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ABSTRACT

Karl N. Stauber proposes three goals for rural development policy: helping the rural middle class survive, reducing concentrated rural poverty, and sustaining and improving the quality of the natural environment. In contrast to other visions, he advises policy that focuses on rural places rather than rural economic sectors such as agriculture, manufacturing, and mining. Paralleling Stauber's plea for more investment in places, rural K-12 educators have been working to develop place-based pedagogy and to sustain small schools and districts as key parts of rural communities. Smaller-scale schools and districts have been shown to be particularly effective in enhancing academic achievement in impoverished communities. Rural developers and rural educators have begun to recognize mutual interests in identifying and revitalizing local stores of cultural, social, and human capital; protecting the environment; and finding competitive niches in state and global economies. Recommendations for policymakers interested in joining rural development and educational practice include: becoming more knowledgeable about the significance of place in rural development initiatives and educational reform; strengthening new development and education programs that support place-based learning, sustainable agriculture, and entrepreneurial economic development; taking a stand against rural school consolidation in isolated and high-poverty rural areas; recognizing schools as important assets in community infrastructure; and developing policy that simultaneously addresses rural community development and strengthens small schools and districts in which community identities and social capital reside. (Contains 47 references and 15 Web sites.) (TD)

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Joining Rural Development Theory and Rural Education Practice

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Charleston, West Virginia

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Executive Summary

The debate about fundamentally reforming rural development policy is taking place at the same time as a similar debate about rural education reform. This paper explores ways in which rural development policy and rural education policy can be organized to reinforce one another, despite the absence of a strong institutional legacy of joint action.

Karl N. Stauber's (2001) "Why Invest in Rural America—and How?" serves as a theoretical framework for rural development policy in this paper. Stauber proposes three critical goals for rural development policy: helping the rural middle class to survive, reducing concentrated rural poverty, and sustaining and improving the quality of the natural environment. He proposes a new rural community typology that helps define an array of rurally appropriate, *place-based* policy options. In contrast to other visions, this one advises policy making that focuses on rural *places* rather than rural economic *sectors* (e.g., agriculture, manufacturing, mining).

Stauber's consideration, like many rural development visions, focuses attention on important roles for rural-serving colleges and universities but overlooks rural-specific K-12 education research and practice consonant with the development vision. Yet, in a remarkable parallel to Stauber's plea for more investment in places instead of sectors, rural K-12 educators across the country have been working hard to develop place-based pedagogy and to sustain small schools and districts as key parts of the social capital and identities of rural communities. Pedagogy of place aims to enhance human and cultural capital relevant to particular locales while

equaling or surpassing more standard pedagogies in measures of academic achievement; smaller scale schools and districts have been shown to be particularly effective in enhancing academic achievement in impoverished communities.

Small but growing conversations are therefore underway, separately, among rural developers and rural educators. Both groups have begun to recognize mutual interests in identifying and revitalizing local stores of cultural, social, and human capital; protecting the environment; and finding competitive niches in the state and global economies. This paper aims to advance those conversations, especially as they relate to two community types in Stauber's typology—sparsely populated and high-poverty areas. Both community types face daunting challenges in maintaining and developing local services (including education) and opportunities to earn a livelihood.

In Stauber's vision, addressing rural policy in appropriate ways does not rest on the old imperative of making up for deficiencies and disadvantages because decency requires it. Instead, Stauber offers five decidedly practical reasons that justify a national investment in rural America:

- to protect and restore the rural environment
- to produce high-quality, locally produced food
- to create a laboratory of social innovation
- to produce healthy, well-educated future citizens
- to prevent urban overcrowding

These reasons could also be declared as hoped-for outcomes of a successful rural development effort.

Where might interested officials begin to join rural development theory and rural K-12 educational practice? This paper argues for four actions to be considered by policymakers who occupy various positions in government:

1. Become more knowledgeable about the significance of place in the adoption of rural development initiatives and education accountability and reform.
2. Strengthen new development and education programs that support place-based learning, sustainable agriculture, and entrepreneurial economic development.
3. Take a stand on rural school consolidation issues in isolated and high-poverty rural areas and begin to recognize schools as potentially important assets in the community infrastructure.
4. Develop policy sets that simultaneously address rural community development and strengthen small schools and districts in which community identities and social capital reside.

Introduction

The robust economy of the 1990s produced some improvements in the overall rural economy. During the first part of the decade, more than two million nonmetro jobs were added, and real earnings for rural workers, between 1990 and 1996, rose overall by 1.8 percent. Rural women, Hispanics, and African Americans made the greatest gains in earnings compared with their urban counterparts and with rural White men. Rural America is a patchwork of local economies, however, rather than a unified macroeconomy. Many of these local economies have been troubled for decades. According to Karl N. Stauber (2001),

Significant portions of rural America are in trouble. For some parts of rural America, the slow slide to no longer being viable—economically, socially, or politically—is within sight. At the same time, without intending it, we are headed back to a rural America of the rich and the poor—of resorts and pockets of persistent poverty (p. 9).

The “slow slide” of which Stauber writes is also a very long one. Theodore Roosevelt’s Country Life Commission was established in 1908 to preserve country life as a bedrock of American ethical and economic strength. What motivated the Country Life movement? According to rural education historian Paul Theobald (1995),

The thread that seems to tie all Country Lifers is the frightening consequences of fewer and fewer farmers. They believed that in order to stem the tide of cityward migration, they would have to instill in country youth a sense of dignity in rural living and an intellectual attachment to the countryside (p. 171).

In 1908, 33 percent of the U.S. population lived on farms (USDA, 1994). Perhaps another 20 percent of the population lived in small towns in which farming was the core

economic activity. Today, less than 2 percent of Americans live on farms and, even in rural areas, farm families comprise a very small minority of the total population.

Our rural present, in short, is the very future that adherents to the Country Life movement feared. It did not come about by accident but through rural development policies centered on agriculture (Strange, 1988; Theobald, 1997). The model of agriculture encouraged by rural policy, however, is industrialized agribusiness, a model of farming that requires a large capital investment in land, large equipment, and expensive operating inputs like chemical fertilizers, herbicides, and pesticides—and intensive use of the land. The model of agriculture constructed during the twentieth century has not been place-friendly, because it has essentially depopulated the countryside.

Appalachian coal mining had a similar history of labor-intensive practices employing hundreds of thousands of miners in the first half of the century, followed by mechanization in the 1950s, competition from overseas and open-pit operations in the Western states, and large-scale layoffs. Coal is still extracted in massive quantities, but the well-paid mining jobs it provides for local people have continued to decline precipitously (Couto, 1994; Roth, 1996; Ghelfi, 2002).

These reductions in employment opportunities have reduced the proportion of the U.S. population living in rural areas to below 25 percent. Such facts as these have spurred analysts to call for new visions of rural policy for at least two decades. Plenty of suggestions now exist for the broad outlines of a more appropriate rural policy (e.g., Appalachian Regional Commission, 1999; Duncan, 1999; Flora & Flora, 1996; Fluharty, 2001; Galston & Baehler, 1995; Stauber, 2001).

Aim of This Paper

This paper aims to show ways in which rural development policy and rural K-12 education policy can be organized to reinforce one another, particularly for the benefit of impoverished and sparsely populated rural areas. Whereas the Country Life movement of the early 1900s viewed education as the centerpiece of its work, in today's considerations, rural development policy and rural education policy are seldom joined, and very seldom with rural-specific education as the centerpiece. In fact, in the mid-1990s, one important synthesis of rural development research and theory (Galston & Baehler, 1995, p. 2) excluded education as one of the relevant disciplines in rural development:

As we pore over mounds of literature on U.S. rural development, we are struck by two main features above all: its fragmentation and its isolation. Fragmentation takes many forms. Individual pieces of research in the relevant academic disciplines (economics, sociology, anthropology, political science, area studies, social theory) have not been brought into fruitful conjunction with one another.

This exclusion is easy to understand. Development of the major rural economic policy and education capacities of the nation have taken divergent institutional paths into the twenty-first century.

Rural development policy has engendered a national debate, partly because of the strong federal role played by the U.S. Department of Agriculture (USDA) during the twentieth century; a legacy of substantial capacity to address the issue exists. The situation in education is quite different, however. The main educational authority in the U.S. exists at the state level, and even in 1908, no one imagined that education was principally a rural issue (in contrast to agriculture, which has been consistently construed as a rural issue). Thus, not only is the emergence of a

national rural education policy unlikely, but most *states* are unlikely to develop policies, since they devote little attention to rural-specific education issues (Beeson & Strange, 2000).

Moreover, agricultural and educational capacities to address rural issues have proceeded along two different institutional paths, each specializing in its own way. Agriculture pursued agribusiness models; education pursued its own efficiency model, adhering to the assumption that good pedagogy (and good schooling) were the same regardless of context. Rural education policies within such a model are, at best, ancillary features of a one-best-system approach. (For more discussion of the problems for rural education posed by imperatives of the one-best-system approach see, e.g., Beeson & Strange, 2000; Theobald, 1997; Howley & Harmon, 2000.)

Focus of the Discussion

On the rural development side, this paper focuses on the recent policy suggestions of Karl Stauber, because they are comprehensive and theoretically well articulated, and because they are especially compatible with two new developments—discussed below—in rural education research and practice. (See the work of Cornelia and Jan Flora, Cynthia Duncan, William A. Galston and Karen J. Baehler, and Marty Strange for other well-developed and consonant treatments of rural development policy.)

On the rural education side, new developments include (1) recent research on the role of smaller-scale schooling and (2) innovations in developing a pedagogy of place. A substantial research literature has accumulated to suggest that particular academic benefits result from maintaining smaller schools and districts to serve impoverished and rural communities. Smaller schools and districts, moreover, help preserve the identity of particular rural places (Peshkin,

1982). The phrase *pedagogy of place* has been popularized within the past decade by the Rural School and Community Trust. It refers to teaching and curricula that engage local communities in the education of students (and conversely, engage students in the life of the community) much more strongly than is possible with nationally marketed curricula. Pedagogy of place is seen by advocates as contributing to community development, for it cultivates the same sort of devotion to and knowledge of local places that the Country Life movement sought. In fact, today's place-based pedagogy is very concerned to cultivate the "intellectual attachment to the countryside" of which Theobald wrote. (See Toni Haas and Paul Nachtigal's *Place Value*, 1998, for a guide to a large literature supporting this view of rural education. See, too, a recent article by David Leo-Nyquist, 2001, which details the parallels between these two movements.)

Karl Stauber's Vision of Appropriate Rural Policy

Stauber finds rural policy "unfocused, outdated, and ineffective" (p. 34). He highlights the need for new thinking that would focus less on sectors of the rural economy (e.g., agriculture, manufacturing, mining) and focus more on particular rural places. He argues that the expenditure of billions of federal dollars—largely directed at subsidizing agribusiness enterprises—has eroded the rural middle class, impoverished large rural areas, and degraded the rural environment widely. He proposes three goals for sound rural development policy: (1) ensure the survival of the rural middle class, (2) reduce concentrated rural poverty, and (3) sustain and improve the quality of the natural environment (p. 35).

For several reasons, policymakers have often overlooked the concerns of rural communities. First, rural out-migration has reduced the relative numbers of rural versus nonrural

citizens for the entire history of the nation. The 1920 Census showed a historic turning point: half the U.S. population resided in urbanized areas. The 2000 Census revealed a new historic watershed: the majority of Americans now live in the suburbs. Because of this shift, policymakers are more attuned to the concerns of suburban and urban populations.

Second, some policymakers consider the rise and fall of small towns a natural process and one that no one should lament. Former Secretary of Labor Robert Reich, for example, articulated just such an opinion:

Why should we care about Homestead, or for that matter, about any town or city in decline? . . . Americans are always leaving some place behind; departures are in our ancestral genes. . . . Homestead and its people . . . are separable (cited in Couto, 1994, p. 229).

Finally, rural America is losing its relevance even as a storehouse of materials for urban American industries and populations (Blank, 1999; Stauber, 2001). Former customers, foreign as well as domestic, look to other competitors to supply some of these resources. Though the United States still offers its own citizens the lowest food prices in the world, this rosy fact makes farming an especially insecure economic activity for individuals without corporate backing or substantial capital reserves. Arguably, farming is a riskier business than ever because of vanished profit margins. It's no wonder that farming counties are strongly represented among the "persistent poverty" counties identified by the USDA's Economic Research Service (see Fluharty, 2001, for supporting data).

Why Bother with Rural Policy?

In light of these circumstances, Stauber argues that a new social contract is needed between rural America and the new suburban majority. What are the practical purposes of such a contract? In Stauber's view (p. 60), there are five:

1. *To protect and restore the rural environment.* "The environment" notably includes the settled, wild, and unoccupied expanses of rural America. Protecting the environment is widely recognized as necessary for long- and short-term health and to preserve an area's spiritual, recreational, and economic benefits.
2. *To produce high-quality, locally produced food.* Whereas the nation has historically supported production of very low-cost commodities, subsidized by government funds and a damaged environment, America's increasingly affluent suburban and urban consumers have been shown to value highly differentiated, high-quality, locally produced foods (Galston & Baehler, 1995).
3. *To create a laboratory of social innovation.* Many social issues, including education, might be tackled at the small-scale, rural community level. One might note, additionally, that this idea of *scalable innovation* helps to protect social and cultural diversity. Such diversity provides fresh perspectives on societal challenges and dilemmas in an increasingly standardized cosmopolitan culture—much as a seed bank protects genetic diversity.
4. *To produce healthy, well-educated future citizens.* Good schooling helps rural people sustain and grow their communities; it also ensures they will not (as in many third world nations) move to cities and become unwelcome burdens on the public purse.
5. *To prevent urban overcrowding.* Approximately 78 percent of Americans lived in metropolitan areas in 2000. At some point, says ecologist David Orr (1995), urban concentration will become dysfunctional. Gridlock and sprawl are already major urban problems, and rural investment could be more useful than new freeways (Drabenstott & Sheaff, 2001, p. 2).

Stauber identifies big-picture issues that can help policymakers understand that wise investments in rural America differ from past approaches precisely because they *do* serve the

interest of the nation *as a whole*. But how can policymakers identify which places in rural American require which sort of attention?

A Typology of Place for Rural Policy Making

A good starting point is acknowledging the diverse circumstances of rural America. Portrayals of rural places, such as those provided by the USDA's Economic Research Service, have tended to define this diversity of rural places at the county level, often in terms of dominant economic sector—for instance, “manufacturing dependent” or “farming dependent.”

Stauber veers sharply away from the strategy of sector-driven development and toward a strategy of place-based development, leading him to propose the following typology:

- *Urban periphery*—rural areas within a 90-minute commute of urban employment, services, and social opportunities
- *Sparsely populated*—areas where the population density is low and often declining and therefore the demand for traditional services, employment, and social opportunities is limited by isolation
- *High amenity*—rural areas of significant scenic beauty, cultural opportunities, and attraction to wealthy and retired people
- *High poverty*—rural areas characterized by persistent poverty . . . or rapid declines in income (p. 19)

This new typology draws on several previous ones—the familiar Beale codes that portray proximity to urban locales and the USDA's schemas of policy type and economic type. But what is new about this typology is its creation specifically for the practice of place-based rural development policy making.

Urban periphery and high-amenity areas have seen substantial increases in population, employment, and income, whereas sparsely populated and high-poverty areas have seen

stagnation or consistent losses in one or more of these indicators. Communities in such places face especially serious policy challenges; they were the losers in previous eras of global economic restructuring, and breaking this legacy must be a key part of rural policy making. Their concerns are accorded prime importance in the discussion that follows.

Development in High-Poverty and Sparsely Populated Areas

Basic goals of many rural development initiatives include reducing poverty, maintaining or growing the middle class, and sustaining a productive relationship with the environment. A balanced community income structure, a wide middle class, and an attractive natural environment are features that have been shown (e.g., Duncan, 1999) to promote reasonable growth, attract and retain citizens, and build common purpose (“community”).

Stauber proposes three strategies for accomplishing these long-valued tasks: (1) increasing human capital, (2) conserving the environment and culture, and (3) investing in infrastructure and new technologies to increase competitive advantage. A fourth strategy is suggested by the work of Robert Putnam (2000) and Cornelia and Jan Flora (1996): cultivating social capital. Following a brief discussion of each of these strategies, a further discussion will explore ways education can lead or play a supporting role in advancing them.

Increasing Human Capital

Rural areas need a variety of human capacities, including skilled workers, managers, entrepreneurs, educators, and other professionals. Educational attainment is one measure of human capital, and rural America has areas of relative strength and weakness in this area:

- Only 15.6 percent of rural young adults (aged 25-34) have a baccalaureate degree or higher, compared with 28.7 percent in urban areas. However, the percentage of young adults with a high school diploma or some college is higher in rural areas (70.1) than in urban areas (58.4) (Gibbs, Swaim, & Teixeira, 1998).
- Among those 18 years and older in nonmetro areas, 23.5 percent have no high school diploma, compared with 17.4 percent in metro areas (Census Bureau, 1998).

Stauber notes three major means for developing human capital in rural areas: land grant universities, community colleges, and public education. He outlines new “information age” roles for the first two institutions but provides a good deal less direction for rural approaches to the third, public education, which is the focus of this paper.

However, other observers have noted that (1) needed human capital may not be provided exclusively via formal education and (2) increasing educational attainment is not, in itself, a sufficient economic development strategy (Couto, 1994; Gibbs, Swaim, & Teixeira, 1998).

One example of local human capital development that took place outside of formal education and training institutions and resulted in a promising new strategy for dairy farming competitiveness was reported by Hassanein and Kloppenburg (1995). They studied a group of Wisconsin dairy farmers who developed a method of rotational grazing that involved the use of permanent grass pastures instead of expensive grain and alfalfa monoculture crops (with all of their associated machine and chemical inputs) to feed livestock. To employ this method, farmers needed a whole new skill set, training for which was not available through their state’s university extension service. Instead, farmers learned basic principles of rotational grazing by tapping into international information sources. A few farmers even visited New Zealand to see how this method was practiced. But to learn how to apply these methods in their locale, farmers had to systematically study their own land and share information with one another. They developed

information-sharing networks (18 of these networks existed at the time of Hassanein and Kloppenburg's report), held conferences in which farmers were the experts presenting sessions, and hosted "pasture walks" at one another's farms to discuss problems and solutions in particular settings. This is an example of a place-based approach to human capital development that might be adapted in other areas, especially if this sort of local initiative is cultivated and encouraged. Schools could play a role in nurturing self-reliance, respect for local knowledge production, and entrepreneurship by employing more place-based and experiential approaches to curriculum.

Another human capital development strategy suggested by Stauber would bring new people with fresh ideas and entrepreneurial skills to rural areas via immigration from other countries. Cultures that have grown stagnant often produce stagnant economies as well. However, a study of immigration trends doesn't provide much hope for this strategy in sparsely populated or high-poverty areas, except in a few specific parts of the country, especially along the Mexican-U.S. border. Currently 95 percent of immigrants move to large urban areas and only 2 percent of the rural population is made up of immigrants (Effland & Butler, 1997). An alternative might be to support local youth and adults who can leave the community for a time to study or work in a different location and then return home with new ideas and skills. Duncan (1999) wrote about the important role newcomers and returning local people can play in challenging outmoded thinking and caste-like social structures, by introducing new skills and ideas into the community.

Conserving the Environment and Culture

Rural people are characterized in part by their relationship with the land, and all rural economies depend on the land one way or another. Agriculture, forestry, and tourism all depend on a continuously renewing and regenerative use of the land. On the other hand, mining and energy extraction have, by their nature, finite relationships with the land, which will come to an end when the resource is depleted. When the land is used in a way that degrades it beyond its ability to regenerate, rural communities can face permanent loss of a livelihood and a stagnant or declining economy, as has happened in parts of the Appalachian coalfields.

In contrast, some areas have populations with long-standing relationships with the land. In some cases these relationships have shaped a culture and way of life that people from other parts of the world want to experience as visitors. Tourism industries can be built on the careful use of such cultural resources. Other communities simply want to continue to live according to their traditional ways, or by carefully integrating modern innovations with traditional economies. Examples of this approach include the Amish and Mennonite people, some indigenous Mexican-American communities in the Southwest, and American Indian and Alaska Native communities located across the country.

Rural schools that support student learning about the local geology, biosphere, and heritage languages and cultures play an important role in perpetuating traditional knowledge as well as creating new knowledge about how to live well in a particular setting—civically and environmentally (Haas & Nachtigal, 1998; Lipka & Mohatt, 1998).

Investing in Infrastructure and New Technologies

Understanding the infrastructure strategy requires a redefinition of the notion of competitive advantage away from what Stauber calls “commodification” (e.g., the tendencies of industrial agriculture and mass culture to develop highly tradeable, inexpensive, familiar, and standardized products) and toward “differentiation” (e.g., the creation and marketing of unique, higher-value crops such as fresh organic food). New market opportunities depend on overcoming the remote locale—possibly by using new computerized technologies—but also by developing local approaches to production (e.g., the Wisconsin graziers described earlier). Such approaches require looking for new ways to increase competitiveness instead of protecting old ways—which for some communities may take a great deal of political organizing, network building, and “social work.” In many rural areas, schools represent the most valuable assets in the local community infrastructure. Some have put those assets to work for the community as a whole by opening the schools (including computer technology and Internet access) to multiple community uses (for examples, see Miller & Hahn, 1997; Jensen, 2000).

Increasing Social Capital

Robert Putnam (1993, 2000) studied regional governments in Italy during the 1980s soon after the devolution of the Italian government and found that the presence or absence of social capital was *the most powerful variable* in explaining the success of some regions and the stagnation of others. Social capital was an even more powerful variable than infrastructure, human capital, or financial capital. So what is social capital?

According to a seminal definition by sociologist James Coleman (1988), social capital

takes three basic forms:

1. *Networks of obligations, trust, and mutual help.* When a community offers multiple opportunities for people to engage with one another, they more readily offer help to one another, deal with one another in a trustworthy way, and live up to their obligations to one another.
2. *Exchange of useful information.* Close association also helps individuals keep up with news, trends, and other useful information that individuals by themselves would not have the time or resources to gather.
3. *Norms and sanctions.* People can get together to discuss—and even disagree on—how to improve their community and move forward with some assurance that everyone will share the load.

For years, researchers have tried to identify social and institutional factors that do not show up in standard statistical analyses of variations in local economies. A National Governor's Association study examined 48 high-growth counties and identified eight "keys" to local success, including the social factors of a "pro-growth" attitude, a well organized partnership of local leaders, and sustained long-term development efforts" (cited in Galston and Baehler, 1995, p. 68). In a study of successful Great Plains communities, Cornelia and Jan Flora identified several common attributes, including "acceptance of public controversy, willingness to invest their own resources in the future, ability to acquire information and direct it to the community, and the presence of a flexible and dispersed community leadership" (cited in Galston & Baehler, p. 68).

All of these social attributes could be included under the construct *social capital*. Some of these are precisely the sorts of attributes that can be nurtured well in small, community-based schools that have a mission to support the civic engagement of young people. A growing body of case studies and narrative accounts describes how such schools operate by connecting students

with community through experiential and service learning. Their accomplishments, however, can be as difficult to measure and analyze in standard scientific terms as social capital itself (Howley & Harmon, 2000; Meier, 1995; Gregory & Smith, 1987).

Rural Education and Rural Development

As noted previously, perspectives on rural education have seldom been articulated with rural development purposes in mind—quite probably because of the differing institutional histories of education and agriculture. The decreased importance of agriculture as the principal focus of enacting social policy in rural areas, however, now provides an opportunity to suggest some possibilities geared toward other rural realities.

The discussion in this section explores in more detail the crucial links between appropriate rural development policy (as interpreted by Stauber and further informed by social capital theorists) and recent developments in the theory and practice of specifically rural education. Again, the focus here is particularly on sparsely populated or high-poverty rural areas, simply because they constitute a well-defined educational priority. Table 1 shows some of the links that will be explored in the following section.

Table 1. Education Strategies to Support Community and Economic Development in Sparsely Populated and High-Poverty Rural Areas				
	(1) increase human capital	(2) conserve the environment and culture	(3) invest in infrastructure and new technologies	(4) nurture social capital
Retain small local schools that serve the whole community	X		X	X
Develop a pedagogy of place	X	X		X

Two major strategies have particular potential for making public education a strong contributor to the growth and well-being of high-poverty and sparsely populated rural communities: (1) retaining or restoring small local schools and districts that serve the whole community and (2) developing a pedagogy of place. These strategies support in various ways the development strategies just discussed.

Retaining or Restoring Small Local Schools

Retaining or restoring small local schools could contribute to increasing human capital, social capital, and access to a technological infrastructure. As reported earlier, a greater percentage of rural residents (compared to urban and suburban) do not complete high school, which poses a challenge to communities' need for human capital in order to build or rebuild a viable local economy. In high-poverty areas, drop-out rates are often much higher than for rural America as a whole. Consequently, any school reform effort that shows strong evidence of reducing drop-out rates and improving achievement in schools with high levels of poverty should be strongly considered.

The positive effects of small-scale schooling on reducing drop-out rates and increasing achievement in impoverished communities are now documented at a level of confidence rare in education research (Howley, 2001; Raywid, 1999). This line of research reports that smaller school and district size is associated with higher aggregate achievement in impoverished communities, all else equal. Moreover, smaller school and district size is consistently associated with a substantially weakened correlation between achievement and poverty regardless of school or district poverty levels.

A series of studies (involving the entire population of students in Alaska, California, Georgia, Montana, Ohio, Texas, and West Virginia) conducted by Craig Howley and Robert Bickel revealed that the negative influence of poverty on student achievement (as measured by standardized testing) was typically weakened by about half in smaller schools—and districts—as compared with larger schools and districts. The salutary effect was strengthened when smaller schools were located in smaller school districts (Bickel & Howley, 2000). The least equitable arrangement for student achievement was large schools in large districts.

Table 2 displays information about schools serving rural high school students nationwide. It reports the percentages of schools in high- and low-poverty areas that are either small (300 students or fewer in grades 9-12) or large (more than 300 students in grades 9-12). Schools at or below the median participation in free and reduced lunch were considered “lower poverty” and those above the median were designated “higher poverty” (see Table 2 for further details).

In rank order, states that have the highest percentage of larger schools in rural communities with high levels of poverty (the worst combination for negative impacts on achievement and graduation rates) include:

- Mississippi (65.7%)
- West Virginia (63.2%)
- South Carolina (57.7%)
- Georgia (56.7%)
- Hawaii (55.6%)

By contrast, states that have the highest percentage of smaller schools (the best arrangement for enhancing student achievement) in rural communities with high levels of poverty are as follows:

- Oklahoma (64.8%)
- North Dakota (64.8%)
- Arkansas (57.2%)
- Louisiana (56.4%)
- Alaska (55.7%)

Table 2. School Poverty Level vs. School Size by State, 1999-2000, for Rural Schools Serving High School Students

Sch	Percent Poverty Level vs. School Size				Not	Smaller Sch Larger	
	Higher Pov Smaller Sch	Higher Pov Larger Sch	Lower Pov Counted	Lower Pov Total		Smaller Sch	Larger
AK	55.7%	1.4%	9.0%	6.1%	27.8%	212	
AL	47.1%	28.5%	3.6%	20.4%	.4%	274	
AR	57.2%	17.6%	12.2%	12.9%		278	
CA	36.9%	9.6%	34.9%	17.2%	1.5%	344	
CO	37.2%	8.3%	32.2%	22.2%		180	
CT			10.6%	89.4%		47	
DE		30.0%		70.0%		10	
FL	36.5%	21.9%	21.4%	20.3%		192	
GA	6.2%	56.7%	5.2%	32.0%		194	
HI	22.2%	55.6%		22.2%		18	
IA	19.1%	1.2%	50.9%	28.8%		330	
ID	40.7%	14.7%	16.7%	20.7%	7.3%	150	
IN	2.3%	4.5%	18.0%	72.5%	2.7%	222	
KS	34.2%	7.7%	40.9%	17.1%		298	
KY	16.9%	47.3%	16.4%	18.9%	.5%	201	
LA	56.4%	32.7%	4.3%	6.2%	.5%	211	
MA	1.0%	4.1%	16.3%	78.6%		98	
MD	1.7%	20.3%	16.9%	61.0%		59	
ME	26.8%	19.6%	6.2%	38.1%	9.3%	97	
MI	23.0%	10.6%	22.5%	43.8%		404	
MN	38.2%	5.0%	28.6%	26.8%	1.3%	377	
MO	44.7%	7.4%	26.1%	21.8%		376	
MS	33.8%	65.7%			.5%	204	
MT	41.6%	3.1%	39.8%	14.9%	.6%	161	
NC	10.1%	28.7%	2.5%	53.2%	5.5%	237	
ND	64.8%	1.1%	29.5%	4.5%		176	
NE	41.7%	1.4%	44.6%	12.0%	.4%	276	
NH	1.7%		29.3%	69.0%		58	
NJ		2.8%	5.6%	91.7%		36	
NM	49.5%	27.4%	12.6%	9.5%	1.1%	95	
NV	18.4%	5.3%	21.1%	23.7%	31.6%	38	
NY	26.8%	15.5%	12.4%	45.2%		354	
OH	6.9%	6.9%	15.7%	63.4%	7.1%	407	
OK	64.8%	14.2%	12.1%	8.9%		372	
OR	31.1%	17.7%	29.3%	22.0%		164	
PA	11.5%	21.2%	5.9%	61.5%		288	
RI			10.0%	90.0%		10	
SC	19.5%	57.7%		22.8%		123	
SD	45.9%	1.2%	36.6%	10.5%	5.8%	172	
TX	51.2%	14.8%	18.3%	14.6%	1.0%	862	
UT	37.1%	17.1%	7.1%	22.9%	15.7%	70	
VA	9.8%	20.2%	5.5%	63.2%	1.2%	163	
VT	16.9%	6.8%	30.5%	42.4%	3.4%	59	
WI	19.8%	9.1%	31.8%	37.7%	1.6%	308	
WV	21.7%	63.2%	2.8%	6.6%	5.7%	106	
WY	24.3%		42.9%	27.1%	5.7%	70	
Total	33.0%	16.0%	20.4%	28.5%	2.2%	9381	

Table 2 (continued)

Note: These statistics were calculated using the *Common Core of Data, Public Elementary/Secondary School Universe Survey, 1999-2000* conducted by the National Center for Education Statistics of the U.S. Department of Education. Data were not available for Arizona, Illinois, Tennessee, and Washington.

Criteria used for school size. Schools included in the table had a variety of configurations, ranging from schools that served pre-kindergarten through grade 12 to schools that serve only grade 12. For this reason, total enrollment could not be used as a meaningful measure of school size. In keeping with other lines of research, 300 students or fewer for a grade 9-12 school was selected as the upper limit for a "smaller" school. This equates to a mean of 75 students per grade cohort. Mean cohort size was calculated for all rural schools that included a grade 12, and schools were divided in two categories: "smaller" schools had cohorts of 75 or fewer and "larger" schools had cohorts of more than 75 students. Regular, vocational, and alternative schools were included in the analysis.

Criteria used for rurality. All schools with locale codes of 6 (small town), 7 (rural, outside of Metropolitan Statistical Area [MSA]), and 8 (rural, inside MSA) were considered rural and included in the counts.

Criteria used for poverty level. Participation in free and reduced-price lunch was calculated for each school, and a frequency count revealed 28.6 as the median percentage for participation; the mean was 32.6 percent. Schools at or below the median were considered "lower poverty" and those above the median were designated "higher poverty."

* The number 300 was chosen as the upper limit for what constitutes a "smaller" school in order to correspond with recent studies (summarized in Howley, 2001) which used the same cutoff point and measured the effect of scale on student achievement in schools serving high percentages of low-income students.

Table 2 shows the dramatic variation prevailing among the states on this policy issue. In some states a *majority* of schools serving impoverished rural students have enrollments in excess of 300 students. Other states, however, maintain few schools this large to serve impoverished rural communities. In still other states, poverty (on national norms) is low, and this issue—in light of the research on size—is less pressing (e.g., Connecticut).

Schools in sparsely populated areas tend naturally to be small due to the low numbers of students in a geographic area. However, in some parts of the country, such as the Southeast, schooling has been reorganized into county districts and, very often, secondary education has been consolidated into one large, county high school. In many other impoverished rural areas, school districts are pressured to close schools or combine with other districts in the name of cost efficiency—an imperative for which there is little empirical justification. The few studies that

have been done find that significant savings seldom result from consolidations and closures (Schwinden & Brannon, 1993; Steifel, Foldsey, & Holman, 1991; Valencia, 1984).

Keeping schools smaller tends to reduce the catchment areas they serve, thereby reducing the length of bus rides and associated impediments to student and parent involvement in school activities. A recent study revealed that rural students experience rougher, longer, and possibly more dangerous rides than other students (Howley, Howley, & Shamblen, 2001). In light of such findings, increases in the duration of bus rides (a side effect of creating a larger catchment area) would likely injure school engagement, especially among impoverished students.

Other studies have shown higher participation rates in extracurricular activities at small schools, even controlling for socioeconomic status (e.g., Coladarci & Cobb, 1996; Pittman and Haughwout, 1987; Holland & Andre, 1987). For many people, involvement in activities at school is the beginning of a pattern of engagement in community activities. As noted by Putnam (see the previous discussion), involvement in community institutions is an important source of social capital, which, in turn, creates conditions favorable to community and economic development.

As mentioned earlier, schools situated to serve citizens who live nearby often also provide valuable access to information technologies for adults and children, training and meeting spaces, sites for other community services, and access to equipment and facilities that could prove valuable in community development efforts. In fact, for some rural and remote communities, the school is the sturdiest and best-equipped building available and represents the most valuable infrastructural asset.

This scientifically and anecdotally gathered evidence tends to support the long-standing claim of rural community members: schools, and especially high schools, are at the heart of their

communities (for another discussion of the role of schools as collaborative partners in community development, see Southwest Educational Development Laboratory, 1999). As one rural resident noted, without a local school, all you have are houses alongside the road (Spence, 1998).

Pedagogy of Place

Largely through the efforts of the Rural School and Community Trust and some notable groups that came before (e.g., Foxfire and REAL Enterprises), a movement has taken hold in various rural communities across the country to ground school curriculum and instruction in local geology, ecology, culture, history, and economics. This movement is usually referred to as *place-based education* or a *pedagogy of place*. Perhaps the most cohesive portrayal of this concept in action has been provided by the Alaska Rural Systemic Initiative, which has grounded math and science instruction, to a substantial degree, on the indigenous knowledge systems of Alaska Natives (see <http://www.ankn.uaf.edu:591/>). *Place Value* by Haas and Nachtigal (1998) also provides an overview of the complex and powerful ideas embedded in place-based education.

Usually, place-based education is adopted in small schools, where it often helps students integrate subjects (reading, writing, mathematics) that might otherwise remain compartmentalized in their minds. Much of the learning comes through local study in activities such as cultural journalism (similar to the Foxfire project, which collected folk knowledge from older citizens); biological, ecological, and geological studies of streams and other natural features of the landscape; or apprenticeships with local skilled craftspersons. There is very often a service component to the learning (see Perrone, 2000, for detailed descriptions of more than a dozen examples of place-based learning underway in schools across the country).

In fact, some proponents of this approach to learning suggest that the service component is the heart of place-based learning, and all other learning is organized around it. For example, at Little Singer Community School located on the Navajo reservation, a long-term drought has resulted in much of the surrounding countryside becoming desert.* Students at this school are studying the history of agriculture in their area, collecting and cultivating indigenous grasses where they still exist, and designing new technologies using available materials to capture rainwater when it infrequently falls. Formal lessons connected to these activities are grounded in the daily lives of the students. From this example, it can be seen that this strategy can support development efforts to improve (1) human capital, (2) social capital, (3) conservation of the environment and local culture, and (4) investment in new, sometimes locally developed technologies.

1. *Human capital.* This is developed as students learn locally relevant skills and knowledge and as teachers tie this learning to state standards. While some advocates of place-based learning have been concerned about its ability to exist within the context of state-mandated accountability standards and testing, others have successfully integrated the two approaches to school improvement. The place-based education movement is still new, so few have studied its impact on student achievement scores or other standardized measures of performance. One early study conducted by a team from the Research and Evaluation Program at Harvard Graduate School of Education (Cervone, 2000) looked at a critical sample of rural schools participating in a national confederation organized by the Annenberg Rural Challenge (now the Rural School and Community Trust). They reported the following results:

* The author learned about this example at a presentation by the principal and a teacher from Little Singer Elementary School, who presented a session at the National Indian Education Association meeting in Billings, Montana, October 27-31, 2001.

- Students in schools participating in the Rural Trust are making steady gains in performance on national standardized tests and state assessments. This trend holds true at all grade levels and in all subjects.
- The scores of Rural Trust students compare favorably with state averages on the same tests. In the majority of cases, they are near or above the state average (p. 2).

The report also features information about participating schools that showed remarkable improvement. Cervone cautions that other factors may be at work in the success of participating schools (small size, for example), but she notes that the data at least give an indication of the status of schools engaged in place-based education as practiced by the Rural Trust.

2. *Social capital.* Developed in place-based curricula, social capital arguably reconnects the school and its work with the community and its heritage, ecology, and economy. Because schools have come under increasing pressure to reduce their isolation from parents and communities, place-based pedagogy seems a timely innovation. Research on this point, too, is scant, but there has been a lively literature growing for many years, created by practitioners in the Foxfire Teachers Network, outdoor and experiential learning programs based in schools, National Science Foundation projects, the Rural School and Community Trust, and others. These teachers—and in some cases, evaluators who have studied them (e.g., Perrone 2000)—have reported on projects that have helped students connect with elders, their local county or town governments, beautification groups and historical societies, arts organizations, and park services and natural resource personnel in a rich array of projects. This is the type of activity identified by Putnam (2000), Coleman (1988), Flora & Flora (1996), and others as being necessary to strengthen norms of reciprocity, trust, and information sharing—i.e., social capital—needed to nurture vital and viable communities.

3. *Conservation of the environment and local culture.* This is illustrated by the previously mentioned case of the Little Singer Community School. It provides a glimpse of the sorts of student ecological studies and projects that can take place in most rural communities. For students who do not go on to college (the majority of rural students currently), public school is the key time to learn how to live sustainably in their particular landscape. Ecological studies provide a venue for locally relevant mathematics and science instruction. Such studies can help enable the kind of teaching in which mathematics takes on practical (and not only abstract) meaning and in which the ideas, methods, and facts of science can be animated by dedicated teachers.

For communities of people who have lived for many generations in the same place, place-based education provides an opportunity for children to learn traditional knowledge systems, customs, and heritage languages. Long before the industrialization that took place in the twentieth century, communities were sustained through this sort of knowledge. Further, indigenous knowledge (e.g., about medicinal plants) is proving to be increasingly valuable intellectual capital. There are multiple reasons for preserving this cultural knowledge, and place-based pedagogy provides a way to make it part of students' formal learning.

4. *Investment in infrastructure and new technologies.* This has become an obvious feature of schooling in the digital era. Some place-based projects have involved quite sophisticated uses of computer technologies. In Bland County, Virginia, a teacher wrote grants to acquire equipment that could be used to develop and mount a Web site featuring oral histories, photographs, and detailed information about the area. Part of the project was to put a computer in the local library so anyone in the community could access this material.

Digital technology is hardly the only—nor necessarily the most important—technological innovation. The Wisconsin dairy farmers mentioned earlier, for instance, constitute another example of a new, more economical, and decidedly more sustainable approach to dairy farming—developed via the study of the local ecology and augmented with social capital (farming families own local knowledge). This is an example of how local learning can improve competitiveness through differentiation within a traditional rural enterprise.

Four Recommendations for Policymakers

Karl Stauber’s voice is a recent one among many to insist that rural development is not principally about agribusiness, nor any other “rural economic sector,” but about community and a common purpose that looks toward a sustainable rural way of life. The highlighted educational innovations, rural-specific in nature, exhibit a similar concern for community and for place. This paper has suggested striking compatibilities between rural development theory and rural-specific educational practice. It may also have provided an explanation for why aspects of rural education are (or should be) qualitatively different from the mainstream education offered in suburban and urban settings.

This beginning is an unlikely introduction to a consideration of practicalities. Fashioning a vision of consonant policy making that prominently includes rural education as a centerpiece of rural development may be a goal too difficult to regulate or legislate simultaneously with the current striving for standardized accountability measures and reforms. For this reason, the four recommendations offered below are modest.

1. Become more knowledgeable about the significance of place in the adoption of rural development initiatives and education accountability and reform.

Our policy making has seldom attended to places, instead taking Robert Reich's view as its norm: that communities are expendable and hardly worth sustaining. The imperative to understand place is most pressing in the case of predominantly rural states. When rural places are disregarded, they tend to become internal colonies—outposts of national industries whose prerogatives come to dominate, and ultimately harm, those places. Some areas become rural ghettos, whose infrastructure and human capacity to overcome economic adversity diminish past the point of recovery. In some places, such poor political stewardship has become the norm (see accounts of communities in these circumstances in Cynthia Duncan's recent work).

2. Strengthen new development and education programs that support place-based learning, sustainable agriculture, and entrepreneurial economic development.

Students educated to ask their own questions and to seek answers from inside and outside their local communities could become a new generation of community stewards—able to cooperate and think through solutions to the considerable challenges of survival in a global community. New USDA and state agriculture department programs that support sustainable agriculture and other homegrown economic development programs seek to propagate opportunities for exactly the sorts of “differentiated” products and marketing efforts predicted to have significant multiplier effects for rural communities and their local economies.

3. Take a stand on rural school consolidation issues in isolated and high-poverty rural areas and begin to recognize schools as potentially important assets in community infrastructures.

District consolidations and school closures are volatile political issues, especially at the grassroots level. The differing institutional trajectories of rural development and rural education have set turf boundaries rather firmly, and rural development specialists tend to abandon school consolidation and closure to the technical realm of education policy making. This recommendation—meant to apply to both rural education and community development policymakers—is more challenging and significant than its single-issue content might seem. The research literature cited in this paper clearly indicates that appropriate rural development in high-poverty areas requires the existence of small schools and districts (see Howley, 2001, for practical guidelines based on research).

4. Develop policy sets that simultaneously address rural community development and strengthen small schools and districts in which community identities and social capital reside.

Smaller schools and districts—the avowed heart of rural communities—continue to languish and disappear through lack of adequate and equitable support. It is difficult for communities to launch community development efforts when they lack even the most basic services and infrastructure. Stauber has provided practical reasons why the demise of rural communities and continuing urbanization work against the best interests of all Americans.

Consider one more note about the Wisconsin graziers and other farmers inventing sustainable agriculture: Critics of industrial agriculture—and the institutions of scientific

research and development that have helped create and promote it—have tried for years to redirect agricultural policy. However, in some ways, this single focus has been misspent energy and attention because, as Hassanein and Kloppenburg (1995) explain,

. . . it ignores the activities of farmers themselves who are now engaged in producing and reproducing a landscape of sustainable alternatives regardless of what research gets done in the laboratories and what the latest farm bill does or does not say (p. 723).

In much this same way, a growing cadre of teachers is inventing (or rediscovering) a place-based pedagogy that shows great promise for addressing the needs of a population that has been under seige for the past century (Perrone, 2000). Perhaps it is time to pay attention and see what we can learn from them.

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Selected Web Sites

Rural School and Community Trust, Rachael Tompkins, director
Research Smaller Schools and Districts

<http://www.ruralchallengepolicy.org/sapss.html>

State-level Rural Education Policy

<http://www.ruralchallengepolicy.org/streport.html>

Standards and Place-Based Pedagogy

<http://www.ruralchallengepolicy.org/policy.html>

(last option on page)

Alaska Rural Systemic Initiative

Home Page

<http://www.ankn.uaf.edu/phase2.html>

Alaska Native Knowledge Network

<http://www.ankn.uaf.edu/IKS.html>

Foundation Northwest Area, Karl Stauber, president

Home Page

<http://www.nwaf.org/>

Karl Stauber's "Why Invest in Rural America—and How?"

<http://www.kc.frb.org/publicat/econrev/PDF/2q01stau.pdf>

Federal Reserve Bank of Kansas City

Center for the Study of Rural America

<http://www.kc.frb.org/RuralCenter/about.htm>

Rural Policy Research Institute, Charles Fluharty, director

Overview Page

<http://www.rupri.org/purpose/index.html>

Toward a Community-Based Public Policy (presentation slides)

<http://www.rupri.org/presentations/carb110701.pdf>

Regional Rural Development Centers

Home Page

<http://www.reeusda.gov/ecs/rrdc.htm>

Northeast Center

<http://www.cas.psu.edu/docs/casconf/nercrd/nercrd.html>

North Central Center

<http://www.ag.iastate.edu/centers/rdev/RuralDev.html>

Southern Center

<http://www.ext.msstate.edu/srdc/>

Western Center

<http://extension.usu.edu/wrdc/>



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