



THE ECONOMIC PAMPHLETEER
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The battle for the future of food

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We are in the midst of a battle for the future of our food systems. In spite of persistent denials, today’s so-called modern food system simply cannot be sustained for much longer. Mounting evidence of the negative impacts of today’s dominant systems of food production on the natural environment, public health, animal welfare, and the quality of rural life is becoming difficult to deny or ignore.

The U.S. Environmental Protection Agency

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(U.S. EPA) consistently identifies agriculture as the leading nonpoint source of pollution of rivers and streams and a major contributor to pollution of lakes, wetlands, estuaries, and groundwater (U.S. EPA, n.d.). Massive “dead zones,” such as those in the Gulf of Mexico and Chesapeake Bay, developed with the industrialization of American agriculture (National Geographic Society, 2011). Agriculture has also been identified as a major contributor to global climate change. Experts disagree, but an emerging consensus seems to be

Why an Economic Pamphleteer? Pamphlets historically were short, thoughtfully written opinion pieces and were at the center of every revolution in western history. I spent the first half of my academic career as a free-market, bottom-line agricultural economist. During the farm financial crisis of the 1980s, I became convinced that the economics I had been taught and was teaching wasn’t working and wasn’t going to work in the future—not for farmers, rural communities, consumers, or society in general. Hopefully my “pamphlets” will help spark the needed revolution in economic thinking.

that agriculture globally contributes about 15% of human-caused greenhouse gas emissions—about the same as transportation (Nahigyan, 2016). Animal agriculture is a major contributor, and environmentalists have joined animal welfare advocates in calling for an end to industrial animal agriculture.

Agricultural pollution has also become a major public health issue. In 2015, the World Health Organization concluded that glyphosate, the world's most widely used agricultural pesticide, is "probably carcinogenic to humans" (International Agency for Research on Cancer, World Health Organization, 2015). Numerous scientific studies confirm that residues of glyphosate are ubiquitous in the air, soil, water, food, and even in our bodies (Watts, Clausen, Lyssimachou, Schütte, Guadagnini, & Marquez, 2016). Health risks are not limited to agricultural chemicals. Scientists around the world have confirmed that the routine use of antibiotics in large-scale confinement animal operations is a significant contributor to the rise in human infections by antibiotic-resistant bacteria, such as the deadly MRSA. The U.S. Centers for Disease Control and Prevention (2013), the World Health Organization (2016), and a special Summit Meeting on the United Nations (General Assembly of the United Nations, 2016) have all called for significant restrictions or bans on the routine use of antibiotics in livestock operations for growth promotion and disease *prevention* rather than treatment.

The dominant systems of food production are becoming indefensible. The fundamental question is whether to try to fix the current system or instead to replace it. The dominant players in the food system are trying to fix it, as replacing it would mean losing their position of dominance. Virtually every major agri-food corporation now includes sustainability in its mission statement and issues an annual sustainability report to convince its investors and customers that the corporation is

responding to growing public concerns. The industrial agriculture establishment is attempting to restore confidence and trust through a multimillion dollar public-relations campaign funded by agri-food corporations and mainstream agricultural organizations (Hamerschlag, Lappé, & Malkan, 2015). The U.S. Farmers and Ranchers Alliance, for example, with a budget of US\$11 million in 2011, is one of more than a dozen industry front groups formed specifically to restore the tarnished public image of "modern agriculture" (Ruskin, 2015).

In addition, the large agri-food corporations are modifying their production practices, when deemed economically feasible, to temper public demands for stricter government regulations. Both Tyson and Purdue have announced plans to stop using antibiotics in their poultry operations

(Amelinckx, 2017). Walmart recently joined McDonald's on a growing list of food markets and restaurants announcing intentions to source eggs only from "cage-free" poultry operations (Pacelle, 2017). Organic food production has been embraced by large agri-food corporations—after they found ways to industrialize and dominate the organic movement (Ikerd, 2018). Industrial producers of row crops are promising to reduce agricultural pollution of streams

and aquifers, if they are given government funds as an incentive and additional time to implement voluntary programs (Environmental and Energy Study Institute, 2016).

In the meantime, most agriculture producers are relying on the currently accommodating regulatory environment to maintain the industrial status quo, including special right-to-farm laws. All 50 states have some type of legislation that protects agricultural producers from nuisance lawsuits by neighbors who are adversely affected by their operations (Weldon & Rumley, n.d.). A recent trend in right-to-farm legislation has been to expand protection explicitly to industrial farming systems, such as concentrated animal feeding operations

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(CAFOs) and genetically modified crops. Model legislation developed by the American Legislative Exchange Council is being used in many agricultural states (The Center for Media Democracy, 2017).

These and other attempts to defend and protect industrial agriculture tend to focus on separating and insulating agriculture from the ecological and social environment in which farms must function. Confinement livestock and poultry operations remove animals from their natural habitat and isolate them physically and visually from public exposure. Hydroponic vegetable production removes crop production from reliance on soil fertility as well as the vagaries of climate and weather. Genetic engineers are attempting to weatherproof crops. Farming by GPS-guided robots and drones would reduce future needs for farmworkers and the associated risks to public health. Advocates extoll the environmental and social benefits of such innovations. The basic question is whether separation or shielding from nature and society results in better systems or simply hides their fundamental flaws from public view. Regardless, if the battle for the future of food is to be won by the industrial agri-food system, it seems agriculture must be essentially separated from nature and society.

The logical alternative is to replace industrial agriculture with a fundamentally different model of agri-food production that would reconnect agriculture with nature and society. Today, this alternative model goes by various names, including organic, ecological, biological, biodynamic, sustainable, resilient, regenerative, and restorative agriculture, as well as permaculture, holistic management, and nature farming. The unifying principle of all of these alternatives is their recognition and respect for the inherent interconnectedness of agriculture with its natural environment—with the air, water, soil, and energy flow of nature.

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These alternatives share common roots in the scientific principles of agroecology, which applies the science of ecology to agriculture (Altieri, n.d.). Ecology is a study of the relationships of living organisms, including humans, with the other elements of their natural and social environment. In living systems, all things are interconnected. All elements of farming—soil, plants, animals, workers, farmers—are interrelated with everything else.

Farms also are connected integrally with the natural bioregions and social communities within which, and for which, they function. Agri-food economies, being creations of societies, are but one dimension of the agroecological environment. When agroecological farmers do any one thing, they are aware that other things may be affected on their farms as wholes as well as in their bioregions and communities.

Agroecology was the natural model of choice for the global food sovereignty movement,

which proclaims “the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems” (Nyéléni, 2007, quoted in Ikerd, 2015, p. 13). Perhaps more relevant in the U.S., agroecology provides a science-based conceptual foundation for the local food movement, which could well evolve into the primary contender with industrial agriculture for the future of food (Ikerd, 2017).

The sustainable alternative to today’s industrial agri-food system is less well defined because it is a diverse, individualistic, dynamic, emerging agroecological system. Regardless, the battle for the future of food is between those attempting to separate and insulate today’s industrial agri-food system from nature and society and those who are striving to create a sustainable agri-food system that functions in harmony with its ecological, social, and economic environment.

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