

10-1-2010

Enhancing Cluster Effects to Reduce Regional Labor-Supply Gaps: An Example in South Carolina

Lori A. Dickes

Clemson University, ldickes@clemson.edu

Kenneth L. Robinson

Clemson University, krbnsn@clemson.edu



This work is licensed under a [Creative Commons Attribution-Noncommercial-Share Alike 4.0 License](https://creativecommons.org/licenses/by-nc-sa/4.0/).

Recommended Citation

Dickes, L. A., & Robinson, K. L. (2010). Enhancing Cluster Effects to Reduce Regional Labor-Supply Gaps: An Example in South Carolina. *The Journal of Extension*, 48(5), Article 5. <https://tigerprints.clemson.edu/joe/vol48/iss5/5>

This Feature Article is brought to you for free and open access by the Conferences at TigerPrints. It has been accepted for inclusion in The Journal of Extension by an authorized editor of TigerPrints. For more information, please contact kokeefe@clemson.edu.



October 2010
Volume 48 Number 5
Article Number 5FEA5

[Return to Current Issue](#)

Enhancing Cluster Effects to Reduce Regional Labor-Supply Gaps: An Example in South Carolina

Lori A. Dickes

Graduate Research Assistant
ldickes@clemson.edu

Kenneth L. Robinson

Assistant Professor
krbnsn@clemson.edu

Department of Applied Economics and Statistics
Clemson University
Clemson, South Carolina

Abstract: A series of regional focus groups and interviews reveal the practical economic development challenges that small and rural communities experience in an environment of globalization and industrial restructuring. The analysis reported here found that many economically distressed communities face immediate human capital and labor market concerns that may prevent the implementation of competitive economic development approaches. Unless these regions address these human capital constraints, they are at continued risk of falling further behind. They must begin with the development of programs and policies that build regional partnerships among local school districts, career centers, local businesses, and community colleges, and universities.

Introduction

Regional development economists argue that distressed communities must begin to implement innovative, knowledge-oriented development approaches (Bates, 2006). They would further argue that communities and regions that do not shift away from traditional economic development approaches are at continued risk of falling further behind (Mayer & Greenberg, 2001). What then are communities to do when they are remote and have poor interstate access, high poverty rates, years of high unemployment, a weak entrepreneurial base, and inadequate human capital among other serious challenges? The research reported here begins to clarify the practical challenges that distressed communities face and the ongoing labor supply gaps that exacerbate these challenges.

Literature Review

Porter (1990) argues that the most common cause of regional stagnation is the loss of competitiveness to a region's economic base. While regional competitiveness is determined by a diverse set of variables, one key component of any regional development strategy is the development of local leadership capacity (Hustedde, 1991) and regional governance structures that improve regional cooperation and decision making

(Drabenstott & Henderson, 2006). Additional research argues that developing and building civic infrastructure is a key to successful regional cooperation, coordination and decision making (Siegel & Waxman, 2001; Mayer & Greenberg, 2001). Applied Extension research (Robinson & Meikle-Yaw, 2007) reports that civic participation is critical to enhancing the social and human capital necessary for achieving community and economic development.

Targeted human capital improvements are one tool distressed communities can use to improve the economic performance of their region. Human capital investment enables local business to adopt new technologies (Barrow, 2001) and improves the ability of a community to attract new businesses to the area (Aldrich & Kusmin, 1997). A well trained and educated labor force is also critical in attracting technology intensive firms (Barfield & Beaulieu, 1999) and fueling entrepreneurial and small business development (National Commission on Entrepreneurship, 2000; Robinson, Dassie, & Christy, 2004). There is only limited practical research on how communities can improve economic stagnation, and there does not appear to be a one-size-fits-all strategy. Therefore, understanding unique community assets and liabilities is a critical first step before implementing appropriate economic development policies.

Methodology and Objectives

Throughout April, May, and June of 2008, a series of five focus groups and three telephone interviews were conducted across the seven-county region in South Carolina served by the Upper Savannah Council of Governments (COG). Upper Savannah COG representatives organized these groups and recruited a diverse group of business, community, and educational leaders for participation. The regional COG was also interested in ensuring that every community had at least one major employer or industry represented. Table 1 illustrates the economic and industry sectors represented across the focus groups. There were a total of 37 participants. While overall participation was relatively low, COG representatives were able to recruit a range of participants for each group, including representation by area firms representing local or regional strengths.

Table 1.
Industry Sector Representatives

Industry/Sector	Representatives
Banking	1
COG Representatives	2
Distribution	2
Economic Developers	7
Education	4
Food Processing	1
Healthcare	3
Housing	1
Natural Resources	2
Manufacturing	10
Municipal Utility	1

Retail	1
Workforce Development	2

Even though small, diverse representation provided for a more thorough understanding of the needs of each community. While these counties share a number of characteristics, they also represent communities of varying populations, job opportunities, education access, urban center access, and quality of life amenities. Table 2 illustrates that these communities are generally small, have above average unemployment and poverty rates, lower median household income than the state or national average, and low levels of high school and college graduates.

Table 2.
Socioeconomic Comparison of the Seven-County Region

	Abbeville	Edgefield	Greenwood	Laurens	McCormick	Newberry	Saluda
POPULATION	25,550	25,337	68,259	69,493	9,958	37,350	19,181
EMPLOYMENT							
In labor force (percent)	59.9	55.7	63.4	57.3	43.5	63.3	61.7
Unemployment rate (percent)	12.4	7.2	10.0	9.7	2.5	7.6	3.1
POVERTY							
Individuals below the poverty level (percent)	25.3	16.3	15.1	19.7	17.9	13.4	15.6
Families below the poverty level (percent)	21.0	13.7	10.3	15.8	15.1	11.2	12.0
INCOME							
Median household income*	33,190	46,316	38,771	35,232	31,577	40,641	35,774
Per capita income*	16,027	19,975	21,004	17,758	14,770	19,357	16,328
RACE							
White (percent)	74.1	56.3	63.7	72.5	44.8	62.4	65.8
Black or African America (percent)	12.4	40.4	31.3	25.2	53.9	31.3	30.0
Hispanic or Latino (of any	14.7	2.5	4.4	3.0	0.9	N	7.3

race) (percent)							
EDUCATION							
High school graduate or higher (percent)	76.3	78.5	78.3	72.8	66.1	73.8	69.3
Bachelor's degree or higher (percent)	16.2	14.0	23.0	14.5	16.0	18.5	11.9

Source: U.S. Census Bureau, 2005-2007 American Community Survey for all counties except McCormick and Saluda which are taken from the Census 2000 Demographic Profile Highlights.
 *All income reported is in 2007 inflation-adjusted dollars except for McCormick and Saluda Counties, which are in 1999 inflation-adjusted dollars.

Given the diverse needs of these local communities, the study reported here set out to achieve several key objectives: 1) clarify barriers to regional firms' expansion and growth; 2) identify concentrations of regional industries; 3) highlight regional gaps in labor skills now and in the future; and 4) confirm strengths and weaknesses of these communities, as well as the region as a whole. The research also explores potential opportunities for communities to reduce labor supply gaps and thereby enhance regional business retention and attraction efforts.

Results

Firm Production and Changes in Plant Expansion or Investments

While the economy was weakening throughout the spring of 2008, the majority of firms represented in the analysis expected to see growth over the following 3 years. Even though a national recession had been declared at the time of the study, other than the housing industry, these communities did not express substantial recessionary impacts. While several firms acknowledged that they were planning potential cost-savings measures, none of the firms indicated that these had been imposed. In addition, economic developers upheld that increasing fuel costs had generated additional interest in the region as a regional supplier/distributor. One economic developer mentioned that the weak dollar was working in their favor as foreign firms sought to relocate. This economic developer also argued that whether the recession was currently being felt by local community or business was largely a matter of perception.

Specifically, several manufacturing sectors, fabrication, composites, and advanced materials, all expect to see continued production growth over the following 3 years. Five firms indicated they are planning physical plant expansion within the following 3 years, all involving either an increase in workforce or an implementation of new equipment or technology. The industries that indicated a decline in production are those most closely associated with the housing industry. The lumber industry, construction suppliers, and residential development are all regional industries that exhibited slower growth in 2008. These industries will likely experience slower growth in the near term as the housing slowdown and recession impact these firms.

Barriers to Firm Expansion and Industry Growth

In order to revitalize and strengthen these local economies, an understanding of what forces are preventing

regional firm expansion and growth is necessary. The majority of respondents indicated that labor supply issues are the primary barriers for firms in the region. Several respondents stated that finding skilled labor was a problem, while others asserted that finding good, unskilled labor was a challenge. Beyond labor constraints, additional barriers to firm expansion and industry growth are mentioned below.

- Financial
- Fuel and utility costs
- Labor supply
- Lack of facilities
- Language
- Location
- Market demand
- Regulation
- Transportation costs

At the time of the analysis, fuel and energy costs had become a major cost concern for many regional firms. One respondent indicated that if this trend continued, firms might have to shift to increased lean manufacturing, downsizing, steady outsourcing, and/or changes in equipment. While the region has well identified constraints to business growth and expansion, the region also benefits from local and regional concentrations of firms, described below.

Firm Concentration

Developing regional clusters, in conjunction with the economic base of a region is one of the more popular economic development approaches being used as a method to improve innovative activity (Porter, 1998). Developing a cluster-oriented approach requires regions to first identify local or regional concentrations (clusters) of industries. This region appears to have several well-defined local and/or regional concentrations of firms. The Newberry area has a composites and fiberglass industry concentration, and, while local collaboration is not formalized, there does appear to be considerable informal cooperation among firms.

Nearby Laurens County has a concentration of plastics manufacturing firms; representatives estimate that 24% of Laurens County employment is in the plastics industry. The entire region, with the possible exception of McCormick and Saluda, has a concentration of manufacturing firms. Greenwood and Abbeville Counties have a strong concentration of machining and fabrication firms. One local firm indicated that, while the

fabrication industry is growing rapidly, a shortage of skilled labor is an ongoing dilemma.

The healthcare industry also has a strong regional concentration of firms. The healthcare sector is represented by a number of firms beyond hospitals, including assisted living centers, rehabilitation centers, surgical and out-patient clinics, physician's offices, and home health care providers, among others. One respondent noted the complementarity of many healthcare services, which could make for a more collaborative cluster of firms. This sector is also likely to experience continued growth as the baby boomer population ages and demands a greater variety of healthcare services.

This region, like the state as a whole, has experienced ongoing interest in the state as a place to retire and/or invest in vacation property. In response, a number of active adult residential communities have been developed along the region's lakefronts. A representative from one large residential community indicated that the residential community did not view other communities as direct competitors but more as collaborators and partners. Each community can benefit from the additional marketing of the region and increased community visits by prospective new residents. While there is currently no formal collaboration among these communities, there does appear to be informal cooperation and an opportunity to achieve economies of scale through joint marketing and promotion of these communities.

Technical and Soft Skill Requirements

Another key objective of the analysis is to clarify local and regional labor supply gaps. Understanding these gaps will help local community and economic leaders implement plans to meet local employment needs now and in the future. Local communities must consider addressing these human capital issues, because serious and ongoing skill gaps in the local labor market are barriers to future economic development (Blaine, Hudkins, & Taylor, 1999). A majority of respondents confirmed this by identifying the depth and breadth of the local labor pool as a primary barrier to meeting regional labor supply needs.

Table 3 provides a summary of specific technical skills that were mentioned by respondents. A theme across all focus groups and interviews is that employers see serious weaknesses in employees' basic computing, math, problem-solving, and general communication skills. Blaine et al. (1999) confirm that communications skills are an ongoing concern for employers in other regions of the country. Also, several respondents noted that basic computing skills are required but that firms cannot assume that current or future employees possess these skills.

Table 3.
Technical Skill Requirements

Technical Skill Requirements	Comments
AUTOCAD	2
Basic Computing	8
Basic Math/Problem Solving	6
Basic Writing and Communication Skills	3
Building Subcontractors: plumbing, electrical, and brick masons	1
Certified Nursing Assistants (CNAs)	1

Cut and Sew Skills	1
Electronics	3
Engineering (2 and 4 year)	4
Hospitality Management/Customer Service	4
Machinists/Mechanical	3
Medical Coding	1
Qualified Nursing Staff	1
Skilled Maintenance Staff	1
Universal Workers (cooking, housekeeping, and CNA)	1
Welders	4

With regard to specific skill requirements, welders and engineering skills are in high demand across the region. While Piedmont Technical College (PTC) has a welding program, the demand for welders in the region appears to outpace the supply of welders in the region. The region has had similar challenges meeting the demand for CAD operators, machinists, 2- and 4-year engineering graduates, and employees trained in electronics.

The healthcare industry also faces regional labor gaps, as these firms draw employees largely from the same shallow labor pool. One local healthcare facility is trying to increase the flexibility of its workforce by training employees as "universal workers." These employees are trained to work in any healthcare facility as a cook, in housekeeping, or as a CNA. This representative indicated a possible need to establish partnerships with PTC and local career centers to ensure that both new and existing employees can transition into this program.

Finding specialized labor is a serious issue for many firms in the region, because these skills are often not held by labor already in the region. It can also be difficult to attract labor to move to the region, and some firms indicated difficulty in paying nationally competitive wages. It took one local firm over 8 months to find a specialized quality control person and another 9 months to find a processing engineer. One firm contributed location to the ongoing challenges it faces in hiring a competitively paid engineering position.

One of the areas of ongoing concern for local employers and economic developers is the inability to assume that new employees have a level of soft skill attainment prior to the point of hire. A sample of the kinds of soft skills that firms mentioned as important are presented below.

- Basic leadership
- Change management
- Communication and interpersonal skills

- Personal healthcare management
- Personal finance
- Teamwork
- Work ethic (punctuality, reliability, etc.)

Several respondents noted that employees need to take greater ownership over soft skill issues that affect and overlap into the work environment, issues like personal finance and personal healthcare management. It was also noted that most employees need enhanced leadership, change management, and team work skills. One participant mentioned that with much of middle management trimmed, or even gone, leadership and management skills need to be incorporated across a diverse set of employee categories.

One focus group highlighted the inability of area high schools to meet the employment needs of the majority of children. Respondents, respectively, mentioned an inadequate focus on the career needs of students that are not college bound. For these students they emphasized the importance of properly marketing and providing programs for the wide range of career and training opportunities available through local career centers, community colleges, and local business training programs. Respondents see a need for much stronger partnerships among local businesses, high school career centers, and local community colleges.

When asked why these different skill positions were difficult to fill, none of the respondents indicated this was specifically a local problem. Extension work in other states reveals that labor gaps of this nature are similar across many small and rural communities (Manoogian, Bowman, & Driscoll, 2007). Other respondents attributed challenges mostly to location, with ongoing difficulties related to attracting and retaining high quality employees to rural, small-town locations and keeping young people in the region. Only one respondent indicated that wages were an issue in finding qualified workers to the region, but several respondents noted that a high concentration of unskilled, labor, with either no high school education or a GED, is a serious drawback to finding qualified workers. Although finding qualified workers is arguably one of the most substantive constraints for the region, the area has key strengths that may be leveraged to help offset regional weaknesses.

Strength and Weaknesses of the Local Community

All focus groups indicated the small-town, rural nature of these communities was both a strength and a weakness. It is a strength in that these communities offer affordable housing, short commuting times, specialty stores and restaurants, access to recreation, and safe, caring communities. However, it is a weakness in that many of these communities do not offer the range of amenities that urban centers offer. Other strengths mentioned for employers are lower than average wages, quality training and partnership opportunities through PTC, and a generally supportive regional business climate.

Several respondents noted that local and regional tourism could be more effectively leveraged to enhance growth in the region. Most of these communities have easy access to lakes, quaint downtowns, and nearby hiking and biking trails. A recent strategic plan for one community argued that its future lay in tourism and local economic development efforts should reflect this.

Access to interstates came up in most focus groups as both a potential strength and weakness. Proximity to interstates and urban centers potentially makes these communities an easier sell to prospective new firms. However, easy interstate access can also be a weakness in that many local residents travel to nearby urban centers for their shopping, food, and entertainment options.

Communities that are farther from the interstate identify this as a weakness. Even though all of these communities can claim relatively close proximity to urban areas like Atlanta, Augusta, Charlotte, Columbia, or Greenville, some respondents said that their location continues to be difficult for recruiting potential residents and/or prospective businesses. In general, as locational issues increase transportation or other related costs, location becomes an important consideration for existing and prospective new firms.

Conclusions

While economic developers clamor for popular development strategies like clusters or business incubators, distressed communities like these face immediate and ongoing labor market challenges. The analysis reported here confirms that labor supply gaps continue to be the primary barriers to expansion and growth within this region. The region does not appear to have a shortage of labor but serious and ongoing labor supply gaps within specific industries. These gaps are exacerbated by: 1) a shallow regional labor pool; 2) a shortage of local workers moving into key training and skill based programs; and 3) locational challenges that make it difficult to attract and retain skilled employees.

Increasing the skills and competitiveness of the local human capital base will likely require a series of policy efforts that demand a more collaborative, long-term policy focus. In general, these labor supply challenges highlight the need for strengthened regional education and training partnerships among local school districts, career centers, local business, and community colleges. In addition, there is an immediate need for strong partnerships that market and attract middle and high school students into training and career programs, along with efforts that build educational and skill based programs to meet the current and future needs of local and regional business.

Implications for Extension

Extension is well suited to contribute to an understanding of the specific labor supply challenges within their respective regions. They can also be critical to the development of local or regional partnerships for educational and training programs. Blaine et al. (1999) describe a modified business and retention program as one method of approaching regional labor supply gaps. Similarly, Bowman et al. (2002) outline an employer development program geared towards learning about local labor supply gaps and using this information to establish potential programs that support local and regional firms.

Making these types of programs successful requires cooperation and collaborative organizations. Barnes and Haynes (2006) outline a board member accountability and expectations (BMAE) tool that community organizations can use to build and enhance trust within and among community groups. A critical component to the success of many distressed communities is the development of a supportive entrepreneurial climate. Bassano and McConnon (2008) describe a community Extension program in Maine with the primary objective of improving the success of existing and aspiring new business. After 3 years of this program, the majority of participants indicated improved business performance and new business creation. Finally, the Extension community should consider distressed communities as a unique opportunity to make a difference in community development by encouraging programs that enhance workforce development, business creation and retention, and community cooperation and leadership.

References

- Aldrich, L., & Kusmin, L. (1997). Rural economic development: What makes rural communities grow? *Agriculture Information Bulletin*, No. 737, USDA.
- Barfield, M. A., & Beaulieu, L. J. (1999). The changing nature of work in the South: The polarization of tomorrow's workforce. *Rural Development Issues Impacting the South*, Southern Rural Development Center, Retrieved October 20, 2008 from: <http://srdc.msstate.edu>
- Barkley, D., Henry, M., & Haizhen, L. (2005). Does human capital affect rural economic growth? Evidence from the South. In *The role of education: Promoting the economic and social vitality of rural America* (pp.10-15). Southern Rural Development Center, January.
- Barnes, J., & Haynes, S. (2006). Building trust in local community organizations: Where do we start, and how can we make a difference? *Journal of Extension* [On-line], 44(4) Article 4TOT6. Available at: <http://www.joe.org/joe/2006august/tt6.php>
- Barrow, R. J. (2001). Human capital and growth. *AAEA Papers and Proceedings*, May, 12-17.
- Bassano, L. V., & McConnon, J. C. Jr. (2008). Strengthening entrepreneurship and building leadership capacity in rural communities. *Journal of Extension* [On-line], 46(2) Article 2FEA1. Available at: <http://www.joe.org/joe/2008april/a1.php>
- Bates, T. (2006). Alleviating the lagging performance of economically depressed communities and regions. *Entrepreneurship in Low and Moderate Income Communities*, Federal Reserve Bank of Kansas City, 4 & 5. Retrieved September 20, 2008 from: www.kc.frb/publicat/commaffrs/05%20bates.pdf
- Blaine, T. W., Hudkins, S., & Taylor, C. R. (1999). Taking R&E to the next. *Journal of Extension* [On-line], 37(6) Article 6FEA2. Available at: <http://www.joe.org/joe/1999december/a2.php>
- Bowman, S. R., Manoogian, M., & Driscoll, D. M., (2002). Working with rural employers: An interagency partnership. *Journal of Extension* [On-line], 40(4) Article 4RIB1. Available at: <http://www.joe.org/joe/2002august/rb1.php>
- Drabenstott, M., & Henderson, J. (2006). A new rural economy: A new role for public policy. *The Main Street Economist*, Federal Reserve Bank of Kansas City, 1(4), 1-6.
- Fritz, S.M., Boren, A.E., Trudeau, D., & Wheeler, D.W. (2007). Low resources in a high stakes game: Identifying viable community partners. *Journal of Extension* [On-line], 45(4) Article 4RIB2. Available at: <http://www.joe.org/joe/2007august/rb2.php>.
- Hustedde, R.J. (1991). Developing leadership to address rural problems. Rural community economic development, ed. Norman Waltzer, New York: Praeger, 111-123.
- Manoogian, M., Bowman, S.R., & Driscoll, D.M. (2007). Strengthening our partnering efforts to aid rural, low-income families by listening to employer experiences. *Journal of Extension* [On-line], 45(1) Article 1RIB2. Available at: <http://www.joe.org/joe/2007february/rb2.php>.
- Martin, R., & Tyler, P. (2003). Regional competitiveness: An elusive concept. Paper presented at the Regional Studies Conference, Reinventing the Region in the Global Economy, University of Pisa, Italy,

April.

Mayer, H., & Greenberg, M. (2001). Coming back from economic despair: Case studies of small and medium size American cities. *Economic Development Quarterly*, 15, 203-216.

National Commission on Entrepreneurship. (2000). *Building companies, building communities: entrepreneurs and the new economy*. Washington D.C., Retrieved August 10, 2008 from: <http://www.ncoe.org>.

Porter, M. E. (1990). *The competitive advantage of nations*. New York, NY: Free Press.

Porter, M. E. (1998). Clusters and competition: New agendas for companies, governments, and institutions, In *On competition* (pp. 197-287). Boston, MA: Harvard Business School Press.

Robinson, J. W., & Meikle-Yaw, P. A. (2007). Building social capital and community capacity with signature projects: A case study of two diverse Delta communities. *Journal of Extension* [On-line], 45(2) Article 2FEA4. Available at: <http://www.joe.org/joe/2007april/a4.php>

Robinson, K. L., Dassie, W., & Christy, R. D. (2004). Entrepreneurship and small business development as a rural development strategy. *Journal of Southern Rural Sociology*, 20, 1-23.

Siegel, B., & Waxman, A. (2001). Third tier cities, adjusting to the new economy. *Reviews of Economic Development Literature and Practice*, No.6 Washington D.C.: U.S. Economic Development Administration.

Copyright © by *Extension Journal, Inc.* ISSN 1077-5315. Articles appearing in the Journal become the property of the Journal. Single copies of articles may be reproduced in electronic or print form for use in educational or training activities. Inclusion of articles in other publications, electronic sources, or systematic large-scale distribution may be done only with prior electronic or written permission of the Journal Editorial Office, joe-ed@joe.org.

If you have difficulties viewing or printing this page, please contact JOE Technical Support.