

Chapter 4

Rural Development

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Findings

Telecommunications and information technologies can play a critical role in rural development. If they are not integrated into a comprehensive development plan, however, these technologies could do more harm than good. For too long, economic development has meant industrial recruitment. In a global economy, where skilled labor and high information content provides the competitive advantage, this strategy is outdated. If information technologies are deployed for the sole purpose of attracting information-intensive jobs to rural communities, they will merely add a high-tech dimension to the traditional smoke-stack chasing development strategies that have failed in the past.

For development to work, a multitude of factors must come together to create a self-sustaining process. Rural communities must improve their education, health care, and public administration capacities in addition to improving local employment and income levels. A successful development strategy will take inventory of a community's assets and weaknesses. When the health and education levels are so low that the community can only accommodate marginal employment, a development strategy must focus on raising the skills and level of health in the community. When human resources are adequate for development, but jobs are lacking, a development strategy must address ways to increase local employment. Most often, these problems cannot be solved in isolation, but must be attacked in a comprehensive development strategy.

Communications technologies can augment these various types of development efforts. When development is undertaken comprehensively, the role of telecommunications can be even more effective because the technology can bring the many community development players together to share the risks, the benefits, and the costs.

Introduction

Communications and information technologies offer rural areas the opportunity to overcome the traditional barriers of time and space, to attract high-paying, high-technology, information-intensive jobs, and to access information that could improve health care, education, and local government. However, these technologies are not a panacea. Rural economic development is a complex process that requires interaction among a multitude of players and institutions. Communications and information technologies can enhance and even make this process possible. However, if they are considered a solution by themselves, they will not fulfill expectations and could work against the prospects for real economic development in rural areas.

To make the most of communications and information technologies, a broad, holistic view of economic development is needed. Traditional economic development definitions, goals, and strategies have taken a one-dimensional approach, focusing on the business sector of a society or community and measuring development progress with standard economic indicators. These approaches ignore the less quantifiable factors, such as the quality of the laborforce, and access to education and health care, that allow businesses and people to develop and prosper.

In contrast to this purely business approach are community development approaches. They seek to develop community well-being as a means of generating economic well-being. However, when pursued along a single social dimension, they too have failed. Just as economic activities need support from community services, so does community infrastructure need economic energy to remain viable. Community development projects can stimulate the economic development process, but alone, they will be only partially successful.¹

¹Jane Jacobs explains the fallacy of using grants for community development projects alone to produce economic development: "The failure is built into the fact that they *are* loans, grants, and subsidies; those golden eggs, being only eggs, don't hatch goslings." The key to success is the presence of innovative activity, which transfer payments could then invigorate. Jane Jacobs, *Cities and the Wealth of Nations: Principles of Economic Life* (New York, NY: Vintage Books, 1984), p. 110. See also, Ted K. Bradshaw, "Economic Development in Rural America: The Hard Case," *Looking Ahead*, vol. 9, No. 2, 1986.

A narrow focus on technology can also lead programs astray. Typically, policymakers see magic powers in technology, or they use technology as a disguise or means to accomplish other narrow economic objectives. Whether policymakers look for a solution in technology, business, or community infrastructure, by seeking a tonic, they neglect to consider the many factors that go into making and sustaining a successful development formula.²

What Do We Mean by Economic Development?

In formulating strategies and policies for rural economic development, it is critical to understand what economic development is and what it entails. Contemporary rural America presents a mosaic of socioeconomic and political conditions and various levels of development, so a narrow concept of economic development is inappropriate. A workable definition of economic development must accommodate the inherent differences between communities, and allow for alternative approaches to the problems.

The economy and the community are inextricably linked, therefore, this report is based on the premise that economic development encompasses community development. The linkages between the community and the economy in rural areas are critical. Due to the small population of a rural community, there is less social redundancy. Often, a few businesses, or one large business, one school, and one hospital or health-care provider serve the entire community. If a school or business closes, rural citizens cannot simply go to a different school, or merchants cannot find other suppliers. Thus, if one community link fails, the entire system is jeopardized.

Economic Development Is Not Just Jobs and Income

Viewing community development as an integral part of economic development requires measurements that focus on quality of life considerations,

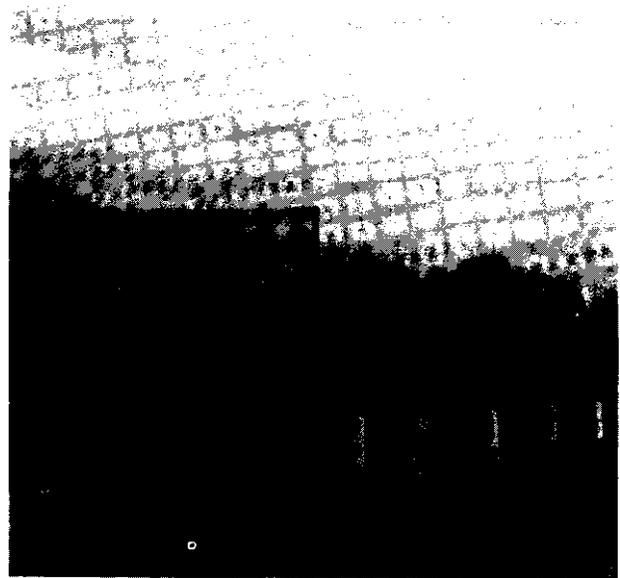


Photo credit: Mark G. Young

Sign in a small town in rural Kentucky announcing a construction project funded by the Department of Commerce's Economic Development Administration.

such as health and social services and quality educational opportunities for children and adults. These factors are inputs, as well as products, of economic well-being. As such, these non-material necessities must be considered as "important condition[s] to meeting material needs."³

Standard economic indicators, such as employment and income levels, are often used to measure economic well-being but do not account for these important amenity factors. Too often, the measures become ends unto themselves, and other less-quantifiable development goals are subordinated to the economic goals embodied in these measurements.

How *Relevant Are Employment Levels to Economic Development?*

Development officials and policymakers, for example, typically use jobs and income as measures of economic well-being. In this case, economic devel-

²The industrial park strategies of the 1970s illustrate such an approach. In many cases, it was believed that industrial capacity—in terms of office and warehouse space—would induce firms to locate in a region and thus provide jobs and then tax revenue to pay for social services and community infrastructure. As a result of this strategy, however, many industrial parks lay vacant and communities were disappointed or disillusioned because they could not attract or nurture businesses, which also demanded an educated workforce and access to community services and health care for potential employees.

³Paul Streeten, "A Basic Needs Approach to Economic Development," Kenneth P. Jameson and Charles K. Wilber (eds.), *Directions in Economic Development* (South Bend, IN: University of Notre Dame Press, 1979), p. 74.

opment plans and policies seek growth in regional employment as the key to greater economic—and hence overall-well-being.⁴ Such a strategy links employment growth to lower unemployment and higher incomes; it assumes a causal relationship from jobs to income to community welfare. At first glance, this strategy seems to make sense. And, in fact, the logical progression from economic growth to greater well-being is supported in much of classical economic literature.⁵

There are, however, flaws in this approach. First, there is little evidence that employment growth necessarily produces income growth.⁶ An increase in the number of jobs in an area does not imply that the wage levels or the quality of jobs increases.⁷

Job recruitment strategies also fail to recognize that imported jobs often attract imported labor. When this occurs, the unemployment in the community can persist even though employment statistics have risen. If industrial recruitment strategies were to attract enough outside labor to create a surplus labor pool, they could actually depress the local wage level. Even when indigenous workers become employed, they might remain poorly paid or underemployed due to greater competition for jobs. The workforce in rural areas is generally small, so rural communities are particularly vulnerable to competition from imported labor.

Additionally, the types of jobs that can result from job recruitment strategies vary significantly. Even if one assumes that any job is better than no job, it is still important to consider factors that might determine whether local workers would consider the imported jobs desirable or within their reach.

Even after acknowledging these shortcomings, planners might still choose an industrial recruitment policy, hoping to capture the “multiplier effect” that additional jobs might create. They assume that population growth from the influx of new workers will stimulate the economy and increase the demand for services.⁸ Under these circumstances, indigenous workers might find employment in the growing service sector. However, the service sector typically pays low wages. This type of employment growth might not raise the income levels of the indigenous workers, whom the development was intended to benefit.⁹ Job creation is a sensible goal,¹⁰ but job creation—in and of itself—is only one part of economic development.

What Do Income Statistics Tell Us?

Just as higher employment measures do not necessarily lead to higher income, neither do higher income levels necessarily produce greater economic well-being.¹¹ Development policies that equate income levels with well-being can result in misguided and unproductive strategies.

⁴As Lionel Beaulieu notes: “. . . over the past 25 years, the primary concern of State and local development officials in the South has been with creating as many jobs as possible.” Lionel Beaulieu, *The Rural South in Crisis: Challenges for the Future* (Boulder, CO: Westview Press, 1988), p. 266.

⁵Classical economists, starting with Adam Smith, presumed that the proceeds from economic growth, even if they accrued to only one segment of society, would trickle down through the whole society. They also presumed that increases in national monetary wealth—or gross national product—would improve living conditions for the citizens of the Nation. Largely this was the case because there is a strong correlation between greater wealth and greater amenities. Nonetheless, the relationship is not necessarily causal. Moreover, the forces at work in a national economy may differ significantly from those of a regional economy. For example, labor is much less mobile at the national level than at the local or regional level. As a result, labor can move in or out of a region, depressing wages but increasing employment levels. Such activity dramatically affects the local economy, but is less apparent at the national level.

⁶Thomas Michael Power, *The Economic Pursuit of Quality* (Armonk, NY: M.E. Sharpe, Inc., 1988).

⁷Beaulieu explains that the development programs that focused on creating jobs failed because “. . . [w]hether these jobs were white collar or blue collar, high wage or low wage, dead-end or on a promotion track was overshadowed by the overwhelming desire to report job numbers. . .” op. cit., footnote 4, p. 266.

⁸Gene F. Summers, “Rural Industrialization,” *New Dimensions in Rural Policy*, Joint Economic Committee, June 5, 1986. The magnitude of this multiplier effect is much smaller than expected. Figures range from zero to 3.0, but the average is around 0.30; this means that for each job that a recruited firm adds to the local economy directly, it will also generate 0.30 jobs in the community indirectly. These jobs typically will be in the service sector, supporting the new economic activity.

⁹Thomas Michael Power, “The Folk Economic of Local Economic Development: ‘Intuitively Obvious’ But Dubious Strategies,” unpublished paper, University of Montana, 1988.

¹⁰Louis Swanson, “Non-Technical Barriers to the Use of Telecommunications Technologies for Rural Development,” contractor report prepared for the Office of Technology Assessment, 1990, p. 23

¹¹Thomas Michael Power, “Measuring Economic Well-Being in Non-Metropolitan Areas,” contractor report prepared for the Office of Technology Assessment, May 1990. See also, Power, *The Economic Pursuit of Quality*, op. cit., footnote 6.

Per-capita income levels paint a cloudy picture of economic well-being. Per-capita income says nothing about the relative distribution of income. Therefore, the statistic will rise when the income of any portion of the population rises, whether the increase was shared across all sectors or concentrated in a small group. A development strategy to raise per-capita income could do so without affecting the income level of the majority of the population.

Per-capita income also does not account for differences in the cost of living between regions, or changes in cost of living over time. An area with a lower cost of living¹² usually will report a lower per-capita income. A lower income level does not necessarily mean that the population is economically worse-off than a region with a higher per-capita income since it may cost more to live in the "richer" region. Efforts to equalize per-capita income with other regions will be misguided if they ignore this caveat.

Per-capita income also does not reflect differences in the quality of amenities needed for personal well-being. These include factors such as climate, leisure opportunities, absence of crime, quality of schools, and cultural opportunities.¹³ The status of such amenities must be included in any development strategy (see box 4-A).

Holistic Economic Development

A "large part of economic well-being is determined by the quality of nonmarketed [and nonmeasured] resources,"¹⁴ which are essential to economic development. In this sense, economic development embodies community development.¹⁵

A community-based rural economic development program would improve the lives of rural people,¹⁶ wherever they eventually may reside.¹⁷ It would create an environment in which people can choose to live-because basic services, amenities, and jobs are available from which they can migrate with adequate skills to make their ways in other communities. It would be sensitive to the type of future that members of the community envision for the community. Such a development program may or may not include an aggressive economic growth strategy. If pursued, a growth strategy would constitute only part of a more comprehensive recipe for rural economic development. The importance of a holistic development strategy is that it builds on the relationship between the community infrastructure and a vital economy.

A holistic approach to rural economic development requires policymakers to look for more than a technological fix aimed at a single sector of the community. When determining how communications and information technologies can affect rural economic development, it is critical to consider the quality of each of the elements of economic development and how these technologies can address the many dimensions of economic development.

Setting Goals

Rural development goals must be both consistent with a holistic definition of economic development and suitable for addressing the breadth of the problems and conditions found in rural America. It would be unrealistic to set uniform standards that all

¹²Problems also arise in using cost of living as a comparative statistic. The American Chamber of Commerce Research Association (ACCRA) publishes cost-of-living data quarterly for 250 cities. This data is based on the cost of a prespecified "market basket" of goods. Although useful, such a measure does not account for regional differences in the availability or cost of the components of the "market basket." Additionally, the costs of housing and labor vary across regions; also, the proportion of income that people spend on housing has varied significantly overtime. These factors affect the cost-of-living, but are generally not reflected or accounted for in cost-of-living data that are used in comparisons. Nonetheless, adjustments to cost-of-living data that would discount for these realities are not regularly made, or even generally feasible, since there is no systematically collected, reliable data set that would allow such adjustments. The ACCRA data are plagued with problems of consistency and reliability. Power, "Measuring Economic Well-Being," op. cit., footnote 11, p. 7.

¹³Economic theory suggests that the effects of these qualitative factors will be reflected in people's choices of where to live. Attractive areas (other things, such as cost of living, being equal) will have lower wages and incomes; conversely, unattractive areas will have higher wages and incomes. In essence, people will "pay" to live in attractive areas and "charge" to live in unattractive areas. This theory does not, however, account for the fact that still other qualitative factors, such as family tie-s, influence decisions about where to live.

¹⁴Power, *The Economic Pursuit of Quality*, op. cit., footnote 6, p. 15.

¹⁵Vernan D. Ryan, "The Significance of Community Development to Rural Economic Development Initiatives," United States Department of Agriculture, *Rural Economic Development in the 1980's: Prospects for the Future* (Washington, DC: USDA Economic Research Service, 1988), Rural Development Research Report, No. 69, p. 364.

¹⁶Jonathon Sher, "Rural Development Worthy of the Name," *New Dimensions in Rural Policy: Building Upon Our Heritage*, studies for the Subcommittee on Agriculture and Transportation of the Joint Economic Committee, 1986.

¹⁷Luther Tweeten, professor, Ohio State University, comments at Panel Meeting, July 30, 1990.

Box 4-A—Alternative Measures of Economic Well-Being

No single measure will fully capture the array of qualities and quantities that comprise economic well-being. Rather than using one composite measure as a guide to development strategies, developers might consider using alternative economic indices to create a more complete picture.

For example, quality-of-life indicators are increasingly used in the popular press to rate a city's "livability." These indicators take account of characteristics such as the quality of schools, research facilities, cultural opportunities, climate, the availability of capital and skilled workers, and the extent of union membership and the political climate. Although useful for qualitative impressions, such measures are limited due to the arbitrariness of the included factors and their inherent subjectivity.

Another attempt to measure development is the "Physical Quality of Life Index" (PQLI). The PQLI is used primarily in the international development community. This composite index uses indicators of infant mortality, life expectancy, and basic literacy to measure results of development efforts in meeting the most basic needs of a community. The PQLI is useful in assessing the extent of serious poverty, but is limited in the extent to which it can measure the economic activity of a region.

SOURCES: Hazel Henderson, "Mutual Development: Towards New Criteria and Indicators," *Futures*, December 1989, pp. 571-584. Gerald M. Meier, *Leading Issues in Economic Development* (New York, NY: Oxford University Press, 1989), p. 9.

rural communities must meet, but it is necessary to identify objectives to guide development efforts.

The Basic Framework

Thomas Power suggests several goals for holistic economic development¹⁸ that provide a flexible framework for any community. These objectives include:

- . the availability of useful and satisfying work for community members;

- . access to biological and social necessities;
- . stability in the local community; and
- a thriving, vital local economy.

This list is consistent with the goals of rural development policy defined by Kenneth Deavers,¹⁹ which call for:

- improved rural income levels and employment opportunities;
- improved access by rural residents to adequate housing and essential community facilities and services; and
- responsible use of rural resources and the rural environment to preserve the rural quality of life.

Together, these sets of goals provide for the development of a rural environment that supports the health and well-being of people as well as the businesses they patronize, work at, and/or operate. By addressing both the human and the business conditions in a community, they recognize the fundamental linkages between these two aspects of community life.

Employment and Income

GOAL 1: The availability of employment opportunities that are useful and satisfying, and which provide income levels consistent with the income needs of the region.

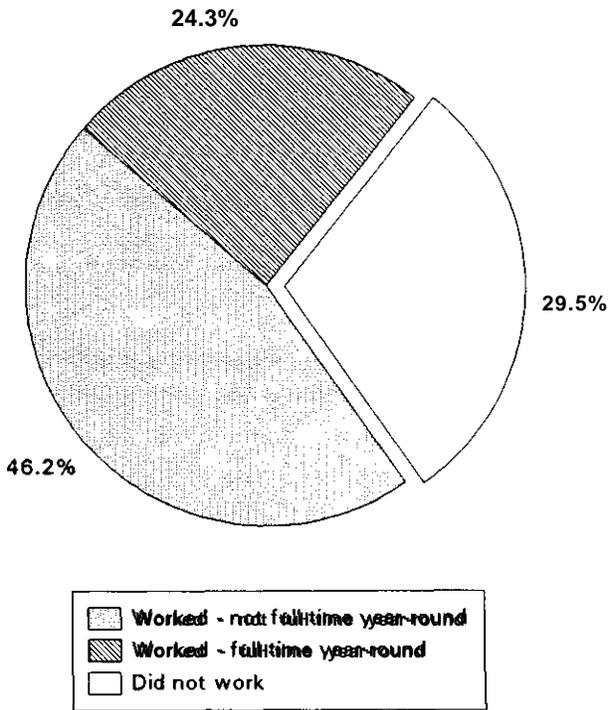
This goal must incorporate the quality of employment, including the challenge and the opportunity for advancement, in addition to the income levels associated with such employment. Both aspects of employment are important to the individual and to the community.

Rural workers need jobs, but they also need employment that uses their skills and abilities and that affords them a reasonable standard of living. In addition to compensation, employment gives workers an identity, personal satisfaction, status in the community, and a stake in the sociopolitical system. By giving workers a place in their community,

¹⁸Power, *The Economic Pursuit of Quality*, op. cit., footnote 6, pp. 169-174.

¹⁹Kenneth Deavers, "Social Science Contributions to Rural Development Policy in the 1980's," *American Journal of Agricultural Economics* 62(5), pp. 10-21. Cited in Gary P. Green and Kevin T. McNamara, 1988, "Traditional and Nontraditional Opportunities and Alternatives for Local Economic Development" in Beaulieu, *The Rural South in Crisis*, op. cit., footnote 4.

Figure 4-1—Employment Status of Nonmetro Poor*



Nearly a quarter of the rural poor work full-time year-round, and nearly half work part-time and/or in seasonal employment.

*Family homeowners who were not ill, disabled, or retired, 1987.

SOURCE: Calculations based on U.S. Census Bureau data, as cited in Center on Budget and Policy Priorities, *Laboring for Less: Working but Poor in Rural America* (Washington, DC: 1990), p. 5.

employment also builds a larger sense of civic consciousness.²⁰

Jobs must also provide adequate income for workers. More than 70 percent of the poor in nonmetro areas work full- or part-time during the year (see figure 4-1).²¹ For a variety of reasons, jobs in rural areas often do not pay enough for workers to emerge from poverty. Among the year-round, part-time workers in rural areas, 39 percent are underemployed. Many work part-time not because they

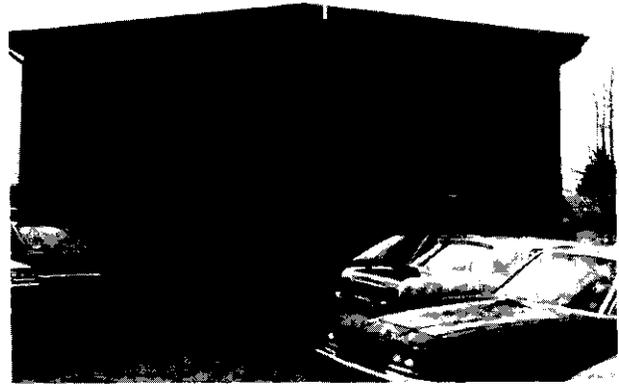


Photo credit: Mark G. Young

A multipractice community health clinic in Charles Town, West Virginia.

prefer to, but because it is the only available employment.²²

Health and Well-Being

GOAL 2: Access for community members to necessities, such as health services and adequate housing, as well as to social necessities, such as government services, and educational opportunities.

The health and social welfare of the people are essential elements to a community's economic and overall well-being. A healthy population living in adequate housing is a minimum standard for community welfare and a productive workforce. Though more difficult to identify, social necessities are indispensable to a community's well-being. They include, for example, government services ranging from postal delivery to police and fire protection to education. Education is especially important.²³ It is fundamental to gaining useful and satisfying work and "shape[s] a population's ability to devise new solutions] to problems, [and] adapt to change,"²⁴

²⁰Edward J. Blakely, *Planning and Local Economic Development: Theory and Practice*, vol. 168, Sage Library of Social Research (Newbury Park, NJ: Sage Publications, 1989), p. 17. Also, Power, *The Economic Pursuit of Quality*, op. cit., footnote 6, p. 171.

²¹Center on Budget and Policy Priorities, *Laboring for Less: Working but Poor in Rural America* (Washington, DC: 1990), p. 7. The poverty rate among nonmetro workers has risen in the past decade, despite the Nation's economic recovery.

²²J.F. Coates, Inc., "Work in Rural America," contractor report prepared for the Office of Technology Assessment, 1990, p. 22.

²³As Skees and Swanson explain, "The single most important factor associated with the well-being of rural communities is the level of education among the adult population." Joint Economic Committee, Jerry R. Skees and Louis Swanson, "Southern Education, Poverty, and Rural Development: The Case for New Policy Assumptions," *Towards a Rural Development Policy for the 1990s*, 1989, p. 78.

²⁴Linda L. Swanson and Margaret A. Butler, "Human Resource Base of Rural Economies," in USDA, op. cit., footnote 15, p. 157.

Box 4-B-Communications and Development: The Other Edge of the Sword

Since 1962, Wal-Mart stores have become staples in many small towns across the country, especially in the South. They have been a boon to rural consumers because of the wide variety of products they offer at discount prices, consolidating the services of many stores into one discount center.

Wal-Mart is often heralded as a triumph of technology. The discount retailer has staked its claim in rural America by using sophisticated telecommunications technologies to transmit data and voice and video messages that allow the company to purchase and distribute a huge variety of consumer goods at prices far below the local competition. Using very small aperture terminals (WATS), Wal-Mart coordinates its purchasing at a national level and thus takes advantage of the market power it enjoys by virtue of its size.

Although these discount retail stores can be a great deal for rural America, communities are discovering that sometimes stores like Wal-Mart are no bargain. In the wake of the Wal-Mart phenomenon lie the empty storefronts of the many local businesses that could not compete. Businesses in surrounding communities often suffer as well because of the magnet effect that a discount retailer creates in a region. People will drive longer distances to reach the discount prices and one-stop shopping. While as consumers, rural citizens are enjoying the cut-rate prices, as employees and entrepreneurs, rural residents are suffering from the layoffs that result from the closing of local businesses. In many rural towns, the closing of even a few stores has a suffocating impact-as much on the psyche of the community as anything else.

In addition to suffering the losses of local businesses, rural economies can suffer because the revenues of national retail chains return to corporate headquarters, rather than circulate through the local economy as they might have with a locally owned business. Thus, if rural communities are not braced for the kinds of changes that technology could bring, economic development boons like Wal-Mart and other similar ventures could develop into economic busts.

SOURCE: Lisa Belkin, "Wal-Mart is Closing, And Texas Town Reels," *New York Times*, Dec. 14, 1990, p. A-18.

qualities that are integral to maintaining community welfare.

Stability With Vitality

GOAL 3: Local participation in the development of a stable and vital community.

Stability and a sense of local control go hand in hand as critical ingredients for establishing an environment where people and enterprises can flourish. Local control vests decisions and planning for the community's future with those who stand to benefit or lose in the process-the residents of the community (see box 4-B). Jonathan Sher notes that too often in the past this has not been the case. Because development has been done "to rural communities rather than by them,"²⁵ the fruits of rural development have not accrued to rural citizens.

The benefits of a development scheme could easily evaporate if it is based solely on an outside

business that might relocate elsewhere as soon as it became advantageous. Such is the case when foot-loose manufacturing firms uproot local operations to move production overseas, where wages are lower. This pattern has repeated itself in many rural areas throughout the 1980s.²⁶

As Bradshaw points out, "rural development programs throughout the country still seem to be designed to capture the benefits of outside firms and to neglect the development of local resources."²⁷ For sustainable development, a measure of self-sufficiency is necessary. To be self-sustaining, rural communities must avoid dependence on a single firm, industry, or outside government agency; they must seek alternatives in which to participate as equals, rather than as pawns in the development game.

Economic stability, however, does not imply inflexibility. To the contrary, communities that

²⁵Sher, 1986, "Rural Development Worthy of the Name," op. cit., footnote 16, p. 519. (Emphasis in text.)

²⁶Thomas Lyson, "Economic Development in the Rural South: An Uneven Past-An Uncertain Future," in Beaulieu, *The Rural South in Crisis*, op. cit., footnote 4, p. 266.

²⁷Ed K. Bradshaw, "Economic Development in Rural America: The Hard Case," Op. Cit., footnote 1.

cannot adapt to changes will be vulnerable to, and dependent on, outside forces. As Kenneth Wilkinson explains, “dependency depresses adaptive capacity.”²⁸ Thus, stability and adaptability are complementary and interdependent qualities.

Prerequisites and Obstacles

Structural changes in the national and global economies have substantially changed many of the prerequisites and obstacles to meeting rural development goals. In many cases, obstacles and prerequisites are two sides of the same coin: the absence of a prerequisite becomes an obstacle to development.

Structural Economic Obstacles

Global economic trends caused significant structural changes in the national economy throughout the 1980s and into the 1990s, but these forces have affected rural areas differently. Dependent on single industries or larger urban economies for their livelihood and well-being, rural areas have not had the resources of a diverse economy and a broad-based social infrastructure to make the necessary adjustments.²⁹ As a result, some of the obstacles to rural economic development have increased.

The factors that gave rise to the recession of the early 1980s had a far greater impact on rural areas than on urban ones. These included rising energy prices, tighter credit, a U.S. grain embargo, a glut in the world market for oil and other energy resources, and heightened foreign competition, especially from Third World countries. In the wake of these developments, rural unemployment soared relative to urban areas,³⁰ wages and salaries grew at a much slower rate,³¹ and rural poverty rates increased by nearly one-third between 1978 and 1987 (see figure 4-2).³²

Figure 4-2—Unemployment Rates: Metro and Non metro



SOURCE: Bureau of the Census, Current Population Survey, as cited in USDA, *Rural Economic Development in the 1980's: Prospects for the Future* (Washington, DC: U.S. Department of Agriculture, 1988), p. 3.

The decline of U.S. manufacturing was largely responsible for the severity of the economic downturn in rural areas. Many rural jobs depend on the fate of urban manufacturing industries. For example, when the U.S. auto industry declined, many rural manufacturing plants that produced components or parts shut down. Other industries, such as textiles, clothing, and leathers, were located in rural areas where the impact of the decline was directly felt (see figure 4-3).³³

Nearly 40 percent of nonmetro counties depend primarily on manufacturing for employment, so the strains of rural manufacturing have affected a large portion of this rural population.³⁴ These employment losses are likely to be permanent because many jobs have disappeared as a result of the structural

²⁸Kenneth P. Wilkinson, “In Search of Community,” *Rural Sociology*, vol. 51, No. 1, 1986, p. 8.

²⁹For a discussion of these global and national forces acting on rural economies, see David Freshwater, “Rural Development and Telecommunications Policy,” presentation for Apr. 19, 1990 conference on Telecommunications and Rural America at Corning, NY.

³⁰Rural unemployment grew from 5.7 percent in 1979 to 10.1 percent in 1982; at the same time, job growth in urban areas merely slowed down. As a result, the gap between rural and urban unemployment rates grew. In the early 1980s, the average rural unemployment rate was 7 percent higher than the urban rate; by 1987, it was 40 percent higher. Parker et al., *Rural America in the Information Age: Telecommunications Policy for Rural Development* (Lanham, MD: The University Press of America, 1989), pp. 17-19.

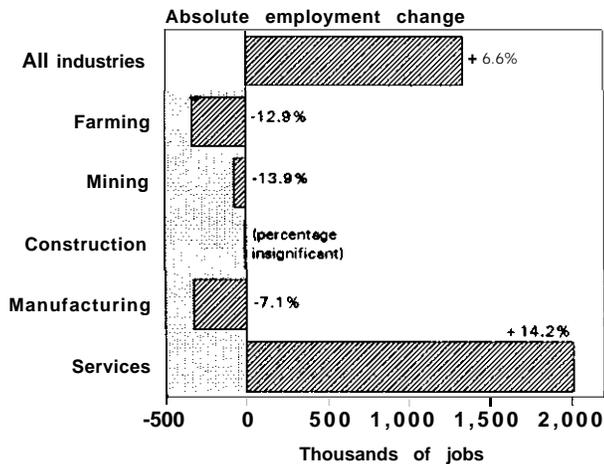
³¹Nonmetro wage and salary employment increased by about only 1 percent, compared with a gain of almost 6 percent in metro areas. Herman Bluestone and Celeste A. Long, “Growth Falts in Most Rural Counties: Manufacturing Both Hero and Goat,” *Rural Development Perspectives*, February 1989, p. 9.

³²Center on Budget and Policy Priorities, op. cit., footnote 21.

³³Brown and Deavers point out: “Many rural manufacturing plants were linked to the struggling auto and steel industries. [while] the textile, clothing and leather goods industries, which are concentrated in nonmetro areas, also suffered from stronger import competition during this period.” David L. Brown and Kenneth L. Deavers, in USDA, op. cit., footnote 15, p. 3.

³⁴Idid., p. 5.

Figure 4-3—Employment Change in Nonmetro Counties, 1976-86



The rise in service jobs accounts for the overall growth of jobs despite employment losses in manufacturing, farming, and mining.

SOURCE: Edwin B. Parker et al., *Rural America in the Information Age: Telecommunications Policy for Rural Development* (Lanham, MD: University Press of America, Inc., 1989), p. 18.

shift in the U.S. economy away from routine manufacturing jobs toward more high-technology manufacturing and services jobs. Urban areas are better able to adapt to this trend, thus such jobs are most prevalent in urban areas.³⁵ Add the farming crisis and the industrialization of U.S. agriculture to the decline of rural manufacturing, and the result has been fundamental and permanent structural changes in much of the rural economy.

Such changes would wrench any economy, but rural areas were particularly hard hit because they often lacked access to information that would inform them better about *how* to react and adapt. Urban areas, in contrast, are usually the locus of innovation

and information, and support more specialized services and occupations that create a cycle of information creation.³⁶ This urban dynamic enables cities to adjust to changes more easily and provides them with a competitive advantage over rural areas in attracting and retaining industries.

A mismatch between the needs of a structurally changed global economy and the ability of human resources and physical capital in rural areas to adapt is at the root of the problem. Many rural areas can accommodate 1960s style growth,³⁷ which calls for industrial parks and vocationally trained workers. The global marketplace, however, has redefined what is now necessary for growth. A skilled workforce and sophisticated communications have become primary ingredients for growth.³⁷ Many rural communities were never even “primed for 1960s style growth,” but they relied on the resources and traditional industries that had always supported them, such as farming and extraction.

A shortage of investment capital compounds the difficulties that rural areas face in adapting to new economic conditions. Many argue that the financial deregulation of the 1980s reduced the amount of credit available to rural areas. The centralization of the American banking system, which resulted from deregulation, tended to shift banks’ investment decisions from “locally owned community banks to the main offices of state and regional banks.”³⁸ As credit markets became globalized, and investment decisions more detached from local communities, lenders increasingly turned away from rural investments in favor of larger and more profitable investments in the international credit market.³⁹

Most likely, those rural areas most in need of capital pose the greatest risk to creditors. Venture

³⁵Ibid., pp. 5-6.

³⁶As David McGranahan observes, “. . . Small towns and rural areas are generally the last to get new information. Not only do most innovations occur in urban settings, but even when the innovations are rural, information about them tends to flow first to urban places and then to other rural areas. . . . With a larger volume of information and trade flows, larger communities have more specialized services and occupations, and larger organizations with economies of scale.” David McGranahan, in USDA, op. cit., footnote 15, pp. 30-31.

³⁷Thomas A. Lyson, “Economic Development in the Rural South,” in Beaulieu, op. cit., footnote 4, p. 267.

³⁸Gary p. Green and Kevin T. McNamara, “Traditional and Nontraditional Opportunities and Alternatives for Local Economic Development in Beaulieu, op. cit., footnote 4, p. 290.

³⁹The extent to which financial deregulation actually constrains available capital for rural areas is uncertain because it is too early to accurately assess the full impact of deregulation. Daniel L. Milkove and Patrick J. Sullivan, “Should Rural Communities Fear Bank Deregulation?” United States Department of Agriculture, Economic Research Service, *Rural Development Perspectives*, February 1989. When community banks can coexist with branches of larger, regional banks, customers find a greater array of choices and available credit. Moreover, the larger regional banks could offer advantages for rural areas. The financial and informational resources available to these larger, broad-based institutions enable them to extend credit to innovative businesses, whose lines of business would not be familiar to small local bankers. The larger and more diversified portfolio of a regional bank could allow it to take risks on small businesses that would be poor risks for banks with smaller portfolios. Even if this hopeful scenario bears out, however, opportunities will primarily exist in areas with relatively vibrant economies and promising investment opportunities.



credit: Mark G.

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neediest face the greatest obstacles in obtaining credit. Part of the problem is the lack of knowledge within the community about how to deal with financiers.⁴³ Business plans and financial information are standard parts of a loan application, but they can be obstructions as well as screening devices.

Human Resource and Social Infrastructure Obstacles

Workforce Skills

A mismatch between the qualities of the rural laborforce and the needs of a diversified and information-intensive economy constitutes an obstacle to holistic development. The skills of factory workers, farmers, and miners do not correspond to the needs of the growing service sector or high-tech manufacturing.⁴⁴ But retraining these workers for jobs that do not exist does little good either.

One possible ‘‘advantage’’ of the rural laborforce is the availability of an isolated, low-skill pool of workers in need of any kind of employment. Willingness to work for few, if any, benefits and minimal union activity are sought after features for marginal enterprises, which are unlikely to create the kind of jobs that improve economic and social well-being in the community. Education levels largely determine the type of ‘‘advantage’’ a laborforce offers. Low educational attainment translates to a low-skilled rural laborforce with a perverse ‘‘advantage’’ relative to urban areas. The persistent disparities between metro and nonmetro educational levels suggest that should high-skill jobs be created in rural areas, they would be difficult to fill (see figure 4-4).⁴⁵

As more skills and greater sophistication and adaptability are required from the global laborforce, populations that do not stack up will suffer. During the 1980s, rural areas experienced the beginnings of the globalization trend. Rural areas must change the nature of their laborforce ‘‘advantage’’ in order to

⁴⁰Green and McNamara, op. cit., footnote 38, p. 297.

⁴¹Peter S. Fisher explains, ‘‘the more rural sections of the US contribute relatively little to, and receive relatively little from, the venture funds.’’ Joint Economic Committee, ‘‘Risk Capital and Rural Development,’’ *Towards A Rural Development Policy for the 1990s, 1989*, p. 137.

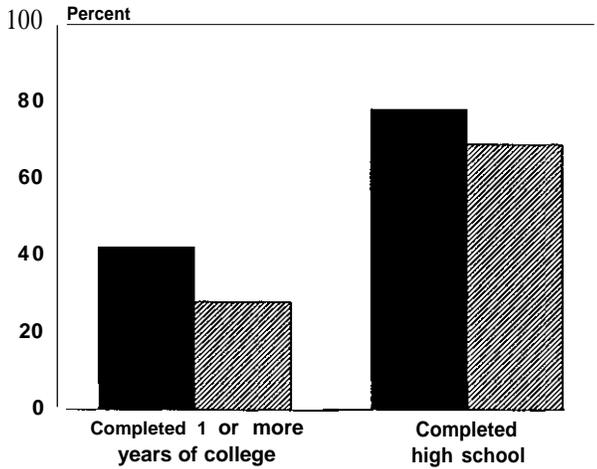
⁴²Joint Economic Committee, James J. Mikesell, Daniel L. Milkove, and Patrick J. Sullivan, ‘‘Commercial _ Systems Serving Rural Counties: Their Current Structure and Future Prospects,’’ *New Dimensions in Rural Policy*, Joint Economic Committee, June 5, 1986, p. 406.

⁴³Fisher, op. cit., footnote 41, p. 139.

⁴⁴Brown and Deavers, op. cit., footnote 33, p. 25.

⁴⁵David Freshwater in Joint Economic Committee, Op. cit., footnote 23, p. 10.

Figure 4-4-Educational Attainment: Urban and Rural



SOURCE: U.S. Department of Agriculture, *Rural Economic Development in the 1980's: Prospects for the Future* (Washington, DC: U.S. Department of Agriculture, 1988), p. 20.

attract challenging and skilled employment for its citizens.

Health

A healthy population is necessary for economic development, but rural health care is facing a crisis situation. Access to health care in rural areas is more limited than in urban areas, yet rural areas often have greater needs for health services because the population has relatively more elderly and children than urban areas. Remoteness and poverty, combined with a shortage of trained medical personnel, technology, and transportation, make health care even more inaccessible to rural residents (see table 4-1).⁴⁶

In many ways, rural areas face a “Catch-22” in health-care provision. The lack of access to adequate health care is an obstacle to economic and community development; yet, other development barriers also limit access to health care. Low-income groups have greater difficulty in obtaining health care, and poverty aggravates both the problems of providing health care in rural areas and the state of health of the rural population. For example, high infant mortality in rural areas is associated with low incomes.

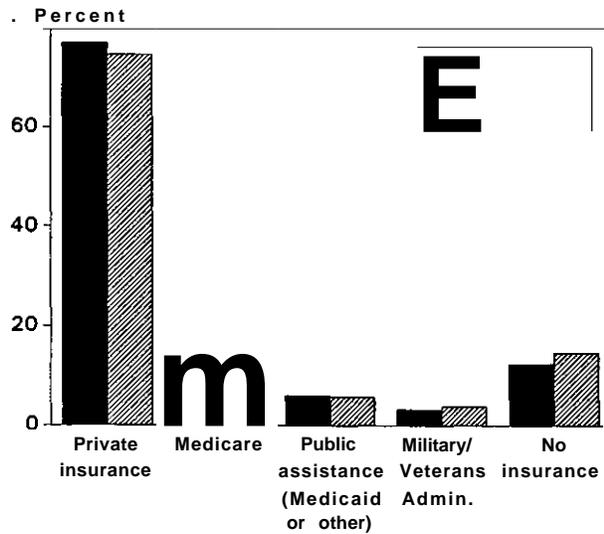
Table 4-1—Differences in Selected Health Indicators

	Metro	Nonmetro
Infant mortality ^a	9.88	10.07
Chronic disease ^b	12.6%	14.9%
Overall health ^c	14.1	14.7

^aDeaths per 1,000 liveborn infants under age 1—1987.
^bPercent of respondents with activity limitation due to chronic conditions—1988.
^cNumber of restricted days per person—1987.

SOURCE: Office of Technology Assessment, *Health Care in Rural America—OTA-H-434* (Washington, DC: U.S. Government Printing Office, September 1990), p. 44.

Figure 4-5—Percent of Population with Health Insurance—1984



Nonmetro population has a higher percentage of people with no insurance and a smaller percentage covered by private insurance. The higher percentage of Medicare reflects the larger proportion of elderly among the rural population.

SOURCE: Office of Technology Assessment, *Health Care in Rural America, OTA-H-434* (Washington, DC: U.S. Government Printing Office, September 1990), p. 48.

Additionally, inadequate health insurance discourages people from seeking preventative and primary care until there is an emergency (see figure 4-5).⁴⁷

Rural socioeconomic factors work against rural areas in attracting health-care professionals. This problem results from two aspects of rurality: First, physicians tend to locate in urban areas, where the population is larger and well-equipped hospitals and

⁴⁶Leslie L. Clarke and Michael K. Miller, “The Character and Prospects of Rural Community Health and Medical Care,” *American Rural Communities*, A.E. Luloff and Louis E. Swanson (eds.), (Boulder, CO: Westview Press, 1990), p. 92.

⁴⁷Ibid., pp. 90-92.

clinics are more prevalent.⁴⁸ Second, during the 1980s, dramatic changes in the U.S. health-care environment created increased financial pressures for rural hospitals, resulting in higher costs, lower revenues, and lower inpatient admissions. As a result of the increased financial pressures, it has become more difficult for physicians to practice in rural areas.⁴⁹

Social Infrastructure

Many other factors contribute to the quality of human resources in rural areas. Among them are the array of public and private services and amenities that make up the social infrastructure, such as schools, hospitals, public safety, public and private cooperatives, and the quality of local government.⁵⁰

The quality of local governments is often an overlooked factor in economic development. Local governments face increasing challenges from the many changes in the rural and national economies.⁵¹ The Federal budget deficit means less money is available for federally backed rural programs. Rural areas feel this crisis from another angle as well. With increased competition for Federal funds, rural interests must understand the processes and have the information to coordinate activities in the community and establish contacts between the community and the larger society. Small, rural governments, however, often rely on volunteers or part-time administrators with inadequate resources for strategic planning or writing grant proposals that must meet technical regulations. Federal programs are biased toward urban areas because “larger, urban communities are better equipped to compete for resources since they are likely to have full-time,



Photo credit: Mark G. Young

A view of the newly built community plaza in Costilla, New Mexico, complete with a general store and restaurant, bed and breakfast, and sporting supply store to attract and accommodate visitors from a nearby ski resort.

technical staffs who know how to play the grants game.”⁵² The same problem persists when rural communities seek financing from private sources.

A professional, technically knowledgeable government is also an important factor in coordinating economic and community development. One of the most important community development functions of government is working with the larger group of organizations that influence the community’s destiny.⁵³ Because local involvement in development strategy is an essential element to success,⁵⁴ rural communities must overcome the substantial barriers that derive from being rural.

Leadership can manifest itself in local government, but businesspeople or commercial councils also play a major role. It is less important where to find leadership in a community than that it be present

⁴⁸Swanson, *op. cit.*, footnote 10, p. 38. In 1985, rural areas had fewer than half as many physicians per 100,000 residents than did urban areas, and the ratio worsens as the population size of the rural area declines. While financial considerations play a role in this problem, because physicians can expect to earn less in rural areas than in urban areas, professional considerations are also important. The dearth of peers and professional development opportunities are important barriers to attracting and retaining medical professionals to rural areas. U.S. Congress Office of Technology Assessment, *Health Care in Rural America*, OTA-H-434 (Washington, DC: U.S. Government Printing Office, September 1990), pp. 8-10.

⁴⁹Insurance rates are a problem for both the rural patient and physician. Many rural poor are uninsured, so hospitals or doctors may not be reimbursed for care. Malpractice rates become a greater problem in rural areas because they do not reflect patient volume. Consequently, a rural physician must distribute the same costs faced by urban practitioners over fewer patients, increasing the cost of providing the care. For further reading, see OTA, *ibid.*

⁵⁰Swanson, *op. cit.*, footnote 10, p. 37.

⁵¹Glenn D. Israel and Lionel J. Beaulieu, “Community Leadership,” in Louis E. Swanson and A.E. Laloff, *American Rural Communities* (Boulder, CO: Westview Press, 1990), pp. 181-183.

⁵²*Ibid.*, pp. 201-202.

⁵³Ted K. Bradshaw, “Rural Development and Telecommunications: Potential and Policy,” contractor report prepared for the Office of Technology Assessment, May 1990, p. 42.

⁵⁴See Wilkinson, *op. cit.*, footnote 28; Ted K. Bradshaw and Edward J. Blakely, *Rural Communities in Advanced Industrial Society* (New York, NY: Praeger, 1979); Bradshaw, *op. cit.*, footnote 53; Clarke and Miller, *American Rural Communities*, *op. cit.*, footnote 46; and Ryan, 1988, *op. cit.*, footnote 15.

and resourceful. The key to successful development efforts often is access to information. Leaders need information from the community and from the larger national and global context. Information technologies, such as the telephone, allow information exchange and can enhance a sense of community.⁵⁵ Regulations that make telephone calls and information services more expensive for rural citizens discourage access to much needed outside information.⁵⁶

Other Obstacles

Distance from urban centers and small, dispersed populations characterize rural areas. These qualities account for the “bucolic and bubonic visions” of rural America.⁵⁷ These visions, though hyperbolic, illustrate that remoteness and small populations are often considered amenities of rural life, but they are also barriers to economic development. Distance from urban areas limits access to employment, goods, and services. This raises the transportation costs involved in buying or selling products in rural areas. At the same time, the small populations of rural areas diminish their ability to produce goods or services cheaply because they typically cannot achieve the economies of scale that reduce the unit cost of production.⁵⁸

Remoteness and small populations also mean that “rural communities must choose between trying to do many things inefficiently or specializing in a small number of areas and facing high access costs for externally provided goods and services.”⁵⁸ The industrialization of agriculture and the decline of rural manufacturing mean that many rural areas can no longer specialize, but do not have the resources to diversify. These communities, and the persistently poor rural communities, are not just experiencing another cyclical downturn in the economy,

but are in danger of being excluded from the larger, national economy.

Urban-adjacent rural communities and those with a natural setting that can attract tourism or retirement communities have not fared as badly from the economic troubles of rural America.⁶⁰ One reason that urban-adjacent communities have more options is because they benefit from the economic diversity of the adjacent city. They also face lower prices for goods and services because the nearby urban areas support enough population to do many things efficiently. Further, they face relatively lower access costs for urban-produced goods and services than their more remote counterparts. Tourist and retirement communities benefit from the outside resources—both information and economic activity—to which they have access by virtue of the influx of people to their communities.

Nonurban-adjacent communities or those without potential for tourism typically are unable to develop a diverse economic and social structure. Yet, social and economic diversity are prerequisites to economic and community development,⁶¹ for they permit access to resources that are fundamental to a self-perpetuating community. To attain this type of diversity, rural areas must reduce their isolation from the “resources and institutions of our essentially urban society.”⁶²

Strategies for Holistic Rural Economic Development

The nature, the number, and the severity of the obstacles facing rural communities vary widely. The diversity of the communities requires a variety of strategies for development. These strategies should address the underlying symptoms of distress and generate sustainable solutions.

⁵⁵Richard Kielbolwicz, “The Role of Communication in Building Communities and Markets: An Historical Overview,” contractor report prepared for the Office of Technology Assessment 1987.

⁵⁶Chapter 5 addresses State and Federal telecommunication regulations that conflict with economic development goals.

⁵⁷Joint Economic Committee, Jonathon Sher, “Rural Development Worthy of the Name,” *New Dimensions in Rural Policy: Building Upon Our Heritage*, 1989, p. 515.

⁵⁸Joint Economic Committee, David Freshwater, “A Synopsis of the Proceedings of the Rural Development Symposium,” U.S. Congress, Sm. 101-50, *Toward Rural Development Policy for the 1990’s* (Washington DC: Government Printing Office, 1989), p. 6.

⁵⁹Ibid.

⁶⁰J.F. Coates, Inc., op. cit., footnote **.

⁶¹Jacobs, op. cit., footnote 1.

⁶²Wilkinson, op. cit., footnote 28.

Strategy Classifications⁶³

There are many classifications and ways of organizing rural development strategies used by various levels of government and private groups. Rural development can be divided into categories such as agricultural programs, industrial development, infrastructure, or human resources. These categories are part of many effective development programs, but tend to reflect the missions of various government agencies rather than different development strategies.⁶⁴ The fact that each of these programs is relevant at different stages of development suggests that such classifications may be myopic from a sustainable development perspective. Effective development strategy classifications must be based on a more complete theory of development.

Type I Strategies: Building Individual Capacities

The most severely depressed rural communities lack most of the resources needed for rural economic development.⁶⁵ Firms in these communities are typically weak or dominated by outside interests that have little commitment to the community. Low levels of education and ineffective organization are obstacles to development in such communities. These depressed communities seem to get only the “bad news” about plant closures, falling farm

prices, drought, or technological changes that pass them by. Local initiatives are generally limited to reacting to bad situations and keeping them from getting worse.⁶⁶

Such counties and communities need direct assistance. Typically, the local economy has failed due to uncontrollable change or other problems, and efforts to recruit new employers have failed. Demands on community infrastructure rise at the same time that its capacity to meet these needs diminishes. In the absence of intervention, communities can be thrust into a downward spiral of poverty, where a lack of employment opportunities leads to high unemployment, personal poverty, and rural-to-urban migration.⁶⁷ The cycle continues because low personal income and the depletion of community resources erode the local tax base and lead to reduced public services such as education, health, job counseling, and community development. As a consequence, displaced and new workers do not get adequate training and services, available skilled jobs are unfilled, and businesses that could provide employment are neither retained, cultivated, nor attracted.⁶⁸

The dominant strategy for depressed areas in a cycle of poverty is expenditures for the people in greatest need. This strategy assumes that human

⁶³Parts of this section draw on work done by Ted K. Bradshaw, “Rural Development and Telecommunications: Potential and Policy,” contractor report prepared for the Office of Technology Assessment, May 1990.

⁶⁴For example, the General Accounting Office, in its report on rural development, categorized programs in terms of economic development, agriculture and natural resources, infrastructure, and human resources. General Accounting Office, *Rural Development: Federal Programs that Focus on Rural America and its Economic Development*, Washington, DC: General Accounting Office report 89-56BR, January, 1989.

⁶⁵Much of the rural South and parts of virtually all other States have regions of pervasive poverty and depressed living conditions that fall into this category. There are no available estimates of how extensive this problem is in the United States. A proxy measure might be the 242 persistently poor counties that were in the bottom quintile of a national ranking of nonmetro counties based on per-capita income from 1950 to 1979. (Thomas F. Davis, “Persistent Low-Income Counties in Nonmetro America” (Washington, DC: USDA, 1979), Economics, Statistics, and Cooperative Service, Rural Development Research Report No. 12. See also, Lloyd D. Bender et al., “The Diverse Social and Economic Structure of Nonmetropolitan America” (Washington, DC: USDA, Economic Research Service, September 1985), Rural Development Research Report No. 49. Among these regions are the persistent poverty counties, which account for about 10 percent of the nonmetro population. These communities are heavily concentrated in the Southeast. They have had chronically low income over several decades, low population density, and contain disproportionate numbers of disadvantaged persons with limited potential for laborforce participation. Peggy J. Ross, “The Changing Landscape of Rural America: Implications for Policy and Planning,” *Looking Ahead*, Spring 1986, pp. 6-11. Along with the persistent poverty counties, nonmetro counties that are dominated by Federal lands, or by single extraction industries, such as agriculture and mining, also have poor opportunities for development. About half the nonmetro counties and their population fit into these categories. Thus, severe development problems face between 10 and 50 percent of rural America.

⁶⁶Much of Third World development efforts and literature are directed toward such circumstances. For further reading, see Jameson and Wilber, op. cit., footnote 3. Gerald M. Meier (ed.), *Leading Issues in Economic Development*, 5th ed., (New York, NY: Oxford University Press, 1989).

⁶⁷Jonathon Sher, *Education in Rural America: A Reassessment of Conventional Wisdom* (Boulder, CO: Westview Press, 1977).

⁶⁸Ibid. For such communities, a development strategy that fails to recognize the role of outside assistance ignores the fact that these communities exist in a larger regional, national, and global context. Factors and trends outside the community have often imposed obstacles and constraints to the degree that the community can not spontaneously act of its own accord. Addressing the problem, Kenneth Wilkinson cautions against development strategies that “blame the victim” in demanding that rural communities solve their own problems. Wilkinson, 1986, op. cit., footnote 28, p. 9. At the same time, however, Wilkinson also stresses the importance of local actors and community involvement in achieving a development process that is lasting and meaningful.

development is the fundamental building block for development. Absent human capacity, other efforts fail. Human resource development is a lasting investment that is transferable; if the rural economy falters and rural people leave for opportunities elsewhere, the migrants can take their skills and training with them.

Job training is important to overcoming the obstacle of a poorly or inappropriately skilled local laborforce.⁶⁹ Many Federal training efforts in this arena are administered by the Department of Labor.⁷⁰ Vocational education, work experience programs, and cooperative extension reinforce human resource training in rural areas, targeting young workers in particular. In addition to training, programs that enable workers to leave the home to work are often crucial. Often workers lack personal resources such as childcare, transportation, tools, or clothing needed to seek work.⁷¹

There is a major role for telecommunications and information technologies in building human resource skills. Experiments in distance learning have produced successful formats and innovative approaches to engage students and achieve educational goals. Many of these programs began as efforts to serve isolated rural students. For example, classes broadcast daily from Norton, VA over satellite and microwave channels enable students in Wise county, in the Appalachian regions of western Virginia, to take college preparatory classes that otherwise would be unavailable in their school district due to its remoteness.⁷²

Beyond academic instruction, distance-learning tools could prove valuable for upgrading worker skills and familiarizing students with technology.



Photo credit: Sherry Emery

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For example, as part of Mississippi's Star Schools program, Mississippi State University produces teacher training courses in mathematics and science, enabling teachers from rural and disadvantaged communities to build their own skills.⁷³ These training techniques need not be limited to the education profession. To reap the maximum benefit from technologies in a human resources development strategy, these tools should also be used to bring professional accreditation courses and the like to improve the skills of the professionals in the community.

Telecommunications and information technologies can also improve health-care delivery in rural

⁶⁹U.S. Congress, Office of Technology Assessment, *Worker Training: Competing in the New International Economy*, OTA-ITE-457 (Washington, DC: U.S. Government Printing Office, September 1990).

⁷⁰Beginning with the Manpower Development and Training Act of 1962, to the Comprehensive Employment and Training Act (CETA) of 1973, and the Job Training Partnership Act of 1983, these programs have focused on skill or specific-job training. The first programs focused on training displaced and unemployed workers, using Federal funds. Later programs have been decentralized, with State and local programs targeted to more particular needs and training goals, and forging stronger links with potential employers. See SarLevitan, "Helping People with Labor Market Problems: An Overview of Key Policies," *Policy Studies Review*, vol. 6, No. 4, May 1987, pp. 712-721.

⁷¹Transportation problems are particularly severe for poor persons in remote rural communities. Work is often a long distance from home, and limited public transportation networks almost demand that a person have a car—a barrier to many of the poor.

⁷²Lisa Berger, "Beaming Lessons Across Appalachia," *Appalachia*, fall 1989, pp. 23-27. Currently, however, many distance-learning projects target advanced students. Those who lack basic skills might not find suitable curricula among the packaged programs.

⁷³U.S. Congress, Office of Technology Assessment, *Linking for Learning: A New Course for Education*, OTA-SET-430 (Washington, DC: Government Printing Office, November 1989), p. 29.

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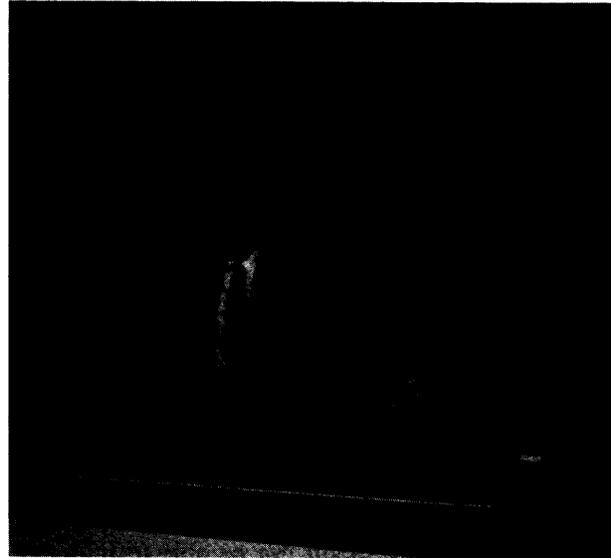


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⁷³U.S. Congress, Office of Technology Assessment, *Linking for Learning: A New Course for Education, OTA-SET-430* (Washington, DC: Government Printing Office, November 1989), p. 29.

areas. From online databases that provide physicians with indexed scientific periodicals, to remote defibrillation and monitoring of heart patients, to inventory control systems that link suppliers and hospital administrators, to diagnostic services that connect general practitioners with specialists at research hospitals, communications technologies can provide rural communities with levels of health care now available only in urban centers. These technologies can also help cut costs so that rural hospitals could remain open when they otherwise could not.

These applications will have a greater chance of success if they are part of a comprehensive development strategy. The implementation of technological solutions takes time, money, and knowledge, so small rural hospitals or schools that are already straining to survive might not be able to integrate technology into their strategic planning without some sort of guidance.

Type II Strategies: Building Industrial or Enterprise Capacity

The development of human resource and social infrastructure will not help an unemployed or underemployed rural person if there are few job opportunities in the community. To overcome this obstacle, economic development must also seek to expand employment opportunities.⁷⁴ Most economic development strategies presume that communities must increase their productive capacities in order to attract or develop jobs and make their economies self-sustaining. These strategies often attempt to develop a “base” for economic activity.⁷⁵

The basic assumptions of resource development strategies for rural areas are:

- Most areas can support expanded industrial or commercial activity because their resources are currently underutilized.
- Barriers to development include lack of information about the area’s resources, inadequate physical facilities, lack of funds, or poor financing.
- The effects of increased business activity will multiply throughout the community; thus the public good is served by having increased economic activity, even at public expense.

Traditional economic development approaches share these same assumptions, however, their narrow business focus sets them apart from an integrated development approach. A Type II approach recognizes when the critical human and political infrastructures are in place, but the community still lacks economic stimuli.⁷⁶ A Type II approach is, therefore, consistent with a holistic development approach.

Type II development strategies might include efforts to attract outside funds, or programs to expand and retain existing businesses in the community.⁷⁷ A Type II strategy might emphasize local financing projects if access to capital is a barrier to increasing employment in a community.⁷⁸ Or a Type II approach might focus on infrastructure development if shortfalls of the local transportation, sanitation, water, electricity, or telecommunications sys-

⁷⁴One popular framework for this type of development is the five “M’s”. According to this premise, economic development needs Money, Materials, Management, Marketing, and Manpower. See Blakely, *op. cit.*, footnote 20. Other paradigms draw on the interplay between firm creation, expansion, financing, infrastructure, and technological transfer. In many cases the emphasis is to discover the industries that fit the community’s resources. See also Barry M. Moriarty, “Industrial Location and the Theory of the Urban Labor Market” (Chapel Hill, NC: University of North Carolina Department of Geography, 1982), mimeo.

⁷⁵In some cases, this base will be a primary industry or resource, such as agriculture, forestry, or mining. In other cases, a natural resource can provide an attractive site for tourism, trade, or transportation-related services.

⁷⁶Another caution against the traditional development programs is that they tend to redirect regional growth rather than create it. The premise of industrial attraction usually is to attract economic activity that could occur somewhere else—“beggar-thy-neighbor” approach—rather than to create new economic activity.

⁷⁷With any of these strategies, it is critical that development planners at the local level bear in mind what types of jobs such efforts will bring to the community: jobs that will stay rather than leave for lower wages or tax breaks elsewhere, and jobs that will provide full-time employment that matches the skills of indigenous workers.

⁷⁸Public or private sources could guarantee loans for firms that could afford market rates but due to their rural location could not get financing. A municipality could issue bonds, which would provide money at below market rates to selected economic development projects. Additionally, local efforts could seek out Federal interest rate reduction programs such as the Small Business Administration programs, which are typically administered in State agencies. In many cases, it is lack of information about financing activities that inhibits access to capital in rural areas. For example, small business makes up a larger share of rural employment than in urban areas, and rural banks tend to have limited incentive and capability in dealing with business loans.

terns are barriers to job growth.⁷⁹ When remoteness from markets and market information is a barrier to local employment, market identification and development can play a critical role in a Type II strategy.⁸⁰ Often, rural communities have difficulties in finding markets for their products or establishing the institutional ties to develop markets. A promising strategy for business growth in rural areas is an analysis of local spending patterns to determine what types of businesses are not locally available, but which the local market could support. For example, small communities of a certain size tend to have enough business to support a dry cleaners and a hardware store, so communities of that size could encourage the establishment of these businesses.⁸¹ Such strategies tend to provide a better balance between rural and urban areas. Thus, rural citizens spend money in their own community, where it can stimulate further economic activity, rather than in urban centers, where the multiplier effect is lost.

The variety of applications of telecommunications and information technologies in business make them an especially attractive component of a Type II strategy. For a community trying to attract outside businesses, a telecommunications service such as New Mexico's "One-Stop-Shop" could be helpful. This program enables small and large businesses to access an online database that provides information about communities across the State.⁸² Although this program mainly allows outside businesses to select potential locations within New Mexico, communities could benefit from an analogous database, with

information about firms looking to relocate. This could assist in matching the needs of firms with the communities' development criteria.

Communities seeking to develop business from within the community could use communications technologies to directly target markets for local products and services. The Palouse Economic Development Council, working in the interests of four counties in southeast Washington State, has such a project. Using communications technologies, local firms, ranging from a farm equipment vendor to a local computer consulting firm, market their products overseas. In this way, businesses that require a relatively large market can exist and prosper in a community that could not previously support them. In a similar fashion, communications technologies could be used to identify investment capital that is unavailable within the community. For both local and outside businesses, such an application could make an important difference.

The use of communications and information technologies requires various levels of firm, community, and State involvement. If a network or bulletin board existed, perhaps only community or even firm coordination would be necessary to link up. If a system does not exist, concerted action by many players, including telecommunications providers, is needed. Individual firms cannot afford to design and implement such a system since the cost would exceed the benefits to a single firm. If the costs are spread across several businesses, or if a

⁷⁹Specialized infrastructure projects, such as industrial parks, were long heralded as prerequisites for economic development in rural areas. For example Kale and Lonsdale write, "The presence of developed industrial sites or parks will probably become an increasingly important consideration for many industries seeking a nonmetropolitan location. . . Towns without [developed sites] may find themselves automatically excluded from consideration by prospective industries." Steven R. Kale and Richard E. Lonsdale, "Factors Encouraging and Discouraging Plant Location in Nonmetropolitan Areas," Richard E. Lonsdale and H.L. Seyler (eds.), *Nonmetropolitan Industrialization* (Washington DC: Winston, 1979). Evidence for this point of view is negligible; critics assert that the growth-inducing properties of such projects are a myth. For example, Belzer and Kroll identified 24 industrial parks that had been placed in rural Northern California timber communities. Of these parks, 16 stood totally empty after a decade, and only two, built for lumber mills, were full. Dena Belzer and Cynthia Kroll, *New Jobs for the Timber Region: Economic Diversification for Northern California* (Berkeley, CA: University of California, Institute of Governmental Studies, 1986). There are many accounts of similar developments with similar results.

Infrastructure shortfalls can be important barriers to increasing employment in a rural community. Many rural rail lines and roads are in poor condition, making access to these areas both time consuming and costly. Inadequate water supply and sewage capacity constrain business activity in many rural areas. Whereas most rural residents can use wells and septic tanks or small package plants for sewage treatment, industrial demands are generally too large for such small-scale systems. Federal environmental protection programs, along with Corps Engineers programs that operated through the 1970s, provided a significant share of funds for the expansion of municipal systems, but these programs have dramatically reduced their funding in recent years. Communities that did not get their systems upgraded when the Federal money and initiative were available will find it difficult to do so now.

⁸⁰For example, in the introduction of the kiwi fruit by California agriculture interests, there was an active interplay between the production interests who planted new acreage and their producers' organization, which conducted extensive marketing efforts to introduce consumers to the new fruit. In another example, rural economic developers have found markets for locally produced agricultural products, manufactured goods, or arts and crafts items, often in foreign countries; a Wisconsin firm developed a way to make chopsticks for an export market; in Washington Indians started marketing their smoked salmon in major department stores in New York, instead of limiting themselves to the local market.

⁸¹Such opportunities are identified using a shift-share analysis technique. See Blakely, op. cit., footnote 20.

⁸²Included on the database is information about financial resources, labor statistics, site and building locations.

grant provides the initial funding, the combined benefits to firms in the region can justify the costs.⁸³

Type III Strategies: Developing Social and Organizational Capacity

In addition to human resources and a vital economy, sustainable development needs an active community structure. A Type III development strategy is needed when a community lacks social and community organizations to motivate citizens, mobilize opportunities, and expand on existing resources. Without community capacity, few locally owned businesses will be created, and the community will have neither the ability nor the will to control its destiny.

Community development projects have evolved through three models.⁸⁴ The first model utilized technology transfer to bring modern and sophisticated knowledge and techniques to rural communities,⁸⁵ including information about community planning, government administration, and the economy.⁸⁶ The second model built on the experience with technology transfer programs, which showed that active social networks were necessary for successful technology transfer to take place. Thus, this model emphasized forming communities into stronger social groups.⁸⁷ The third model took community alliances a step further to focus on forging linkages among the active groups, if they already existed. Coordination and mediation among community groups and other institutional players are critical for development. Such strategies usually involve community development organizations and small business programs.

Since the end of the Great Society initiative, community development programs have been sub-



Photo credit: Mark G. Young

The Community Services Center in Warrenton, Virginia undergoes expansion as the area is touched by the metropolitan sprawl of Washington, DC.

stantially cut back. Such programs have never been perceived as being widely successful in rural communities. There have been isolated successes, but the general failure of these programs to meet the needs of rural communities was likely due to the programs' complexities. Eight criteria are associated with successful community development organizations:

1. ample startup money;
2. a base of community support, including influential persons and community groups;
3. clear, specific, and understandable goals;
4. involvement of the intended beneficiaries in the development process from the start;
5. managerial capability;

⁸³Big Sky Telegraph in Montana is an example of such an arrangement. This electronic bulletin board service allows small businesses across the @ to communicate with one another and share information about markets and about computer applications (see box I-E).

⁸⁴Bradshaw and Blakely, op. cit., footnote 54, pp. 137-142.

⁸⁵The strongest tradition in U.S. rural community development came from the agricultural extension program. In agriculture, it was acknowledged that more efficient agricultural production was often blocked by communities. For example, early research on the diffusion of innovation showed that improved seed or agricultural practices would not be adopted by individual farmers unless some opinion leaders first tried the innovation or gave personal encouragement to local farmers to adopt it. Abbe Moshowitz, "Cooperative Extension: A Functional Model for Technology Transfer and Economic Development in Rural America," contractor report prepared for the Office of Technology Assessment, May 1990.

⁸⁶After World War II, there was so much migration to the cities that many small rural communities lost the basic businesses and governmental services deemed necessary to the continued economic well-being of the people living there. Responding to this trend and the needs of rural citizens, the USDA proposed, in 1956, that rural development and community development be part of the official functions of the Cooperative Extension Service. Bryan Phifer, "History of Community Development in America," *Community Development in America*, James A. Christenson and Jerry W. Robinson, Jr. (Ames, IA: Iowa State University Press, 1980), ch. 2. The Johnson administration added a large number of community development programs as part of the "Great Society" effort.

⁸⁷The mobilization of groups that represent the interests of disadvantaged persons can be important social networks that empower the needy to seek social and economic change and develop self-help strategies.

6. diverse approaches including technical assistance provision, capital formation, human resource development;
7. successes to build on; and
8. dedicated leadership that will persist in their role and learn during the difficult times their organizations go through.⁸⁸

Despite the complexities involved in community development strategies, they can succeed in a variety of forms. Planning departments of local government, federally funded programs such as Farmers Home and Economic Development Administrations, local development corporations, and private groups are also essential. However, these groups typically operate with little knowledge of the other community groups, or the interests and needs of the larger community.

Coordinating local institutions is an important step in the development process. Such efforts are difficult to organize because they require cooperation and planning among several groups from within and outside the community. The difficulties in orchestrating such a strategy are compounded because the effects of community development on economic performance are often indirect and unplanned. Well-organized rural communities can still decline if there are too few jobs or if the economic benefits are isolated. A Type III approach is effective and appropriate only when a weak community structure is the primary obstacle to rural development. Without human resources or economic activity to sustain organizational initiatives, a Type III approach will not work.

Communications and information technologies can play an important role in a Type III development

strategy. For example, to the extent that the telephone reinforces a sense of community,⁸⁹ it could be valuable for a population in which a strong community and family bond are important cultural characteristics.⁹⁰

More sophisticated technologies would allow the electronic delivery of public assistance programs.⁹¹ Similarly, by streamlining the operations of local agencies, communications and information technologies can strengthen their effectiveness in the community. For example, information technologies can generate budgets, estimate the number of calls, project annual operating costs and annual revenues, and optimize ambulance location(s) in a rural area to minimize response time and/or cost for emergency medical units.⁹² Such analyses could be useful to improve many government and community functions. By pooling the needs of several programs, agencies could better afford such a system and would also become aware of each other's activities.

Type IV Strategies: Developing Economic and Community Resources

A Type IV rural development strategy blends the benefits of Type II-business development—and Type III-community development—programs, and overcomes many of the disadvantages of pursuing each alone. Type IV programs are complex to design and to fund. They are also difficult to administer and evaluate, and require the economic development resources of Type II programs as well as the institutional and community capacity of Type III programs as inputs to a successful strategy. Despite these difficulties, Type IV strategies can effectively bring together the necessary ingredients for a self-sustaining and vital community.⁹³

⁸⁸Hubert L. Smith with Susan Hudson-Wilson and Heather Paley, *Non-Agricultural Rural Development: Four Case Studies* (Boston, MA: Boston University, Institute on Employment Policy, August 1980).

⁸⁹Kielbowicz, op. cit., footnote 55.

⁹⁰Sandra M. Armentrout, "Universal Service in the Navajo Nation Now a Possibility with Wireless Digital Access," unpublished paper, 1990. Armentrout explains that the Navajo Nation possesses the cultural characteristics that make community and family bond important. Hence, the telephone plays an important culture-enforcing role.

⁹¹U.S. Congress, Office of Technology Assessment, *Electronic Delivery of Public Assistance Benefits: Technology Options and Policy Issues*, BP-CIT-47 (Washington, DC: U.S. Government Printing Office, April 1988). Millions of retired persons receive their social security checks in rural locations. Sometimes errors are made and service is delayed, but overall, electronic funds transfer and computerized administration have the potential for improving the administration of social security and other government entitlements programs. But if computerization makes it more difficult for beneficiaries to get information or correct errors, technology could undermine the effectiveness of the programs.

⁹²Luther Tweeten, "High Technology in Rural Settings," stat-of-the-art paper, Office for Research in High Technology Education, University of Tennessee, 1984, p. 33.

⁹³Steven Habersfeld explains, "unless both the material and human/institutional dimensions are addressed simultaneously in community economic development there will never be a basis for self-sustaining development to break the economic and psychological dependency that exists in these communities." Steven Habersfeld, "Economic Planning in Economically Distressed Communities: The Need to Take a Partisan Perspective," *Economic Development and Law Center Report*, October/December 1981, pp. 7-16.

A Type IV strategy recognizes that rural organizations must learn to build local economies based on their *natural* and *human* resources. A community must identify the public and private resources available to it, and then invest in the missing parts. It must selectively focus on programs and projects that yield the highest return and ensure diversity in the local economy.

Simultaneous development of economic and community resources contrasts with conventional economic development approaches in several ways:

- instead of simply equating more businesses with more jobs, the community should look for firms that build quality jobs that fit the needs and skills of the population;
- instead of building on a single economic sector (e.g., agriculture or manufacturing), build sets of integrated economic activities that bridge economic sectors;
- instead of focusing on physical assets, focus on the quality of the environment that stems from extensive community development activities; and
- instead of focusing on available labor, focus on *the* ability of the human resource base to expand to meet the needs of growing and changing industries.⁹⁴

This type of development strategy seeks a fit between the economy and the people of the community. It requires community control and participation in the development process. This approach also requires local firms and agencies to participate as partners in managing the community.

The Community Development Corps (CDCs) that evolved from the War on Poverty provide a useful model. They are locally rooted, with strong representation from the community. They are structured for a variety of activities, such as running for-profit companies, making loans, and obtaining training grants. They pursue a broad agenda of community development and economic growth. The variety of tasks the CDCs perform include:

- using private development techniques for public purposes,

- targeting benefits to communities and individuals in need,
- mobilizing local initiative to address local priorities,
- taking a long-term approach to development,
- linking planning to implementation,
- linking complementary projects within a comprehensive strategy,
- linking public and private sectors, and
- reinvesting resources in the community.⁹⁵

The reduction in Federal funds for such programs has reduced the scope of CDCs, but nevertheless *their functions are important* as guides to a holistic strategy. Even in a changed political environment, CDCs can pursue many effective programs and marshal needed resources.

In addition to CDC development programs, Type IV strategies can take advantage of many other vital community resources. For many communities, the local colleges, hospitals, and other public organizations are the backbone of local employment. For the most part, these organizations are not called on to play an economic development role. Yet, they possess a large and untapped reservoir of talent and resources that can benefit economic development. For example, hospitals have helped start nursing homes, health and recreational facilities, and other health maintenance activities. Hospitals or colleges could also share computer facilities, training facilities, and meeting rooms with local groups. This could help defray some of the institutions' costs and make these resources available to the community. The most extensive involvement for these institutions is to actually become partners in private ventures that will create jobs in the local community.⁹⁶

By taking an integrated approach to development, government programs can attack a larger set of problems. For example, housing programs can be linked to occupational training programs in construction trades, and the county planning department can stimulate development projects that produce local jobs. Waste disposal agencies can establish recycling or energy production projects that might stimulate related industries. Several regional devel-

⁹⁴Blakely, *op. cit.*, footnote 20, pp. 68-70-

⁹⁵Benson F. Roberts, Robert O. Zdenik, and William E. Bivens III, *Community Development Corporations and State Development Policy: Potential for Partnership* (Washington, DC: National Congress for Community Economic Development, December 1980).

⁹⁶See Ted K. Bradshaw, Bill Myers, and Gary Peterson, "Community Colleges are Job Creation Vehicles in Small Towns," *Small Town*, May-June, 1987, pp. 26-28.

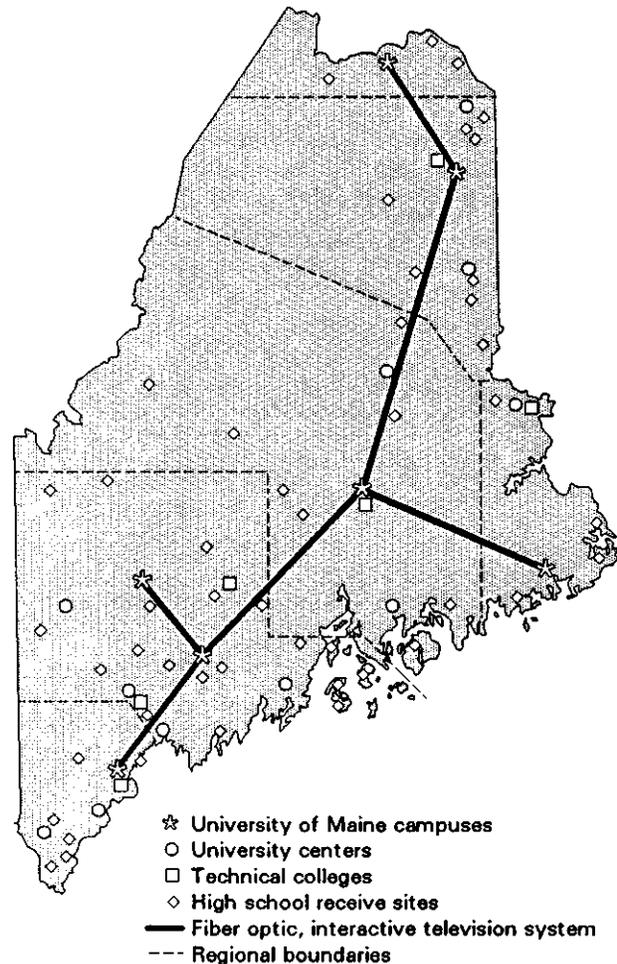
opment projects, such as the Tennessee Valley Authority and the Appalachian Regional Commission, provide examples of development integration.

Regardless of the institutional setting, an integrated approach must combine the interests and resources of several groups. This approach builds on the best of the other strategies; it relies on trained individuals, whose basic needs are provided; it builds strong economies from strong communities and ensures that the benefits accrue to the community, instead of outsiders.

The complexity of Type IV strategies is evidence that there is no shortcut to rural development. Projects are often costly and time consuming, requiring sustained support in order to develop the leadership and the community roots necessary to put the pieces together and generate local jobs. They require extensive planning, coordination, and cooperation, and demand innovation and creative use of scarce resources to accomplish their ends. Therefore, local economic development projects are often at the center of political conflict.

Such strategies are largely unprecedented, so examples of how technologies can be employed are scant. With its statewide university fiber optic network for distance education, Maine's efforts represent one of the first steps in an integrated development strategy.⁹⁷ Recognizing that half of the jobs in the State would disappear by 2000, to be replaced by jobs requiring higher levels of education, the University of Maine System saw the need to increase people's access to education.⁹⁸ As part of this plan, the University of Maine at Augusta, with a grant from the U.S. Department of Education, provided the front capital that allowed New England Telephone Co. to install fiber optics throughout the State decades before this would have otherwise been economically possible. The University broadcasts courses to remote campuses and high schools across the State (see figure 4-6). The system also allows for special events programming and teleconferencing. For example, the Maine Department of Economic and Community Development uses the University's facilities to conduct monthly teleconferences between Portland and Augusta, eliminating the need for travel; Head Start has used the system to deliver interactive programs on child care training; the

Figure 4-6-The Community College of Maine



The backbone of the Community College of Maine's Interactive Television System is the University of Maine System's seven branch campuses that are linked by high-capacity, fiber-optic, digitally switched lines. Specially equipped electronic classrooms permit interactive classes (both audio and video) at multiple sites. In addition, the 6 technical colleges, 11 university centers, and about 50 high schools serve as receive sites for the transmission of interactive secondary and postsecondary courses. The live classes are transmitted throughout the State by microwave. Each receiver site is equipped with a television, a VHSNCR and cordless phone for students to communicate with the teacher and students in the other classrooms. In its first year in operation, 36 courses were transmitted to more than 2,500 students at 47 locations.

SOURCE: The Community College of Maine, *Annual Report: Year One 1989-1990*, Office of Distance Learning, University of Maine at Augusta.

⁹⁷Indiana and Michigan have plans for similar networks.

⁹⁸Office of Distance Education, University of Maine at Augusta, *Annual Report: Year One, 1990*.

Maine Municipal Association broadcast a four-way interactive program that explained the changes in laws affecting municipalities in 1990; and Lotto America broadcast presentations introducing lottery agents to Lotto America, using 42 of the system's remote sites.⁹⁹

The case of Maine illustrates how institutions can and must work together in order to orchestrate an integrated development plan and to employ commu-

nications and information technologies as part of such a plan. Although the University administers the system, there is a symbiotic relationship among the many uses and users of the system. This type of relationship makes the system viable. Without the agglomeration of users, the deployment of DS-3¹⁰⁰ capacity would be economically infeasible; yet it is the broadband capacity that makes the system useful for so many purposes.

⁹⁹Ibid.

¹⁰⁰DS-3 lines have a capacity of 45 megabits. This compares to the more common T-1 line, which has a capacity of 1.5 megabits. For more detailed information, see ch. 3.