

High Cost of Bad Food or Economics of Food Insecurity¹

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The American food system is the envy of the world, so we are told by the promoters of industrial agriculture. Americans spend less than 10% of their disposable incomes on food, less than any other nation. Each farmer feeds 50, 100, or 150 Americans, depending on who is counted as farmers. American supermarkets are filled year-round with an abundance and variety of both fresh and processed food products from every corner of the earth. Admittedly, industrial agriculture had succeeded in making food cheap and convenient, as is loudly and widely proclaimed by its advocates.

This is the “success story” of American agriculture, a story told to silence the critics who lament the demise of family farms, the decay of rural communities, the degradation of the natural environment, and loss of biological diversity that inevitably results from the industrialization of agriculture. However, it is long past time for Americans to confront the truth about American agriculture. In truth, the cheap food strategy of agricultural industrialization has failed dismally, not only in terms of its high ecological and social costs, but even in its most fundamental mission: to provide basic food security. Food security depends on “everyone” having access to “good food.”

The industrialization of agriculture has brought Americans cheap food but it has not ensured everyone access to good food. Many people equate industrialization to the migration of people from farms and rural communities to manufacturing jobs in urban areas. However, shifts to manufacturing and urbanization are only symptoms of the industrial model or paradigm of specialization, standardization, and consolidation of control. Specialization increases efficiency through division of labor. Standardization is then necessary to facilitate coordination and routinization of specialized production processes. Standardization and routinization simplify production and management processes, allowing consolidation of control into large-scale, corporately-controlled business enterprises. This is the basic industrial process by which “economies of scale” have been achieved in agriculture as well as manufacturing.

The industrialization of agriculture inevitably replaces large numbers of small, diversified family-operated farms with far fewer large, specialized corporately-controlled farms. Most would-be critics of American agriculture have been largely silenced by broad-based public support for agriculture, rooted in an outdated, nostalgic image of small, diversified family farms. It seems almost unpatriotic to criticize agriculture. However, with the growing corporate control of agriculture, public scrutiny and even criticism of the food system in general has become more socially acceptable, even if not yet commonplace.

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Questions of food safety and diet-related health problems are but the most prominent on a growing list of public concerns. Best-selling books, such as *Fast Food Nation*ⁱ and *Omnivore's Dilemma*,ⁱⁱ have helped awakened millions of Americans to the growing problems associated with the ways today's foods are produced, processed, and marketed. Video documentaries, such as *The Future of Food*,ⁱⁱⁱ *Broken Limbs*,^{iv} *Food Inc*^v and *Fresh; The Movie*,^{vi} have provided gripping images of the negative impacts of an industrial food system on nature and society, even threatening the future of humanity. They all tell the same story of a food system that is lacking in ecological, social, and economic integrity.

In defending industrial agriculture, Americans are told that our modern food system reflects the natural evolution of a free-market economy. The markets simply give consumers what they need, or at least what they want. However, today's American economy bears little resemblance to the free-market economy described by Adam Smith's in *The Wealth of Nations*.^{vii} The variety, quality, and quantity of today's foods do not reflect the market's ability to accommodate evolving consumers' tastes and preferences but instead the food corporations' ability to maximize economic returns on their stockholders' investments – at the expense of consumers, producers, and society. Adam Smith's *invisible hand* has been mangled by the machinery of industrial economic evolution. Today's food markets are no longer able to transform individual greed into the larger societal good. Today's food system is not a consequence of free markets.

The most significant aspect of this evolution perhaps has been the growing ability of food corporations to affect, if not outright dictate, public policies related to both food and farming. The Food and Drug Administration's approval of genetically modified (GM) foods as being “substantially equivalent” to non-GM foods by an administrator with connections to Monsanto is among the most egregious violations of public trust. Virtually every significant program of the United States Department of Agriculture (USDA) since the early 1960s, by one means or another, has promoted the industrialization of American agriculture. Even programs designed to conserve and protect soil and water resources have been modified or mismanaged to accommodate the economic interests of corporate agriculture. Many have been completely perverted to subsidize natural resource exploitation.

Farm programs designed to preserve family farms during the Great Depression of the 1930s have evolved into government programs that now subsidize about one-half of the cost of crop insurance, which virtually guarantees farm profits at the expense of taxpayers. Such programs encourage farmers to specialize in large-scale, resource-exploiting production of specific commodities – corn, soybeans, hogs, cattle, and chickens. As a result, farmers have largely abandoned the resource-conserving, diversified crop and livestock operations needed to sustain the long-run productivity of agriculture. The Environmental Quality Incentives Program has diverted millions of dollars intended for environmental protection to subsidize construction of giant confinement animal feeding operations, or CAFOs. More than 50 years of experience with CAFOs have proven them to be consistent offenders of environmental regulation designed to control them, and they now represent a growing threat to public health.^{viii} These are but two examples among many of the abuse of trust of American taxpayers.

Many farm programs have been well-intended. They were designed to serve the public good by providing food security rather than to serve the private interests of either farmers or food corporations. Taxpayers are told such programs were necessary to improve the productivity and economic efficiency of American agriculture and thus make safe and healthful food affordable for everyone. As an agricultural economist, that is what I was taught and that is what I believed, until I was forced by unfolding economic reality to believe otherwise.

I think I understand the industrialization of American agriculture better than most, including most economists, because I have literally lived through it. I grew up on a small dairy farm in Missouri. My brother made his living and still lives on that small farm. When I left the farm for college in the late 1950s, American agriculture was still dominated by small family farms, like ours, that produced food primarily for local and regional markets. Commercial fertilizers and pesticides, developed from World War II technologies, were just coming on the scene. Fossil energy was abundant and cheap; a “dollar's-worth” of gasoline meant “five-gallons.” However, farming was about to be transformed from a cultural way of life to a bottom-line, industrial economic enterprise.

By the time I graduated from college in 1961 the industrialization of American agriculture was well under way. My college education had thoroughly indoctrinated me in the industrial paradigm of agriculture and I was committed to promoting it. I eagerly took a job with Wilson & Co. Inc., the fourth largest meat packer in the U.S. at the time. After three years, however, I had become disenchanted with the corporate world and decided to return to graduate school at the University of Missouri, a Land Grant University. The historic mission of Land Grant Universities, as well as for all government programs for agriculture, had been to provide food security for the nation. Agricultural policies had been designed to keep enough family farmers on the land, who were committed to caring for the land, to ensure Americans would always be well fed in times of peace as well as times of war.

By the mid-1960s, however, the public mandate for American agriculture had changed. The United States Department of Agriculture was no longer committed to saving family farms. Instead, government farm programs would make agriculture more efficient, by any means necessary, to make food cheaper and more affordable for consumers. Cheaper food would make it possible for all Americans to afford enough safe and wholesome food to meet their needs for healthy, active lives. The goal was to achieve national food security through the marketplace, and agricultural industrialization seemed the most efficient means of achieving that worthy goal. When I left graduate school with a Ph.D. in Agricultural Economics in 1970, I was committed to doing my part to increase the efficiency of American agriculture.

During the first half of my 30-year academic career, I was a traditional, free-market, free-trade economist. I had been taught that a successful farm had to be managed as any other bottom-line business, if it was going to survive. The only economically sustainable farms would be those that became agribusinesses instead of ways of life. I told family farmers that their farms and families had to be treated as distinct and separate entities. Quality of life was something farmers bought with farm profits. What they bought was a personal matter that had no place in my vision of the economics of farming. I was teaching what I had been taught and what I thought was good for farmers as well as for society.

During the farm financial crisis of the 1980s, I was forced to rethink what I had been taught about the economics of agriculture. The more “progressive” farmers had borrowed heavily at record high interest rates to expand their operations during the export driven economic boom years of the 1970s. When the U.S. and global economies fell into economic recession during the 1980s, export markets collapsed, commodity prices fell, and many of these farmers were caught with large debts at high interest rates they simply couldn't repay. Stories of farm bankruptcies and foreclosures sprinkled the national network news programs. Occasional suicides by bankrupt farmers captured both local and national headlines. It wasn't just poorly managed farms that were failing. Those we economists had called *good* farmers were failing. Farming for the bottom line, for economic efficiency, had led to financial and personal failure for the *good* farmers.

There had to be a better way to farm and to live. Fortunately, the sustainable agriculture movement was emerging at about the same time as my professional crisis. The movement was born out of environmental concerns brought about by the widespread use of commercial pesticides and fertilizers. It was led by organic farmers and their customers who demanded their share of publicly funded research and educational programs. The farm financial crisis brought farmers with economic concerns into the movement. They wanted to reduce their reliance on agricultural chemicals, fossil fuels, and machinery, all of which had continued to rise in costs in spite of falling commodity prices. These two groups were joined by nonprofit organizations and other advocates for the rural communities that were being degraded by agricultural pollution and decimated by the financial failure of the farm families who had provided the socioeconomic foundation of many rural areas.

I spent the second half of my academic career as an unabashed advocate of sustainable agriculture. I wanted to help farmers who were committed to caring for their land and who cared about other people, which are the only sources of long-run economic viability. I came to understand that the sustainable agriculture movement was but one aspect of the larger sustainable development movement. Both reflect a commitment to meeting the needs of the present without diminishing opportunities for the future. They reflect an understanding that everything of any use to us, including everything of economic value, is ultimately derived from the resources of nature by way of society. Thus, a sustainable agriculture must be ecologically sound, socially responsible, and economically viable – the three cornerstones of sustainability. Sustainable farming is about farming for the “triple bottom line” – ecological, social, and economic.

During my 30-year academic career, I served on the faculties of four major Land Grant Universities: North Carolina State University, Oklahoma State University, University of Georgia, and University of Missouri. I eventually concluded that none of the large agricultural colleges were going to support sustainable agriculture. They were all committed to the industrial paradigm of agriculture – economically, politically, and philosophically – and they were not going to change. Virtually all have established token sustainable agriculture programs, but authentic sustainable agriculture represents a threat to industrial agriculture. The goal of most agricultural universities is to marginalize and neutralize the sustainable agriculture movement, not to support it. I retired from the University of Missouri in early 2000, so I could continue to speak out and write about issues related to both agricultural and economic sustainability. Slowly over the years, I have come to the conclusion that the economic industrialization of agriculture

has been an absolute failure, at least as far as American consumers and taxpayers are concerned. It has failed in its most fundamental mission: It has failed to provide food security for the nation.

A larger percentage of Americans are hungry today than were hungry during the 1960s, before the industrialization of agriculture. USDA statistics, for 2010, placed total “food insecurity” at 15% with more than 20% of American children living in food insecure homes.^{ix} Without generous government programs, including as food stamps, the statistics would be far more dire. This is not just a reflection of the recent recession. The only time significant progress has been made in food insecurity over the past 30 years was during the unsustainable economic boom of the 1990s. People are not hungry because food prices are too high. They are hungry because they are poor and because they don't know how to produce or prepare their own food. The industrial food system doesn't address these problems and in fact makes them even worse.

Equally important, those who can afford to buy enough food to satisfy their hunger, too often end up buying foods that destroy their physical health. While their percentage of incomes spent for food has dropped by more than half since the 1950s, the cost of American health care has more than doubled.^x Health care costs currently claim more than 17% of the GDP, more than twice as much as the food sector.^{xi xii} For decades, organic food advocates have been calling attention to health problems associated with the widespread use of agricultural chemicals,^{xiii,xiv} growth hormones and antibiotics,^{xv} and more recently, genetically modified foods or GM foods. The associated health risks include reproductive problems, various forms of cancers, heart disease, attention deficit disorder, and a variety of food allergies. More recently, foods recalled for contamination with E-Coli O157:H7, Salmonella, and various other food contaminants also have raised growing concerns for food safety.

The tipping point of public concern, however, may well be the growing epidemic of obesity in America. More than two-thirds of adults and nearly one-third of American children and teens are obese or overweight.^{xvi} Since 1970, the number of obese adults has doubled, obese adolescents have tripled and obese children have quadrupled.^{xvii} Obesity is not simply a matter of personal inconvenience or embarrassment; it is closely linked to a whole host of diet related diseases, including diabetes, heart disease, hypertension, and several types of cancer. A 2010 report by the Robert Wood Johnson Foundation, *F As In Fat; How Obesity Threatens America's Future*, documents how the growing prevalence of obesity has continued unabated, in spite of a host of public and private programs mounted to address it.^{xviii} Obesity related illnesses are projected to claim about one-fifth of the money spent for health care in America by 2020 – erasing virtually all of the gains made in improving public health over the past several decades.^{xix} If recent trends continue, total health care costs will claim more than one-third of total U.S. economic output by the year 2040. Americans simply cannot afford the high and rising costs of increasingly bad food.

Genetic modification of crops and livestock is touted as the new answer to questions of global food security. However, GM is but the latest strategy for promoting further specialization, standardization, and consolidation of the global food system under the control of a few giant, multinational corporations. What greater economic and political power could a corporation ever expect to acquire than control of the global food system. Consumers and taxpayers will be forced to concede on every market and public policy issue under the threat of global food scarcity or

even mass starvation. Corporations are motivated by profits, not human necessity. Most people are hungry because they are poor and poor people lack the ability to compete for food in the global market place and thus will remain hungry in a corporate-controlled global food economy.

The ultimate cost of bad food could be even greater than the rising cost of healthcare. We risk the complete loss of global food security. People must be told about the high costs of bad food before it is too late. This is the real economic story of American agriculture, not the story of abundance and convenience. I believe this story, if widely understood, would slow and eventually reverse the industrialization of agriculture and propel the “pure food movement” to its ultimate success. I believe this story could slow and eventually stop genetic engineering of foods and the resulting loss of genetic diversity. Heirloom varieties could take their rightful place of preeminence in providing long run food security. I believe, the ultimate success of the initiatives promoted by this event, the *National Heirloom Exposition*, depends on our success in spreading the story of the high and rising costs of bad food.

The proponents of industrial agriculture are masters of “divide and conquer strategies.” Those who are concerned about world hunger are pitted against those who oppose genetically modified organisms (GMOs). A constant barrage of corporate propaganda proclaims that GMOs will be necessary to feed the growing global population of the future. Biodiversity is treated as a nostalgic longing for nature that can be satisfied only in wild places made possible by a chemically-intensive, genetically-modified agriculture, rather than as a necessity for human survival. We are asked: Which half of the world's population are we willing to starve in order to create a sustainable agriculture? Sustainably produced foods, as exemplified by organics, are labeled as a luxury of the affluent. How can organic farming possibly be seen as an answer to questions of hunger or food security even in the United States, let alone in the rest of the world?

I am frequently asked such questions – all of which have perfectly logical, empirically-sound, common-sense answers. First, people in America are hungry because they are poor, not because food prices are too high. Second, most poor people in America can afford enough good food; they just can't afford all of the convenience associated with the American food system. Less than 20% of the amount the average American spends in grocery stores and restaurants actually goes to pay for the actual food. The rest, more than 80%, pays for the processing, transportation, preparation, packaging, and such that make foods convenient, and the advertising that convinces poor people to spend what little money they have for bad food.

Most Americans could actually afford to pay for really good food as well as all of the convenience. On average, we spend less than 10% of our disposable income for food, and could easily spend 12% or 15% if we needed to do so to get good food. However, poor people might be spending up to 50% of their income for food and simply cannot afford all of the convenience that comes with most foods in America today. In addition, the only easily accessible sources of food in many lower-income neighborhoods are “convenience stores,” which are notorious for highly processed and heavily packaged, unhealthy foods. Such places are labeled as “food deserts.” This means that some people who are hungry are spending more than 40% of their income (80% of 50%) for food processing, transportation, packaging, preparation, and advertising of bad food. The answer is not to make the bad food cheaper, but instead to help poor people find ways to

spend a larger percentage of their income for good food and a much smaller percentage for processing, transportation, packaging, preparation and advertising.

To ensure food security for the hungry, we must respond to the challenge with genuine personal concern for the food needs of those who are less fortunate, rather than rely on government programs to ensure cheap food. First, we need to make good food accessible in lower-income areas. Food deserts are a consequence of lack of trust between conventional food retailers and people in low-income communities. This means we must create opportunities for local entrepreneurs who are known and trusted by people in the community to provide “good food” and reasonable prices in their own communities. Urban farmers markets, community supported agriculture organizations (CSAs), and urban gardens are steps in the right direction, but locally-owned and operated food stores and restaurants will also be necessary for food security.

Most important, we need to find ways to help people who are hungry make good food choices. People must learn to choose foods that are good for them rather than foods that are convenient and cheap. This means we will also need to help people learn how to prepare raw or minimally processed foods and know where to find such foods locally at reasonable prices. Most people will not be able to reduce their actual costs of food by the full 80% by buying raw and minimally processed food locally, but most should be able to reduce their actual costs enough to be able to afford good food rather than continue spending their money for bad food. Certainly, growing and preparing more foods at home will require more time and energy. However, it may be far less than the time and energy required to earn the up-to-40% of their income they are currently spending for the convenience of bad food. All that is actually lacking in providing food security for all in America is a widespread sense of genuine concern for the well-being of the poor.

But what about the poor and hungry in the “less developed world,” where populations are growing the fastest? How can we possibly feed the two-to-three billion more people expected in the world by 2050 without relying on GMOs and other technologies of industrial agriculture? First, we need to understand that industrial agriculture is utterly dependent on fossil energy. The American food system, for example, requires about 10 calories of fossil energy for every calorie of food energy it produces. While most of that energy is used in processing, transportation, packaging, preparation and such, about one-third of total fossil energy is required at the farm level: about three calories of fossil energy for each calorie of food energy. How can we possibly rely on a food system that is hopelessly dependent on fossil energy to feed a growing global population in a world that is running out of fossil energy?

Experts may argue about whether we will run out of recoverable fossil energy in 50 or 100 years, but there is no argument about whether we are going to run out of fossil energy sometime within the next century. Long before the fossil energy is gone, as fossil energy becomes increasingly scarce, the cost of producing food in an industrial food system will rise well beyond the economic reach of the poor and hungry people of the world. The costs of production for industrial agriculture likewise will rise well above the costs of more solar-energy-dependent organic/sustainable farming systems. We simply cannot feed the world with a fossil-energy

dependent food system in a world that is running out of fossil energy. Thirty-to-fifty years is all of the time we have left to create a sustainable global food system; time is running out.

Even if we had an abundant supply of energy for the future, it simply would not make sense to continue promoting a system of food production to provide food security for more people in the future when it has so utterly failed in providing food security for even fewer people in the past. The industrialization of agriculture seemed a logical strategy for a post-World War II economy. Fossil energy was abundant and we quite logically thought we could provide more good food for more people if we could produce food more efficiently. Time and history has proven otherwise. There are more hungry people in the world, even percentagewise, than before the Green Revolution to industrialize global agriculture.

When industrial agriculture advocates estimate the number of people who were saved from starvation by the Green Revolution they apparently fail to fully account for the millions of people who were forced off subsistence farms. Whereas many were reasonably well fed on their farms, they now live in urban slums without jobs needed to buy food they could no longer produce. The advocates simply count up the increased production of food calories, as we have in America, and convert increased calorie production to reduction in starvation. We know now that producing more food calories has not eliminated hunger or improved human nutrition in America, and it has not likely done so in any other part of the world. In fact, the American “bad-food experience” is being repeated in virtually every rapidly-developing country of the world with the same results. It simply makes no sense to spread industrial foods to the rest of the world.

Finally, farmers can produce just as much or more per acre of farmland with organic and other sustainable agriculture practices as with industrial agriculture. It just takes more knowledgeable, thoughtful, caring farmers. Sustainable farming is management intensive. Farmers have to understand nature, including human nature, in order to work with, rather than try to conquer, nature. Good organic/sustainable farmers have proven they can produce good food in abundance to meet the cultural and nutritional needs of people while working in harmony with nature. However, it will probably require three to four times as many farmers as today to meet the future food needs of the United States. Food prices likely will rise somewhat as we provide economic opportunities for more farmers to farm sustainably. The rise in prices associated with a transition from industrial to sustainable agriculture, however, would likely be less than the rise in food prices associated with the ethanol biofuels program. Who can possibly believe that Americans are concerned about world hunger when we are burning about 40% of the U.S. corn crop in our high-powered automobiles?

In the less developed nations of the world, sustainable agriculture would simply mean fewer subsistence farmers would be forced to migrate to the cities as the sustainable productivity of subsistence agriculture increases. Such farms would feed their local communities first and then begin to supply regional and national food markets. Sustainable agricultural development would lead to sustainable community development and sustainable economic development. Sustainable development requires a commitment to meeting the basic needs of all people, present and future, rather than promoting economic growth. Food security and economic security are inseparable for developed and developing nations of the world. In addition, some of the most credible global food studies confirm that sustainable farming practices are in fact the best hope for hungry

people in the poorest and most densely populated areas of the world.^{xx} The only way to provide food security for other people is to help them find ways to provide food security for themselves.

The people of the world will be well fed only when we regain the sense of purpose and meaning in life that have been lost in the processes of specialization, standardization, and consolidation of economic and political power in the quest for economic efficiency. Certainly we are material beings and we need the food, clothing, shelter, and other material things essential to our health and physical well-being that come with economic development. But we are also social beings and we need positive relationships with other people in families, communities, and in society that have been weakened by economic development. We need to love and be loved, to care and be cared for, and we need to feel we are living in an equitable and just society. Finally, we are ethical and moral beings. We need to feel our lives have purpose and meaning, which has been denied for the sake of economic development. We need a sense of rightness and goodness in what we do.

The poor and hungry of this generation and generations of the future will have true food security only when we understand it is not sacrifice to care for each other and to care for the earth because these are the things that give quality and meaning to our lives. Food insecurity is a consequence of the erosion of the social and ethical foundation of the global food economy. To the extent that we reclaim the social and spiritual dimensions of our lives, the physical needs of our lives and of others will be met, both within and across generations.

End Notes:

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