

Application of Industry Cluster-Based and Sector-Focused Strategies to Rural Economies

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Executive Summary

The world market has quickly changed regional economies, job prospects, and the definition of competitiveness for all regions across America. For most rural regions, the main sources of income in traditional sectors (such as agriculture, forestry, mining, and manufacturing) are dramatically smaller. As a result, roughly six of every ten rural areas are behind the national economy in terms of adding jobs.¹ For pro-active community and business leaders, however, the same forces that caused these changes (mainly globalization and advances in technology) are also creating new economic opportunities for rural residents and industry. Opportunities to create new products, new markets, and new industries exist wherever meaningful connections are made across firms, educational institutions, local government, entrepreneurs, and others with a stake in growing regional industries and supporting residents to obtain good jobs.

A region's ability to take advantage of these opportunities will depend on how well public and private stakeholders build on their regional strengths, how well they re-imagine the economic growth implications based on those strengths, and how effectively they collaborate to build overall regional competitiveness. Promising trends include industry cluster networks and sector initiatives. Most states and regions have some sort of industry cluster network. Some are highly organized associations of related firms; others are loosely affiliated forums for communication. Sector initiatives are regional partnerships of employers, training and education providers, community organizations, and other key stakeholders around a specific industry sector to address the workforce needs of employers, and the needs of workers for good jobs. At least a dozen states and hundreds of local areas are implementing sectoral approaches.

Despite the popularity of industry-focused approaches to regional economic competitiveness, it has been argued that cluster-based and sector-focused strategies cannot achieve the same level of success in rural regions as in their neighboring metropolitan areas due to a lack of industry density, a small workforce, fewer educational institutions, and fewer viable organizations to act as a convener or "intermediary" of a cluster network or sector partnership. Toward the goal of

¹ Delgado, Gary. *Zeroing In: Choices and Challenges for the National Rural Funders Collaborative*, Applied Research Center, Fall 2005.

uncovering the myths and realities of how cluster and sector approaches may succeed in rural regions, a “thought paper” was requested by the Seattle Foundation. The charge was given to begin to identify the differentiation in policies required to effectively promote and support sector initiatives in rural regions. The subject of the paper quickly morphed into an integrated discussion of industry cluster strategies as well as sector initiatives, both falling under the rubric of regional, industry-focused economic growth.

In fact, research for this paper indicates that all regions, including urban and rural, would benefit from better integrating industry clusters and sector partnerships. To do so, regions must understand the map of their industry clusters, sub-sectors and firms to truly identify how to effectively support industry growth, as well as opportunities for good jobs for individual workers. Scale may be better achieved by viewing “sector strategies” in the context of industry clusters, or strategies that directly promote industry clusters. It may be at the intersection of sector partnerships and cluster associations that positive change within systems, and positive outcomes for firms and workers can reverberate out, draw attention from others, be replicated, and become the new paradigm for how regional economic growth occurs.

The thoughts presented are the result of observations and lessons learned by the Corporation for a Skilled Workforce (CSW) from their extensive work with states to implement regional, industry-focused economic growth strategies, as well as from research and conversations with national workforce and industry cluster thought leaders. This paper is intended to deepen national understanding of the policy features that integrate cluster and sector approaches toward comprehensive rural economic growth. It offers:

- Clarification on what cluster-based and sector-focused strategies look like in practice and policy;
- Suggestions for how cluster- and sector-focused strategies might be better understood for increased effectiveness in rural economies;
- Spotlights of industries being supported and grown across rural America; and
- Policy tools to promote effective industry-focused strategies in rural areas.

Background and Recent Rural Growth Trends

Global competition in the commodity markets that have long been the main income for rural economies has led to widespread consolidation in traditionally rural sectors, such as agriculture, forestry, mining, and manufacturing. As a result, roughly six of every ten rural areas are behind the national economy in terms of adding jobs.² Fortunately, the same global forces responsible for opening foreign labor markets and shrinking rural, domestic ones – mainly globalization and advances in technology – are also opening new opportunities for rural areas. A region’s ability to take advantage of these emerging opportunities will depend on how well public and private stakeholders build on their regional strengths, how well they re-imagine the economic growth implications

² Ibid.

based on those strengths, and how effectively they collaborate to build overall regional competitiveness. Promising trends are emerging nationally.

Recent trends in rural economic development include:

- **A return to thinking and acting regionally:** Economic policies are becoming more regional in scope as the realization deepens that cities, counties and states compete less with each other in the age of globalization, and more with India and China, as well as other labor market regions that have strategically leveraged assets within their region, but across geo-political boundaries.
- **A renewed emphasis on a skilled workforce as a primary economic asset:** Employers need skills and talent to sustain and grow, from entry-level workers to mid-level managers to highly specialized knowledge workers. In theory, both workforce and economic developers agree that a skilled labor pool is the core of a region's ability to recruit, retain, and grow business.
- **Bolstering rural place-based industries:** Most regions, both urban and rural, are designing strategies that address the skilled workforce needs of their primary place-based industries (those that are likely to exist as long as some human presence remains in the area, and that are not prone to outsourcing), including local healthcare (such as hospitals, long-term care, etc.), education, transportation, and energy (particularly utilities.)
- **"Growing your own" via small businesses and entrepreneurship:** Entrepreneurial nature runs high in rural areas, but start-ups tend to stay small. Creating entrepreneur networks, mentoring programs, and support services are strategies that can boost their growth.
- **Tapping into the creative economy:** Recent attention paid to the rise of the "creative class" focuses on large cities, but small towns are using their natural beauty and recreational cache to attract creative entrepreneurs. Encouraging new twists on old products is also on the rise, and can be applied across many sectors.
- **Developing and supporting region-specific "niche" economies:** Every region must determine its unique set of economic assets, and translate them into new market opportunities. New economic niches in rural areas include, among others, alternative energy, precision product manufacturing, professional services, and adventure tourism.
- **Encouraging specialty agricultural processing or value-added agriculture:** When a rural region capitalizes on the shift in demand from mass market agricultural goods to niche agricultural goods on a mass scale, that region is creating a new value-added market. Modern examples include pharmaceutical crops; organic grains and vegetables; exotic meats; and renewable fuels.
- **Building strong relationships and networks:** The benefits of shared information across firms, industries and institutions have long been known. A century ago, Alfred Marshall described networks across industry as opportunities where "ideas moved easily from firm to firm as if knowledge was in the air."³ Only

³ Cortright, J. *Making Sense of Clusters: Regional Competitiveness and Economic Development*, Brookings Institution, Washington DC, 2006.

recently, however, has the concept of industry networking been considered a viable concept in rural regions, where industries are naturally more dispersed.

Taken individually these trends offer state and local policy leaders insights into areas for further investment and policy design. Taken as a whole, the trends point policy makers toward re-thinking industry-focused efforts as integrated pieces of comprehensive regional growth strategies, including cluster-based and sector-focused models of economic and workforce development.

Moving Toward Regional Models of Economic Growth

Today, most regions have some sort of *cluster-based strategy* in effect, whether the result of deliberate convening of related industries or of ad-hoc communication among industry leaders and other stakeholders relevant to industry competitiveness. The outcome is the same no matter the name (cluster, sector, hub, etc.): a system of communication across interdependent industries, companies, organizations and institutions in a geographic region that result in mutual growth benefits for industry members. Firms benefit from synergies of association based on shared markets, suppliers, labor pools, and infrastructure. Clusters often include multiple, associated sub-sectors of related industry. When a cluster is more specialized to one sub-sector, and when it includes a workforce or human resource component to addressing the industry sector's skill needs, it may be categorized as what is nationally becoming known as a "*sector strategy*."⁴ At least a dozen states are designing and implementing policies to promote sector strategies across their regions, and hundreds of local areas across the country have implemented sector initiatives to directly address the workforce challenges that local industries face.

Nationally, cluster-based and sector-focused strategies are taking root at multiple policy levels: in governors' offices and state legislatures; across state agency directors; by mayors, local workforce areas, and regional partnerships of economic development and employment/training entities. They are also being applied to almost every industry, including healthcare, manufacturing, transportation and logistics, small business, food processing, energy, information technology, recreation, construction, and others.

State policy makers charged with promoting proportionally equal growth across their diverse regions, as well as local economic development entities in rural areas, often worry that regions outside of metropolitan bases cannot support clusters or sector strategies. This concern is based on an assumption that high industry concentration or density is needed, or based on the perceived economic reliance of rural regions on a single, dominant industry, such as agriculture. In response, this paper offers:

- Clarification on what cluster-based and sector-focused strategies look like in practice, and implications for state policy;

⁴ *State Sector Strategies: Regional Solutions to Worker and Employer Needs*, National Governors Association Center for Best Practices, November 2006

- Suggestions for how cluster- and sector-focused strategies might be better understood for increased effectiveness in rural economies based on their unique comparative advantages;
- Spotlights of industries being supported and grown across rural America via cluster- or sector-focused models; and
- Suggested policy tools for state and local leaders to promote effective industry-focused strategies in rural areas.

Today's Industry-focused Strategies: Regional and Connected

Policy makers interested in supporting their industries often find it difficult to determine where to put their limited resources. Most economic and workforce development agencies are spread thin in their efforts to be responsive to emerging needs of industry, and unfortunately few are effective at identifying and addressing the underlying or root causes of industry-wide problems. As a result, a single-employer focus dominates service delivery, and the reality of meeting large scale growth needs of regions is out of reach. The most strategic state and regional public policy leaders are taking their cue from demonstrated success from existing associations of industry and partnerships of firms within specific sub-sectors when determining effective ways to promote industry growth.

Indeed, a strategic role for public economic and workforce development entities is to identify what works across industry, and then identify ways to promote its replication. This may be particularly critical for rural regions, where simply due to smaller population and industry density, the chances of naturally occurring industry connections and partnerships are slimmer. In fact, it may be that precisely because rural regions have fewer firms, less diverse industry landscapes, and smaller labor pools, the impact of effective industry networks may be higher than in metropolitan counterparts. For the public sector to clearly identify its “value-added” to promoting clusters and sector-focused partnerships, agency leaders must have an improved understanding of the “look and feel” of both.

Understanding Industry Cluster Strategies

Industry-focused economic policy is not a new concept. For decades, states and local areas have targeted resources and investments toward certain sectors based on that industry's existing strength, or on a region's desire to grow new sectors. The concept of industry “clustering” is also not new, and in many cases occurs organically. “Businesses have clustered for decades, indeed for centuries.”⁵ The phenomenon is why the automotive industry concentrated in Detroit; film in Los Angeles; finance in New York; and more recently high-tech companies in Silicon Valley. It also explains why wine production is concentrated in Washington State's Columbia Valley; the meat industry in Northeast Nebraska; and pulp and paper production in Maine.

⁵ Rosenfeld, Stuart. *Governors Guide: Cluster-Based Strategies for Growing State Economies*, Innovation Series, National Governors Association Center for Best Practices and Council on Competitiveness, 2006.

Where industry clustering naturally occurs, it is clear that related firms are leveraging interactions (including competition) with each other to their mutual growth benefit. Interactions among firms and sectors may occur based on shared suppliers, purchasers, producers, distributors, natural resources, public institutions, or labor pools. Because points of intersection can be any one, or more, of these shared elements, industry clusters can be inclusive of many sub-sectors and can overlap with other clusters. Additionally, individual firms within one cluster might also be part of another cluster. For example, a winery might classify itself in an agriculture cluster, a tourism cluster, and a biotech cluster.⁶

It is the complexity of connections across industries, sub-sectors, and firms that can make it difficult for public policy to identify where they can add value to an industry's growth. Because studies indicate that more formalized clusters result in stronger regional economies and improved sustainability, states have a strong incentive to find ways to support them. Based on near-by competition, firms in clusters are driven to stay ahead with new twists on products. At the same time, shared information and collaboration with common research institutions, suppliers and markets lead to industry-wide innovation.⁷ In rural regions, studies show higher average earnings in counties with clearly formalized clusters than those without.⁸ Where clusters exist, pipelines for employment often emerge via partnerships between business and local community colleges (often in the form of a "sector initiative"), and particularly in rural communities, word of mouth spreads information about job openings quickly. Finally, clusters lead to the creation of more start-ups and off-shoots into new sectors by individuals using their knowledge and creativity to shift to new products and markets.

Recognizing these outcomes, some states have begun to identify successful in-roads to supporting cluster associations. Strategies include:

- Applying labor market information to map clusters and sub-sectors, including occupational skills data and worker demographic data;
- Using the "bully pulpit" or influence of the Governor to convene industry leaders, public officials and other stakeholders; and
- Creating hubs of industry knowledge and access to industry experts via Centers of Excellence or similar means.

Florida's Okaloosa County Technology Coast Manufacturing and Engineering Network

In the panhandle of Florida, about 30 small- and medium-sized defense-related technology companies have met for over fifteen years to share information, collaborate on workforce training, jointly bid on contracts, and identify research ready for commercialization. The group was initially convened upon invitation from the Okaloosa-Walton Community College to attend a learning conference about Italy's "industrial districts" (similar to this paper's definition of "industry clusters"). With seed

⁶ Ibid.

⁷ New Economy Strategies, LLC. *2005 National Innovation Survey*. Washington, D.C.: Council on Competitiveness, 2005.

⁸ Bernat, G. and Gibbs, R. "Rural Industry Clusters Raise Local Earnings," *Rural Development Perspectives* 12, 3.

funding from the state, members hired a director and began regular meetings. Today, TeCMEN is managed by the Economic Development Council of Okaloosa, housed in the college. Their mission is “to promote the economic and technological growth within Okaloosa’s defense community through the association, collaboration, and contract-teaming of its manufacturing and engineering-based companies.”⁹

A Closer Look at Sector Strategies

Increasingly, state policy leaders are realizing that the most effective economic investment is in the development of human capital, particularly when designed to meet specific needs of industries within a particular region. The availability of skills, talent and knowledge directly relevant to industry is a centerpiece of any cluster. But because a cluster can be so broadly inclusive of multiple sub-sectors, it can be challenging to clearly identify the precise skill need or workforce shortage, and even more difficult to prescribe a set of training that best fits the need. This is where “sector strategies” emerge as powerful tools for industry competitiveness.

Sector initiatives respond to a specific industry sector’s need for skilled workers, and rely on a set of firms within that sub-sector to drive the identification of the root cause of the shortage, as well as the creation and implementation of a skill-based solution. Where overall labor pools are smaller, like in rural America, firms struggle to find workers with the skills and competencies relevant to their needs. Individuals struggle to find education pathways that give them relevant skills. The public sector, therefore, cannot afford to *not* make the critical connections between industry needs and accessible, relevant education programs. Sector initiatives provide an effective, replicable model in response.

Sector initiatives are regional partnerships of employers within the same sub-sector, economic development entities, workforce development organizations, education and other stakeholders that address common gaps in workforce skills by:

- Addressing the needs of *employers* by focusing intensively on the skill needs of a specific industry sector over a sustained period, often concentrating on a specific occupation or set of occupations within that industry;
- Addressing the needs of *workers* by creating formal career paths to good jobs, reducing barriers to employment, and sustaining or increasing middle-class jobs;
- *Engaging a broad array of key stakeholders* in regional economic strategizing through partnerships organized by workforce intermediaries.¹⁰

The unique element of sector initiatives is the level of involvement of a set of employers in the partnership, and the stake they hold in the process of identifying a solution to a common workforce challenge. A critical element of success in a sector partnership is a

⁹ TeCMEN, Economic Development Council of Okaloosa County, Available at <http://www.florida-edc.org/TeCMEN.htm>. Information also from: Rosenfeld, Stuart. *Governors Guide: Cluster-Based Strategies for Growing State Economies*, Innovation Series, National Governors Association Center for Best Practices and Council on Competitiveness, 2006.

¹⁰ *State Sector Strategies: Regional Solutions to Worker and Employer Needs*, National Governors Association Center for Best Practices, November 2006.

strong convener entity, or workforce intermediary. The intermediary is an organization responsible for convening industry leadership and other partners, and for facilitating the partnership's progress over the life of the initiative. Successful intermediaries have knowledge of industry needs and experience working with employers. They also are skilled at facilitating diverse groups of stakeholders without charting the course of the partnership, which is the role of the employers.

Minnesota's M-Powered Metalforming Project

Driven by eight leading metalforming manufacturers in Minnesota's Twin Cities area, the "M-Powered" sector project brings together employers, Hennepin Technical College, and HIRED -- a local support service for individuals seeking jobs. HIRED acts as a partnership "convener," or intermediary to coordinate and facilitate the decisions of the employers and their community partners. Since its inception in 2004, the Project partners have worked together to identify the priority challenges in the metalforming industry, and have leveraged their resources to address them. Today, the Project offers job seekers and incumbent workers a two-phased training program that prepares them for entry and advancement in careers in the metalforming manufacturing sector.

Trainees take part in a 12-week industry-specific course at the technical college. They also receive career counseling, mentoring, and job placement assistance. The local approximately 17 member metalforming employers participate in curriculum and program design, develop criteria for enrollment, and make sure that the number of students graduating from the program matches the current demand for new employees.¹¹

Studies indicate that sector initiatives are effective mechanisms for meeting employers' needs for skilled workers and for improving individuals' economic status. A third party evaluation of sector initiatives in the State of Massachusetts showed a 41% reduction in turnover; 19% reduction in rework; 23% reduction in customer complaints; and 100% of companies reported that partnerships with other companies were valuable. A longitudinal study of six sector initiatives found that workers participating in sector-based programs saw their median personal earnings rise from \$8,580 to \$14,040 one year after training, and to \$17,732 after two years, and an increase from 49 to 73 percent of participants with jobs that offered health insurance.¹²

These outcomes have prompted at least a dozen states to implement policies to incent the development of sector partnerships within their regions. State actions include:

- Catalyzing sector partnerships by providing seed or planning funds for convening and development;
- Providing capacity building opportunities to intermediary organizations to help facilitate partnerships; and

¹¹ Adapted from "M-Powered: A Successful Collaboration for Workforce Training", National Association of Manufacturers, February 22, 2007. Available at: http://www.nam.org/s_nam/doc1.asp?CID=201492&DID=238315

¹² Conway, M., O'Brien, C., Pindus, N., Haskins, C., Rademacher, I., *Evaluation of the Sectoral Employment Demonstration Program*, The Aspen Institute and The Urban Institute, June 2004.

- Providing labor market information that helps firms and stakeholders identify skill gaps within the sector and region of focus.

A Note on Terminology:

It is important to note that the terms “industry cluster” and “sector strategy” are often used interchangeably in policy and practice. For example, one state might promote and support “sector strategies” (as defined in this paper) but call them cluster strategies, and vice versa. Another state may officially promote what they call “industry clusters”, but in actuality support a mix of cluster and sector models as defined in this paper.

To further illustrate the variations in naming, other names for “Sector Strategies” include: Skill Partnerships, Training Consortia, Training Networks, Cluster-training Consortia, Specialized Cluster Strategies, Cluster Leadership Councils, Sectoral Skills Strategies, Skills Alliances, and likely others not listed here.

Overall, it is clear that many states and local areas are re-focusing on regional, industry-focused models of economic growth, regardless of what they call their efforts. This paper uses the terms “cluster” and “sector strategy” with distinct definitions in order to simply illustrate two variations on the model, as well as how the two inter-relate.

A Framework for Regional Growth: Putting Cluster and Sector Strategies Together

Sector initiatives bolster regional economic competitiveness by engaging economic development experts in workforce issues and aligning education, economic, and workforce development planning across a region. By uncovering and addressing root causes to barriers and bottlenecks in recruitment, hiring, training and worker placement in an industry, successful initiatives promote *systemic change* that supports innovation and achieves ongoing benefits for the industry, workers, and community.

This is one way a sector initiative can play a significant role in impacting its umbrella cluster, or related sectors and firms. For example, the benefits of a community college working intimately with a set of employers to change or create new curriculum can be felt and replicated across other sectors. The benefit of a changed human resource policy within one sector that opens a bottleneck in filling a skill shortage will not go unrecognized by other firms who may be experiencing a similar challenge. Synergies of association, ripple effects, and word of mouth – which characterize industry clusters – are potent instruments to enact wide-scale change.

Herein lays a potential implication for policy leaders interested in sustained, regional growth:

Sector initiatives are a proven, highly effective means to meet specific workforce needs of sets of related employers and the needs of workers for good jobs, but when designed in the context of, and working in tandem with,

their industry clusters they may have a higher chance of reaching the scale of change needed by regions to achieve sustainable growth.

This requires policy leaders to understand the potential of both in their regions, and find ways to promote their coinciding development. A region with strong industry clusters *and* the means to support sector partnership models within the sub-sectors of its clusters may have a potentially powerful framework for sustained economic growth.

- ***For sector strategists and practitioners:*** Connecting to industry clusters is an instrument that may help take the outcomes, the process, and the learning of a sector initiative to scale. Some aspects of systems change occur at the intersection of cluster networks and sector partnerships.
- ***For cluster strategists and members:*** Utilizing the sector partnership model to directly address the needs of industry groups for pools of skilled and experienced labor is a highly effective strategy. “Of all the factors that motivate and grow clusters, none is more universally important than human resources.”¹³

In rural regions where the diversity of industry is more limited than non-rural regions, the coinciding and aligned development of clusters and sector initiatives is perhaps more imperative. Simply put, if industry clusters create more employment opportunities (including the creation of new sectors and spin-off), and sector partnerships create tighter connections between employers and skilled workers (including more choices for workers to upgrade their skills), and together they create growth that benefits both industries and workers, this is a set of inter-related strategies that rural regions will want to pursue.

Integrating Industry-focused Strategies into a Rural Economic Landscape

In rural and metropolitan areas alike, cluster-based and sector-focused strategies rely on *a set of similar factors:*

- Firms are in the same labor market region (note that this is distinct from a geographical region such as a workforce development area, city or county);
- There is a recognition of commonalities and challenges across firms and related sectors;
- A will to communicate and collaborate exists among members of the network or partnership; and
- The availability and use of relevant labor market information can be a strategic tool to identify how sectors inter-relate and regional labor pools.

Effective sector strategies rely on *an additional set of factors:*

- An acknowledgement of common challenges directly related to the supply of skilled labor across multiple firms within a specific industry sector;
- The active leadership and participation by employers in a partnership of stakeholders convened to address the common workforce challenges;

¹³ Rosenfeld, Stuart. *Governors Guide: Cluster-Based Strategies for Growing State Economies*, Innovation Series, National Governors Association Center for Best Practices and Council on Competitiveness, 2006.

- A strong workforce intermediary who can convene the partnership and facilitate its work;
- Specific labor market information that uncovers what is known about the occupations in the industry, and about the availability of relevant skills in the labor pool; and
- Some financial resources to plan, design, and implement solutions.

For rural regions, differences in geographic, demographic and economic characteristics will not change the factors listed above, but they will change *how* the above factors are realized. Understanding how and why the realization of each factor changes should be part of a region’s economic self-assessment, an important early step to any industry-focused approach, whether new or re-invented.

Significant differences between non-rural and rural regions that directly affect the critical factors of success for cluster and sector strategies include:

Metropolitan and Surrounding Areas	Rural Areas
<ul style="list-style-type: none"> ➤ Higher actual numbers, concentration and diversity of industry, sub-sectors, firms and occupations; ➤ More and diverse education and training providers, including 2- and 4-year schools, community/technical colleges, and private training providers; ➤ Access to R&D (and sometimes to facilities) at 4-year Universities and other institutions; ➤ More options for viable workforce intermediaries, such as local workforce boards, non-profit organizations, industry associations, labor management firms, among others; ➤ More workers with diverse skill sets; ➤ Higher concentration of local private foundations, corporate grant makers, other stakeholders with potential interest in cluster and sector work. 	<ul style="list-style-type: none"> ➤ Large geographic areas with fewer industry sectors, firms and occupations, and spread further apart; ➤ Fewer education and training providers, often via satellite programs with limited capacity; ➤ Less opportunity for business to directly connect to or access relevant R&D; ➤ Fewer viable options for workforce intermediary organizations, and geographically dispersed; ➤ Less workers and less options for diversification of skills; ➤ Lower concentrations of local private resources and stakeholders.

Two additional differences are noteworthy, and possibly distinct advantages in rural regions: first, despite geographic dispersion, communities in rural regions are often close-knit, including strong local business networks; and second, entrepreneurship is

widespread, with small business making up a higher percentage of the labor force in rural America than in metropolitan areas.¹⁴

For policy makers and practitioners, these differences carry with them a number of key implications for how to approach economic growth, including:

Quality of Cross-Firm Relationships More Valuable than Quantity of Firms

In rural economies, the success of industry-focused strategies – whether cluster associations or targeted sector initiatives – will “depend more on how local businesses relate to one another than on comparative concentrations or scale. In rural areas, clusters may need larger areas, more diverse membership, and more active cooperation to be called a cluster.”¹⁵ This may create a window of opportunity for policy leaders to incent mechanisms of active cooperation, including sponsoring industry summits, creating virtual networks of firms, and facilitating other on-going communication across firms and sectors. In fact, an argument can be made that the nature of rural settings may act to streamline the “clustering” or sector strategy process in ways that urban regions may struggle to achieve.

Spotlight

- *Wyoming Drilling and Construction Industry Coordinates Statewide Training: In Wyoming, job growth outstrips labor supply, especially in the Construction & Extraction and Transportation & Material Moving occupations. Because of Wyoming’s extreme rural nature, government agencies, business, and community leaders must establish close connections across the state to fill labor shortages to keep industry strong. Wyoming also struggles with families in poverty, and exhibits a particularly high rate of single mothers in poverty. To solve these dual challenges, the CLIMB Wyoming program convened Drilling and Construction employers from across the state to identify skill shortages, articulate specific occupational skill requirements, and create short (two to four months) training programs for single mothers in three “non-traditional” fields: short-haul trucking, welding, and construction. In addition to occupational skills training and certificates, the award-winning partnership offers life skills counseling and case management for participants, a key component to its success. Graduation rates are approximately 91 percent. Graduates consistently double or triple their monthly income, and 85 percent of graduates maintain strong employment after the program. The program is currently expanding into the healthcare sector.¹⁶*

Distance is Relative, and the Definition of “Region” Subject to Cultural Interpretations

¹⁴ Drabenstott, M. “A New Map for Rural America’s New Economic Frontier.” *Economic Development America*, U.S. Department of Commerce Economic Development Administration, Summer 2004.

¹⁵ Rosenfeld, Stuart. *Governors Guide: Cluster-Based Strategies for Growing State Economies*, Innovation Series, National Governors Association Center for Best Practices and Council on Competitiveness, 2006.

¹⁶ The licensed CLIMB program is operated by Our Families, Our Future, a Wyoming non-profit organization focused on training and placing low-income single mothers in good jobs. More information is available at: <http://www.climbwyoming.org>.

A labor market region (the unit of geography that cluster and sector strategies operate within) is roughly defined by the distance that workers are willing to commute, and that industry is willing to span to network. Location of markets and suppliers used to be the primary reason for industry to cluster in a region, but today those factors span the globe. The intangible benefits to clustering matter more, including shared tacit knowledge, opportunities to collaborate, and access to experienced workers.¹⁷ Because perceptions of distance are simply different in rural areas, the definition of a region is also different. Cultural interpretations of “near and far”, in addition to industry analyses and commuter patterns within a region, must be considered by stakeholders operating within that region when considering cluster-based and sector-focused efforts. The Center for the Study of Rural America at the Federal Reserve Bank of Kansas City confirms that a rural “region” when self-defined by stakeholders within the community can cross from four to over 20 counties.¹⁸

Spotlights

- *Tri-State Manufacturing Association:* It is not unusual for industry clusters to cross state lines based on their industry labor market. This is the case with the metal manufacturing industry (metal forming, welding and finishing) in west central Minnesota, eastern North and South Dakota. The Tri-State Manufacturing Association convenes small- and medium-sized firms to discuss common challenges, share information, and discuss workforce efforts. Members travel over 100 miles to attend monthly Association meetings and events.¹⁹
- *BioTech Industry Firms Cross Oceans to Collaborate in Hawaii:* In Hawaii, firms within the same industry can be separated by hundreds of miles of ocean, calling for more aggressive coordination and knowledge sharing to achieve a significant level of “synergy of association.” The Hawaii Science and Technology Council (HISciTech) is an industry cluster of over one-hundred small-, medium-, and large firms. Members vary widely, from the tropical agricultural bio-tech sector (such as Integrated Coffee Technologies, Inc. – genetically engineering caffeine-free coffee plants) to Defense-related photonics and electronic products; computer gaming and software companies; and Medical diagnostic laboratories. Regardless of the sub-sector, members communicate around workforce development needs, industry research and development, legislative issues, and group purchasing opportunities.²⁰

Re-Imagine Place

Policy leaders at state and local levels are catching on to the need to define regions based on labor market information, and not by artificial geo-political boundaries such as cities, counties, workforce areas, school districts, or other arbitrary lines. In addition

¹⁷ Rosenfeld, Stuart. *Governors Guide: Cluster-Based Strategies for Growing State Economies*, Innovation Series, National Governors Association Center for Best Practices and Council on Competitiveness, 2006.

¹⁸ Drabenstott, M. “A New Map for Rural America’s New Economic Frontier.” *Economic Development America*, U.S. Department of Commerce Economic Development Administration, Summer 2004.

¹⁹ Tri-State Manufacturers’ Association, *More information is available at <http://www.tзма.org>.*

²⁰ Hawaii Science and Technology Council. *More information available at <http://www.hiscitech.org>.*

to labor market factors, some regional leaders recognize elements that define “place” based on their region’s social or cultural values. In rural regions, independence and self-sufficiency are core values. Equally important in some rural communities is the ability for young people to stay “home” and secure a good job, despite shrinking employment and incomes in traditional agriculture and growing low-wage retail sectors.

Forward-thinking policy makers recognize how strong community values are in fact elements that can shape recruitment and growth strategies for certain industries interested in how they fit into a community. How a company fits into a community is increasingly important to certain industry sectors that recognize how their bottom line improves based on their reputation in the community (e.g. availability of good jobs), their investment in residents (e.g. contributions to training and education), and their environmental stewardship (e.g. responsible use of resources or creation of green spaces). For these companies, policy makers in rural regions have an opportunity to identify and name their community’s values and frame them into a “triple bottom-line” opportunity for existing and potential industry.

Spotlights

- *Engineering and Manufacturing Cluster in Michigan Values Social Capital:* In Grand Rapids, sixteen small- and medium-sized manufacturing-related firms participate in a sector partnership to pool work-based employee training and human resource services. They are convened by a non-profit called The Source. Members of the partnership not only share common workforce needs, they share a commitment to advancing low-skilled and low-income workers, even when this means advancing a worker *out of* their own firms and into a better job. These firms are part of a slowly growing corporate responsibility movement that values social capital and environmental responsibility along with revenues and profits.²¹
- *Contact and Customer Care Industry Shifts Gears to Meet Value Placed on “Good Careers” in Rural Oklahoma:* Call Centers are an example of the professional services industry as a new (or in some cases re-emerging) economic niche for rural regions to explore. In Central and North East Oklahoma, the industry employs four percent of the workforce, providing more than \$1.3 billion in annual payroll, with salaries ranging from \$30,000 to \$60,000, including benefits. Although the industry is predicted to grow by 23 percent in the next 5 years, it continues to suffer from a lack of credibility as a source of good jobs with career opportunities. This spurred the Central Oklahoma Workforce Investment Board (COWIB) to join the local Chambers of Commerce and eighteen Call Center companies to market their careers to the community and create career pathway models, including providing paid apprenticeship opportunities to entry-level workers; offering full benefits packages; and creating flexible schedule and “work-from-home” choices.²²

²¹ *Cascade Engineering, Quest, and The Source: Developing Human Capital*, Power point delivered by Kysha Frazier to Corporation for a Skilled Workforce, February 19, 2008.

²² Customer Care Network Group. *More information available at <http://www.ccng.com>.*

Virtual Connections to Research and Development are Critical for Rural Growth

Unlike the 90's when the term "innovation" likely meant technology, today it also means differentiated design, innovative marketing strategies, and new twists on old products. In rural regions, all examples of innovation can be found, but are scarce because of the disparate connection to research, development and commercialization. It is well known that university-based research is responsible for some of the country's most profound discoveries, spurring breakthrough products and technologies that have markedly improved the way we live. Rural regions and state policy makers must create mechanisms that leverage R&D assets, even if they are not "local." Using technology in the form of virtual centers of excellence, virtual cluster networks, and entrepreneurial support will be key for rural regions, where communities must turn to "economic gardening"²³ strategies for continued growth and spin-off of their own small- and medium-sized businesses.

Spotlights

- *Northwest North Carolina Grows Advanced Manufacturing Cluster:* Among the industries showing promise in rural regions, advanced manufacturing rises to the top. In 2001, the economic outlook for Ashe, Wilkes, and Alleghany counties in rural North Carolina seemed dismal. Residents faced minimal job growth, low per capita income, and high unemployment rates – conditions resulting from the decline in the furniture and textile manufacturing industry. Hoping to reverse the region's decline, these three counties joined forces to create an advanced materials industry cluster, convened by the Northwest Alliance Program for the Rural Carolinas (NAPRC), a grass-roots coalition of small- and medium-sized business, faith-based organizations, county public agencies, community colleges and universities. Via virtual connections and satellite offices, the cluster is connected to research, development and commercialization in advanced composites, specialized medical devices, and medical bio-logistics (the handling of time-sensitive medical materials, including the transport devices) at NC State University and the University of NC at Chapel Hill.²⁴
- *iBridge Virtually Connects Entrepreneurs to University Innovations:* The iBridge Network is a program aimed at ensuring that all of universities' promising research makes it into practical use. It is for use by universities, industry leaders, and individual entrepreneurs. The Network aggregates research materials, technologies, and discoveries in an online, easy-to-search forum – the iBridge Web Site. Innovations on the Web site range from biological cell lines to animal models to computer technologies. The iBridge Network also provides technical assistance on licensing, regulations and purchasing. The Network is available nationwide. It is a program of the non-profit Kauffman Innovation Network, Inc.,

²³ Term "Economic Gardening" borrowed from the City of Littleton, Colorado Economic Gardening Program, a targeted effort to grow small businesses. See <http://www.littletongov.org/bia/economicgardening/> for more information.

²⁴ *Northwest North Carolina Advanced Materials Cluster*, Practice Posted June 2005, Available at <http://www.southernideabank.org>. Southern Growth Policies Board, Research Triangle Park, North Carolina.

²⁵ iBridge, a program of the Kauffman Innovation Network, Inc. More information available at <http://www.ibridgenetwork.org>.

started as a pilot by the Ewing Marion Kauffman Foundation in Kansas City.²⁵

Identify and Build Capacity of Potential Intermediaries

Rural regions can be unique in that they have historically strong local business networks within close-knit (despite distant) communities. These networks might provide strong building blocks to associations among broader stakeholder groups, but will likely require an intermediary to convene private and public sector leaders not currently active in a network. In rural areas, identifying a viable intermediary will require scans of existing organizations, and identification of capacity building activities that might position an organization to act as a knowledgeable, third-party convener. For example, local Chambers of Commerce usually represent the majority of businesses in a rural community but undertake traditional economic development activities, such as limited marketing for members, and new business recruitment. With targeted capacity building, a Chamber could act as a viable convener of a cluster or sector strategy. Identifying and building the capacity of a viable intermediary may also require looking in non-traditional places, simply because fewer viable institutions exist. Church- or faith-based entities may be one example. This was the case in the *spotlight* on North Carolina's rural medical device cluster, highlighted above. Another example may be ad-hoc groups of concerned citizens, as is the case in the below *spotlight*.

Spotlight:

- *Rural Western North Carolina Residents Get Organized:* In 1995 a survey measured the annual economic impact of artisan crafts in a rural 22-county region of North Carolina at \$122 million, more than four times the revenue of burley tobacco, their staple agricultural commodity. With no formal economic entity focusing on the continued support and growth of the artisan cluster, a group of residents organized into a non-profit development corporation called *HandMade in America*. They requested and received an organizational development grant, and received technical start-up assistance from the State and from the Pew Partnership for Civic Change. Early work focused on overcoming a typical obstacle to artisan growth in rural areas: the lack of access to capital. In collaboration with the NC Department of Commerce and Durham-based Credit Union, *Handmade in America* initiated the creation of a rural investment bank that provides loans to artisans and crafts-related firms. Member businesses across the 22-county region have seen up to 28 percent increases in income, and six of the region's small towns have seen more than \$11 million in new investments. The latest innovations from the artisan cluster are: America's first landfill methane-powered glass and ceramics studio incubator campus; *and* a Handbook for Architects that illustrates the many ways to integrate artisan crafts into the modern construction market.²⁶

Formalize Pathways into Regional Industries

²⁶ HandMade in America, *More Information available at <http://handmadeinamerica.org>.*

While acknowledgement that a skilled workforce is a primary element of regional competitiveness exists, regional institutions and policies often struggle to effectively provide access to training and education that is directly relevant to regional industry, and therefore useful to individuals seeking work. The missing connections across industry and training providers, as well as the lack of knowledge about *how* connections can be made, is where sector strategies offer concrete solutions. A common element to sector strategies is the creation of career pathways that clearly identify skill sets needed for certain occupations in regional demand industries. New or updated training curricula, employer-sanctioned credentials, and training formats that are accessible to working adults are critical elements of success. The most successful regions are designing career pathways into their “staple” industries, such as healthcare, manufacturing, and energy. In rural areas, partnering with a community college may require satellite or virtual connections. An alternative is working with employers to establish on-the-job education centers.

Spotlights

- *Wind Energy Businesses Create a Training Consortium in Oregon:* The Columbia River Gorge, famous for its wind sports, is becoming a wind energy hub based on a partnership of wind energy companies, the local workforce board, Columbia Gorge Community College, and local government. This sector partnership is developing the West coast’s first training program for wind energy turbine technicians, based on input from industry on needed skill sets. The curriculum will be offered on-line, and in short “chunked” modules that allow working adults to better access coursework. If successful, the consortium will expand to similar career pathway and credentialing models in other renewable fuel sectors, such as biofuel, hydro-power, and solar.²⁷
- *Alabama pulp and paper:* The Alabama Southern Industry Alliance for a Technologically Advanced Workforce is a rural sector partnership of eight pulp and paper related companies, Alabama Southern Community College, the Alabama Technology Network, and other stakeholders. The partnership provides industry-sponsored scholarships for one of two advanced technology programs: (1) Paper and Chemical Technology, (2) Industrial Engineering Technology, choice of Instrumentation and Electronics Track, Electrical Technology and Industrial Maintenance Track or Machine Technology/ Millwright Track. Upon graduation, students leave the program ready to assume competitively paying jobs in one of Southwest Alabama’s fastest growing industries. The training program is considered a national model by the National Science Foundation and the American Chemical Society, and has been designated a National Center of Excellence in Pulp and Paper Technology.²⁸

²⁷ Rosenfeld, Stuart. *Governors Guide: Cluster-Based Strategies for Growing State Economies*, Innovation Series, National Governors Association Center for Best Practices and Council on Competitiveness, 2006.

²⁸ *The Alabama Southern Industry Alliance for a Technologically Advanced Workforce*, Practice Posted June 2005, Available at <http://www.southernideabank.org>. Southern Growth Policies Board, Research Triangle Park, North Carolina.

Cultivate Entrepreneurship

The engines for growth in industry clusters are entrepreneurs.²⁹ As information and ideas flow across industry and firms, entrepreneurs take the model, adjust it, and create something new. In the process they become role models for others, as well as create more knowledge about markets, design, and process. Imagine the snow-ball effect, but with the snowball at some point breaking apart into hundreds of smaller ones, each with a new twist on shared knowledge, and each destined to become their own larger snowball as more information is collected, shared, and improved.

But in rural regions, while small business makes up higher proportions of the labor force than in non-rural areas, these businesses grow at a slower pace. In other words, the elements of entrepreneurship that create cluster growth are happening less, and traditions of self-starters in rural areas therefore remain untapped for growth potential. Small business support is available via Small Business Development Corporations and other entities in most regions, but success appears greater when small businesses get technical assistance that is sector-specific, and when elements of social networking are emphasized. Cluster and sector efforts are therefore fitting models.

Spotlights

- *South Dakota Taps Rural Ingenuity to Grow New Sectors:* Across rural America, value-added agriculture has evolved with consumption trends and farmers' needs to diversify. In the 1980's and '90's, farmers diversified the animals they raised (emu, bison, and elk for example) and the crops they grew (such as adding chick peas). Today, value-added agriculture not only strives to find and meet the needs of new market niches by differentiating their products and marketing, but also strives to do so at a large scale. In South Dakota the Value-Added Agriculture Development Center (VAADC) offers farmers and entrepreneurs technical assistance to find niche markets; fund marketing and feasibility studies; assist with commercialization; and coordinate industry, labor and capital to ensure success. New products include: High-end, segregated grains to meet the growing demand for pure buckwheat, oat, semolina, rye and other flours; Soy-based polyurethane (a plastic-like foam) to be used in the seats of the 2008 Ford Mustang; "Safe Starch", high-end brand horse feed targeted at hobby horse-owners (primarily married 30-50 year old women, according to market studies); and high-value, organic, boutique barley tea ("Bushido") targeted at Japanese tea drinkers (an "overwhelming" market according to studies).³⁰
- *Appalachian Ohio Re-invents Food Processing and Marketing:* In a persistently economically depressed region, the creation of an entrepreneurial food manufacturing cluster has added wealth and new jobs. The Appalachian Center for Economic Networks (ACEnet) created the Food Ventures Center, a "kitchen

²⁹ Rosenfeld, Stuart. *Governors Guide: Cluster-Based Strategies for Growing State Economies*, Innovation Series, National Governors Association Center for Best Practices and Council on Competitiveness, 2006.

³⁰ Schofer, Dan. *South Dakota: Great faces, Great Places and Great Value –Added Opportunities*. Value Added Corner, Rural Cooperatives, United States Department of Agriculture Rural Development, Sept/Oct. 2007.

laboratory” where farmers, specialty food processing firms, restaurants and artists (who create innovative labels and packaging) can turn traditional crops into new products. The Center also teaches entrepreneurship skills; assists with marketing and capital; serves as a distribution hub; provides access to the latest production technology; and creates a forum for networking and knowledge-sharing. It has served over 150 businesses, and 70 individual entrepreneurs.³¹

It is clear that today’s rural economies require community and business leaders to re-invent how they grow and compete in the global economy. Rural areas that are staying competitive recognize the need for region-wide coordination that plays on existing and potential strengths. Regional policy makers should do more to make the connections between rural comparative advantages and economic success. State and regional leaders must accelerate innovative ways to create new business, and tap into natural tendencies toward entrepreneurship. Existing business networks must be pushed and supported to become powerful cluster and sector-based initiatives. Finally, new policies and growth models should re-commit to the local feel and culture of place to define how rural regions grow.

Policy Tools to Promote Rural Cluster and Sector Strategies

Because the map of how any region’s industries, its sub-sectors, its firms and its workers connect can be complex, public policy must be designed to help industry, businesses and workers help themselves. Public entities can never replace what industry leaders know about their industry, their challenges, and their needs, but in rural regions they can do a lot to facilitate the development and sustainability of industry clusters and sector partnerships.

- **Start Talking about “regionally targeted industry strategies.”** While thinking of clusters and sectors as a pair of inter-related initiatives, it also makes sense to think broadly about regionally targeted industry strategies to promote economic growth. The specific focus may vary, and can run the gamut from focusing on low-income workers to education and training programs to innovation and tech transfer. Regardless, there is no substitute for Governors and community officials talking about regional, strategic growth. Opportunities abound for influential elected officials to emphasize re-imagining regions in ways that leverage assets across communities to everyone’s benefit. Leaders should also use their influence to confirm that communities can no longer compete with each other for industry and good jobs, but instead must work with each other to establish strong industry foundations region-wide.
- **Map Regional Clusters and Sub-Sectors:** States are great brokers of data and information about their regions’ labor markets, but sometimes limit their use of labor market information based on what they think is already an established region. In rural regions, where cultural interpretations of regional boundaries

³¹ Kalomiris, Paul. *Innovative State Policy Options to Promote Rural Economic Development*, National Governors Association Center for Best Practices Issue Brief, February 2003.

matter, this can inhibit a true understanding of overlapping clusters and sectors. Overall, state and regional leaders have an obligation to their existing businesses and residents to fully map their industry clusters and sub-sectors, including information about occupations, worker skills, commuting patterns, and other relevant data. The clearer the snapshot, the clearer the strategy for growth.

- **Promote Convening and Networking:** The offices of the Governor or a Mayor are powerful entities to bring key industry, government and other stakeholders around one table, especially if designated as a consortium, summit or leadership council. For on-going cluster networking and sector partnering, effective policy tools include planning grants, new requirements in existing funding streams, and performance-based awards or bonuses.
- **Build Capacity of Intermediaries:** Cluster networks and sector partnerships need to be nurtured and facilitated. This requires time and resources, particularly by the entity acting as convener or intermediary. Most of the time, the intermediary already exists in the community, and therefore is responsible for carrying out its day-to-day work in addition to facilitating a cluster or sector approach. In rural regions a viable intermediary may not exist at all. In both cases, state leaders can offer concrete technical assistance by offering tools, techniques, and advice on how to engage business, how to facilitate meetings, how to map regional assets and funding streams, and other topics.
- **Put Skills and Training at the Center of Economic Development Policy:** A responsive and adaptive post-secondary education system is critical to providing the appropriately skilled workforce that industry needs to stay competitive. States and regions that do not make human capital development a central element to industry recruitment and growth will simply not keep up with the global economy. Rural regions must pay attention to the skill needs of “staple” industries as well as emerging clusters and their small business sector. Because educational institutions can be far and few between, rural regions must design new ways to reach adult learners, such as work-based learning and online credentialing in demand-driven career pathway courses.
- **Identify and Name Community Values:** There is something to be said for communities taking the high road to recruitment and retention of industry based on core values of their residents. Family-supporting wages, opportunities for advancement, direct investments into the community, care of the environment – these are all values that rural regions can frame into a “triple bottom-line” opportunity for existing and potential industry. Firms are recognizing how their profitability improves based on how well they meet community values. A cluster network is one vehicle to replicate this across an industry.
- **Connect and Leverage University R&D Efforts:** Rural regions can no longer afford to be disconnected from specialized and commercializing research and development, even if research institutions are located across the state. Because innovation is also about improvements in products, services and marketing (in addition to science and technology), states and regions will realize greater returns if research aligns with, and connects to, entrepreneurs in their

communities. Rural regions should consider virtual connections to in-state and national universities, as well as virtual Centers for Excellence directly relevant to their industry clusters.

- **Place a Premium on Entrepreneurs:** The future of rural economies lies in growing more entrepreneurs, and building their capacity to become high-growth. This will take a comprehensive entrepreneurship strategy, complete with networking opportunities; access to R&D; technical assistance in marketing and commercializing; hiring and talent management; access to capital; and other factors. Unlike efforts to support small business in the recent past, rural regions today must create strategies that incorporate the above elements, but that are sector-specific (food processing; composite materials; high-end wood products are examples). It is within networks of small- and medium-sized business inside the same cluster that tacit knowledge and new ideas flow and spur innovation.

Conclusions

Examples of rural cluster efforts and sector initiatives exist across the country. These examples provide a starting point for identifying common needs unique to rural settings; common elements of success across cluster-based and sector-focused initiatives to address those needs; and insights into levers for change at a policy level that will grow rural economies and contribute to rural family economic success. Most importantly, however, practitioners and policymakers must identify mechanisms that allow rural regions to adapt to the ever-changing nature of the global economy. This requires an ability to continually assess regional assets and industry's ability to grow.

Articulating regional assets in the context of industry, and the specific needs of industry to stay competitive, will play a significant role in the ability of rural communities to grow their own jobs and skilled workers in traditional, re-invented, and new industry sectors. State and local policies that show a comprehension of the inherent strengths of rural regions in tandem with changing industry needs can be successful in creating sustainable and replicable economic development.