

## Local Food Systems in the South: A Call for a Collaborative Approach to Assessment

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Interest in developing Local Food Systems (LFS) grows with the hope that a community-based approach to food production will provide some measure of relief for social, economic, and environmental problems. Food systems range from very local and even subsistence levels to regional food systems, and extending to global food systems. A LFS is commonly characterized by short supply chains, collaborative relationships between buyers and sellers, support services provided by local businesses, and an intentional focus on the social, economic, and environmental impacts of the production, distribution, consumption, and disposal of food in the community.

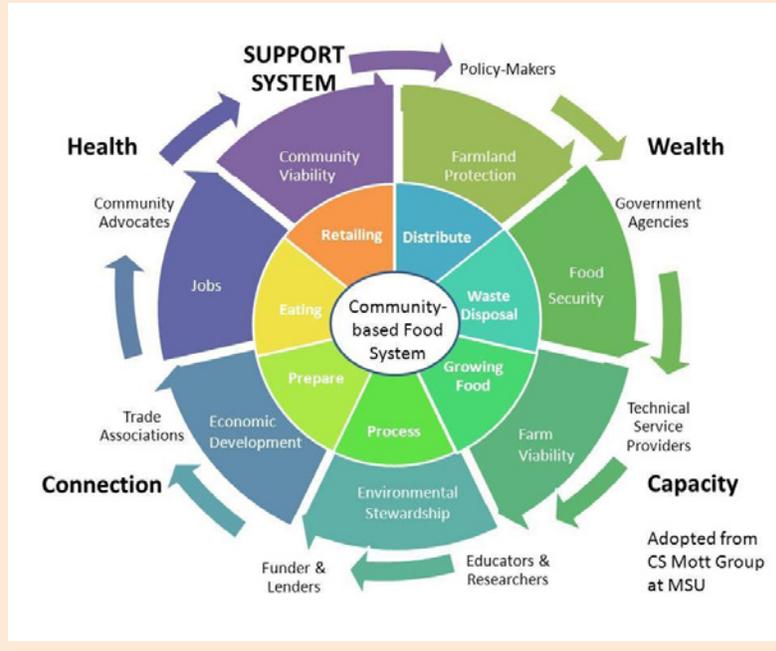
Conventional food systems are sometimes viewed as contributing to existing societal problems such as obesity and poor nutrition. Some community residents, government officials, and academics see local food systems as having the power to improve the well-being of all those along the food supply chain, from producers to consumers, as well as those in-between, including processors, distributors, and retailers. Non-profits, economic development organizations, local governments, distributors, and others are taking specific actions to localize the production-consumption nexus. Various groups and organizations—from health non-profits to economic development organizations to local business groups—are investing directly in more localized infrastructure and indirectly through applied and community-based research and promotion of various LFS investment opportunities. Examples of this at the national level are the U.S. Department of Agriculture's (USDA) Agricultural Marketing Service that focuses on the development of farmers markets, food hubs, and other direct marketing infrastructure, and at the state level South Carolina's

Small Farms Mean Big Business project, North Carolina Growing Together project, and the Eastern Kentucky Food Systems Collaborative.

Some research supports the claims that a LFS positively impacts health, the environment, food security, social capital, and economic well-being. Economic benefits accrue both to producers and the broader community, with findings from numerous studies indicating food produced and consumed locally creates more economic activity in an area than food produced from a non-local source (Holt-Giménez and Wang, 2011; Otto and Varner, 2005; Enshayan, 2008; Sonntag, 2008; and Henneberry, Whitacre, and Agustini, 2009). In the health realm, epidemiological studies have found correlations between higher levels of direct-to-consumer farm sales and lower levels of mortality, obesity, and diabetes (Ahern, Brown, and Dukas, 2011; and Salois, 2012). Additionally, qualitative studies suggest direct connections between local food systems and improvements in consumer eating behaviors, enhanced social activity, and civic engagement at the community level (Saldivar-Tanaka and Krasny, 2004).

However, these studies fall short of the mark if we are interested in knowing the impacts of food system changes over a large region (O'Hara and Pirog, 2013). Figure 1 illustrates the conceptual complexity of any food system. Most existing research studies are limited to single projects and single outcomes in limited geographic areas, such as the economic impact of a farmers' market at the county or state level. Support for improved data collection is needed, as well as studies conducted at larger geographic scales that take into consideration economic spillover effects such as the effect of LFS on property values, job creation,

**Figure 1: One Representation of the Complexity of Local Food Systems.**



or tourism (O’Hara and Pirog, 2013), and that simultaneously consider economic, social, and environmental impacts. Possible negative impacts should also be considered. These include the possible increase in the cost of food associated with smaller-scale operations, the possible economic fragility of small operations, and the added difficulty in establishing traceability for food safety reasons when many small farms are the source of a diverse selection of products.

Improving the quality of research associated with LFS, specifically that focus on impact assessment, may require the creation of a “learning community” of researchers and other individuals working in the LFS area to evaluate and discuss the design, methods, and conclusions of LFS researchers and practitioners (O’Hara and Pirog, 2013). Government and university research combined with non-profit and Extension outreach programming together can create such a learning community, and provide a means to connect regional and national research initiatives to activities at the community-level.

### Current LFS Development Approaches and Projects in the South

The Community Food System Explorer (CFSE), a land grant university project focused in North Carolina and Virginia, was developed to help groups assess community LFS assets and available resources using a geographic information system (GIS) planning tool and a “Community Capitals” framework that includes natural, built, financial, social, human, cultural, and political capital components (Bargainer et al., 2011). The CFSE provides a useful framework for combining data from multiple sources within a comprehensive LFS framework. To date, the CFSE and the Community Capitals approach has been utilized by Extension personnel and community-based organizations in Virginia and North Carolina to facilitate community discussions and planning focusing on local food systems. For example, the Appalachian Food Shed Project is currently using the Community Capitals framework as it seeks to facilitate

collaboration across West Virginia and the Appalachian regions of North Carolina and Virginia. Extending use of the CFSE as a common planning and assessment tool across other communities in the South could provide a common set of methods and measures to better monitor progress and evaluate impacts across communities within the region.

Another useful tool, MarketMaker, a robust, web-based information management system for food industry businesses is operational across 20 U.S. states with eight of those states in the South. Within MarketMaker one can find demographic and consumer preference data for a given community, useful information for developing a marketing program, and determining types and volumes of food products consumers desire. MarketMaker is also a useful tool for determining current food chain assets in the community, from farmer to retailer. All classes of food chain players are in MarketMaker and can be sorted by food industry characteristics and mapped by community. One barrier to implementing MarketMaker and similar technological tools has been the cost of entry, with an initial fee and annual subscription costs. Several states have created other tools with lesser capabilities such as the CFSE’s GIS-based tool and the simple Google-map interface used by the North Carolina Growing Together project to connect businesses across the local food supply chain. A more coordinated effort to bring these and similar projects together under one transparent and comprehensive package and to facilitate the effective use of such tools would surely strengthen the ability of grassroots efforts to foster LFS development. Further, since assessment of LFS requires data that is either scattered across various sources, or is simply not available unless collected specifically for this purpose, efforts like these to collect, curate, and share data are essential.

At present, most LFS development evaluation efforts tend to focus on single-project results, project performance, and individual food system interventions rather than on systemic performance. This may be because LFS development tends to be implemented project-by-project, rather than system-wide (O'Hara and Pirog, 2013). Although planning for LFS development might be comprehensive, actual implementation is often piecemeal; for example, a farm tour one year, a farmers' market added two years hence, and then a food hub considered over the long term. Consequently, evaluation efforts tend to also be piecemeal. Recent and growing interest in the development of Local Food Policy or Advisory Councils might offer an organizational home and source of funding for research on the relationship between LFS interventions and social and health outcomes. Results from such research could inform policy and implementation strategies to maximize policy effectiveness and the strategic use of limited resources.

Community support and buy-in is vital to developing LFS. However, convincing others of the value—economic, social, and environmental—of localized systems means having evidence of tangible community benefits that make sense to others. Garnering the support of diverse stakeholders, in particular local governments and economic development personnel and planners, must be considered when studies are designed and evaluations conducted. Measures of economic benefits are typically the most highly valued and sought after evidence of LFS value because these measures appeal to those who typically hold positions of power and influence in the community. However, a narrow focus on solely economic impacts may create unintended social and environmental consequences. These potential unintended impacts, positive and negative, must be considered, if we are to make effective long-term

solutions-oriented decisions. Consistently applying a comprehensive systemic research framework and associated outreach and development activities can help ensure the long-term sustainability of LFS.

### **Creating and Assessing Change**

The economic opportunities that enhanced LFS can offer should be considered as part of a comprehensive community development strategy that encompasses more than single businesses or sectors. An example could be the potential economic impact on tourism of a vibrant craft cheese industry in a specific region. Although it is unlikely a single cheese manufacturer would generate substantial employment, it might be the tipping point for a community to begin to attract culinary tourists. A short-term, narrow focus on immediate economic impacts might miss the more complete set of long-term systemic impacts.

Creating economic benefits from LFS development involves choosing from one or more of several strategies. These include: 1) Import substitution to identify and replace non-local imports with products from local suppliers; 2) New business creation, a strategy to be adopted in situations where local suppliers do not currently exist; 3) Business retention or expansion which may help a currently struggling food sector business and strengthen non-food businesses in a region; 4) Tourism development, a viable and distinct local food system to create a growing interest in culinary tourism; and 5) Attracting outside investment from private sources and state or federal grants. These economic development strategies might also converge with natural market forces to create a system where old and new firms co-exist in a mutually-supportive and synergistic local food system.

A reasonable starting point for accurately measuring economic change due to LFS enhancement is having

a clear understanding of the baseline food system pre-intervention and an understanding of the next-best alternative uses of the resources involved in the enhancement of LFS. The current baseline is typically an integrated food system that evolved as a result of private sector investment augmented by public and non-profit sector support. The influence of these activities and support mechanisms varies greatly by region, resulting in a complicated mosaic of baseline regional food systems. Because of these complexities, researchers should broaden the set of outcomes and attendant baseline measures, rather than focusing only on a narrow set of economic outcomes such as number of jobs created (O'Hara and Pirog, 2013). Measures of comparison between conventional and Local Food Systems should include:

- Local food sales by farmers
- Institutional food purchases from local and regional farms
- Farm enterprises and food-based business startups created and expanded, including associated businesses such as processing, food hubs, distributors, and equipment dealers
- Differences in food preparation habits and fruit and vegetable consumption in households located in close proximity to community gardens
- Crop field loss associated with local food marketing channels compared to field loss in conventional channels
- Measurement of enhanced entrepreneurial activity such as producer cooperation in crop planning
- Creation of value added businesses in communities with and without active farmers markets and farmers market associations
- Likelihood of farm ownership succession on farms with local food marketing channels versus those reliant on conventional channels

Other measures may be added. The point is that there is typically a whole lot more going on than is typically measured.

### **Opportunities for Collaboration to Better Measure Impacts**

Several regional stakeholder organizations exist in the Southeast that have LFS development as one of their primary mission areas. These include The Southern Sustainable Agriculture Working Group, the Southern Sustainable Agriculture Research and Extension organization, and the Carolina Farm Stewardship Association. These and similar groups were often created with an explicit LFS development mission in mind; others adopted this mission along the way in response to constituency interests or needs. Many of these groups are currently partnering, or are interested in partnering, with others to foster more frequent and higher quality comprehensive impact assessments of LFS. For example, the Carolina Farm Stewardship Association is working in conjunction with the North Carolina Division of Public Health's Community Transformation Program to conduct an assessment and create an action plan for increasing the availability of fresh, locally sourced food in Beaufort County, North Carolina.

Good community development processes create plentiful opportunities for involvement of stakeholders. Their involvement can also play an important role in a comprehensive assessment of LFS. Involving a broad array of organizations and their expertise can shed light on and develop quantifiable metrics along numerous dimensions—economic, social, and environmental.

What is needed is four-fold. One, a stable institutional arrangement is needed whereby these groups can regularly convene to focus on a long-term agenda for structuring collaborative tools and a common framework. Two, successful development requires

conveners and facilitators who can assist with design and implementation of worthwhile LFS projects. Three, a network of LFS researchers working somewhat at a distance from those focused on implementation is needed to provide objective feedback informed by efforts in other communities and regions. Four, funding for both implementation and assessment research is needed to optimize investment of scarce resources for LFS development.

Overall, these can provide a collaborative framework with thoughtful leadership to guide the development of LFS that provide a range of social, economic, and environmental benefits to communities.

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### Websites to Resources Identified in Article

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Carolina Farm Stewardship Association <http://www.carolinafarmstewards.org>.

Community Food System Explorer <http://www.sare.org/Learning-Center/Project-Products/Southern-SARE-Project-Products/Community-Food-System-Explorer>.

Eastern Kentucky Food Systems Collaborative <http://www.appalfoods.org/>

National Food MarketMaker <http://national.marketmaker.uiuc.edu>.

North Carolina Growing Together Initiative <http://www.ncgrowing-together.org>

North Carolina Local Food Infrastructure Inventory <http://www.cefs.ncsu.edu/statewide-infrastructure-map.html>.

Southern Sustainable Agriculture Working Group <http://www.ssawg.org>.

Southern Sustainable Agriculture Research and Education Program <http://www.southernshare.org>.

U.S. Department of Agriculture Agricultural Marketing Service <http://www.ams.usda.gov>.

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