

## The Future of Food<sup>i</sup>

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In as little as fifty years from now, I believe the supermarkets and factory farms of today will seem as outdated as the “mom-and-pop” grocery stores and horse-powered farms of the past seem today. When I was growing up in south Missouri in the 1940s and early 1950s, our family's food system was essentially local. I would guess close to 90% of our food either came from our farm or was produced and processed within less than 50 miles of our home. There were local canneries, meat packers, and flour mills to supply grocery stores and restaurants with locally grown foods. And at least during the 1940s, most local farmers still farmed with horses.

Over the years, the local canneries, meat packers, and flour mills were consolidated into giant agribusiness operations that now dominate a global food system. By the 1960s, draft horses on farms were few and far-between. Today, I doubt there are many communities in the U.S. who get more than 10% of their foods from local sources, as official estimates put local foods at less than 5% of total food sales. Estimates of the average distance that food travels from production to consumption within the U.S. range from 1200 to 1700 miles. More than 30% of U.S. farm income is derived from exports to other countries.<sup>1</sup> More than 15% of the food sold in the U.S. is imported, with more than 50% of fruits and 20% of vegetables coming from other countries.<sup>2</sup>

I have concluded that changes such as transformations in food systems, meaning big changes, don't take place unless three basic conditions are in place. First, people in general must conclude what they are doing is not meeting their needs and is not likely to do so in the future. Second, they have to have a reasonably clear idea or vision of something different that would meet their needs - or at least would work better than what they are doing now. And third, they must believe it would be possible, even if not quick and easy, for them to change from what they are doing now to what they would prefer to do instead. Change always involves uncertainty and oftentimes significant risks. Some people are risks takers and like change. However, most people just keep doing what they have been doing unless they have a compelling reason to change. They also must have something better to change to and belief that change is possible - they must have hope.

I believe we are currently in a time of fundamental change in the American food system. I think the local food movement is the leading edge of a “big change” that ultimately will transform the American food system from *industrial/global* to *sustainable/local*. In fact, *local* has now replaced *organic* as the most popular label or descriptor of food and the fastest growing segment of the U.S. food market. Organic foods had been the fastest growing segment of the U.S. food markets, growing at 20%-plus per year and doubling every three to four years from the

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early 1990s until the economic recession of 2008. Growth rates for organic foods have since stabilized at around 10% per year, reaching \$36 billion in sales in 2014. Organic sales account for only about 5% of total food sales in the U.S., but organic fruits and vegetables and organic dairy products claim more than 10% of their respective markets<sup>3</sup> -- an impressive accomplishment.

The modern organic movement in the U.S. began in the early 1960s as a rejection of the resurgence in industrial agriculture. Following World War II, the mechanical and chemical technologies initially developed to support industrial warfare were adapted to support industrial agriculture. Organic farming and food production remained on the fringes of American society until the environmental movement began to reveal the environmental and public health risks associated with a chemically-dependent, industrial agriculture. As organic foods grew in popularity, however, organics eventually moved into mainstream supermarkets and began to seem more and more like industrial foods - except for restrictions on use of synthetic agrochemicals and food additives.

Consumers who were concerned about the more fundamental ecological and social consequences of agricultural industrialization began looking to local farmers to ensure the quality and overall integrity of their food. Local foods then replaced organic foods as the most *dynamic* sector of the food market. Local foods is most often associated with farmers markets and CSAs. USDA statistics indicate that farmers markets in the U.S. increased from 1,755 to 8,144 between 1994 and 2013 - a four-fold increase.<sup>4</sup> Estimates by *Local Harvest*<sup>5</sup> place the number of CSAs in the U.S. at 2,700 in 2009, compared with less than 100 in 1990.<sup>6</sup> According to industry estimates, local food sales have doubled in recent years, jumping from \$5 billion in 2008 to \$11.7 billion in 2014<sup>7</sup> -- making local the *fastest-growing* sector of the food market.

A more recent and perhaps more important development in local foods has been the formation of multiple-farm networks of local farmers. The networks may be called local food alliances, cooperative, collaboratives, or hubs. *Grown Locally*,<sup>8</sup> *Idaho's Bounty*,<sup>9</sup> *Viroqua Food Coop*,<sup>10</sup> *Good Natured Family Farms*<sup>11</sup>, and *the Oklahoma Food Cooperative*<sup>12</sup> are examples of successful food networks of which I am personally aware. The *National Good Food Network* lists more than 300 "food hubs"<sup>13</sup> - although I cannot vouch for their success or authenticity. The local food movement is so diverse that it is difficult to distinguish between groups that are committed to ecological and social integrity and those who simply see an opportunity for profits. It is so decentralized and dispersed that it is impossible to accurately estimate the size or importance of the movement. Virtually everywhere I go, I discover new local foods initiatives.

I believe growth in the local food movement indicates that a growing number of Americans have concluded the industrial food system isn't working and isn't going to work in the future. They are losing trust and confidence in the industrial food system. I'm certainly not alone in this belief as advocates of industrial foods are scrambling to regain the confidence and trust of American consumers.

For example, a recent *Fortune Magazine* article: "The war on big food," begins, "Major packaged-food companies lost \$4 billion in market share alone last year, as shoppers swerved to fresh and organic alternatives."<sup>14</sup> The article identifies artificial colors and flavors, preservatives,

pesticides, growth hormones, antibiotics, and genetically modified organisms among growing consumer concerns. All of these concerns are linked directly or indirectly to industrial food production, including industrial agriculture. The article explains how the giant food manufacturing and retailing corporations are trying to reposition their organizations to coopt the movement or at least to minimize their losses of market-share.

In an attempt to stem the tide of growing public concern about industrial agriculture, the “industrial agricultural establishment,” has mounted a multimillion-dollar public relations campaign designed to “increase confidence and trust in today's agriculture.”<sup>15</sup> Funders and board members of the new *U.S. Farmers and Ranchers Alliance*, include the American Farm Bureau Federation, John Deere, and several major commodity organizations. Monsanto and DuPont, corporate board members, have each pledged \$500,000 per year to a \$7 million annual budget. A recent study by *Friends of the Earth* documents that more than a dozen similar “front groups” have been spending more than \$25 million per year to defend industrial agriculture.<sup>16</sup>

I believe local foods are an even greater challenge to “business as usual” in the food business than are organic foods - and I believe the industrial food producers know it. Organic obviously is a more meaningful label or descriptor than local because all industrial foods are local to someone somewhere. However, industrial farmers, meaning commodity producers, know they can't sell all, or even a significant part, of their total production locally. Commodity producers sell to industrial processors and distributors that are too large to rely on local markets. Every farmer, processor, or retailer is local to someone, somewhere; but large industrial organizations are inherently dependent on non-local markets.

The most frequently mentioned motivations for buying locally grown or produced foods include freshness, flavor, and nutrition. People have learned that shipped-in foods generally are not as fresh and flavorful, and are probably not as nutritious, as fresh-picked, locally-grown foods at farmers markets, CSAs, or from other local sources. Many people also consider local foods to be safer because they are more likely to be produced organically, or at least without pesticides or GMOs, or in the case of meat, milk, or eggs, without hormones or antibiotic. Most farmers understand the basic concerns of people who buy local foods and attempt to meet needs that are not being met by the industrial food system.

In return, people who buy local foods often mention their desire to support local farmers and to help build stronger local economies and communities. Estimates based on comparison of local and industrial food production in general indicate that foods grown for local markets contribute about four-times as many dollars to local economies as commodities grown for industrial food production. However, the popularity of local foods cannot be reduced to economics.

People tend to trust “their local farmers” to not only produce “good food” but also to be good neighbors, good community members, and good stewards of the land. Some experts may question the importance of social, ecological, and *unselfish* economic motives for buying local. However, the fact that local foods clearly emerged in response to the perceived industrialization of organics suggests otherwise. Americans are trying to restore trust and confidence in “their food system” by “buying local.” As a result, farmers motivated primarily by profits or economics are unlikely to be successful in local markets.

The local food movement is a rejection of “business as usual.” For those of us in the local food movement, the industrial food system isn't working and we are convinced isn't going to work in the future. Equally important, the local food movement represents an emerging vision of a fundamentally better food system of the future. I can foresee a time when every community has its own local, community-based food system. Farmers would connect with their local customers through regular personally-connected transactions made through a local digital food network. Face-to-face contacts at farmers markets, on-farm sales, regular farm visits, or local food festivals would serve to punctuate the less personal electronic transactions in order to maintain relationships of trust and integrity. The primary objective of community-based food systems would be local assurance of quality, and integrity rooted in shared social and ethical values.

The second prerequisite for fundamental change is at least emerging from the local food networks - alliances, collaboratives, cooperatives, food hubs and other innovative relationships. But, is it actually possible for a new community-based sustainable food system to replace our current corporately-controlled industrial food system? When I am asked this question, my answer consistently has been, yes. I am convinced such a change is possible, although I am not so naïve or idealistic as to think that the transformation will be quick or easy.

Why do I believe such a change is possible? First, as mentioned previously, I have lived through the transition from the local, community-based food system of my youth to the industrial-global food system of today. The major part of that transition occurred within a span of about 50-60 years during the latter 1900s. I believe, sustainable systems of farming and food production today are further advanced than the industrial systems of farming and food production were during the early 1950s, when I was in grade school in rural Missouri. I can still remember my teacher allowing us to go out to the road and watch the steam engine go by from one farm to another to power the grain thrashing machine it pulled behind. The rest of the harvest was powered by strong men and horses. Farming and food production has changed and will continue to change; it always has and always will.

Second, there were far fewer good reasons to change the system of farming and food production in those times than there is today. The main reason to change farming systems in the 1950s was to reduce the physical labor and drudgery of farm work and to free up farmers for jobs in the factories and offices of a growing industrial economy. Changes in food processing and distribution removed much of the drudgery of homemaking - making food preparation quicker and more convenient. Industrial agriculture was also meant to reduce costs of production, eliminating hunger by making “good food” affordable and accessible to everyone. It didn't work. We have more people in the U.S. classified as “food insecure” than we had back in the 1960s. More than 20% of American children live in food-insecure homes.<sup>17</sup> In addition the U.S. is plagued with an epidemic of diet related illnesses, such as obesity, diabetes, hypertension, heart disease, and a variety of cancers. The industrial food system may have removed much of the drudgery of farming and homemaking, but it hasn't eliminated hunger.

Third, we need not return to the drudgery of farming or homemaking of the past in order to make enough good food affordable and accessible to everyone. New scale-appropriate mechanical and electronic technologies offer new possibilities for ensuring domestic “food

security” without degrading the integrity of nature or society and without diminishing opportunities for those of the future. The basic concepts embodied in microcomputers, including laptops, tablets, and smart phones, are equally applicable to small-scale equipment for growing, tilling, harvesting, processing, and preparing healthful, nutritious foods. All that is needed now is the vision to see the potential and the incentive to create what is needed.

In homemaking, prominent chefs are showing us that the most flavorful, nutritious foods typically require very basic and often-minimal preparation when they come directly from the fields and pastures of local farmers. More than 80% of the total dollars spent for foods in the U.S. does not go to pay for the food itself, but for processing, transportation, packaging, advertising, pre-preparation, and retailing. We can't eliminate hunger by making food cheap, but we can provide food security by making good, minimally processed, un-packaged, unadvertised, food available locally and helping people learn which foods to select for nutrition and health and how to prepare food for themselves. In addition, affordable kitchen technologies are available to make basic food preparation far easier today than it was for my mother. People will create opportunities to spend quality time with their families preparing food from scratch when they understand the true costs of “quick, convenient, and cheap,” industrial foods.

Scale-appropriate technologies in farming include portable electric fencing, which has revolutionized the possibilities for sustainable small-scale humane, grass-based, and free-range livestock and poultry production. Walk-behind and small pull-behind tilling and harvesting equipment is reducing the drudgery, as well as costs, for small-scale organic, local, and direct marketers of produce and field crops. The markets for such technologies are growing with the growth in small-scale producers for local markets. Sales are approaching the point where “customized mass-production” - meaning efficient manufacturing at less-than-industrial scale - will be economically attractive for more inventors and small-scale manufacturers.<sup>18</sup>

Fourth, and perhaps most important, the new digital technologies make it possible to develop and sustain meaningful, “personal” connections among farmers and others who share a common commitment to good, wholesome, delicious and nutritious, sustainably-produced foods. Obviously, digital communications also facilitates personal isolation; but email, texting, and tweeting, for example, can also help keep close personal friends in even closer personal contact. Digital technologies are being used to create and sustain local, community-based food networks that give sustainable farmers access to far more local customers than they can stay connected with through farmers markets or CSAs. Equally important, these digital-based local food networks can help local eaters find and stay in contact with the full range of like-minded farmers who are committed to providing their local customers with sustainably produced foods.

I believe each local community-based food network would make regular home deliveries - making foods produced by local farmers conveniently accessible to “their” local customers. The business of retailing - including food retailing - is changing both fundamentally and rapidly. The total value of Amazon stock recently surpassed the total stock value of Walmart. This makes Amazon the world's largest retailer, in terms of market value, although Walmart is still far larger in total retail sales. Virtually every major retailer, including food retailers, are scrambling to develop web-based markets with home delivery - following the lead of Amazon.com. Products ordered through Amazon.com show up on your doorstep. I believe local foods would show up on

your doorstep, or perhaps in a well-insulated box with a food drop-chute for your local “food carrier.” This service could start using existing services such as Fed-Ex or UPS, or perhaps “real food delivery” could be a new public mission of the U.S. Postal service - the new RFD. Such a system would be far more energy efficient than everyone making several individual trips to buy groceries each week. However, the quality, efficiency personal connectedness of local food networks may also require local, community-based delivery services.

My fifth reason for believing a new and better food system is possible is that the local food movement is a part of a much larger movement that eventually will “change everything.” The reason many people are skeptical about change is because they try to envision change in a particular segment of the economy or society in isolation of everything else. They may ask: “How can we create a sustainable food system in an unsustainable society?” The answer, of course, is that we can't. The good news is that the transformation in the food system is but a part, although an important part, of a transformation in society as a whole. We beginning to awaken to a wide range of symptoms stemming from our unsustainable economy within our unsustainable society. As we respond to national and global challenges, such as natural resource depletion, climate change, dying oceans, species extinction, social injustice, and economic inequity we will create the environment for fundamental changes in our systems of farming and food production.

For example, as sources of water for agricultural irrigation are depleted or diverted to urban use and rainfall becomes less reliable, crop production will retreat to areas of natural climatic adaptation. In the Central Valley of California, irrigation will be limited to producing fruits and vegetables for local and regional consumption, and commercial production will focus on olives, figs, dates, grapes, and other crops that can be grown without irrigation. Corn and soybean production will retreat from the High Plains and be replaced by rangeland for cattle and sheep. Large-scale concentrated animal feeding operations, or CAFOs, will be abandoned in the face of growing public health, environmental, and animal welfare concerns. Cropland in the Midwest will be diverted from feed grains to food grains. The niches in nature will be filled with niche production of crops and livestock that work with, rather than against, the nature of particular places.

Cattle, sheep, and goats will return to being herbivores or grass-eaters, for reasons of human health and nutrition as well as environmental protection and public health. Hogs and chickens will be used more as scavengers, their natural inclination, and will utilize much of some 40% of food in the U.S. that is currently wasted. In urban areas, back yards, designated lots, and public parks will be turned into orchards and gardens. The sounds of chickens, ducks, and guineas will be audibly above the reduced traffic noise in urban communities of the future. With rising economic and environmental costs of transportation, food production in general will migrate toward areas of food consumption - to supply local community-based food systems.

Growing public pressures eventually will bring about changes in public policies, including farm and food policies, to address the challenges of the 21<sup>st</sup> century, instead of the challenges of the 1950s. With supportive public policies, the transition from global to local and industrial to sustainable could move from glacial to explosive. Virtually every major farm policy of the past 50 years has promoted and supported the industrialization and globalization of American agriculture. Simply removing such policies would represent a major step forward. Replacing

existing farm and food policies with policies supporting local foods and sustainable agriculture could go a long way toward “changing everything” in American food and farming.

The new local food systems that I envision for the future would be an integral aspect of this new future of food and farming. The purpose in creating these new community-based food systems would not be local “self-sufficiency,” but instead would be local assurance of quality, integrity, and “food security.” Personal relationships of trust among community network facilitators would ensure that foods that could not be produced locally were made available locally from farmers in other local food networks that share the same common values and commitments to quality, integrity, and sustainability. These values would include a commitment to ensuring that everyone in the community has access to enough “good food” to support healthy, active lifestyles. In essence, national and global food networks would be sustained through shared social and ethical values and a common commitment to sustainability.

This brings me to my final reason for believing that a new sustainable future for farming and food production is possible. I believe that people are awakening to the need for the kinds of personal relationships and moral commitments that are essential to make sustainable, community-based food networks a reality. There is a growing realization that the pursuit of material economic self-interest has not brought us greater satisfaction or happiness. A British Cabinet study indicates there has been no overall improvement in well-being, happiness, or overall quality of life in the U.S. or any of the so-called developed nations since the 1950s<sup>19</sup> - in spite of continued growth incomes and wealth. In so-called developing countries, there is no indication of further increases in overall well-being for increases in incomes beyond around \$10,000 to \$15,000 per person.<sup>20</sup> We are finally awakening to the fact that we are not only material beings but also social and moral beings.

Certainly we are material beings and need the necessities of life - food, clothing, shelter, health care - things money can buy. But, we are also social beings and need relationships with other people for reasons that have nothing do with anything of economic value we may receive in return. We need to care and be cared for, to love and be loved. And, we are moral beings and need a sense of purpose and meaning in life, a sense of what we do matters, that it is right and good. Caring for the earth in not a sacrifice; it gives meaning to life - it matters. The rejection of industrial systems of farming and food production, and the creation of a new future of food, is not just about a better way to fuel the human body, it is about feeding the human soul and spirit. This spiritual awakening that is changing the future of food eventually will “change everything” - meaning every aspect of human life on earth. In this kind of awakening, there is always hope.

## End Notes

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- <sup>5</sup> Local Harvest, <http://www.localharvest.org/>
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- <sup>8</sup> Visit the *Grown Locally* website at <http://www.grownlocally.com> .
- <sup>9</sup> Visit the *Idaho's Bounty* website at <http://www.idahosbounty.org/> .
- <sup>10</sup> Visit Viroqua Food Coop website at <http://viroquafood.coop/> .
- <sup>11</sup> Visit Good Natured Family Farms website at <http://www.goodnaturedfamilyfarms.com/>
- <sup>12</sup> Visit the *Oklahoma Food Cooperative* website at <http://www.oklahomafood.coop/> , list of other cooperatives: <http://www.oklahomafood.coop/Display.aspx?cn=otherstates> .
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