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From Agriculture to Manufacturing and Back: Old Industrial Zones and Prospective Incubators for Local Food Systems

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From Agriculture to Manufacturing and Back: Old Industrial Zones as Prospective Incubators for Local Food Systems

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ABSTRACT

There is significant competition for local and state resources to support development of infrastructure for the local foods movement. These resources, however, are frequently allocated to locations which have political persuasion rather than which are necessarily good locations for food system development. As such, limited local food system (LFS) resources are not efficiently allocated. With the intent to offer an improved strategy for allocating local food system resources, this study proposes a novel approach to identifying areas which would be appropriate for local food system development.

Successful local food systems bring buyers and supply of these products together in place. Through the use of GIS mapping, locations which have the soil, water, environmental characteristics, and labor inputs needed to be agriculturally productive can be identified. Overlaying this with areas which have sufficient nearby demand potential offers important insight into where LFS systems might flourish.

This study examines old industrial zones (OIZ) in South Carolina as an instructive case example. There is interest in repurposing abandoned textile mill areas; local food system hubs have been suggested as a possible use. An inventory of 97 potential sites were identified and examined as to their suitability for local foods production. Of these, only 11 sites (11.3%) were found to be well suited to both the production of agricultural produce and were sufficiently close to sources of potential demand to be worth LFS development efforts. Results from this approach are likely to be useful to areas who are suitable candidates for a LFS but who have not have not been successful in generating sufficient support for its development.

MOTIVATION

According to the USDA, local food systems have a net positive impact on local economies, create opportunities for training and business skill development. The enhancement of local food systems has the potential to offer much to South Carolina. Due in part to the depletion of the state’s textile industry, South Carolina has a historically persistent high rate of unemployment, ranked the 38th highest in the United States in November of 2012 (BLS 2012). In addition, the state has among the highest rates of obesity the United States (CDC 2012) as well as food insecurity (ERS 2012). Therefore, from an economic development and a health perspective, there is both the need and opportunity for significant enhancement of local food systems in the state.

OBJECTIVES

- This study has three broad objectives:
1. To identify and map old industrial zones which are not currently in use.
 2. To identify and map biological, human resource, and community attributes needed to support a successful local food system.
 3. To identify old industrial zone sites which have both the potential to supply and sufficient potential demand to support a local food system.

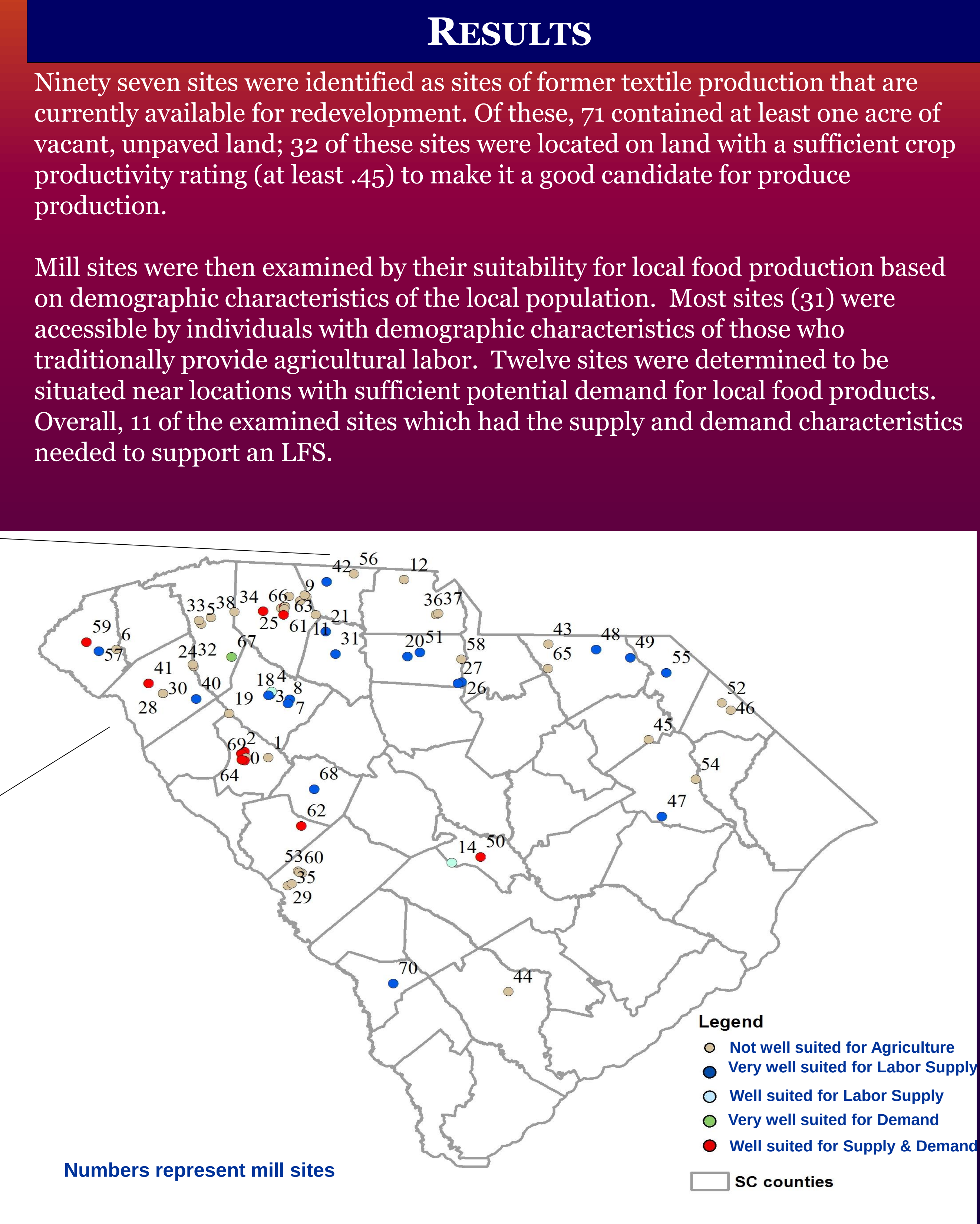
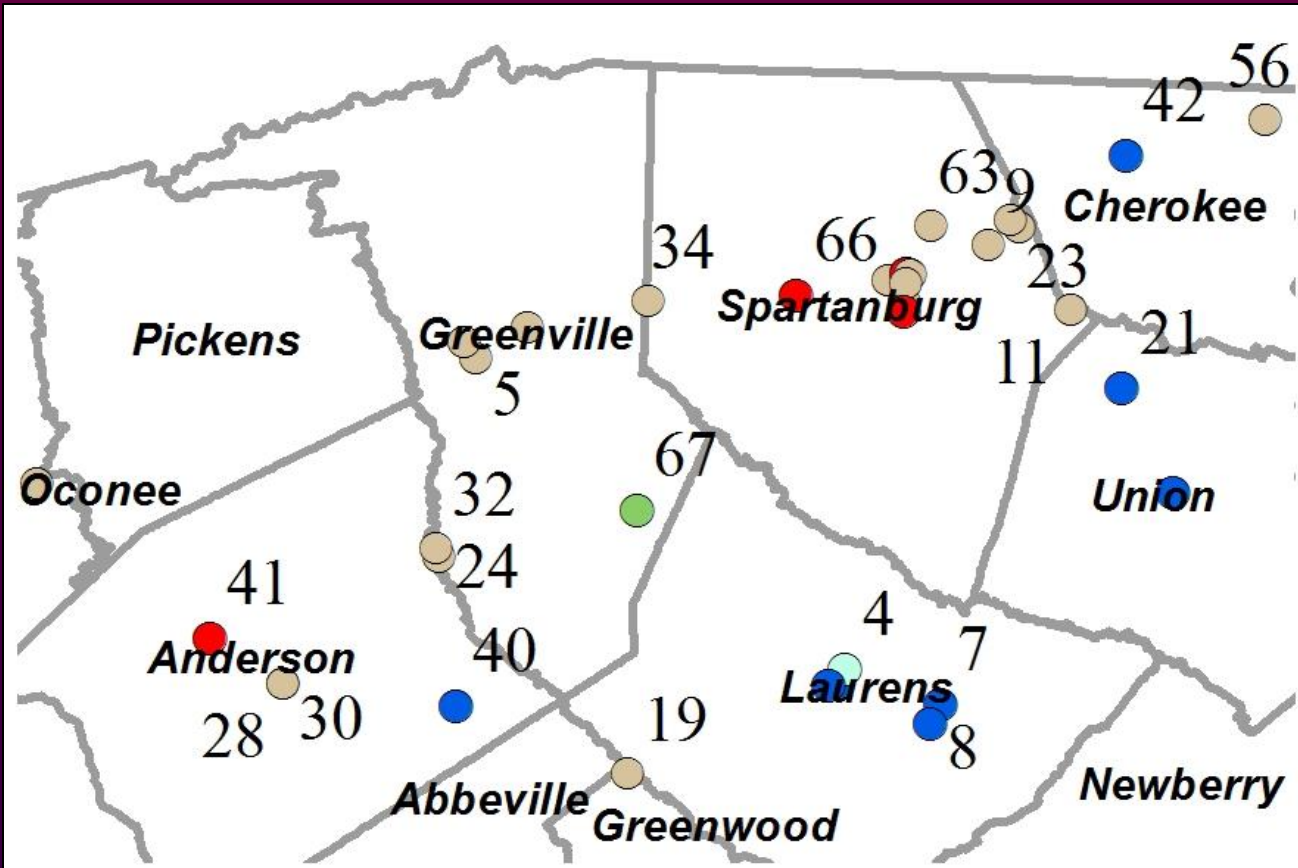
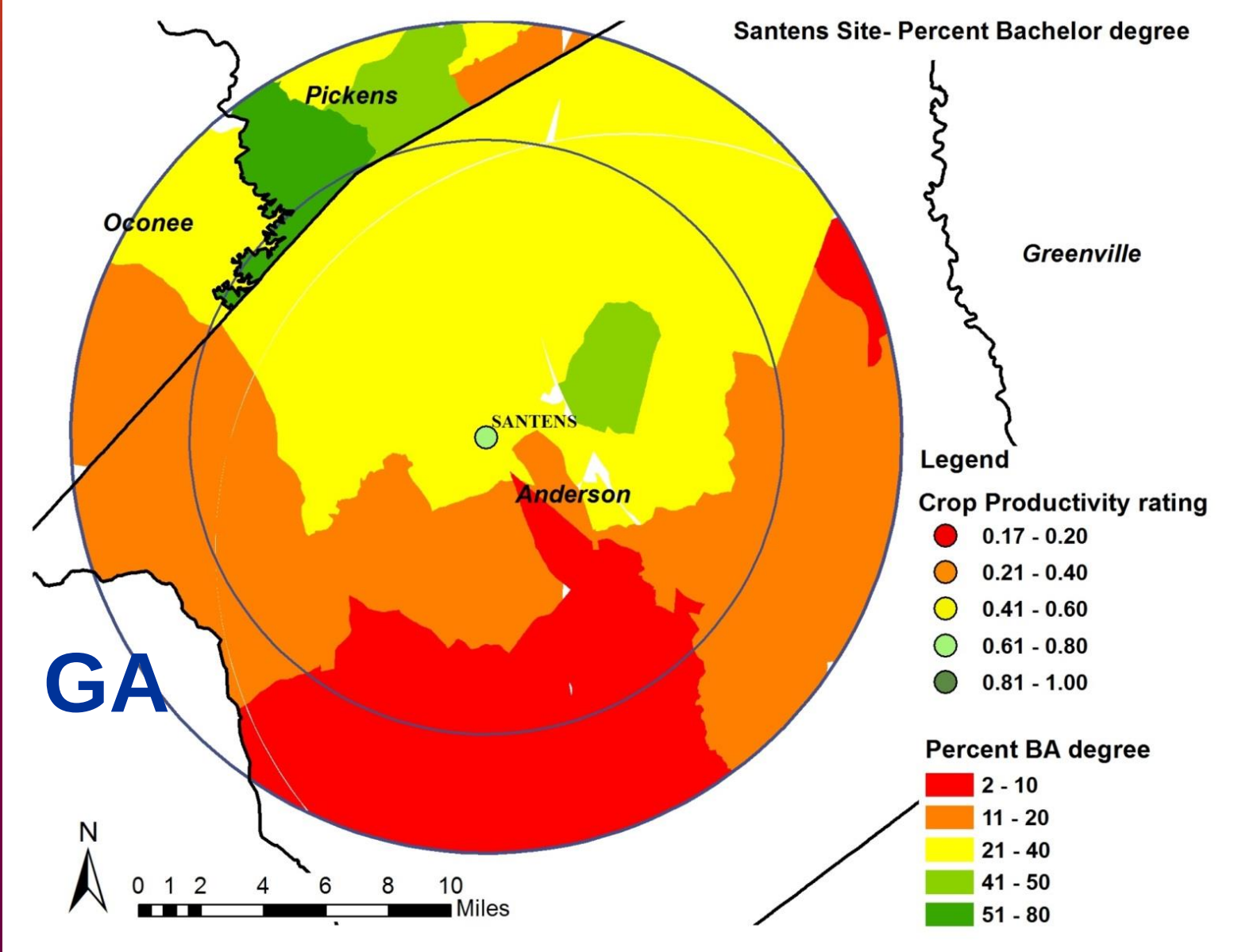
At this initial stage, due its relative health and welfare status, the geographic scope of this project is limited to the state of South Carolina. As old industrial zones in this area are dominated by former textile mill sites, this study is limited to considering development of such sites.

DATA AND METHODS

Candidate sites were identified primarily through the following sources: brownfield properties (EPA), properties for sale (S.C. Dept. of Commerce), and county and regional level economic development plans identifying priority sites for development. Visual inspection by satellite images was used to ensure each site was appropriate for LFS use.

Identifying areas of LFS demand: Published studies (20+) of local food demand were reviewed identify characteristics of those most likely to shop for local foods, and the radius these individuals are willing to travel. Individuals aged 35 and over with incomes between \$60,000-\$100,000, and at least a college degree were identified as most likely to buy these products. Census information was used to identify if those areas with sufficient individuals of these characteristics within a 13.3 mile radius around these sites. A similar methodology was used to assess if the areas had sufficient individuals within a standard commuting radius to provide labor needed for agricultural production. The US Census Bureau’s American Community Survey (ACS) geospatial layer (2007-11) provided demographic data for each Census tract for the state.

To assess the appropriateness of each location for specialty crop growth, the gridded soil survey geographic database (gSSURGO) soils digital layer was linked to the National Commodity Crop Productivity Index (NCCPI) was used. Water availability in each location was also considered. ArcGIS software was used to assemble and analyze the geospatial data and to determine sites where conditions of adequate supply and demand intersected.



CONCLUSIONS & FUTURE RESEARCH

This study proposes a novel approach to identifying locations appropriate for LFS development. Using former mill sites in South Carolina as a case study, the proposed approach was successful in identifying and differentiating sites which would be particularly suitable for LFS investment. Local and state agencies and NGOs looking to return OIZs into LFS areas, would be well served to look to these sites as first candidates.

Several further refinements of the proposed methodology could be considered. This case study has eliminated all sites that do not contain at least one acre of unpaved land; many of the eliminated sites, however, do have large areas of paved space. An extension of this study could examine the potential viability of these sites for LFS if production techniques traditionally used in urban agriculture, such as raised bed farming, were instead used in these locations. More comprehensive treatment of transportation linkages and inclusion of sites of existing LFS infrastructure would further refine this approach.