

Clean Water: The Lifeblood of Livable Communities¹

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“Water is life,” which has become a common refrain in the environmental and indigenous rights movements, also is literally true. The human body is mostly water—ranging from 50% and 70% of body weight. The pulsing blood stream that carries energy and oxygen throughout our bodies is mostly water. So, water obviously is critical to life. Water is also the *lifeblood* of *livable* communities. Webster defines *lifeblood* as the “seat of vitality” or a “life-giving force” of living things. Definitions of “livable community” vary, but all seem to focus community attributes essential for a desirable “quality of life”—not just economically but also socially, ecologically, aesthetically, and even spiritually. Livable communities are different from economic communities, which equate wealth with well-being. Water is essential to both.

Clean water alone obviously is not sufficient to ensure a livable community, just as water alone cannot sustain life. Much like blood nourishes the human body, clean water nourishes livable communities. Blood tests have proven to be reliable indicators of human illness. Chemical or biological deficiencies or imbalances in the blood stream indicate dysfunctions in the body as a whole. Likewise, chemical or biological pollution of streams and groundwater indicate underlying dysfunctions or illnesses that threatens the livability of communities. Just as blood tests provide indicators of human health, water quality tests provides indicators of community health and livability.

Livable urban communities differ from livable rural communities, but the primary focus and attraction of both is their overall quality of life. The common factors of livable communities in general include “quality of built and natural environments, economic prosperity, social stability and equity, educational opportunity, and cultural, entertainment and recreation possibilities.”ⁱ I would sum up the requisites *livable rural communities* as clean water, clean air, good food, affordable housing, pleasant landscapes, a sense of place, and people who care about each other, know how to have fun, and are willing to invest in the future of their community. In livable communities, *economic development* is simply a means of sustaining a desirable quality of community life in the complex, impersonal environments that characterize *modern* societies—the economy is a means of sustaining livability.

The quest for livable communities was once considered a force for change that would create a *renaissance* in a rural America. In 1993, for example, I made a presentation calling for a *Rural Renaissance* at a conference in rural Arkansas. My presentation paper later became a chapter in my book, *Crisis and Opportunity; Sustainability in American Agriculture*.ⁱⁱ Many rural communities had been decimated by the general economic and agricultural recessions of the 1980s. The livability community movement was their hope for a better future.

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During the farm financial crisis of the 1980s, many family farmers has lost their farms and many people had been forced to leave rural communities to find employment elsewhere. I wrote: *“Over the past fifty years, many rural communities seem to have lost their purpose. The trend during this period has been toward fewer, larger, and more specialized farms. The result has been declining rural populations, declining demand for local markets and locally purchased inputs, and a resulting economic decay of many rural communities.*

Some communities attempted to diversify their economy to reduce their dependence on agriculture, and others abandoned agriculture entirely as a source of economic development. Industry hunting became a preoccupation of many small town councils and chambers of commerce. Jobs, any kind at any cost, seemed to be the primary development objective in some declining rural communities. Any lack of a geographical foundation to support sustained development was given little, if any, consideration.

Many development activities, lacking a geographic foundation, were rooted in nothing more than short-run exploitation of undervalued human and natural resources in rural areas. Large companies often pay low wages, are expensive to attract and retain, and are slow to respond to new economic conditions. The number of working poor – workers with full time jobs who live below the poverty line – in rural areas has continued to rise. In addition, many manufacturing companies and branch plants that initially relocated in rural areas eventually move to other countries where laborers are willing to work even harder for far less money. Efforts to attract low quality, low paying jobs are increasingly regarded as expensive and ineffective strategies for rural economic development.

Some new rural economic activities such as tourism, vacation homes, retirement communities, and rural residences can have strong geo-economic foundations in climate, landscapes, or proximity to urban employment. Such activities have helped some rural communities survive the harsh reality that they no longer had any important purpose, other than to facilitate the forced migration of rural people to the cities. However, most American rural communities continue to search for a new purpose for their existence.”

My assessment of the state of rural America at that time may seem a bit harsh, but my assessment of the future of rural communities was at least hopefully. I pointed out that scientists had concluded that everything on earth tends to evolve in cycles—that trends never go on forever.ⁱⁱⁱ At some point, the forces that drive trends in one direction run their course by creating the conditions that force the future to evolve in a fundamentally different direction. I pointed out previous cycles in the spatial concentration and dispersion of people. Anthropological evidence indicates that people have concentrated in large cities in centuries past, but later, for a variety of reasons, have abandoned those cities and dispersed themselves across the countryside.

I suggested, there was reason to believe the forced migration from rural areas to U.S. cities during the twentieth-century was simply a phase of a cycle rather than an unending trend. Many large center-cities had “hollowed out” or lost much of their previous population as people moved to suburbs. Urban *sprawl* might actually be a logical continuation of the dispersion phase of the cycle. I suggested the most relevant question for rural communities might be when, and for what

reasons, people would continue to abandon the cities and suburbs to resettle rural areas. Nothing in cycle theory suggests that people necessarily return to populate previously abandoned rural areas. People would have to have a good reason, a purpose, to relocate in specific rural places.

At that time, some popular futurist were suggesting that such a rural renaissance was possible, if not outright probable. Alvin Toffler was frequently quoted by both Bill Clinton and Newt Gingrich. In his book, *PowerShift*, Toffler contended that the forces of industrialization had run their course and are already reversing.^{iv} He wrote, “*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.*”^v “*Because it reduces the need for raw material, labor, time, space, and capital, knowledge becomes the central resource of the advanced economy.*”^{vi}

Peter Drucker, a noted business consultant, wrote of the coming “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. Looked at one way, this is the logical result of a long evolution in which we moved from working by the sweat of our brow and by muscle to industrial work and finally to knowledge work.*”^{vii}

Robert Reich, U.S. Secretary of Labor in the Clinton administration, addressed future trends in the global economy in his book, *The Work of Nations*.^{viii} He identifies three emerging broad categories of work: routine production service, in-person service, and symbolic-analytic services. Symbolic-analysts are the *mind workers* in Reich's classification. They include all the problem-solvers, problem-identifiers, and strategic-brokers—engineers, public relations executives, investment brokers, doctors, lawyers, and consultants of all types. They also include writers and editors, musicians, and teachers. Like Toffler and Drucker, Reich believed that power and wealth of the future would be created by symbolic-analysis, by mind work. Reich pointed out that *mind workers* often work alone or in small teams, which are connected only informally and flexibly with the larger organizations for whom they work. In other words, mind workers could choose to live and work anywhere—including rural areas.

John Naisbitt and Patricia Aburdene in, *Megatrends 2000*, called the empowerment of individuals as the great unifying theme at the conclusion of the century.^{ix} Their *mind workers* were called “individual entrepreneurs.” They wrote that empowered individuals, while working alone or in small groups, would choose not to face the world alone but would seek *community*, which they defined as free association of individuals. Naisbitt and Aburdene suggested “sense of community,” which was all but destroyed by industrialism and collectivism, might be restored by individuals empowered with knowledge. The emergence of a new “electronic heartland” was one of the megatrends they identified for the new century. Many rural communities already were already technologically linked to urban centers and many others would follow.

The industrial revolution had built the great cities of Europe, America, and Japan. Their purpose was to facilitate the concentration of large numbers of people to work in factories and offices of a manufacturing economy. By the 1990s, that era was rapidly drawing to a close. Many cities were still based on economic needs, and construction, communication, transportation

technologies, of 100 years earlier. As Naisbitt and Aburdene point out, “*In many ways, if cities did not exist, it now would not be necessary to invent them.*”^x The cities had lost much of their purpose, and people were choosing to live elsewhere. “*Free to live almost anywhere, more and more individuals are deciding to live in small cities and towns and rural areas.*”^{xi}

Drucker added that the real-estate boom and the associated new skyscrapers in big cities in the 1970s and 1980s were not signs of economic health. They were instead the signals of the beginning of the end of the central city. He wrote, “*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.*”^{xii}

People had abandoned the cities for the suburbs for quality of life reasons: lower crime rates, better housing, and recreational opportunities. Many people were now free to abandon the suburbs for rural area for additional quality of life reasons: more living space, fresh air, clean water, a cleaner overall environment, prettier landscapes, and, perhaps most important, to regain a sense of community—a sense of belonging. The new challenge of rural economic development was to create places where mind workers could be productive, raise families, and grow, where both immigrant and homegrown *mind workers* would choose to relocate and stay and play important parts in creating ecologically and socially sustainable communities. *Livability* would give rural communities a new purpose for people to choose to live and work in rural places.

I still believe the potential for a rural renaissance was and is real, even though few places have been able to transform the potential into reality. Fairfield Iowa, where this conference is being held, has come as close as any I am aware of—at least among small communities in the Midwest. In fact, livability was a primary reason my wife and I chose to relocate here from the college town of Columbia, MO. Columbia had grown into a city of 100,000—with all of the attendant social and environmental problems of cities preoccupied with economic growth. We moved to a town of less than 10,000 people in search of a better quality of life. We had no family or economic reasons to do so. We just thought Fairfield would be a good place to live.

The success Fairfield has achieved has not come easy and has required decades of the hard work, intellect commitment, and economic investment by many people. Fairfield has some unique attributes, such as Maharishi University, that reinforce its commitment to fundamental change. However, all communities have individual strengths as well as weaknesses. Fairfield’s cultural, ethnic, social, and economic diversity gives it resilience and regenerative capacity. But, its diversity also presents a challenge in developing a shared sense of community or common purpose. Fairfield still has many challenges to meet before it can hold itself up as a shining example of a livable community, as I think the Mayor and City Council would agree. With few exceptions, Rural America has not experienced the rural renaissance anticipated in the 1990s.

So what happened? The quest for livable communities seems now to be focusing on gentrification of the old center-city areas rather than rural renaissance communities. I think the futurist failed to realize the economic and political power of the corporate defenders of the status quo. The industrial economy was not simply going to voluntarily reverse course to make way for

a new sustainable economy—simply because economic growth was creating more environmental and societal problems than economic benefits. Industrialization had evolved from a means of manufacturing to become the conventional “way of thinking.” The industrial mindset now permeates virtually all aspects of American society. Specialization, standardization, and consolidation have become synonymous with organizational efficiency.

Today’s global, public-traded corporations are a consequence of this industrial mindset—allowing unrestrained corporate consolidation. Corporate economic power has been transformed into political power and in large, publicly-traded corporations where corporate profits take priority over the well-being of people—within or outside the corporation. Instead of a rural renaissance, rural America has suffered the consequences of “economic colonization”—a term typically used in reference to neoliberal economic development in nations previously colonized politically. Rather than nations being colonized by national governments, the economic colonization of rural America today is carried out by multinational corporations. The few livable communities that evolved from the optimism of the 1990s are being acquired and reserved as havens for the “rich and famous,” not places for ordinary people to work and live.

Whether intentional or coincidental, industrial agriculture has been a primary means of colonizing rural America. As with other industries, the industrial practices of large-scale, corporate agriculture are extractive and exploitative. Industrial farming operations erode the fertility of the soil and pollute the air and water with chemical and biological wastes—more like mining operations than traditional farming. Comprehensive corporate contractual arrangements have replaced thinking, caring family farmers with far fewer “farm workers.” Communities are supported by people, not simply production. It takes people not only to buy farm supplies and equipment at local dealers but also to shop for clothes, cars, and haircuts on Main Street, to fill desks in local schools, pews in local churches, and seats on town councils and school boards.

Most rural kids grow up, leave, and don’t come back. Those who choose to “stay home” are labeled as *not* being among the “best or brightest.” New rural residents are more likely to be immigrants desperate for work or people fleeing the cities for a cheaper place to live. The sense of community is lost. And when the sense of community is lost, the sense of common commitment and shared hope for the future is lost. A recent Wall Street Journal article calls “Rural America the New Inner City.”^{xiii} The article documents that levels of unemployment, chronic illness, teen pregnancy, crime, and drug abuse in many rural areas now exceed those of inner cities.

Wendell Berry summarized the current plight of rural America in a recent letter to the book editor of the New York Times: “*The business of America has been largely and without apology the plundering of rural America, from which everything of value—minerals, timber, farm animals, farm crops, and “labor”—has been taken at the lowest possible price. As apparently none of the enlightened ones has seen in flying over or bypassing on the interstate highways, its too-large fields are toxic and eroding, its streams and rivers poisoned, its forests mangled, its towns dying or dead along with their locally owned small businesses, its children leaving after high school and not coming back. Too many of the children are not working at anything, too many are transfixed by the various screens, too many are on drugs, too many are dying.*”^{xiv} The

industrialization or agriculture has turned the hope for a renaissance of livable rural communities into the reality of rural ghettos.

The consequences rural economic exploitation are clearly evident in polluted water—the lifeblood of rural communities. The EPA has identified “agricultural nonpoint source pollution as the leading source of water quality impacts on surveyed rivers and streams, the third largest source for lakes, the second largest source of impairments to wetlands, and a major contributor to contamination of estuaries and ground water.”^{xv} Eutrophication has led to massive “dead zones” in the Gulf of Mexico, Chesapeake Bay, and other U.S. coastal areas. Furthermore, industrial agriculture, with its heavy use of animal manure and commercial fertilizers, is a major contributor to the eutrophication of surface water in all regions of the world that have adopted industrial agriculture.^{xvi}

In defiance, Iowa’s “agricultural establishment”³ has maintained a state of denial. On Earth Day 2017, the American Farm Bureau proclaimed, “Farmers are environmentalists first, maintaining and improving the soil, and other natural resources to pass on to future generations.”^{xvii} Industrial farmers routinely proclaim they are at least doing a better job of controlling water pollution than the small farmers they displaced. Water quality statistics for Iowa tell a very different story. According to the Iowa Department of Natural Resources, water samples from more than 1,000 water bodies collected biennially between 2008 and 2016 indicate more than half of Iowa’s public waters remain polluted or “impaired”.^{xviii} The total number of “impaired waters” in 2016 was 750.

The number of Iowa streams, lakes, and wetlands sufficiently “impaired” to require reporting to the EPA for additional corrective action increased nearly four-fold between 1998 and 2016—from 159 to 608.^{xix} This was a time of rapid growth in industrial agriculture and agriculture is by far the largest source of water pollution in the state of Iowa.^{xx} Water sampling for submissions to EPA is not designed to indicate trends in water pollution. However, “impaired waters” *are* indicators of the “health of ecological communities” and consequently the “livability of rural communities.” If a thousand blood samples were drawn each year, random or not, from a population equal in number to Iowa’s total water bodies, and if half of the sample tested positive for a deadly disease or critical deficiency, it would be accepted as a clear indication of a major public health problem. If periodic blood tests showed a four-fold increase in a particular disease or pathological condition over an 18 year period, in spite of voluntary programs to halt its spread, it would be considered an epidemic calling for drastic measures to thwart and eradicate the threat to public health.

This is the dilemma we face in rural Iowa today. We have an epidemic of rural economic extraction and exploitation that is clearly evident in the increasingly polluted streams, lakes, and wetlands all across the state of Iowa. The agricultural establishment refuses to accept blame or to respond in any meaningful way. Rather than developing strategies to address a very real problems, they are spending tens of millions of dollars a year for a national public relations campaign designed specifically to defend industrial agriculture.^{xxi} They also claim industrial agriculture is essential to keep domestic food prices affordable, provide food for a growing

³ The agricultural establishment includes the large agribusiness corporations, the American Farm Bureau Federation, major farm commodity organizations, USDA, most state Departments of Agriculture, and agricultural colleges.

global population, and sustain rural economies. None of these claims are true, but that's another story and another presentation.^{xxii}

Iowa has a major water quality problem—even the governor's office has proclaimed water quality as a political priority. Voluntary measures by Iowa farmers to reduce water pollution, while admirable when they are taken seriously, haven't been enough, aren't enough now, and obviously will not be enough in the future. This epidemic of agricultural water pollution is destroying the present and future livability of Iowa's rural communities—along with the drinkability of water in urban areas. Meanwhile, meaningful action, let alone a solution, is not even on the political agenda.

Legislators and regulators at state and national levels apparently lack the courage to confront the agricultural establishment, to acknowledge the epidemic of agricultural pollution, and to enact appropriate measures to restore health and vitality to rural communities. The means of implementing appropriate and effective programs may be complex but the principles are quite simple. Industrial agricultural operations are “industry” and should be regulated at least as well as other industrial operations. The fact that most agricultural pollution is non-point source pollution may make implementation and enforcement more difficult, but it doesn't change the basic principles involved or the necessity of addressing the problem.

Industrial pollution is fundamentally a problem of concentration. Everything ultimately comes from nature, including industrial pollutants. But, nature doesn't concentrate more of anything in one place than the other things of nature can use, absorb, or assimilate. The concentration of contaminants from industrial operations are simply too great for nature to neutralize or assimilate. For example, nitrogen is in the air it is dispersed and harmless. When nitrogen is concentrated to make commercial fertilizer it becomes a potential environmental hazard. When farming methods destroy the ability plants to hold nitrogen in soils, the nitrogen concentrated in nitrogen fertilizer becomes a water pollutant. People in rural communities bear the risk of polluted water to fish in, swim in, or drink—or bear the cost of cleaning it up.

Nature can absorb, even needs, the biological wastes from millions of animals to provide food for the living organisms in soils and streams, which in turn provide food for plants, animals, and people. However, when too much livestock manure is applied on too little land, as is invariably the case with concentrated animal feeding operations or CAFOs, the concentration of nutrients and biological organisms destroys life in the soil and becomes a toxic pollutant in streams and groundwater. A 2490 head CAFO generates as much biological waste or raw sewage as a municipality of 7,500 to 10,000 people.^{xxiii} Manure management plans allow CAFOs of this size to spread their raw sewage on cropland with no meaningful treatment.

So-called “modern agriculture” in Iowa is an economic bottom-line industry. Virtually all of the hogs and poultry in Iowa are produced by corporations or are produced under comprehensive corporate contracts. Virtually all of the corn and soybeans in Iowa are produced with seeds that are patented and “owned” by large biotech corporations that virtually dictate farmers' production practices. Just like other industrial corporations, corporate agribusinesses aren't going to do anything voluntarily that subtracts from their economic bottom lines.

Furthermore, government economic incentive programs designed to protect the environment haven't worked and are often distorted to promote the practices they were meant to discourage. Prime examples are EQIP, which has been used to subsidize construction of CAFOs, and the CRP, which pays farmers to take marginal cropland out of production—only to be plowed up again after decades of government payments. Many farmers have come to expect economic incentives for conservation and environmental practices—to get paid to “do the right thing.” Perhaps a more effective approach would be to make all government farm subsidies, including subsidized crop insurance, contingent in “environmental compliance,” meaning implementation of plans to protect soil, air, and water from degradation and pollution. Negative economic incentives might actually get more positive results.

A logical regulatory approach would be to regulate industrial animal agriculture or CAFOs as other industry is regulated. The environmental safety for workers and animals in CAFOs and quality of air and water emissions by CAFOs would be monitored to maintain compliance. Agricultural watersheds could be treated as municipalities, obligating those who farm and live in the watershed to develop and implement practices to clean up and protect the collector streams that drain their watersheds. The primary collector stream for a given watershed could be monitored for compliance. Agreement on regulations and means of implementation and monitoring watershed protection might be complex and difficult, but the principles are quite simple. Industrial agriculture is industry.

Given the current political climate, it seems unlikely that anything significant will be done in the foreseeable future to address the epidemic of water pollution at state or federal levels. Yet, time is of the essence. Even here in Fairfield, the threat is ever present of being dragged back into being a “place without purpose” and without hope for the future. As surrounding counties are becoming saturated with CAFOs, the pressure to locate more CAFOs in Jefferson County is growing. Jefferson County Farmers and Neighbors or JFAN has been a stalwart in defending against this threat by providing experiential- and research-based educational materials and programs to community members. I would not have moved to Fairfield if I had not been aware of the work of JFAN. I willingly became a member of the JFAN Board after I arrived.

To retain or restore the fading hope of a *rural renaissance*, I believe rural people are going to have to come together, at the community level, to protect or restore the livability of their communities. This is a *community* issue, not a farm versus town or rural versus urban issue. Family farmers' “right to farm” laws have been turned into corporate “right to harm” laws. The progression of legal “agricultural exemptions” suggests a corporate strategy to turn rural areas into “sacrifice zones,” where corporate agriculture will be free to pollute and plunder as it pleases.^{xxiv} These will not be fit places for farm families to live and will destroy the livability of nearby towns to which they might flee. The quality of life of rural and town residents alike is threatened by the relentless, unbridled corporate industrialization of American agriculture.

Current state laws have preempted the right of Iowa counties and communities from regulating agriculture, as is the case in many other states. That being said, the rights to life, liberty, and the pursuit of happiness are the most fundamental rights of all Americans—including Iowans. Water and air pollution are not simply “environmental” risks, they a “public health risks”—meaning threats to life and the pursuit of happiness in rural communities. In

democracies, individual economic liberties must be tempered by equity and justice. The most fundamental responsibility of any public official is protection of public health and well-being.

In today's political world, however, the only power greater than the economic power of corporations is the *power of the people*. If we are to retain or reclaim the *livability* of our communities, by one means or another, people in rural communities must come together and claim their basic rights as Americans to clean water—the lifeblood of livable communities. Clean water alone will not ensure the livability, but without clean water there is no hope for authentically livable communities. Water samples, like blood samples, provide indicators of community health. Iowa has many sick communities. However, many Iowa communities still have a chance to realize the rural renaissance foretold by the futurist. These communities are or can become places with clean water, clean air, good food, affordable housing, pleasant landscapes, a sense of place, and people who care about each other, know how to have fun, and are willing to invest in the future of their communities. I believe Iowa has more such communities left than most other Midwest states—another reason I moved to Iowa.

These communities can still be places where the *mind workers*, as well as farm and factory workers, will choose to work because they are good places to live and raise families. They can be places where their children and their children's children will choose to live and grow. Communities that meet this challenge will discover that livability is a far better economic development strategy than continued economic extraction and exploitation. Pioneering livable communities could well rekindle the vision of the 21st Century Rural Renaissance envisioned by the futurists back in the 1990s. However, clean water is the lifeblood of *livable* communities, and the future of these communities clearly is at risk. The future livability of rural Iowa depends on people taking the future of their communities into their own hands. If the past 25 years have taught us nothing else, we should remember this one lesson: *A preoccupation with economic development will destroy the livability of a community, but the livability of a community will create the economic means of sustaining its livability.*

End Notes

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