feasibility assessment/potential restoration of the historic Dyess Colony Cannery as an agritourism destination where visitors learn to preserve local produce, or as a commercial cannery
- "Voluntourism" opportunities to support local farmers or gleaning efforts for food banks



Improved retail access to attractive, healthy food options is critical for the region's most vulnerable populations

Intervention 4: Enhance Food Desert and Low-Income Retail Models

Goal: Support and expand existing low-income and food desert retail efforts to reach 40% adequate adult fruit and vegetable consumption in all counties by 2030¹

The Mid-South is characterized by widespread poverty and food insecurity. In some areas, urban and rural 'food deserts' exist where population or income density are insufficient to sustain traditional food retail, limiting food sales to shelf-stable, frozen, or prepared items at gas station, discount, convenience, or fast food stores. To compound this challenge, the equally important objectives of healthy food access for low-income families, and sustainable farmer income, are often at odds. Expanding regional production capacity may help local food become more price-competitive, but as in all market segments, consumer education will be critical to promote the selection of local produce and healthfully preserved foods. Innovative retail models are needed to make high quality, healthful, local foods more accessible to all residents.

Selecting the best 'food desert retail' model was not an emphasis for this assessment, as several local organizations are already focused on that challenge. For example, a recent Harvard Law School and Food Law and Policy Clinic report detailed "Recommendations for a Healthy Corner Store Initiative in Shelby County." Furthermore, as one current participant noted, such efforts "have to be unconventional and involve people from and in the neighborhoods in question." The key need for regional involvement is to measure the impact of individual local programs, to determine which models are most successful and appropriate for scaling and replication in different parts of the region.

This intervention directs fundraising and data collection toward organizations already doing vital work in this space. It is intended to supplement the critical work of food banks, pantries, faith-based communities. Until local production increases, the most cost-effective fresh, healthy food will come from outside the region, and philanthropic support will be key to sustaining healthy food access.

Steps to Take:

- **By 2018:** Ensure all regional farmer's markets are able to accept EBT through registration with USDA for appropriate equipment.
- **By 2020:** Convene existing organizations to establish a tri-state community of practice, which can share best practices and gather/distribute regional data about the number of initiatives, dollars invested, residents served, sales of fresh or healthfully preserved produce, sales of local produce, and changes in dietary habits. The continued collection and provision of data will be a prerequisite to receiving regional funding support.
- **2020-2030:** Use data and leadership input to raise and direct funds toward expanding and replicating the most effective retail model(s).

Estimated Investment: At least \$1MM total over 15 years

Assumes ¼ FTE time at \$75K² rate; \$45K/year on data collection, web-based resource/data sharing, and promotion/engagement expenses; **Does not include** variable funds raised to support the most effective retail models.

¹ According to the 2009 CDC Behavioral Risk Factor Surveillance System, approximately 20% of adults in the region consume 5 or more servings of vegetables per day, with numbers as low as 14% in some counties. Achieving a target rate of 40% in each county is used as a proxy for ensuring impact across geographies; while children's consumption is not measured by the system, it is expected improved retail options will benefit entire families.

² FTE costs shown are salary plus benefits estimates based on Department of Labor/Bureau of Labor Statistics data for mid-level managers in the 2010 Memphis, TN-MS-AR National Compensation Survey

Existing activities are local in scale, requiring financial and data support to move past pilot stage and find replication opportunities

Intervention 4: Enhance Food Desert and Low-Income Retail Models (cont'd)

Existing Regional Assets to Leverage:

- YMCA Memphis Healthy Corner Store Initiative
- Green Machine Mobile Food Market
- South Memphis Farmer's Market
- North Jonesboro Neighborhood Initiative
- EBT acceptance and Double Green\$ benefits matching at farmer's markets throughout the region

Potential Funding Sources:

Regional Foundations

- Arkansas Community Foundation – Delta Endowment for Building Community
- Community Foundation of Greater Memphis
- Hyde Family Foundations – Livable Communities program
- Southern Bancorp – Rural Revitalization
- The Assisi Foundation of Memphis, Inc. – Health & Human Services
- United Way of the Mid-South
- Winthrop Rockefeller Foundation

National Foundations

- Wal-Mart Foundation State Giving Programs – Hunger Relief & Healthy Eating focus area
- Wholesome Wave Double Value Coupon Program
- W.K. Kellogg Foundation Healthy Kids program
- The Kresge Foundation – Developing Healthy Places program

USDA Programs

- AMS Farmers Market Promotion Program
- FNS Senior Farmers' Market Nutrition Program, Supplemental Nutrition Assistance Program, WIC Farmers' Market Nutrition and Special Supplemental Nutrition Programs
- NIFA Food Insecurity Nutrition Incentives Program

Best Practice Models/Resources to Reference:

- Healthy in a Hurry Corner Store in Louisville, KY
- Appalachian Sustainable Agriculture Project in Asheville, NC
- Nashville Mobile Market in Nashville, TN
- Healthy Communities Coalition in Dayton, NV

Associated Opportunities to Watch:

- Leverage producer training (Intervention 2) resources to promote subsistence farming in low-income and low-access areas
- Employer-subsidized Community Supported Agriculture (CSA) may be one opportunity to improve local food access for low-wage employees



Gardening and composting at institutions will grow a new generation of informed, conscientious food consumers

Intervention 5: Expand Institutional Gardening and Composting

Goal: Establish and maintain 250 institutional gardening and composting programs, including at least one in every school district, by 2035.¹

The long term viability of local food systems depends on fundamentally shifting the way consumers choose, prepare, eat, and dispose of food. Regional schools, hospitals, prisons, faith-based organizations, and other institutions are in ideal positions to raise awareness about local foods, influence healthy decision-making, and even promote agricultural career choices, through gardening, cooking classes, and composting. These gardens can also be fresh food access points for children and adults in need.

However, institutional gardening, cooking classes, and composting is not easy. Beyond start-up expenses, these gardens generally rely on volunteer leadership from within the institution staff, or require additional resources to pay for third-party maintenance. Substantial investment will be required, over a long period of time, to develop and sustain gardening programs in all parts of the region.

Steps to Take:

- **In 2015:** Meet with The Kitchen Community of Memphis and other existing organizations to assess feasibility of extending model into rural areas.
- **By 2016:** Expand the Memphis and Shelby County Food Landscape Map² of school and institutional gardens to incorporate all 15 counties, and engage students in updating production data. Encourage voluntary listing of garden leader contact information for best practice sharing.
- **2017-2035:** Raise and distribute funds for institutional gardens, including technical assistance for garden establishment, maintenance, and composting. Each effort should have leadership within the institution, and should be responsible for recording data on the regional map to track progress.
- **2017-2035:** Begin composting of garden and kitchen waste 1-2 years after each garden is established, allowing time to build buy-in. Begin with garden and pre-consumer waste, eventually transitioning into post-consumer programs. Report volume of composted material via the regional map.

Estimated Investment: \$5.8MM total over 20 years

Assumes \$35K per garden³ for 150 gardens, beyond the 100 already funded in Memphis, plus an additional ¼ FTE at \$75K⁴ rate, and \$40K/year in data collection, promotion/engagement, and composting-related expenses.

¹ Based on ~400 public schools in the 15-county region; includes current Community Kitchen goal of 100 schools in Memphis area
² Food Advisory Council of Memphis and Shelby County, "Food Landscape Map," www.map.growmemphis.org
³ The Kitchen Community of Memphis has a current goal of 100 school gardens in Memphis, at a cost of ~\$35,000 for "soil, seeds, a self-contained irrigation system and year-round educational and maintenance support."
⁴ FTE costs shown are salary plus benefits estimates based on Department of Labor/Bureau of Labor Statistics data for mid-level managers in the 2010 Memphis, TN-MS-AR National Compensation Survey



Impact can be expanded by connecting gardens with food pantries, community cooking classes, and parks departments

Intervention 5: Expand Institutional Gardening and Composting (cont'd)

Existing Regional Assets to Leverage:

- **Existing Gardens (not exhaustive):** The Kitchen Community, GrowMemphis, Knowledge Quest/Green Leaf Learning Farm, St. Jude Children's Research Hospital, American Heart Association Teaching Gardens, Jonesboro Health Wellness & Environmental Studies Magnet School, Baptist Memorial Health Care Rehabilitation Garden
- **Composting:** Project Green Fork has certified 57 Memphis restaurants for sustainability measures including composting, and may be able to share useful lessons learned

Potential Funding Sources:

Regional Foundations

- AutoZone Community Giving (Greater Memphis area)
- Community Foundation of Greater Memphis
- FedEx Foundation Parks and Green Space initiative
- Hyde Family Foundations – Livable Communities program

National Foundations

- Nature's Path Gardens for Good program

USDA Programs

- FNS Farm to School Grants
- Forestry Service Urban and Community Forestry Program
- Rural Development Community Facilities loan program

Best Practice Models/Resources to Reference:

- Walton Rural Life Center in Walton, KS
- USDA Chefs Move to Schools program
- Edible Schoolyard Project in Berkeley, CA
- Green Mountain Farm to School in Lyndonville, VT
- School Garden Project of Lane County in Eugene, OR

Associated Opportunities to Watch:

- Partnerships with food banks/pantries to donate produce not consumed on-site
- Healthy cooking classes using garden produce can be led by community partners, such as elder care facilities, local chefs, Delta Cuisine, etc.
- Collaboration with parks and recreation departments and conservancies, and/or review of zoning requirements may help obtain space near to institutions for gardening
- Local sourcing for institutional foodservice can be particularly challenging, given strict price and quantity requirements. However, as local production capacity expands, and partnerships for gardening develop, the food value chain facilitator should keep an eye toward institutions as potential customers. This typically is most feasible when the institution has executive management support for local sourcing, or when leveraging federal dollars available for farm-to-school efforts.



Employer-subsidized CSA and USDA-inspected meat processing are opportunities to watch as production capacity increases

Employer-Subsidized Community Supported Agriculture

Community Supported Agriculture (CSA) programs exist throughout the region, and suggest that demand exceeds production capacity. As initial interventions increase regional supply of local produce and livestock, there may be an opportunity to expand existing CSA programs to include employer-subsidized shares. In these cases, employer partners would pay part of, all of, or finance the initial outlay of the share cost for participating employees, in addition to hosting the share drop-off, as a wellness and engagement tool. Employers may be able to work with health insurance providers, as has been done by the FairShare CSA Coalition on Madison, WI, to track health benefits and achieve some cost sharing. The Workplace CSA Demonstration Project in Research Triangle Park is also a useful model to reference in considering such a program.

While any employer could be a partner, it will be important to pilot and scale the program appropriately for production capacity to keep up with demand. Successful programs communicate actively with participants to secure advanced registration (allowing contracting with producers), help consumers understand how to use what is in their shares, offer a la carte items for purchase, and encourage item swapping at pickup points – these can all add cost. Finally, to meet healthy food access goals of the region, the ideal partner may be a manufacturer or other company which draws employees from a large rural radius, and whose employees may not otherwise be able to afford up-front investment. If the company is in food processing, there may be additional incentive for brand enhancement or inclusion of employer products in the share. Several of the manufacturers interviewed in this assessment were open to learning more about this potential opportunity.

Such a program may be of interest to the Ford Foundation under its “Promoting Economic Stability and Job Advancement” focus.

USDA-Inspected Meat Processing Capacity

Several meat and livestock industry members cited the lack of small-scale USDA inspected processing facilities in the region as limiting to the raising and selling of local meats and poultry. The decline in local processing facilities has been driven by an overall shift in the industry toward large, centralized finishing and processing operations, combined with the increasing overhead associated with USDA inspection. As a result, current local meat producers must either slaughter and sell livestock on-site, or travel lengthy distances inspected facilities with appropriate capacity. Interviews suggest at least a handful of producers would be interested in exploring new local processing capacity.

However, according to the Niche Meat Processor Assistance Network (NMPAN), even a small scale processing facility requires annual throughput of at least 1,500 heads of cattle, or the revenue equivalent (roughly 5,000 hogs/sheep/goats, or 77,000 chickens) to be financially viable. Currently, there do not appear to be enough locally focused livestock producers to meet this threshold. At current cattle prices, most traditional regional livestock producers are not likely to change a business model based on large-scale, low-cost finishing and processing out of state. Similarly, most of the region’s chickens are owned by nearby global processing companies. The large, unmet local pork demand may be the most appropriate new production focus, given the ability to finish more hogs per year using less acreage.

A few steps can help the region monitor this opportunity. NMPAN has provided a producer survey, which is included in the appendix, and can help gauge processing demand over time. As initial interventions increase local livestock supply to the thresholds noted above, NMPAN is also able to provide technical and limited financial assistance to assess the feasibility of a new plant, or an expansion of existing capacity. Shared transport to existing plants also may be an option for regional coordination.



We invite you to use this plan to further your existing efforts, and engage with one or more interventions as they move forward

Conclusion and Next Steps

This plan is only a starting point, or maybe a mid-point, if you consider all the food system work already happening across the Mid-South. Although East Arkansas Planning & Development District and the Memphis-Shelby County Office of Sustainability commissioned the regional plan, they recognize it will take the sustained efforts of this entire community to truly achieve the region's vision.

If you haven't already, you can connect immediately with one of the dozens of existing regional organizations reflected in the plan – from farmer's markets and food pantries to farmer training and local food processing.

If you are already with one or more of these existing organizations, we hope this document is a useful tool in aligning with a broader regional vision, and connecting with others pursuing similar objectives.

To get involved with the implementation of a particular intervention, please watch the websites of reNEW East Arkansas/East Arkansas Planning and Development District and the Mid-South Regional Greenprint/ Memphis-Shelby County Office of Sustainability for additional information. The leaders of these organizations will be pursuing each priority as resources allow, and in many cases, will be working to engage additional organizations as leaders for different aspects of the plan.

East Arkansas Planning and Development District

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PO Box 1403
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870-932-3957
www.eapdd.com
<http://eapdd.com/reneweastarkansas/>

Memphis-Shelby County Office of Sustainability

125 North Main, Suite 468
Memphis, TN 38103
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<http://www.sustainableshelby.com>
<http://midsouthgreenprint.org>



Appendix



Nearly 40 in-depth interviews across the food value chain informed an understanding of food system strengths and barriers

In-Depth Regional Interviewees

Perspective	Name and Title	Organization
Agriculture	Joy Fox Anderson, County Director, and Team Debbie Baker, CEA-FCS and Andy Vangilder, CEA Staff Chair Timothy Burcham, Dean Keith Forrester, Owner David Head, Owner Gary Howell Mike Massey, Owner Terris & Kim Matthews, Partners/Owners Wes Riddle, ED & Schuyler Dalton, Mktng/Outreach/Dev Coordinator Don Terry, Manager Leslie Wolverson, Director Kevin Wright, VP Farms/Farm Management Services	Mississippi State University DeSoto County Extension Office University of Arkansas Clay County Extension Agency College of Agriculture and Technology, Arkansas State University Tyboogie's Café, Trolley Stop Market Nine Oaks Quality Beef/Cattle Company Clay County Judge Lyndale Farms Matthews Ridgeview Farms Roots Memphis Farm Academy Tennessee Livestock Producers/Somerville Barn Wilson Gardens Ritter Agribusiness
Processors	John Auker, Executive Director Kathryn Quanbeck, Program Manager Alan Risley, Plant Manager Shelle Randall, Director, Workforce Development/Existing Industry Richard Rorex, Vice President Tony Thomas, Assistant to the County Judge Mark Young, President and CEO	Delta Cuisine Commercial Kitchen and Food Business Incubator Niche Meat Processor Assistance Network Peco Foods Jonesboro Regional Chamber of Commerce Riceland Foods, Inc. Craighead County Jonesboro Regional Chamber of Commerce
Logistics/ Aggregation	Clark Atkins, Pastor Noah Campbell, Board Chair and Director (respectively) Sally Jones Heinz, ED, & Dot Gilbertson, COO Christie Jordan, CEO Wayne Bartley	Harrisburg First United Methodist Church Bring It Food Hub and Memphis Center for Food and Faith Metropolitan Inter-Faith Association Food Bank of Northeast Arkansas 4 Rivers Fresh Foods
Retail	Jonathan Lee, Manager Ronald McCormick, Sr. Director of Sustainable Agriculture Paul Rowton, VP Bob Young, Manager	Truck Patch Natural Market Walmart Stores, Inc. Edwards Food Giant Arkansas State University Farmers Market
Food System Enablers	Mildred Barnes Griggs, Director Mike Callahan, Project Manager Chris Clifton, CED, IOM President and CEO Ruth Hawkins, Executive Director Tom Pittman, President and CEO Steven Trotter, Co-Founder and President	Arkansas Delta Seeds of Change Renaissance Planning, Local Foods Local Places Osceola Cross County Arkansas Chamber of Commerce & Ec Development Arkansas Heritage Sites, Arkansas State University Community Foundation of Northwest Mississippi Forge Arkansas

A regional steering committee met throughout the process to vet the analysis and drive the intervention recommendations

Steering Committee Participants

Participation	Name and Title	Organization
Steering Committee	Melissa Rivers	East Arkansas Planning & Development District
	Jamie Wright	East Arkansas Planning & Development District
	John Zeanah	Memphis-Shelby County Office of Sustainability
	John Auker	Delta Cuisine/Mid-South Community College
	James Barham	US Department of Agriculture
	Wayne Bartley	4 Rivers Food Hub
	Laura Baxter	Shelby County Schools
	Chris Beck	US Department of Agriculture
	Iris Cole Brosby	University of Arkansas Pine Bluff
	Robert Cole	East Arkansas Enterprise Community/Arkansas Delta Seeds of Change
	Barry Colley	Seven Harvest
	Carole Colter	GrowMemphis
	Debra Felske	Osceola, AR
	Mildred Barnes Griggs	East Arkansas Enterprise Community/Arkansas Delta Seeds of Change
	Kevin Krueger	St. Jude Children’s Research Hospital
	Charles Landrum	Congressman Rick Crawford’s Office
	Casandra McDaniel	East Arkansas Enterprise Community
	Tom Pittman	Community Foundation of Northwest Mississippi
	Wes Riddle	Roots Memphis Farm Academy
	Courtney Robertson	Knowledge Quest – Green Leaf Learning Farm
Sherman Smith	East Arkansas Planning & Development District	
Andrew Trippel	Urban Land Institute – Memphis	
Steven Trotter and Aaron Houston	Forge Arkansas	



In addition, dozens of key regional stakeholders weighed in before the interventions and plan were finalized

Additional Vetting Organizations and Survey Respondents

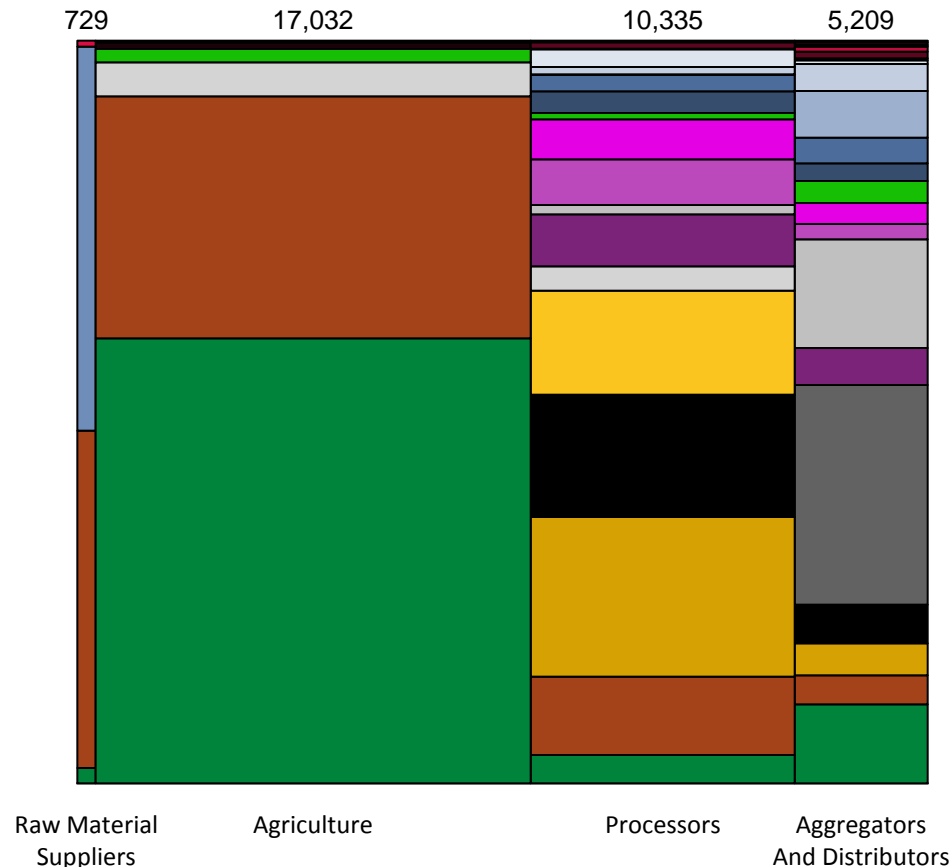
Group	Name	Organization	Group	Name	Organization
reNEW East Arkansas Plan Leaders (not already listed)	Mayor Mary Ann Arnold Pat Audirsch Kathy Bradley Judge Bob Cantrell Fran Cavanaugh Bridget Ciaramitaro Mike Demster	City of Marked Tree Lee County Chamber Lawrence County Chamber Poinsett County Lawrence County Chamber Ciaramitaro & Associates Marion Chamber of Commerce City of Osceola City of Marion Phillips County Chamber of Commerce UALR Institute for Economic Advancement	Food Advisory Council (FAC) for Memphis/Shelby County (not already listed)	Ashley Atkins Samuel Ballard Susannah Barton Diana Bedwell Connie S. Binkowitz Rochelle Brahall Carrie Burke Amy Collier Margaret Craddock Marie Dennon	GrowMemphis FAC for Memphis/Shelby Overton Park Conservancy United Way of the Mid-South YMCA of Memphis & the Mid-South The Kitchen Community Kemmons Wilson Family Foundation Shelby County Health Department Briggs Foundation FAC for Memphis/Shelby, The Kitchen Community Easley Marketing Services Knowledge Quest – Green Leaf Learning Farm
	Mark Goodman Judge Ed Hill Judge Gary Hughes Mayor Barbara Lewallen Paul Luker Sue McGowan Judge Rusty McMillon Judge Donnie Sanders Mayor James Sanders Otis Spriggs Tony Thomas Jennifer Watkins Soozi Williams	Craighead County St. Francis County City of Trumann City of West Memphis Paragould County Chamber of Commerce Greene County Cross County City of Blytheville City of Jonesboro Craighead County Building Communities City of Marked Tree		Hutton Easley Marlon Foster Renee Frazier Janessa Gebers Adam Guerrero Jason Hodges Hilary Hodus Emily Holmes Jimmy Hoxie Kimberly Kasper Dennis Lynch Andre Mathews Cynthia Magallon Puljic Abby Miller Angela Moore Rozie Schleinig John Paul Shaffer	Common Table Health Alliance FAC for Memphis/Shelby SmartMule St. Jude Children’s Research Hospital FAC for Memphis/Shelby GrowMemphis Church Health Center Wellness Rhodes College FAC for Memphis/Shelby Family Farmers Cooperative YMCA of Memphis & the Mid-South City of Memphis Shelby County Health Department Bring It Food Hub Liveable Memphis/Community Development Council Girls Inc. Youth Farm FAC for Memphis/Shelby Hyde Family Foundations Knowledge Quest – Green Leaf Learning Farm The Works, Inc. Memphis Botanic Garden Shelby Farms Park Conservancy
Add’l Feedback (not already listed)	Steve Conley Kimber Mayhak Kerry Roemer Cornell Wesley	Peco Foods, Inc. Post Foods Nice-Pak Products East Arkansas Planning & Development District		Miles Tamboli Earlice Taylor Lauren Taylor Josephine Tempesta Curtis Thomas Jana Wilson Natalie Wilson	



Regional activity concentrates around commodity crops, livestock, and meats, oil, cereal, and beverage processing

Mid-South Food Employees

100% = ~33,300 FTE (~7,200 orgs, ~\$4.75B in revenue)



- Single Serving Refrigerated Foods
- Ice Cream and Frozen Dairy
- Eggs
- Maple Syrup
- Coffee
- Nuts
- Honey
- Specialty Crops - Grains
- Milk, Yogurt, Sour Cream, and Cheese
- Seafood
- Baked Goods - Breads and Tortillas
- Neutraceuticals / Drink Mixes
- Baked Goods - Desserts and Donuts
- Agricultural Inputs
- Ingredients
- Sauces, Spreads, and Salsas
- Specialty Crops - Produce
- Salty Snacks
- Chocolate and Confections
- Alcoholic Beverages
- Single Serving Frozen Foods
- Cotton
- Cereal
- Multiple Item Distributor/Wholesaler
- Non-Alcoholic Bottled Beverages
- Oils
- Livestock and Processed Meats/Poultry
- Commodity Crops

Note: Regional activity accounts for nearly \$4.7B in gross revenues
 Excludes retail, which tends to follow population demographics and specialized equipment/supporting services, which tend to follow production activity growth; Raw materials includes waste-to-feed companies
 Sources: Hoover's Dun & Bradstreet database, 2012 USDA Census of Agriculture, Chambers of Commerce, ArkansasGrown.org, Deltafreshfoods.org, AR/MS MarketMaker, Localharvest.org, Steering Committee



At least 70 regional grocery chains, restaurants, farmers markets, aggregators, CSAs, and institutions are interested in local sourcing

Retailers with Verified Local Sourcing Interest

Type	Name	Location	Type	Name	Location
Grocery	Edwards Food Giant	Multiple	Farmers Markets	Agricenter International Farmers Market	Memphis, TN
	El Gira Sol Tienda	Hernando, MS		Arkansas State University Farmers Market	Jonesboro, AR
	Harps Foods	Multiple		Arlington Open Air Market	Arlington, TN
	Miss Cordelia's	Memphis, TN		Bartlett Station Farmers Market	Memphis, TN
	The Kroger Co	Multiple		Bernice Gardens Farmers Market	Jonesboro, AR
	The Truck Patch Natural Market	Jonesboro, AR		Church Health Center Wellness Farmers Market	Memphis, TN
	Thomas Meat & Seafood	Collierville, TN		Collierville Farmers Market	Collierville, TN
Walmart	Multiple	Community Farmers Markets		Memphis, TN	
Whole Foods Market, Inc.	Memphis, TN	Cooper-Young Community Farmers Market		Memphis, TN	
Restaurant	Acre	Memphis, TN		Cross County Farmers Market	Wynne, AR
	Andrew Michael Italian Kitchen	Memphis, TN		Downtown Jonesboro Farmers Market	Jonesboro, AR
	Buon Cibo	Memphis, TN		Downtown Memphis Farmers Market	Memphis, TN
	Café Eclectic	Memphis, TN		Evergreen Community Farmers Market	Memphis, TN
	Cooper Street 20/20	Memphis, TN		Farmers Market at the Garden	Memphis, TN
	Cosmic Coconut	Memphis, TN		Fayette County Farmers Market	Somerville, TN
	Felicia Suzanne's	Memphis, TN		Helena Farmers Market	Helena, AR
	Fuel Café	Memphis, TN		Hernando Farmers Market	Hernando, MS
	Hog and Hominy	Memphis, TN		Memphis Botanic Garden Farmers Market	Memphis, TN
	Kimble's Fish Co	Memphis, TN	Millington Farmers Market	Millington, TN	
	Lady Bugg Bakery	Hernando, MS	Piggott Farmers Market	Piggott, AR	
	Maui Brick Oven	Memphis, TN	Produce Stand on Hwy 51	Hernando, MS	
	McEwen's Memphis	Memphis, TN	Produce Stand at Getwell and Goodman	Southaven, MS	
	One Love People	Jonesboro, AR	Randolph County Farmers Market	Pocahontas, AR	
	Otherlands Coffee Bar	Memphis, TN	South Memphis Farmers Market	Memphis, TN	
	Porcellino's Craft Butcher	Memphis, TN	Southaven Farmers Market	Southaven, MS	
	River City Management Group	Memphis, TN	The Depot Produce Vendors	Hernando, MS	
	River Oaks	Memphis, TN	The Farm Park Market	Germantown, TN	
	Southern Belle Food Creationz	Memphis, TN	West Memphis Farmers Market	West Memphis, AR	
	Sweet Grass/Next Door	Memphis, TN	4 Rivers Fresh Foods	Hernando, MS	
Tart	Memphis, TN	Bring It Food Hub	Memphis, TN		
The Farmer	Memphis, TN	Farm Truck Organics & Groceries	Memphis, TN		
Trolley Stop Market	Memphis, TN	M. Palazola Produce Co	Memphis, TN		
Tsunami	Memphis, TN	Raw Girls	Memphis, TN		
Tyboogie's Café	Tyronza, AR	Sweet Grass CSA	Memphis, TN		
Vinegar Jim's Restaurant	Arlington, TN	Shelby County Schools	Memphis, TN		
Wilson Café	Wilson, AR	St. Jude Children's Research Hospital	Memphis, TN		
			Aggregators and Multi-Farm CSA ¹		
			Institutions		

Sources: Hoovers Dun & Bradstreet Database, Arkansas Grown, Delta Fresh Foods, Pick Tennessee Products, Project Green Fork, and regional interviews

¹ The Food Bank of Northeast Arkansas, Mid-South Food Bank, and Metropolitan Inter-Faith Association function much like traditional aggregators, and face similar challenges with local sourcing



As local meat producers are engaged via priority interventions, their need for additional local processing capacity can be assessed

USDA-Inspected Meat Processing Plant: Demand Analysis Survey Questions

Farm/Ranch Name:

Farm/Ranch Location:

Contact Person:

Phone:

Email:

1. Which species do you raise? (cattle, hogs, lambs, goats, poultry)?
2. How many head (by species) did you have slaughtered in 2014?
3. Do you send animals to slaughter seasonally (i.e. grass-fed beef) or year-round (i.e. hogs)? If seasonally, which months?
4. Where do you currently have your livestock harvested and processed? What do you like best about these arrangements? What do you like least?

5. If a new meat processing facility were to be built in _____ (County/State/Region), which of the following would be important to you (choose all that apply)?

USDA inspection _____

Organic Certification _____

Kosher/Halal _____

Mobile Slaughter _____

Dry-Aging _____

Smoking & Curing _____

Distribution Services _____

Other (please specify):

6. Do you have your own farm or ranch brand established? What is the name of your brand?

7. Do you expect to increase sales of your branded products over the next 3 years? Could you estimate by how much (10%, 20%, etc.)?

8. Are you potentially interested in becoming a part-owner of a new processing plant?

9. Do you know of anyone who would be interested in owning/managing a new processing plant? If so, could you provide their name and contact information?

10. Anything else you'd like to share?

1 Courtesy of the Niche Meat Processors Assistance Network



This regional competitiveness planning process was facilitated by Bush Consulting Group

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Secondary research using a wide range of sources was used to supplement interview and stakeholder feedback

Sources Consulted

- Agricultural Marketing Resource Center, "Agritourism", June 2014 http://www.agmrc.org/commodities_products/agritourism/
- Alabama Fruit and Vegetable Growers Association, "Alabama Fruit and Vegetable Growers Association", 2015 <http://www.aces.edu/department/associations/afvga/>
- Alabama's Black Belt Heritage Area, "Welcome to Alabama's Black Belt, Where the Culture is as Rich as the Land", 2015 <http://www.alblackbeltheritage.org/>
- Alcorta, M., Duforu, and R., Himan, T., "Tips for Selling through CSAs - Community Supported Agriculture," *National Center for Appropriate Technology*, April 2012 <https://attra.ncat.org/attra-pub/summaries/summary.php?pub=391>
- Appalachian Center for Economic Networks, "Business Services", April 2015 <http://acenetworks.org/>
- Appalachian Regional Commission, "Bon Appétit Appalachia!" Tourism Mapguide, in Washington, DC, July 2014 http://www.arc.gov/news/article.asp?ARTICLE_ID=477
- Appalachian Sustainable Agriculture Project, "Local Food, Strong Farms, Healthy Communities", 2015 <http://asapconnections.org/>
- Arkansas Economic Development Commission, "Arkansas Manufacturers of Food and Kindred Products", September 2013 http://arkansasedc.com/sites/default/files/content/food_and_kindred_2013_1stqtr13_0.pdf
- Arkansas Market Maker, "Arkansas Grown", 2015 <https://ar.foodmarketmaker.com>
- AT Kearney, *Ripe for Grocers – The Local Food Movement*, May 2014 https://www.atkearney.com/consumer-products-retail/featured-article/-/asset_publisher/S5UkOOzy0vnu/content/ripe-for-grocers-the-local-food-movement/10192
- Athens County Visitors Bureau, "30 Mile Meal Map", 2015 <http://athensohio.com/athens-30-mile-meal/30-mile-meal-map/>
- Beecher Cookson, "Where's the (Local) Beef", *Food Safety News*, May 27, 2010 http://www.foodsafetynews.com/2010/05/wheres-the-local-beef/#.VWR_zE9Viko
- Brookings Institution Metropolitan Policy Program, *Clusters and Competitiveness: A New Federal Role for Stimulating Regional Economies*, 2008 <http://www.brookings.edu/~media/research/files/reports/2008/4/competitiveness%20mills/clusters%20report.pdf>
- Bureau of Economic Analysis, "Local Area Personal Income", 2015 <http://www.bea.gov/regional/>

Secondary research using a wide range of sources was used to supplement interview and stakeholder feedback

Sources Consulted

- Cattle Producers of Washington, "CPoW Livestock Processor's Cooperative Association", March 2015 <http://cattleproducersofwa.com/cpow-livestock-processors-cooperative-association/>
- Center for Ecological Technology, *Composting in Restaurants and Schools: A Municipal Tool-kit*, May 2003 <http://www.foodscrapsrecovery.com/CompostingRestaurantsandSchools.pdf>
- Center for Environmental Farming Systems, "Workplace Community Supported Agriculture: Connecting Local Farms to Local Employers", 2007 <http://content.ces.ncsu.edu/workplace-community-supported-agriculture-connecting-local-farmers-to-local-workplaces.pdf>
- Centers for Disease Control and Prevention, "Behavioral Risk Factor Surveillance System", 2009 <http://www.cdc.gov/brfss/>
- Centers for Disease Control and Prevention, "Community Health Status Indicators (CHSI 2015)", January 2015 <http://wwwn.cdc.gov/communityhealth>
- Clark, Sarah et al., "Exploratory Study for a Kitchen Incubator in West Memphis, AR," *University of Arkansas Clinton School of Public Service*, April 2009 <http://www.broadwaywestmemphis.com/pdfs/KitchenIncubatorStudybyClintonSchool.pdf>
- Climate Progress, "How Farms across America are Using Cow Manure for Renewable Energy", December 2013 <http://thinkprogress.org/climate/2013/12/09/3040781/farms-cow-manure-renewable-energy/>
- Community Food Advocates, "Nashville Mobile Market". March 2015 <http://www.communityfoodadvocates.org/nashville-mobile-market.html>
- Consumer Expenditure Survey, "U.S. Bureau of Labor Statistics", September 2012 <http://www.bls.gov/cex/>
- Consumer Expenditure Survey, "U.S. Bureau of Labor Statistics", September, 2011 <http://www.bls.gov/cex/>
- Dagher, M.A., and Bell, N.A., "Quality Control in the Flow of Mississippi Produced Vegetables to Markets," *Alcorn Mississippi Small Farm Development Center*, October 2010-February 2013 <http://www.ams.usda.gov/AMSV1.0/getfile?dDocName=STELPRDC5105607>
- Dakota College at Bottineau, "Entrepreneurial Center for Horticulture", 2015 <http://www.dakotacollege.edu/about/ech/>
- Day, J., Dahlmeimer, J., and Schmedeke, J., St. Cloud Area Economic Development Partnership, *Central Minnesota Processed Foods Industry Cluster Report*, 2010 http://www.workforceu.com/pdfs/processed_foods_report.pdf
- DC Central Kitchen, "Combating Hunger, Creating Opportunity: Combating Food Deserts and Promoting Health in DC's Low-Income Communities", 2014 <http://www.dccentralkitchen.org/healthycorners/>

Secondary research using a wide range of sources was used to supplement interview and stakeholder feedback

Sources Consulted

Delta Fresh Foods, “The Fresh List”, 2015 <http://deltafreshfoods.org/freshList.html>

Delta Made, “Growing Entrepreneurs from the Soil and Soul of the Delta”, 2014 <http://altconsulting.org/delta-made/>

East Austin Urban Farm Tour, 2015 <http://eastaustinurbanfarmtour.com/>

Econservation Institute, “Best Management Practices in Food Scraps Programs”, 2009
http://www.foodscrapsrecovery.com/EPA_FoodWasteReport_EI_Region5_v11_Final.pdf

Ecotrust Foodhub, “Food Hub, 2015 <https://food-hub.org/>

Edible Schoolyard Project, “The Edible Schoolyard Berkeley”, 2015 <http://edibleschoolyard.org/node/17404>

Extension, “State and Local Government Regulations That May Apply to an MSU”, April 2013 http://www.extension.org/pages/27296/state-and-local-government-regulations-that-may-apply-to-an-msu#.VS_2GyHBzGc

Fairshare CSA Coalition, “Workplace CSA”, 2014 <http://www.csacoalition.org/about-csa/workplace-csa/>

Farm Fresh Rhode Island, “A Hub for Fresh, Healthy Food”, 2015 <http://www.farmfreshri.org/>

Farm Fresh Workplace, “Farm Fresh Workplace Toolkit: For planning your Workplace or Group Community Supported Agriculture Program”, 2011 <http://sustainableconnections.org/bizdev/workplace-csas/workplace-csa-toolkit>

Farm to Plate Meat Processing Task Force, “Meat Processing”, 2015 <http://www.vtfarmtoplate.com/network/meat-processing>

Farrms Foundation, “About Us”, 2015 <http://farrms.org/>

Feeding America, “Data by County in Each State”, 2013 <http://www.feedingamerica.org/hunger-in-america/our-research/map-the-meal-gap/data-by-county-in-each-state.html>

FieldWatch, Inc., “Driftwatch”, 2014 <http://www.fieldwatch.com/specialty-crop-registry.html>

Firsthand Foods, “Pasture-raised in North Carolina”, 2015 <http://firsthandfoods.com/index.php?3>

Food Advisory Council for Memphis and Shelby County, “Food Landscape Map”, 2015, <http://map.growmemphis.org/>

Food and Research Action Center, “Federal Food/Nutrition Programs”, April 2015 <http://frac.org/federal-foodnutrition-programs/>



Secondary research using a wide range of sources was used to supplement interview and stakeholder feedback

Sources Consulted

- Foodshed Farms, “A Growing Food Movement”, 2015 <http://www.foodshedfarms.com/>
- Forge Arkansas, “Lending”, 2015 <http://forgeonline.com/>
- Goebal, N., “Optimizing Your Most Critical Asset”, *Rockwell Automation*, 2011 http://www.industryweek.com/site-files/industryweek.com/files/uploads/2013/11/Optimizing_Your_Most_Critical_Asset_Whitepaper.pdf
- Greater Blytheville Area Chamber of Commerce, “Business Directory”, 2015 <http://www.greaterblytheville.com/>
- Greater Memphis Chamber Of Commerce, “Membership Directory”, 2015 <http://www.memphischamber.com/>
- Green Mountain Farm to School, “Farm to School Network”, 2015 <http://www.greenmountainfarmtoschool.org/>
- Grow Appalachia, 2015 <http://www.berea.edu/grow-appalachia/>
- Growing Power, 2015 <http://www.growingpower.org/>
- Gunders, D., “Wasted: How America Is Losing Up to 40 Percent of Its Food from Farm to Fork to Landfill”, *Natural Resources Defense Council*, 2012 <http://www.nrdc.org/food/files/wasted-food-ip.pdf>
- Gwin, L., Thiboumery, A., and Stillman, R., “Local Meat and Poultry Processing: The Importance of Business Commitments for Long-Term Viability,” *USDA ERS*, June 2013 <http://www.ers.usda.gov/media/1131316/err-150.pdf>
- Harvard Law School Mississippi Delta Project and Harvard Food Law and Policy Clinic, *Recommendations for a Healthy Corner Store Initiative in Shelby County, Tennessee*, 2014 <http://www.chlpi.org/wp-content/uploads/2013/12/Memphis-Healthy-Corner-Stores-Final-Fall-2014.pdf>
- Hawkins, R., *How to Develop Heritage Tourism Assets in Your Community*, Arkansas State University Heritage Sites Program, Presentation at reNEW East Arkansas Celebratory Summit The Dawning of the Delta Revival, May 28, 2015
- Healthy Communities Coalition, “Food Hub”, 2015 <http://healthycomm.org/>
- Hoover’s Inc., “Company Overview”, 2015 <https://subscriber.hoovers.com/H/login/login.html>
- IBIS World Industry Reports, *11120 Vegetable Farming in the US*, February 2015
- IBIS World Industry Reports, *11135 Fruit & Nut Farming in the US*, November 2014
- IBIS World Industry Reports, *11235 Chicken & Turkey Meat Production in the US*, September 2014

Secondary research using a wide range of sources was used to supplement interview and stakeholder feedback

Sources Consulted

IBIS World Industry Reports, *31122 Margarine & Cooking Oil Processing in the US*, October 2014

IBIS World Industry Reports, *31161 Meat, Beef & Poultry Processing in the US*, November 2014

IBIS World Industry Reports, *31191 Snack Food Production in the US*, April 2015

IBIS World Industry Reports, *42451 Corn, Wheat & Soybean Wholesaling in the US Industry Report*, December 2014

IBIS World Industry Reports, *44521 Meat Markets in the US*, October 2014

IBIS World Industry Reports, *Per Capita Fruit and Vegetable Consumption*, 2014

IBIS World Industry Reports, *Per Capita Meat Consumption*, November 2014

IBIS World Industry Reports, *Price of Poultry Meat*, April 2014

IBIS World Industry Reports, *Price of Red Meat*, April 2014

Illinois Direct Farm Business, "What is CSA?", 2011 <http://www.directfarmbusiness.org/csa-introduction/>

Iowa State University Extension and Outreach, "Vegetable Production Budgets for a High Tunnel", *Ag Decision Maker*, January 2012
www.extension.iastate.edu/agdm

Island Grown Farmers Cooperative, "About IGFC", 2015 <http://www.igfcmeats.com/1.html>

Jayaraman, T., and Bryniarski, A., "Recommendations for a Healthy Corner Store Initiative in Shelby County, Tennessee," *Harvard Law School Mississippi Delta Project and Harvard Food Law and Policy Clinic*, Fall 2014 <http://www.chlpi.org/wp-content/uploads/2013/12/Memphis-Healthy-Corner-Stores-Final-Fall-2014.pdf>

Johnson, R.J., Marti, D.L., and Gwin, L., "Slaughter and Processing Options and Issues for Locally Sourced Meat," *USDA ERS*, June 2012,
<http://www.ers.usda.gov/media/820188/ldpm216-01.pdf>

Jonesboro Regional Chamber of Commerce, "Economic Development", 2015 <http://www.jonesborochamber.com/economic-development>

King Conservation District, "Manure Match Program", 2014 <http://www.kingcd.org/programs-farm-manure.htm>

Kowitt, B., *Special Report: The War on Big Food*, *Fortune*, May 21, 2015 <http://fortune.com/2015/05/21/the-war-on-big-food/>



Secondary research using a wide range of sources was used to supplement interview and stakeholder feedback

Sources Consulted

- Local Harvest, “Featured Members”, 2014 <http://www.localharvest.org/>
- Lovett, J., “Agritourism Growing in State”, *Arkansas News*, August 11, 2014 <http://arkansasnews.com/news/arkansas/agritourism-growing-state>
- Make Mine Mississippi, “Guidelines”, 2014 <https://www.mdac.ms.gov/bureaus-departments/market-development/make-mine-mississippi-program/make-mine-mississippi-guidelines-registration/>
- Marketline Industry Profile, *Breakfast Cereals in the United States*, November 2013
- Marketline Industry Profile, *Chocolate Confectionery in the United States*, November 2013
- Marketline Industry Profile, *Frozen Foods in the United States*, September 2013
- Marketline Industry Profile, *Meat in the United States*, June 2012
- Marketline Industry Profile, *Meat, Fish, and Poultry in the United States*, February 2013
- Marketline Industry Profile, *Potato Chips in the United States*, August 2013
- Marketline Industry Profile, *Savory Snacks in the United States*, October 2013
- Maryland Department of Agriculture, “Manure Transport and Matching Service”, 2015 http://mda.maryland.gov/resource_conservation/Pages/manure_management.aspx
- Mid-South Greenprint Consortium and the Food Advisory Council for Memphis and Shelby County, *Food Landscape Analysis: Research Overview, the Findings as Foundation*, September 2014
- Mississippi Department of Agriculture and Commerce, “Meat Inspection”, 2014 <https://www.mdac.ms.gov/bureaus-departments/regulatory-services/meat-inspection/>
- Mississippi Market Maker, “Business Directory”, 2015 <http://ms.foodmarketmaker.com/>
- MIT Sloan School of Management, “Getting Started: 10 Questions for Cities and Towns Considering Residential Curbside Composting”, May 2011 <https://mitsloan.mit.edu/actionlearning/media/documents/s-lab-projects/Guide-to-Composting.pdf>
- Modern Farmer, “What to do with All that Poo?”, August 2014 <http://modernfarmer.com/2014/08/manure-usa/>

Secondary research using a wide range of sources was used to supplement interview and stakeholder feedback

Sources Consulted

- National Chicken Council, “Per Capita Consumption of Poultry and Livestock, 1965 to Estimated 2015, in Pounds”, 2015
<http://www.nationalchickencouncil.org/about-the-industry/statistics/per-capita-consumption-of-poultry-and-livestock-1965-to-estimated-2012-in-pounds/>
- National Farm to School Network, “Arkansas Farm to School”, 2015 <http://www.farmtoschool.org/our-network/Arkansas>
- National Sustainable Agricultural Information Service, “Local Meat Processing”, *ATTRA News*, September 2010
https://attra.ncat.org/newsletter/attranews_0910.html
- National Sustainable Agriculture Coalition, “Cooperative Interstate Meat and Poultry Shipment Program”, November 2014
<http://sustainableagriculture.net/publications/grassrootsguide/local-food-systems-rural-development/interstate-shipment-of-state-inspected-meat/>
- National Sustainable Agriculture Information Service, “Converting Cropland to Perennial Grassland”, 2010 <https://attra.ncat.org/attra-pub/viewhtml.php?id=108>
- NC Choices and North Carolina State University Agricultural and Technical State University Cooperative Extension, “Carolina Meat Conference”, 2013 <http://www.carolinameatconference.com/>
- Neuner, K., Kelly, S., and Raja, S., “Planning to Eat? Innovative Local Government Plans and Policies to Build Healthy Food Systems in the United States,” *Food Systems Planning and Healthy Communities Lab, University at Buffalo, The State University of New York*, September 2011
http://cccfoodpolicy.org/sites/default/files/resources/planning_to_eat_sunybuffalo.pdf
- Niche Meat Processor Assistance Network, “Mobile Slaughter and Processing”, 2015 <http://www.nichemeatprocessing.org/mobile-unit-overview>
- North Carolina State University Agricultural and Technical State University Cooperative Extension, “New Producers / Beginning Farmers”, 2015
<http://localfood.ces.ncsu.edu/local-food-production/local-food-new-producers/>
- North Cascade Meat Producers Cooperative, “Quality, Natural Pasture-Raised Meats from Local Farmers”, 2012
<http://www.northcascademeats.com/>

Secondary research using a wide range of sources was used to supplement interview and stakeholder feedback

Sources Consulted

North Delta Produce Growers Association, “Helping Rural North Delta Farmers Build to Capacity”, 2013

<https://northdeltaproducegrowers.wordpress.com/page/3/>

North Delta Produce Growers Association, “Mission Impossible: 2013 Purple Hull Pea Project,” June 26, 2103

<https://northdeltaproducegrowers.files.wordpress.com/2013/06/mipupp.pdf>

Northeast Livestock Processing Service Company, “Supplying Local Meat, Helping Farmers with Processing”, 2015 <http://nelpsc.com/>

Northwest Food Processors Association, *Annual Report FY 2014*, 2015 <http://www.nwfpa.org/>

Oklahoma Farmers and Ranchers Association, “OFRA Mentoring Program”, 2014 <http://www.okfarmersandranchers.org/about-oklahoma-farmers-and-ranchers-association>

Osceola/South Mississippi County Chamber of Commerce, “Economic Development”, 2015 <http://www.osceolachamber.net/>

Pick Tennessee Products, “Farm and Producers Resources”, 2015 <http://www.tn.gov/agriculture/marketing/index.shtml>

Practical Farmers of Iowa, “Over ‘herd’ on the Discussion List: Converting from Cropland to Pasture”, 2014

<http://practicalfarmers.org/blog/2014/03/12/overherd-on-the-listserve-converting-from-cropland-to-pasture/>

Puget Sound Meat Producers Cooperative, “Local Meat for Local Meals”, 2014 <http://www.pugetsoundmeat.com/default.html>

Red Tomato, “Local Food in Every Shopping Cart”, 2015 <http://www.redtomato.org/>

Redfearn, D., Anderson, B., and Bolesky, J., “Converting Cropland Back to Grass Pastures”, *AGWeb Farm Journal*, May 2015

<http://www.agweb.com/article/converting-cropland-back-to-grass-pastures-university-news-release/>

Roberts, J., “Kitchen Community Plants First Seeds With \$4 Million School Garden Project”, *Commercial Appeal*, April 7, 2015

http://www.commercialappeal.com/news/local-news/schools/kitchen-community-plants-first-seeds-in-4-million-school-garden-project-in-memphis_80443890

Rochester Institute of Technology, *Finger Lakes Food Processing Cluster Initiative*, 2014 <http://www.rit.edu/gis/flfpci/>

Rodale Institute, “From CSA to HMO”, February 2013 <http://rodaleinstitute.org/from-csa-to-hmo/>

School Garden Project of Lane County, “Mission and Vision”, 2015 <http://schoolgardenproject.org/>



Secondary research using a wide range of sources was used to supplement interview and stakeholder feedback

Sources Consulted

Scriven, B., UN Cooperative Extension, “Converting Row Crop Area to Permanent Pasture”, 2014

Small Livestock and Poultry Producers – Maps, May 2010 http://www.fsis.usda.gov/shared/PDF/KYF_maps-050410_FOR_RELEASE.pdf?redirecthttp=true

South Dakota Specialty Producers Association, “Specialty Producers”, 2015 <http://sdspecialtyproducers.org/#>

Southern Sustainable Agriculture Working Group, “Food Hub Starter Kit Available Online”, May 7, 2015 <http://www.ssawg.org/>

Spokane Conservation District Livestock and Land, “Programs”, 2011 <http://www.sccd.org/lal.html>

State Energy Conservation Office, “Manure for Fuel”, 2008 <http://seco.cpa.state.tx.us/energy-sources/biomass/manure.php>

Sugar Mountain Farm, “CSA”, May 2015 <http://sugarmtnfarm.com/>

Tennessee Beef Industry Council, “Producers”, 2015 <http://www.beefup.org/>

Tennessee Department of Economic and Community Development, 2015 <http://www.tn.gov/ecd/>

Tennessee Farm Bureau, “Education and Resources”, 2015 <http://www.tnfarmbureau.org/education-resources>

The Atlantic, “Why Don't Convenience Stores Sell Better Food?”, March 2015 <http://www.theatlantic.com/health/archive/2015/03/cornering-the-market/386327/>

The Butcher’s Guild, “About the Guild: Our Meaty Mission”, 2015 <http://www.thebutchersguild.org/parent/about-the-guild-2/>

The US Composting Council, *Best Management Practices (BMPs) for Incorporating Food Residuals into Existing Yard Waste Composting Operations*, 2009 http://www.foodscrapsrecovery.com/USCompostingCouncil_BMPs.pdf

Tuscorora Organic Growers Cooperative, “Visit our Family Farms”, May 2015 <http://www.tog.coop/>

United States Census Bureau, “Household Income in the Past 12 Months, 2009”, 2011 <http://www.census.gov/quickfacts/table/PST045214/47157,47047,28033,05123,05121,00>

United States Census Bureau, “USA Counties Database”, 2012 <http://censtats.census.gov/usa/usa.shtml>

Secondary research using a wide range of sources was used to supplement interview and stakeholder feedback

Sources Consulted

- United States Department of Agriculture, “Local Meat and Poultry Processing: The Importance of Business Commitments for Long-Term Viability”, June 2013 <http://www.ers.usda.gov/publications/err-economic-research-report/err150.aspx>
- United States Department of Agriculture, “USDA Identifies Gaps, Releases Maps Which Detail U.S. Local Meat Processing Facilities”, May 2010 <http://www.usda.gov/wps/portal/usda/usdahome?contentidonly=true&contentid=2010/05/0284.xml>
- United States Department of Agriculture, Agricultural Marketing Service, “Food Deserts”, 2015 <http://apps.ams.usda.gov/fooddeserts/fooddeserts.aspx>
- United States Department of Agriculture, Economic Research Service, “Cattle and Beef”, 2015 <http://www.ers.usda.gov/topics/animal-products/cattle-beef.aspx>
- United States Department of Agriculture, Economic Research Service, “Commodity Costs and Returns”, 2015 <http://www.ers.usda.gov/data-products/commodity-costs-and-returns/documentation.aspx>
- United States Department of Agriculture, Economic Research Service, “Food Availability (Per Capita) Data System”, 2014 [http://www.ers.usda.gov/data-products/food-availability-\(per-capita\)-data-system/.aspx](http://www.ers.usda.gov/data-products/food-availability-(per-capita)-data-system/.aspx)
- United States Department of Agriculture, Economic Research Service, “Slaughter and Processing Options and Issues for Locally Sourced Meat”, June 2012 <http://www.ers.usda.gov/media/820188/ldpm216-01.pdf>
- United States Department of Agriculture, Economic Research Service, “Food Expenditure Data”, May 2015 <http://www.ers.usda.gov/data-products/food-expenditures.aspx>
- United States Department of Agriculture, Economic Research Service, “Food Consumption Estimates”, August 2014 <http://www.ers.usda.gov/data-products/food-consumption-and-nutrient-intakes.aspx>
- United States Department of Agriculture, Economic Research Service, “Food Access Research Atlas”, 2015 <http://www.ers.usda.gov/data/fooddesert#>
- United States Department of Agriculture, Food and Nutrition Service, “SNAP Provisions of the Agricultural Act of 2014 – Implementing Memo, March 21, 2015 <http://www.fns.usda.gov/snap-provisions-agricultural-act-2014-implementing-memo>
- United States Department of Agriculture, Food Safety and Inspection Service, “Beef from Farm to Table”, 2014 http://www.fsis.usda.gov/wps/wcm/connect/c33b69fe-7041-4f50-9dd0-d098f11d1f13/Beef_from_Farm_to_Table.pdf?MOD=AJPERES

Secondary research using a wide range of sources was used to supplement interview and stakeholder feedback

Sources Consulted

United States Department of Agriculture, Food Safety and Inspection Service, “Meat, Poultry and Egg Product Inspection Directory”, 2015
<http://www.fsis.usda.gov/wps/portal/fsis/topics/inspection/mpi-directory>

United States Department of Agriculture, Food Safety and Inspection Service, “Slaughter Availability to Small Livestock and Poultry Producers – Maps,” May 4, 2010 http://www.fsis.usda.gov/shared/PDF/KYF_maps-050410_FOR_RELEASE.pdf?redirecthttp=true

United States Department of Agriculture, National Agricultural Statistics Service, “Quarterly Hogs and Pigs”, March 2015
http://www.nass.usda.gov/Publications/Todays_Reports/reports/hgpg0315.pdf

United States Department of Agriculture, National Agricultural Statistics Service, “National Statistics for Vegetable Totals”, 2014
http://www.nass.usda.gov/Statistics_by_Subject/result.php?22D15AE2-AFD1-3ACE-8B27-3A567C1D3C51§or=CROPS&group=VEGETABLES&comm=VEGETABLE%20TOTALS

United States Department of Agriculture, National Agricultural Statistics Service National, “Broilers: Production by Year, US”, April 2014
http://www.nass.usda.gov/Charts_and_Maps/Poultry/brlprd.asp

United States Department of Agriculture, National Agricultural Statistics Service National, “Turkeys: Inventory by Year, US”, April 2014
http://nass.usda.gov/Charts_and_Maps/Poultry/kyprd.asp

United States Department of Agriculture, National Agricultural Statistics Service, “Census of Agriculture – County Data, Arkansas”, 2012
http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1_Chapter_2_County_Level/Arkansas/st05_2_001_001.pdf

United States Department of Agriculture, National Agricultural Statistics Service, “Census of Agriculture – County Data, Mississippi”, 2012
http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1_Chapter_2_County_Level/Mississippi/st28_2_001_001.pdf

United States Department of Agriculture, National Agricultural Statistics Service, “Census of Agriculture – County Data, Tennessee”, 2012
http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1_Chapter_2_County_Level/Tennessee/st47_2_001_001.pdf

United States Department of Agriculture, National Agricultural Statistics Service, “National Statistics for Non-Citrus Totals”, 2014
http://www.nass.usda.gov/Statistics_by_Subject/result.php?D5BC2B5E-308F-3E69-B8B5-DE336C26E5CA§or=CROPS&group=FRUIT%20%26%20TREE%20NUTS&comm=NON-CITRUS%20TOTALS

United States Department of Agriculture, National Agricultural Statistics Service, “Livestock Slaughter”, 2014
<http://usda.mannlib.cornell.edu/usda/nass/LiveSlau//2010s/2014/LiveSlau-12-24-2014.pdf>

Secondary research using a wide range of sources was used to supplement interview and stakeholder feedback

Sources Consulted

United States Department of Agriculture, National Agricultural Statistics Service, “Poultry Slaughter”, 2014
<http://usda.mannlib.cornell.edu/usda/nass/PoulSlau//2010s/2014/PoulSlau-12-23-2014.pdf>

United States Department of Agriculture, National Agricultural Statistics Service, *Crop Values: 2014 Summary, February 2015*
http://www.nass.usda.gov/Publications/Todays_Reports/reports/cpv10215.pdf

United States Department of Agriculture, Rural Development, *Rural Cooperatives: Co-ops Promote On-Farm Meat Processing*, December 2010
<http://www.rd.usda.gov/files/CoopMag-nov10.pdf>

United States Department of Agriculture, *Trends in U.S. Local and Regional Food Systems: A Report to Congress*, January 2015
<http://www.ers.usda.gov/publications/ap-administrative-publication/ap-068.aspx>

USDA Chefs Move to Schools, “Cooks with Kids Super Chef”, April 28, 2015 <http://www.chefsmovetoschools.org/>

United States Department of Agriculture, *Why Local Food Matters: The Rising Importance of Locally-Grown Food in the U.S. Food System - A National Perspective*, March 2014 <http://www.ams.usda.gov/AMSV1.0/getfile?dDocName=STELPRDC5105706>

United States Department of Commerce, “Local Area Personal Income, 2013”, November 2014
http://bea.gov/newsreleases/regional/lapi/lapi_newsrelease.htm

United States Department of Education, Institute of Education Sciences, “National Center for Education Statistics”, 2015
<http://nces.ed.gov/datatools/>

United States Department of Labor and United States Bureau of Labor Statistics, “Memphis, TN-MS-AR National Compensation Survey”, May 2010, <http://www.bls.gov/ncs/ocs/sp/ncbl1477.pdf>

United States Energy Information Administration, “Short Term Energy Outlook: Renewables and CO₂ Emissions”, 2015
http://www.eia.gov/forecasts/steo/report/renew_co2.cfm

United States Environmental Protection Agency, “Operating Anaerobic Digester Projects”, January 2015
<http://www.epa.gov/agstar/projects/index.html>



Secondary research using a wide range of sources was used to supplement interview and stakeholder feedback

Sources Consulted

University of Illinois Extension, *The Economics of Integrating Crop Land to MIG Grazing*, 2001

<http://web.extension.illinois.edu/oardc/downloads/43306.pdf>

Wallace Center, NGFN Food Hub Collaboration, *Food Hub Benchmarking Study: Report on Findings*, 2013 <http://www.ngfn.org/resources/ngfn-database/knowledge/2013%20Food%20Hub%20Benchmarking%20Report.pdf>

Walton Rural Life Center, “Walton Rural Life Charter Foundation”, 2015 <https://w-usd373-ks.schoolloop.com/foundation>

Watershed Post, “Slaughterhouses”, March 2015 <http://www.watershedpost.com/tags/slaughterhouses>

YMCA, *Healthy in a Hurry Corner Stores*, 2015 <http://www.ymcaloouisville.org/social-responsibility/social-services/healthy-in-a-hurry-corner-stores.html>

ZeeMaps, 2015 <https://www.zeemaps.com/>



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