

Sustainable Farming and Rural Community Development

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"Every few hundred years in Western history there occurs a sharp transformation. Within a few short decades, society rearranges itself – its worldview; its basic values; its social and political structure; its arts; its key institutions. Fifty years later, there is a new world. We are currently living through just such a transformation." (Peter Drucker, Post-Capitalistic Society, p. 1)

Rural Communities: Places Without a Purpose

The roots of most American rural communities are in agriculture. The land that is now the United States was a land of great natural wealth. Some of that wealth was in minerals and timber, but most of it lay in vast plains and winding valleys of fertile farmland. However, it took people to transform this wealth into wellbeing. People had to clear the land and till the soil to bring forth the bounty of food and fiber from the fertile fields. It took people to care for the cattle and sheep that grazed the vast plains. And as these people -- these farmers and ranchers -- achieved surpluses beyond their own needs, they came to need other people in towns and rural communities. They needed people with whom they could trade their surpluses for the things they couldn't produce. They needed blacksmiths, dry goods stores, livery stables, banks, and salons. But they also needed schools, churches, and medical care if they were to move beyond economic survival to achieve a desirable quality of life.

Some of the early American communities were built around timber and mining towns, but most towns were farming and ranching towns. And the more people needed to care for the land, the more people needed in town to support those farmers and ranchers. It's likely true that distances between many towns were determined by a day's round trip by horse and wagon. But, the number of people in those towns was determined in large part by the nature of agriculture. For example, lands well suited for vegetables and row crops could be farmed more intensively -- supporting more families per acre or section. Lands suited only for small grains or pasture were farmed less intensively -- supporting fewer families per section or township. Of course, town folks also had mouths to feed with locally grown foods -- greens, milk, eggs, and bacon. But, the density of population in most rural places reflected the nature of their agriculture.

At the turn of the 20th century, America was still an agrarian country -- about 40 percent of its people were farmers and well over half lived in very rural areas. But, then came the second phase of the industrial revolution and the need to collect large numbers of people into cities to "man" the large factories and offices of a growing manufacturing economy. The simultaneous industrialization of agriculture -- mechanization, specialization, routinization, -- made it possible for fewer farmers to feed more people better -- "freeing" farmers and other rural people to find work in the cities.

The same technologies that pulled rural people toward the cities pushed them off the farms and out of rural communities. These technologies increased production per person by substituting capital and generic knowledge for labor and individual management. As successful new farming technologies were developed, they invariably reduced production costs -- per bushel or per pound of production -- but only if each farmer produced more. Thus, the incentive to realize greater profits by reducing costs was inherently an incentive to buy bigger equipment and more commercial inputs in order to farm more land and produce more output. As farmers individually responded to these incentives, production in total invariably expanded, market prices fell, and the promise of continuing profits vanished. The new technologies were now necessary -- no longer for profits but now for survival. Those who adopted and expanded too little too late were unable to compete. They were "freed" from their farms to find a job in the city.

Farms were forced to get larger and larger just to survive. In fact, with a limited population to feed and a limited amount of land to farm, fewer and fewer farmers could possibly survive. In addition, large specialized farms often had to bypass the local community in purchasing inputs and marketing their products in order to remain competitive with other large farms. Their competitors were not down the road or across the country, but might be half way around the world.

Fewer farmers buying less locally meant less need for farm related businesses in small towns. Fewer farmers also meant fewer farm families to buy groceries, clothes, and haircuts in small towns. Fewer families also meant fewer people to fill the desks in rural schools, pews in rural churches, and the waiting rooms of rural doctors. Fewer people with a purpose for being in rural areas meant that many rural communities were losing their purpose as well.

Today, America is no longer an agrarian nation. Less than 2 percent of Americans call themselves farmers and even those earn more than half of their income off the farm. Somewhere around 25 percent of the people live in non-metropolitan areas – but many if not most commute to a city to work. There are few people left in farming communities to move to town and no longer any social benefit in moving them. Industries are "downsizing" and "outsourcing" -- laying off workers by the thousands. As consumers we spend on the average a little over a dime out of each dollar for food and the farmer only gets a penny of that dime. The rest goes to pay for commercial inputs and marketing services – packaging, advertising, transportation, etc. Society no longer has anything to gain from further industrialization of agriculture, but yet it continues. And rural communities in farming areas continue to wither and die.

Feeling the stress of an industrializing society, many small towns turned to industrial recruitment – trying to become a city rather than a town – as a means of survival. Others have tried to capture natural advantages in climate or landscapes to become destinations for tourists from the cities. Those near the growing industrial centers "rented out their communities" as bedrooms for those who are willing to commute to the city. But, most rural communities in agricultural areas have not been successful in their efforts to regain prosperity – or even to survive. Most rural communities have become and remain places in search of a purpose.

Farming: A Profession without a Future

As rural communities have lost their purpose, farming – at least farming, as it is known today – has lost its future. There is no future in farming – at least not in the kind of farming that requires ever-increasing amounts of capital and commercial inputs to produce basic commodities for processing into food and fiber for global markets. By definition, if the trend toward larger, more specialized production units continues there will be room for fewer and fewer of these units until only a handful remains.

As capital requirements continue to grow, a corporate share-holding organizational structure will be required to finance agricultural enterprises. Giant corporate entities already control the processing and distribution sectors for most agricultural commodities. As corporations gain control of agricultural production – through outright ownership or through contractual arrangements with individual producers -- those who refuse to contract will find they have no markets for their products. The surviving "farmers" will, in fact, become corporate "hired hands." Thus, there is no future in farming – as long as the only options farmers are given are to get big, give in, or get out.

One need only look to corporate structure of the poultry industry as a model for future livestock production. Corporate domination of cattle feeding has been a fact of life for years and the farm cattle feeder has become a rarity. Corporate control of hog production is becoming a reality – with recent attempts by large operators to gain market share forcing hog prices to their lowest levels

since the Great Depression. Corporate contractual control of ranching operations is likely not far in the future.

Corporate control of fresh fruits and vegetable production has been around for decades, but may not be the model for the future of field crops. Genetic engineering instead is the key to corporate control of crop production. Genetically modified organisms (GMOs) can be patented – giving the patent holder exclusive rights to their utilization. The corporations who hold the patents on the seed stock will either control or contract with those who control processing and distribution of the resulting farm commodities. Thus, the only viable markets will be for commodities from organisms that have been genetically modified in some way – and are produced under contract for the patent holder. This same strategy will likely be employed by livestock operations as well – as corporate consolidation of firms in both the crop and livestock sectors continues.

The publicly stated justifications for the demise of farming will be to "ensure that the public continues to have an adequate supply of safe and healthful food at a reasonable price" – the same as the oft-stated justification for the industrialization of agriculture. However, the true motivation for the corporate take-over of agriculture is pure economic power. Those corporations that have been able to gain control of significant sectors of agriculture have been able to reap large profits in return. If a handful of corporations gain control of the global food supply – they will have more economic power than has ever been seen. It is a prize they are willing to pursue at any risk.

Can farmers compete head-to-head with the big corporations by forming cooperative organizations and networks? Perhaps, for a while, but the longer-term outlook for farmer collectives is doubtful at best. Will farmer groups grow big enough, fast enough to keep up with the consolidation of corporate power? This game is not just about economic efficiency, or minimizing costs of production, it is about raw market power. Will farmer groups be willing to rape the environment and gut rural communities -- if necessary -- to pursue their economic goals? If they are, is society any better served by a group of such farmers than by a group of similar minded businessmen?

Farming as we know it is coming to an end. There is no future for farming, and no future for most rural communities, unless we are willing to embrace a new and different kind of farming and a new and different vision for rural communities.

The Inevitability of Change

There might seem to be little hope for farming, or for many rural communities. But, current trends, toward industrialization and corporate domination, will not continue. Trends never continue, at least indefinitely. And these too will come to an end – maybe far sooner than might now seem reasonable.

A couple of scientists proposed a list of the top twenty "great ideas in science" in Science magazine, and invited scientists from around the world to comment (Pool, 1991). Among their top twenty were such well known ideas as the universal laws of motion, the first and second laws of thermodynamics, and the proposition that all life is based on the same genetic code. But, the top twenty included another proposition -- that "everything on the earth operates in cycles." A few scientists responding to the Science survey disagreed with the proposed theory of universal cycles. But most who responded left "everything operated in cycles" on their list of the top twenty great ideas in science (Culotta, 1991).

Based on this theory of universal cycles, any observed trend is, in fact, just a phase of a cycle. This theory of cycles implies that farms will not continue to get either larger or smaller, at least indefinitely, but instead will cycle between growing larger and smaller over time. History provides

numerous examples where land became concentrated in the hands of a few only later to be dispersed and controlled by the many. For example, vast feudal land holdings once dominated much of Europe, only to be replaced by independent land ownership. In the U.S., large plantations grew to dominate the South – only to later be dispersed among many individual landholders. In what once was the Soviet Union, giant communal farms are now being divided into smaller individual plots. It seems ironic that many of the advisors sent to the former U.S.S.R to facilitate this process of dispersion are deeply involved in the consolidation of independent farms into large-scale corporate production units in the U.S.

There have been similar cycles in the collecting and scattering of people. Anthropological evidence indicate that people who have concentrated in large cities in centuries past, have later -- for a variety of reasons – abandoned those cities and dispersed themselves across the countryside. There is reason to believe that migration from rural areas to U.S. cities during the twentieth-century was simply a phase of a similar cycle rather than an unending trend. Most large center-cities have been losing population for decades as people move to the suburbs in increasing numbers. The current trend is called "urban sprawl" -- people now abandoning the suburbs for a few acres in the country. Even further migration to more isolated rural areas might be a logical continuation of the dispersion phase of this cycle. The most relevant question for rural communities might be when, and for what reasons, will people abandon the cities and suburbs to resettle rural areas? They won't necessarily come back to the same places abandoned by people before.

Toward A Post-Industrial Economy

Alvin Toffler, in his book Powershift, points out that many forecasters make the mistake of simply projecting unrelated trends into the future, as if they would continue indefinitely. Such forecasts provide no insight regarding how the trends are interconnected or what forces are likely to reverse current trends and move them in opposite directions.

Toffler contends that the forces of industrialization have run their course and have already begun to reverse. He believes the Industrial models of economic progress are becoming increasingly obsolete, and the old notions of efficiency and productivity are no longer valid. The new "modern" model is to produce customized goods and services aimed at niche markets, to constantly innovate, to focus on value-added products, and specialized production. Innovations that tailor products to the wants and needs of specific customers are replacing cost cutting as a source of profits and growth.

He goes on to state that "the most important economic development of our lifetime has been the rise of a new system of creating wealth, based no longer on muscle but on the mind" (p. 9). He contends that "the conventional factors of production -- land, labor, raw materials, and capital -- become less important as knowledge is substituted for them" (p. 238). "Because it reduces the need for raw material, labor, time, space, and capital, knowledge becomes the central resource of the advanced economy (p. 91).

Peter Drucker, a time-honored consultant to big business, talks of the "Post Business Society," in his book, The New Realities. He states "the biggest shift -- bigger by far than the changes in politics, government or economics -- is the shift to the knowledge society. The social center of gravity has shifted to the knowledge worker. All developed countries are becoming post-business, knowledge societies" (p. 173).

Knowledge-based production embodies enormous complexity in simultaneous and dynamic linkages among a multitude of interrelated factors. Cognitive scientists have shown that humans can deal consciously with only a very small number of separate variables simultaneously. Yet humans can perform enormously complex tasks; such as driving a car in heavy traffic, playing a

tennis match, or carrying on a conversation – tasks that baffle the most sophisticated computers. In fact, people are capable of performing such tasks routinely by using their well-developed subconscious minds.

The subconscious human mind appears to be virtually unlimited in its capacity to cope with complexity. The human mind is capable of assimilating hundreds of feedback relationships simultaneously as it integrates detail and dynamic complexities together (Senge, p. 367). In fact, the human mind may be the only mechanism capable of dealing effectively with the systems complexities embodied in the production concepts that will dominate economic development in the future.

Drucker points out also that there is an important, fundamental difference between knowledge work and industrial work. Industrial work is fundamentally a mechanical process whereas the basic principle of knowledge work is biological. He related this difference to determining the "right size" of organization required to perform a given task. "Greater performance in a mechanical system is obtained by scaling up. Greater power means greater output: bigger is better. But this does not hold for biological systems. Their size follows their function. It would surely be counterproductive for a cockroach to be big, and equally counterproductive for the elephant to be small. As biologists are fond of saying, 'The rat knows everything it needs to know to be a successful rat.' Whether the rat is more intelligent than the human being is a stupid question; in what it takes to be a successful rat, the rat is way ahead of any other animal, including human beings" (p. 259).

Differences in organizing principles may be critically important in determining the future size and organizational structure of economic enterprises and ultimately in determining their optimum geographic location. Other things being equal, the smallest effective size is best for enterprises based on information and knowledge work. "'Bigger' will be 'better' only if the task cannot be done otherwise" (Drucker, p. 260). Small enterprises can be located almost anywhere.

When there is no longer any economic justification for bigness, there will no longer be any economic justification for corporations. The only societal motivation for chartering corporations was to make it easier to raise the capital necessary to finance enterprises larger than could be financed by individuals or partnerships of investors. Corporations have been subsidized by various means, providing additional incentives for businesses to become larger, under the assumption that larger organizations would be more efficient, and would pass along their cost savings to consumers. There are serious questions concerning whether corporations today serve any positive public purpose – even in cases where large operations might be more cost efficient. In an era where "smaller is better," corporations will have lost even their original claim to special treatment. Corporations exist only at the consent of the people -- the public granted their original charters, and the public can revoke those charters. The practical question for the future is whether corporations have gained so much political power that they may continue to exist, and even be subsidized, long after they have lost any societal purpose for being. But once they have lost their purpose, the era of corporations eventually will come to an end – regardless of their political power at the present.

Robert Reich, former U.S. Secretary of Labor, addresses future trends in the global economy in his book, *The Work of Nations*. He identifies three emerging broad categories of work corresponding to emerging competitive positions within the global economy: routine production service, in-person service, and symbolic-analytic services (Reich, p. 174). He calls routine service workers the old foot soldiers of American capitalism in high-volume enterprises. They include low- and mid-level managers -- foremen, line managers, clerical supervisors, etc. -- in addition to traditional blue-collar workers. Production workers typically work for large industrial organizations. These workers live primarily by the sweat of their brow, or their ability to follow directions and carry out orders, rather than by using their minds.

In-person service, like production service, entails simple and repetitive tasks. The big difference is that these services must be provided person-to-person. They include people such as retail sales workers, waiters and waitresses, janitors, cashiers, child-care workers, hairdressers, flight attendants, and security guards. Like routine production work, most in-person service work is closely supervised and requires relatively little education. In-person service providers utilize a diversity of organizational structures, ranging from individual providers to large franchised organizations. Unlike routine production work, individual personality can be a big plus, or minus, for in-person service workers.

Symbolic-analysts are the "mind workers" in Reich's classification scheme. They include all the problem-solvers, problem-identifiers, and strategic-brokers. They include scientists, design engineers, public relations executives, investment bankers, doctors, lawyers, real estate developers, and consultants of all types. They also include writers and editors, musicians, production designers, teachers, and even university professors. He points out that symbolic analysts often work alone or in small teams, which are frequently connected only informally and flexibly with larger organizations. Like Toffler and Drucker, Reich believes that power and wealth of the future will be created by symbolic-analysis, by mind work, rather than by routine production or in-person service.

John Naisbitt and Patricia Aburdene in their book, *Megatrends 2000*, call the triumph of the individual the great unifying theme at the conclusion of this century. They talk about greater acceptance of individual responsibility as new technologies extend the power of individuals. Their "mind workers" are called individual entrepreneurs. They point out that small-time entrepreneurs have already seized multibillion-dollar markets from large, well-heeled businesses – successes of small "upstart" in microcomputers and microbreweries provide a couple of examples (p. 324).

They point out, that the industrial revolution built the great cities of Europe, America, and Japan. But today's cities are based on technologies of 100 years ago such as indoor plumbing, electric lighting, steel frame buildings, elevators, subways, and the telephone. Railroads and waterways made it easy and inexpensive to move raw materials and finished goods over long distances, but it was much more expensive then to move people even short distances.

But, the cities have already lost much of their purpose as places for people to live. Multi-lane freeways and extended mass transit systems have allowed people to retreat to the suburbs by making it easier for them to get to and from work. Naisbitt and Aburdene contend that "In many ways, if cities did not exist, it now would not be necessary to invent them" (p. 332). Drucker adds that the real-estate boom, and the associated new skyscrapers, in big cities in the seventies and eighties were not signs of health. They were instead the signals of the beginning of the end of the central city. "The city might become an information center rather than a center of work -- a place from which information (news, data, music) radiates. It might resemble the medieval cathedral where the peasants from the surrounding countryside congregated once or twice a year at the great feast days; in between it stood empty except for the learned clerics and its cathedral school" (Drucker, p. 259).

People are abandoning the cities for the suburbs for quality of life reasons: lower crime rates, quality housing at a lower cost, and recreational opportunities. Many people are now free to abandon the suburbs for rural area for quality of life reasons as well: more living space, a cleaner environment, prettier landscapes, and, perhaps most important, for a place to regain a sense of community, a sense of belonging.

Many knowledge workers, while working alone or in small groups, are choosing not to face the world alone but rather are seeking community -- the free association among people. Large business organizations, government bureaucracies, labor unions, and other collectives have provided hiding places for avoiders of responsibility. In a community there is no place to hide. Everyone knows who is contributing and who is not. In communities, individual differences are

recognized and rewarded. Enlightened individuals may well choose to restore a sense of community -- all but destroyed by corporate industrialism. These people are not looking for a place to hide but rather for a place to be recognized -- a place to belong.

Toward A Post-Industrial Agriculture

If the rest of society is moving toward a post-industrial economy, why are some sectors of the agricultural economy, specifically swine and dairy, continuing to experience rapid industrialization? In Joel Barker's book: Paradigms, he points out that new paradigms (including developmental models) tend to emerge while, in the minds of most people, the old paradigm is doing quite well.

Typically, "a new paradigm appears sooner than it is needed" and "sooner than it is wanted." Consequently the logical and rational response to a new paradigm by most people is rejection (Barker, p. 47). New paradigms emerge when it becomes apparent to some people, not necessarily many, that the old paradigm is incapable of solving some important problems of society. Paradigms may also create new problems, while providing poor solutions to the old ones, when they are applied in situations where they are not well suited.

American agriculture provides a prime example of both over application and misapplication of the industrial paradigm. The early gains of appropriate specialization in agriculture lifted people out of subsistence living and made the American industrial revolution possible. But, the potential societal benefits from agricultural industrialization were probably largely realized by the late 1960s. More recent "advances" in agricultural technologies may well have done more damage to the ecological and social resources of rural areas than any societal benefit they may have created from more "efficient" food production.

Industrialization of agriculture probably lagged behind the rest of the economy because its biological systems were the most difficult to industrialize. Agriculture, due to its biological nature, doesn't fit industrialization; it is being forced to conform. Consequently, the benefits are less, the problems are greater, it is being industrialized last, and it likely will remain industrialized for a shorter period of time.

A new post-industrial paradigm for American agriculture is already emerging to replace the industrial model of agriculture. The new paradigm is emerging under the conceptual umbrella of sustainable agriculture. A sustainable agriculture must meet the needs of the current generation while leaving equal or better opportunities for those of future generations. To achieve sustainability, farming systems must be ecologically sound, economically viable, and socially responsible. All are necessary and none alone or in pairs is sufficient. Sustainable agriculture cannot be defined as a set of farming practices or methods, but instead must be defined in terms of its purpose -- sustaining people across generations through agriculture -- and the ecological, economic, and social principles that must be followed in achieving that purpose.

The sustainable agriculture paradigm has emerged to address the problems created by the industrial model, primarily pollution of the natural environment and degradation of the natural resource base. This new paradigm seems capable also of creating benefits that are inherently incompatible with the industrial model -- such as greater individual creativity, greater dignity of work, and more attention to issues of social equity. It is conceivable that industrial agricultural systems might be developed that appear to be both profitable and ecologically sound -- at least in the short run. But, industrial systems inherently degrade the human resources -- the people they employ -- they simply cannot meet the sustainability test for social responsibility.

The sustainable agriculture paradigm is consistent with the visions of Toffler, Drucker, Reich and others of a post-industrial era of human progress. Sustainable agriculture is management

intensive, rather than management extensive. Sustainable farms must be managed holistically as a living organism – with consideration given to multitudes of interdependencies and feed back loops among their interrelated parts or organs. Sustainable systems must be individualistic, site-specific, and dynamic. They must be capable of responding to the every changing capacities and abilities of both the farmer and the land. Thus, sustainable farming is inherently information, knowledge, and management intensive.

Complexity, interdependency, and simultaneous processes are fundamental elements of the sustainable model, which is clearly biological rather than mechanical in nature. For such systems, size and form must follow function. In biological systems, individual elements must conform to their ecological and social niche. Big, specialized farms will be sustainable only if their "niche" is equally large and homogeneous. Most conventional commercial farming operations have already outgrown their niches. That's the basic source of their ecological, social, and economic problems.

The sustainable agriculture paradigm in agriculture is at about the same stage of development as was agricultural industrialization in the days of steam-driven threshing machines and steel wheeled tractors. In other words, a few sustainable agriculture pioneers are out on the frontier of knowledge, but this new frontier of farming is still far from being settled. Much remains to be learned about this new paradigm and only time will reveal how it is to be implemented in sustaining a desirable quality of life for farmers and for society as a whole. Some current examples of its application include: organic production of vegetables, grains, and meats; low-input production for local, direct markets; community supported agriculture (CSAs); farmers' markets and other niche market for ecologically grown products; management intensive grazing of livestock and seasonal dairies; free range and pastured poultry; and organic cotton. The USDA is supporting a project to develop mini case studies of one thousand successful sustainable farmers. This project quite likely will illustrate a thousand different approaches to sustaining agriculture – as many as there are farmers who pursue it. But, the project will also illustrate a common dedication to the same basic purpose and to the fundamental principles of sustainability.

It will take knowledge, "mind work," not physical or economic muscle, for farmers of the future to find a niche where they carry out farming by means that are ecologically sound, economically viable, and socially responsible. Returning to Peter Drucker's Post-Capitalistic Society: "In the knowledge society into which we are moving, individuals are central. Knowledge is not impersonal, like money. Knowledge does not reside in a book, a databank, a software program; they contain only information. Knowledge is always embodied in a person, carried by a person; created, augmented, or improved by a person; applied by a person; taught by a person, and passed on by a person. The shift to the knowledge society therefore puts the person in the center" (p. 210). People are at the key to farming sustainably. People – not new technologies – are the key to the future of farming and of rural communities.

The Renaissance of Rural Communities

Community economic development strategies are already changing to reflect knowledge-based approaches to economic development. As large companies and branch plants leave rural areas and move overseas for cheaper labor, communities are beginning to concentrate on improving the quality of jobs remaining. Rural people – if not community leaders – are beginning to question the old strategies of industrial recruitment, industrial parks, and tax breaks for new industries. The new strategies for community self-development are in line with the business theories of Reich and others. These strategies invest in mind-workers by encouraging entrepreneurs within the community to build small businesses and strengthen the local economy. Local buyer-supplier projects are encouraged to plug the loss in dollars leaving the community by replacing imports with locally produced goods and services.

However, most communities still seem to be lacking a clear vision of a new fundamental purpose for their existence. They know they can no longer depend on agriculture as the primary engine of rural economic development. They realize that industry recruitment is destined to fail for most rural communities -- there simply won't be enough American based industries in the future to go around. They see promotion of small-scale projects; such as niche markets, bed and breakfasts, and local festivals; as piecemeal, stop-gap strategies with limited long run potential for developing their community.

Rural communities that have no development strategies of their own essentially forfeit the rights to develop their communities to others -- others from outside the community. Those "others" already have their own vision of the future in mind for rural areas -- as places to dump whatever they don't want in "their back yards" in urban areas. They see rural areas as open spaces where they can build prisons, garbage dumps, landfills, toxic waste incinerators, and large confinement animal feeding operations. They are looking for open spaces housed by a few desperate people who will accept almost anything that offers a minimum wage job or a chance to sell out and move to town.

Rural communities need positive development strategies of their own -- strategies that will create economic opportunity without degrading either the land or the people. They need strategies for "sustainable" development. They need development that is linked to local resources, that maintains the productivity of those resources, and protects their physical and social environment. However, sustainable development must also provide an acceptable level of economic returns and otherwise enhance the quality of life of those who live and work in the community. Development strategies that rely solely, or even primarily, on local natural resources are unlikely to fulfill these latter requirements. However, the obstacle of limited local resources can be overcome by those who have a clear vision of the new realities of economic development and a firm commitment to make their community a part of the coming rural renaissance. Limited natural resources will be leveraged -- in much the same way as equity capital is leveraged in financing a business. As the local economy continues to grow, its natural resource "equity" will become a smaller proportion of its total economy, but no less important than is equity capital to a business in ensuring its survivability and sustainability.

Robert Reich stresses that the economy is no longer local, or even national in scope, but is truly global. Neither communities nor nations can depend on capturing the benefits of local capital, local industries, or even locally developed technologies in a global economy. Money, jobs, and technology can and will move freely to anywhere on the globe where they can be used to the greatest advantage. First, sustainable development must be linked to something that cannot easily be moved. And second, sustainable development strategies must give local workers and investors a logical reason for investing, working, and spending in the communities where they live. Communities cannot be sustained without strong economic interdependencies among those within communities. But, people must have strong logical reasons for developing interdependent relationships.

Reich outlines two fundamental strategies for national economic development in a global economy. First, he advocates investment in infrastructure, including such things as roads, bridges, airports, and telecommunications access systems. Infrastructure has two important development dimensions. First, it facilitates productivity by making production processes easier and more efficient. Second, infrastructure is geographically fixed in the country where it is built. If producers want to use U.S. roads, bridges, airports and communications accesses, they have to use them where they are, in the country that built them. Fixed natural resources -- such as agricultural land -- can be used to achieve this same critical developmental impact without building anything. The challenge is to find ways to leverage the local land base to support more people better without degrading the resource -- to develop a more sustainable agriculture.

Reich's second, and even more important, development strategy is to invest in people. People who work with their minds will be the fundamental source of productivity in a knowledge-based era of the twenty-first century. This makes the local natural base less limiting, but no less important, than in previous eras of development. If a nation is to be productive in the post-industrial economy, its people must be productive. Reich apparently depends heavily on national allegiance to keep productive people working in the nation that helped them develop their minds. If agriculture is to be a cornerstone for rural community development, it must be the type of agriculture that employs the talents of thinking, innovative, productive people – it must be a sustainable agriculture. These are the types of people who can leverage a limited resource base into a vibrant, sustainable community.

With one important added element, Reich's strategy for national economic development – investing in infrastructure and local people -- becomes a logical strategy for rural community development. However, rural communities cannot depend on an allegiance of rural residents to their communities to keep productive people in rural areas. People can and do move freely among communities within the U.S. During the rural renaissance, it will be critically important for communities to be able to attract new mind workers, if there are to be places where "home-grown" mind workers will want to stay. The primary attraction of rural communities for current and future mind workers will be the promise of a desirable quality of life.

Quality of life is a product of human relationships -- relationships among people and between people and their environment. Obviously, other things such as employment, income, personal safety, economic security, and access to health care are important aspects of quality of life. However, quality of life also includes peoples' subjective judgments regarding self-determination, freedom to participate, individual equity, freedom from discrimination, economic opportunity, ability to cope with change, social acceptance, and treatment according to accepted social principles of one's culture.

Communities that survive and prosper during the rural renaissance will be culturally diverse. Diversity will be an important source of creativity, innovation, and synergistic productivity, and will be an important aspect of quality of life in rural areas. In rural communities people will have an opportunity to know each other individually rather than simply accept the stereotypes of their cultural groups.

Successful rural communities will be made up of long-time rural residents, bright young people who choose to stay, returning rural residents, those born in urban areas of the U.S., and those born in other countries. They may also be Anglo American, Afro American, Asian, Mexican, and Canadian as well. Male and female, young and old, rich and poor, educated and less well educated, may be viewed as different, but they must be respected for their differences in the workplace and in the town halls of rural renaissance communities. Communities that fail to meet the challenges of the cultural renaissance will be unlikely to provide the quality of life necessary to participate in the economic renaissance as well.

Basic Strategies for Rural Revitalization

Successful rural revitalization strategies for the future will be unique to each community that succeeds. Standard operating procedures, best practices, and recipes for success were characteristics of the industrial era but not of the post-industrial era of knowledge-based development. However, the fundamental principles and concepts outlined above can provide some guidance for those who have the vision of a rural renaissance and the determination to participate in this historic process. The following are a few of the more obvious elements of a successful rural revitalization strategy.

- Invest in people: People are the basic source of productivity in a knowledge-based era of economic development. The "virtuous cycle" of education, increased innovation, increased investment, increased value, and higher wages offers an alternative to the vicious cycle of industrial recruitment, low wages, declining emphasis on education, declining communities, and resulting downward spiral (Reich, 1991). The common practice of preparing the "best and the brightest" to leave rural areas will have to be reversed to meet the cultural and economic needs. "Home-grown" mind workers have a sense of the quality of rural life that immigrants from urban areas will be seeking. Quality life-long education will be equally critical to prepare people to succeed in the new, dynamic era of economic development.

- Invest in infrastructure: Good roads and access to airports will be important. However, modern telecommunications systems will be the key element in making rural areas competitive with urban and suburban areas in an information driven, knowledge-based society. A national initiative to bring twenty-first century communications systems to rural communities may be more important to rural areas today than was the rural free mail delivery and rural electrification programs of times past. Invest in facilities that will bring people together. A good farmers' market may be more effective than a recreation facility in helping people within the community understand each other's way of life.

- Invest in quality of life: Help people make the most of local climate, landscapes and recreational opportunities. Land use planning and zoning can make and keep quality spaces in rural communities providing quality places for people to live. However, farming, residential, and recreation land uses can be compatible – and must be compatible – in a sustainable rural community. Make health care an investment in the future. Provide maternity wards and pediatricians not just cardiac units and nursing homes. Make personal security and safety a top priority. This, as much as any single factor, will enhance the perception of rural communities a quality place to live.

- Make a commitment of understanding, accepting, and valuing diversity: Quality of life is about relationships among people. Thinking, learning, behaving, and working alike was necessary for success in the industrial era of development. Thinking, learning, behaving, and working differently, but working in harmony, will be the key to success in the knowledge-based era of development. Communities that fail to understand, accept, and value diversity among people are unlikely to succeed in a knowledge-based era of development.

- Link development to local resources: This is the key to making development sustainable in any given place. Natural resources such as land, minerals, landscapes, and climates must be utilized, at least initially, in the geographic locations where they exist. Agricultural land is still the most valuable geographically fixed resource for many rural communities. Large scale, industrial agriculture provides little local community support. Sustainable agriculture, on the other hand, is a knowledge-based system of farming that depends on the productivity of local people. Wendell Berry points out, "...if agriculture is to remain productive, it must preserve the land and the fertility and ecological health of the land; the land, that is, must be used well. A further requirement, therefore, is that if the land is to be used well, the people who use it must know it well, must be highly motivated to use it well, must know how to use it well, must have time to use it well, and must be able to afford to use it well" (p. 147). Agricultural mind-work can multiply the value to agricultural products before they leave rural areas and replace many agricultural inputs that are brought in from elsewhere.

Investments that sustain local agriculture may well be the most important investment many rural communities can make to sustain their local economies.

- Share the vision: A community must share its vision of the future rural America, and what it is doing to shape its own future with others, if it is to share in the rural renaissance. There may be a great-untapped demand for what rural communities have, or can have, to offer. Productive people who desire a better quality of life may simply be locked into an old vision of rural communities as places of depression, decline, and decay.

The most important single step toward success may be for those in the community to develop a shared vision of hope -- for a better way of life and a brighter future of their community. The vision of each person in the community will be different from the vision of others in many respects and not all will be hopeful. However, the people of a community must search for and find some common positive elements among their different visions to provide the nucleus for a shared vision of hope. Otherwise, the group is not really a community but rather a collection of people who happen to live in the same general area. A community that has found its shared vision has made its first critical step toward self-revitalization. Hope then can begin to transform reality. To paraphrase Jesse Jackson, the articulate civil rights leader, "if they can conceive it, and believe it, they can achieve it." The future of rural America belongs to those who have the courage to seize it.

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