

Back to the Future: Small Farms in the Year 2050ⁱ

John Ikerdⁱⁱ

On this twentieth anniversary of the Langston University *Small Farm Conference*, rather than look back, I would like to look forward, to the year 2050. First, we can certainly expect farming be quite different by then because we live in an ever-changing world. In fact, change is said to be “the only constant in life.” There always enough new ideas and new technologies coming along to keep life interesting. So, change is a normal and usual aspect of life. However, some changes are not normal or usual. Some changes are revolutionary – truly life changing. In fact, every two hundred years or so throughout human history, society has gone through great transformations that have changed our understanding of how the world works and our place within it. Such changes eventually change virtually every aspect of life. I believe we are currently living such a time. People who are born in the year 2050 will not be able to imagine the world of today.

Over the years, I have come to the conclusion that people don't make *big* changes unless three conditions exist. First, we have to become convinced that what we are doing now isn't working and isn't going to work in the future. We have to have a good reason to change. But, that's not enough. We also must have a clear concept or vision of what we could do instead that would be fundamentally better than what we are doing today. Without a clear vision of something better to change to, most people just keep on doing what they have been doing. Finally, we must believe that the something better is possible, even if not quick and easy. Most people do not pursue impossible dreams. We must have hope. Change is risky and uncomfortable and sometimes difficult and painful. Lacking any one of the three preconditions for change, most people just keep on doing what they are doing.

I believe the changes of the next fifty-years will be at least as big as those of the Industrial Revolution of the late 1700s, and perhaps as important as the beginning of science in the early 1600s. However, today's great transformation is not being driven by the quest for knowledge or wealth but instead by the questions of sustainability; questions of whether we can keep doing what we are doing? Sustainability asks: how can we meet the needs of the present without diminishing opportunities for those of the future? When we ask the questions of sustainability earnestly and honestly; we come to inevitable conclusion: what we are doing now isn't even meeting the needs of most people today, and most certainly isn't capable of meeting the needs of future generations. Our current way of life is not sustainable.

The changes ahead will be even more dramatic and revolutionary because we failed to make the changes when we first recognized the challenges. Forty years ago, Americans had begun to ask the questions of sustainability and were beginning to confront the ecological and social

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ⁱⁱ John Ikerd is Professor Emeritus, University of Missouri, Columbia, MO – USA; Author of, *Sustainable Capitalism*, <http://www.kpbooks.com>, *A Return to Common Sense*, <http://amazon.com>, *Small Farms are Real Farms*, Acres USA, <http://www.acresusa.com/other/contact.htm>, *Crisis and Opportunity: Sustainability in American Agriculture*, University of Nebraska Press <http://nebraskapress.unl.edu>; and *A Revolution of the Middle and the Pursuit of Happiness*, on line at <http://sites.google.com/site/revolutionofthemiddle/>.
Email: JEIkerd@centurytel.net; Website: <http://faculty.missouri.edu/ikerdj/> or <http://www.johnikerd.com>.

challenges of sustainability. The environmental, civil rights, and peace movements of the 1960s represented an awakening to environmental degradation and social injustices that were eroding the foundation of our economy and threatening our democracy. These movements resulted in an aggressive public policy agenda for the 1970s. Environmental and civil rights legislation placed restrictions on environmental pollution and extended democracy for African Americans. However, such changes never come without costs. Unfortunately, America retreated from ecological and social reality during the 1980s, and returned to the pursuit of narrow individual economic self-interests. The environmental, social, and economic challenges facing America today is largely a consequence of the past 30-years of denial and retreat from reality.

Even today, many people are still not convinced that what we are doing isn't working, or that making it work will require anything more than usual, ordinary changes. For example, many people still believe we have plenty of fossil energy; we just need to drill deeper in more places and remove environmental restrictions. Many also doubt that global climate change is real, or if it is, that we humans are making it worse. Others don't believe that growing economic and social inequity is a problem. They don't want to tax the rich because they believe the rich provide jobs and that poor people are poor because they are lazy. Many Americans don't believe we need to fix our economy or society; we just need to get rid of environmentalists and poor people. The economy is still working for them and they aren't going to change it without a fight.

Such thinking is nothing more than the rationalizations of people who are simply unwilling to confront the consequences of their greed for the future of humanity. We simply can't continue doing what we are doing. It's not sustainable. This is not a personal opinion; it is based on some of the most fundamental laws of science. Sustainability ultimately is a matter of energy. Our houses, clothes, cars, our food, require energy to make and energy to use. All material things are simply concentrated forms of energy. Human imagination, creativity, and labor also require energy – the brain uses something like 20% of the energy used by the human body. In addition, we are not born as productive individuals; we are born as helpless babies. We must be nurtured, cared for, socialized, civilized, and educated by society before we become useful to society. All of this requires human energy. According to the laws of thermodynamics, energy can neither be created nor destroyed. However, each time we use energy to do anything useful, some of its usefulness is lost – the law of entropy. We are using up the usefulness of the earth's energy.

The economic growth of the industrial era was made possible by an abundance of cheap energy – first the old growth forests, then surface mining of coal, and for the past 100-years, by shallow reservoirs of oil and natural gas. There was plenty of energy to support two centuries of economic growth. However, the old growth forests are gone. We are blowing up bedrock and mountain tops to get the remaining coal and natural gas. We are drilling for oil deep beneath the oceans and in the remote corners of the world. We are not out of fossil energy, at least not yet, but we are quickly running out of cheap energy. The remaining sources of fossil energy, mostly coal, are major contributors to greenhouse gasses and other pollutants which are threatening the ability of the earth's natural ecosystems to support human life. The industrial era is over. By the year 2050 very little recoverable or useful fossil energy will be left.

The only sustainable source of energy is solar energy. However, energy from all the sustainable sources combined – wind, water, solar panels, biofuels – will be less plentiful and

far more costly than fossil energy. The days of cheap, abundant energy are over. The industrial era was an aberration in human history that is not likely to be repeated. We can't continue doing what we are doing. It is not sustainable. Change is no longer an option; it is a necessity.

We can see the necessity for change perhaps most clearly in the diminishing employment opportunities for middleclass American workers. The good paying manufacturing jobs, with paid retirement and health insurance, are either being moving to lower-wage countries or being replaced with lower-paying jobs or part time jobs with few if any benefits. Most former factory workers lack the aptitude and training for the high-tech jobs that were promised as replacements. In addition, many of the new high-tech jobs also are going to lower-wage countries, particularly India and China. The gap between the wealthy and the rest of Americans is wider than at any time since the “gilded age” prior to the Great Depression, and is growing wider each year.

We can see parallel trends in agriculture in the demise of the mid-sized, full-time family farms. Farm employment is being lost to the industrialization of agriculture, which inevitably replaces people (labor and management) with mechanization and chemistry (capital and technology). In addition, many displaced farmers are no longer able to find off-farm employment adequate to support their families in the faltering non-farm economy. We also see a growing concentration of wealth in agriculture among the largest farm operators, non-residential landlords, and corporate agribusiness investors. The proliferation of large-scale contract feeding operations – poultry, hogs, dairy, and beef – is siphoning the remaining income and wealth out of rural communities and into the coffers of wealthy corporate investors. Corporate consolidation of control means fewer farmers and concentration of economic and political power. Concentration of economic and political power leads to market manipulation and generous government subsidies for industrial agriculture, which inflate the market values of farmland and create economic barriers for new farmers.

Farmers are also caught up on the perils of rising energy costs with an agriculture that is hopelessly dependent of fossil energy. The impressive productivity of American agriculture is a direct consequence of cheap fossil energy – for fuels, fertilizers, and transportation. The American food system claims about 20% of all fossil energy used and requires about 10 calories of fossil energy for each calorie of food energy produced. About one-third of this total is accounted for at the farm level. The food system contributes a similar share of environmental problems, as greenhouse gasses are inevitably released through the use of fossil energy. Farming poses an added threat to global climate change through the release of methane, a powerful greenhouse gas, from livestock operations and carbon dioxide from tillage of the soil.

A new challenge looming on the horizon is the growing public awareness of the rising costs of health care, which have paralleled the industrialization of agriculture. Diet related illnesses are rampant in America, including obesity, diabetes, hypertension, heart failure, and various types of cancers. Obesity related illnesses alone are projected to claim about one-in-five dollars spent for health care in America by 2020 – erasing virtually all of the gains made in improving public health over the past several decades.¹ There is a growing body of scientific evidence linking industrial agriculture to foods that are rich in calories and poor in nutrients, thus helping to fuel the epidemic of obesity and other diet-related illnesses.²

The industrialization of agriculture, and the government policies that supported it, have been an absolute failure. Our current systems of farming and food production are not sustainable. A larger percentage of Americans are “food insecure” today than during the 1960s. Those who can afford to buy enough food are far less healthy. We are not meeting the needs of the present and certainly not leaving equal or better opportunities for the future. An industrial agriculture is not sustainable. Fundamental change in agriculture is not an option; it is a necessity.

That said, we will not change from our current way of life until we have a clear concept of a better of life that we can change to. We must first create a new vision of a better future. That new vision must begin with the realization that we don't need more economic growth; that we already have enough “stuff.” Ironically, the father of Keynesian economic theory, John Maynard Keynes, anticipated the current time of change back in the 1920s. He thought the *economic problem* would be solved within a hundred years, which would be about now. He didn't consider the economic problem to be *the permanent problem of humanity*, but only a temporary problem to be overcome.”³ He thought the permanent problem was to learn the “true art of living,” to use our freedom from economic deprivation to “live wisely and agreeably and well.”

As it turned out, Keynes was actually too conservative. The “economic problem” in America was solved as early as the 1960s. There has been no increase in overall well-being or happiness in the U.S. or the rest of the so called developed world since the 1950s, in spite of continued growth in wealth and the consumption of “stuff.” The challenge for Americans today is not to try to restore unsustainable economic growth, but instead to learn to live “wisely, agreeably, and well.” We already have enough “stuff.” Admittedly, many so-called “lesser-developed” countries of the world still need to work on the temporary problem of economic growth. However, there are more than enough resources on earth to meet the basic needs of people in both developed and developing countries of the world, just not enough to sustain the economic growth we have come to expect. It's time to turn our attention to the art of living wisely, agreeably, and well.

It's time to return to the historic purpose of life; to the pursuit of happiness. People through human history have known that beyond some fairly modest level of material well-being there is no relationship between further increases in income or wealth and increases in happiness or overall quality of life.⁴ Once our basic material needs are met – food, clothing, shelter, health care, – the quality of our life depends far more on the quality of our relationships – friends, family, community, society – than on the quantity of income or wealth. We are social beings; we need to love and be loved. We are also moral beings. Our happiness depends on our having a sense of purpose and meaning in life. We need to feel in our heart that what we are doing is significant and important; that it's right and good. A multitude of social science studies related to happiness confirm our common sense. Once our basic material needs are met, the pursuit of happiness is about developing the social and spiritual dimensions of our lives, rather than striving to acquire more income or wealth.

Fortunately farming in year 2050 simply means returning to *real* farming. As with the industrial era in general, farming as just another agribusiness is an unsustainable aberration in human history. The word *farm* comes from Middle English word, *ferme* (“variously meaning: tenant, rent, revenue, stewardship, meal, feast”), from Old English *feorm*, *farm* (“meaning provision, food, supplies, possessions, rent, feast”), from Proto-Germanic *fīrmō*, *fīr̥xumō* (“means

of living, subsistence"), and from Proto-Indo-European *perk^wu-* ("life, strength, force").⁵ It is related to other Old English words such as *feormehām*, *feormere* ("purveyor, grocer"), *feormian* ("to provision, sustain"), and *feorh* ("life, spirit"). The Old English word was borrowed by Medieval Latin as *firma*, *ferma* ("source of revenue, feast"), and strengthened by the word's resemblance to the Latin words, *firma*, *firmus* ("firm, solid") and *firmitas* ("security, firmness").

Farmers need only reclaim the richness of the historic meaning of farming and reject the concept of farming as an industry or agribusiness. Certainly, economic concepts such as "rent, revenue, tenant, and means of living" are historical aspects of farming. But, farming also has been identified with provision of physical and mental sustenance for society: "provision, grocer, subsistence, life, benefit, spirit, and feast." Equally important, farming has always included a moral or ethical commitment to long run food security or permanence: "stewardship, strength, firm, solid, security, and sustain." Real farming has always been an ethical, social, and economic way of life – a means to pursue happiness. Sustainable farming isn't really a new idea. A real farm has always meant an economically, socially, and ecologically sustainable farm.

Historically, farmers were held in high esteem in the United States and around the world because of their unique importance to human society. Thomas Jefferson believed strongly that the "yeoman farmer" best exemplified the kind of "independence and virtue" that should be supported by the new democratic republic of the United States. He believed financiers, bankers, and industrialists could not be trusted and should not be encouraged by government. In light of our current financial situation in the U.S., "Jeffersonian Democracy" still makes a lot of sense.

Adam Smith, in writing the *Wealth of Nations*, noted that no endeavor requires a greater variety of "knowledge and experience" than does farming, other than possibly the fine arts or liberal professions. He observed that farmers ranked among the highest social classes in China and India, and suggested it would be the same everywhere if the "corporate spirit" did not prevent it. Smith also suggested that "they who feed, clothe, and lodge the whole body of people, should have a share of the produce of their own labor as to themselves be tolerably well fed, clothed, and lodged."⁶ Smith's reference to China was to the ancient philosophy of Confucius which ranks farmers second only to the academics or scholars in the Chinese social order. Following the farmer is the worker, and lastly, the businessman. Note that all of these respected historical figures placed those concerned primarily with economic matters at the lowest levels of society and those engaged in agriculture at or near the top.

The farms of 2050 will be smaller than most of today's commercial farms because sustainable farms must rely less on fossil energy and more on management and labor, meaning more smaller farms and more opportunities for farmers. It will take knowledge, creativity, innovation, and entrepreneurship to produce enough food to meet the needs of all sustainably. Human scale technologies, such as the microcomputer, will make knowledge more easily acquired and creativity and entrepreneurship more effectively used. Even today, organic and other sustainable systems of food production can produce as much or even more than industrial systems per acre of land or dollar of investment using far less fossil energy. They just require more thoughtful, insightful, caring farmers.

Sustainable communities of 2050 will have preserved and restored the fertile farmlands that remained in the areas where most of the cities and towns in America were initially settled. They will be communities that understand that today's local food movement is not just about restoring healthy diets and healthy bodies, although health is obviously essential to physical well-being. Local foods provide both the motivation and means of reconnecting people in meaningful personal and social relationships. Local food systems also will allow people to support their local farmers economically, and thus support their local economies. Through local farmers, people will reconnect spiritually with the land and regain a sense of purpose and meaning in life through a commitment to stewardship of nature. Farmers will again be held in high esteem as the icons of democracy and the caretakers of the future of humanity.

This is a vision of a new and better world that is worth taking the risks and enduring the difficulties of revolutionary change. The change may not be quick or easy but it most certainly is possible; and in this, there is hope. The emergence of a new vision of agriculture was apparent, even if not prominent, in the 2007 USDA Census of Agriculture, which indicated a 4% increase in the number of farms in the U.S. between 2002 and 2007. After falling for several decades, the trend in farm numbers between 1992 and 2002 had been virtually flat. The largest increase in farm numbers was for farms with annual sales less than \$10,000. Admittedly, many of these were hobby farmers – rural residents who sold a few of the things they enjoyed producing. However, farms with less than \$250,000 in sales made up well over 50% of all farmers who considered farming to be their “primary occupation,” even though they accounted for less than 20% of total sales of farm products.

Many of the new farms were not residential/lifestyle farms, retirement farms, or limited-resource farms. They were *real* farms; they provided a desirable quality of life and an acceptable level of income for themselves or their families. The new farmers in the 2007 census were different from conventional farmers – as were their customers. They were more likely to be female than were existing farmers. They were also more racially diverse, including African-Americans, Hispanics, Asians, and Native Americans. A significant number were immigrants, but the vast majority was native born. The new farmers included people of all ages but on average were younger than existing farmers. Many were young people who had no experience or previous connection to farming. Most were well educated, but still willing to work hard for little pay in on-farm internship programs to learn the art, science, and practice of real farming. What they lacked in experience they more than made up for in energy, enthusiasm, and commitment. In this new generation of new farmers, in particular, there is hope for the future of farming.

This hope for a brighter future of farming can be seen most clearly in the sustainable agriculture movement. The movement includes farmers who call themselves organic, ecological, biodynamic, holistic, practical, innovative, or just plain family farmers. What they have in common is their commitment to creating a permanent agriculture that can meet the needs of the present without diminishing opportunities for the future. They know they must balance the need for economic viability with ecological and social integrity to achieve sustainability. The numbers of new farmers is growing each year, as is evident at the dozens of sustainable agriculture conferences held annually all across the continent. At least six “sustainable agriculture” conferences in the U.S. and Canada each draw more than 1,200 participants each year, with a few reaching 2,500 to 3,000. The larger conferences typically are organized by grass-roots

organizations and the vast majority of those attending are farmers and their customers. Sustainable agriculture conferences drawing 500-700 are far from rare and conferences drawing 100-250 people per year are too numerous to attempt to count, including conferences in virtually every state in the U.S. The size and numbers of such conferences is growing each year.

Perhaps even more important, these new farmers are being supported by a growing number of allies among other like-minded farm and non-farm groups. The issues of global climate change, fossil energy depletion, economic globalization, growing social inequity, corporate consolidation of the food system, confinement animal feeding operations (CAFOs), genetically modified organisms (GMOs), and other more general food safety, health, and nutrition issues are creating a new sustainable/local food movement among consumers. The Slow Food movement, for example, is a worldwide organization with about 100,000 members in over 150 countries. Slow Food's approach to agriculture, food production and gastronomy is... defined by three interconnected principles; "Good: a fresh and flavorful seasonal diet that satisfies the senses and is part of our local culture; Clean: food production and consumption that does not harm the environment, animal welfare or our health; Fair: accessible prices for consumers and fair conditions and pay for small-scale producers."⁷ *Good, clean, and fair* are becoming the watchwords of the sustainable foods movement.

With wider recognition and growing consumer support, the sustainable agriculture movement is reaching beyond the farm gate, beyond farmers markets and CSAs, and into higher-volume food markets. Independent food processors, distributors, and marketers are beginning to realize they face the same kinds of challenges from a corporately controlled, global food system as do independent family farmers. They are also beginning to understand that they have the same kinds of opportunities as farmers in helping to create and benefit from a new and different sustainable food system. Food industry studies indicate approximately one-third of American consumers are willing pay premium prices for healthful and nutritious foods that have ecological, social, and economic integrity.⁸ With these new allies, the sustainable agriculture movement now embraces tens of thousands, if not hundreds of thousands, of like-minded advocates and active supporters scattered across the continent.

Our current well-being and the future of humanity are no less dependent on *real* farmers today than in the days of Jefferson, Smith, or even Confucius. We are just less aware of our dependencies on the land and the people who farm it. Most important, sustainable farmers, real farmers, can demonstrate to the rest of American society that it is possible to meet the challenges of today and to create a new and better way of life for the future. The entire economy is just as dependent on the resources of the earth and the imagination, creativity, and caring of the people who bring forth other economic value from the earth as is agriculture. The connections are just easier to see in agriculture. Restoring quality of life to real farming and sustainability to agriculture can serve as powerful examples of the possibilities for restoring happiness and quality to American life and sustainability to the American economy.

The great transition to a sustainable agriculture will not come easy, but we know it is possible; in possibility, there is hope. Agriculture cannot and need not change alone, a similar transformation is taking place through the economy and society; in this there is hope. We know the changes we need in farming are possible because it means a return to *real* farming; to

farming as way of life as well as a way to make a living. This doesn't mean we must go back to “forty-acres and a mule” or pulling weeds and chopping cotton. The issue is not technology but which technologies are developed and employed. The great transition means returning to the core principles and values of farming before it became an agribusiness or industry. It means abandoning unsustainable economic growth and returning to the pursuit of happiness, in farming and in life. It means going back to the future; in this there is hope.

The great transformation will not be easy. Keynes warned that humanity has become so accustomed to striving for the necessities of life that it would difficult to stop striving when we finally had “enough.” The economically and politically powerful will tell us we must continue to strive, that the only hope for happiness is in wealth. Their wealth depends on our continued striving. However, we know we are social and ethical beings as well as physical beings. We know in our heart that when as we find happiness in relationships and stewardship we will also find ways to get enough “stuff.” We don't have to wait for the rest of the world to change. We have the final prerequisite for the change we need to find happiness: we have reason for hope.

In the words of Vaclav Havel – philosopher, reformer, and former president of the Czech Republic: *Hope is not the same as joy when things are going well, or willingness to invest in enterprises that are obviously headed for early success, but rather an ability to work for something to succeed. Hope is definitely not the same thing as optimism. It's not the conviction that something will turn out well, but the certainty that something makes sense, regardless of how it turns out. It is this hope, above all, that gives us strength to live and to continually try new things, even in conditions that [to other] seem hopeless. Life is too precious to permit its devaluation by living pointlessly, emptily, without meaning, without love and, finally, without hope.*⁹

We are living in a time of fundamental change. We have the opportunity to help create a new and better world through agriculture, by looking back to find a better future, a future with more farmers and smaller farms. We know that *real* farming makes sense, regardless of how our efforts to reclaim it may turn out. Even if we ultimately fail in this great undertaking, we should always remember, life is simply too precious to live without hope.

End Notes

¹ Cost Of Treatment For Obesity-Related Medical Problems Growing Dramatically, *Rand Corporation*, <http://www.rand.org/news/press/04/03.09.html> .

² For Example: Donald Davis, Melvin Epp, and Hugh Riordan, 2004, “Changes in USDA Food Composition Data for 43 Garden Crops, 1950 to 1999” *Journal of American College of Nutrition*, 23:669-682. Bob Smith, 1993, Organic Foods vs Supermarket Foods: Element Levels, *Journal of Applied Nutrition*, 45:35-39. WM Jarrell and RB Beverly, 1981, “The Dilution Effect in Plant Nutrient Studies,” *Advances in Agronomy*, 34:197–224.

³ John Maynard Keynes, *Essays in Persuasion*, (Miami, FL: BN Publishing – no copyright date) pp. 366-368.

⁴ Ed Diener and Martin EP. Seligman, “Beyond Money, Toward an Economy of Well-Being,” *Psychological Science in the Public Interest*, 5 (1), 2004, 1–31.

⁵ Wikipedia; The On-line Dictionary, “farm.”

⁶ Adam Smith, *Wealth of Nations*, (1776, New York: Prometheus Books, 1991) p. 83.

⁷ Slow Food International, <http://www.slowfood.com/international/2/our-philosophy>

⁸ Allison Wortington, *Sustainability, the Rise of Consumer Responsibility*, The Hartman Group, Bellevue, WA, Spring, 2009.

⁹ Vaclav Havel, *Disturbing the Peace* (New York: Random House inc.), 1990, Chapter 5.