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Farm and Food Policies for a Sustainable Future

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ABSTRACT

United States government policies have incentivized and supported the unsustainable agri-food system of the present and fundamental changes in farm and food policies will be necessary for a sustainable future. US farm policies, initiated in the 1930s, were designed to ensure long run domestic food security by ensuring the economic viability of independent family farms. New mechanical, chemical, and biological technologies of the 1950s made it possible to increase agricultural productivity by applying industrial production strategies to farming. A shift in farm policy during the 1960s made the shift from family farms to industrial agriculture inevitable.

The shift in farm policy was well-intended—but it failed. Agricultural industrialization has exacerbated food insecurity and diminished agricultural sustainability. An epidemic of obesity and diet related illness has emerged coincident with agricultural industrialization. Taxpayers have been asked to absorb the risks of industrial agriculture through price supports, subsidized crop insurance, and periodic "disaster" payments. In addition, lax environmental restrictions have licensed industrial farming operations to pollute the natural environment and plunder the resources of rural areas. States' "right to farm" laws have even prevented rural residents from using nuisance laws to protect their property values and physical and mental health.

The technical knowledge needed to transition to sustainable agri-food systems is more advanced today than was the knowledge about industrial agriculture during the 1960s. The conceptual and technological stage is set for another shift in farm and food policies that could create fundamentally better systems of farming and food production for a sustainable future.

I. INTRODUCTION

The United States Department of Agriculture (USDA) was established by Congress in 1862. In his final message to Congress, President Lincoln referred to the USDA as "The People's Department." USDA's primary activities in the early years focused on agricultural research and education. The Agricultural Adjustment Act of 1933 is generally recognized as the first US "Farm Bill." The Act of 1933 was a government response to the negative economic impacts of the Great Depression on rural America. Section 2 of the Act begins:

> It is hereby declared to be the policy of Congress, 1.) To establish and maintain such balance between the production and consumption of agricultural commodities, and such marketing conditions that will reestablish prices to farmers at a level that will give agricultural commodities a purchasing power with respect to articles that farmers buy, equivalent to the purchasing power of agricultural commodities in the base period.[1]

The base period of 1909 to 1914 was a time when farm family incomes were equal to or at parity with incomes of non-farm families. The Act included provisions to ensure that consumer interest would not be compromised by farm commodity price supports:

> 3.) To protect the consumers' interest by readjusting farm production at such level as will not increase the percentage of the consumers' retail expenditures for agricultural commodities, or products derived therefrom, which is returned to the farmer, above the percentage which was returned to the farmer in the prewar period.[2]

The basic purpose of the first Farm Bill was twofold. The first objective was to provide an economic stimulus for the general economy. Farm families made up about one-fourth of the US population at the time, and more than half of all US residents lived in rural areas. The economies of most rural communities were heavily dependent on farming. Farmers considered direct payments from the government to be social welfare, which they were reluctant to accept. So, price supports for farm commodities was a logical means of supporting the overall US economy. The second objective of the Act was to ensure domestic food security. Depression era prices for farm commodities were forcing experienced farmers to leave their farms. If this was continued, it would take decades to restore the nation's agricultural productive capacity. The 1933 Act gave the Secretary of Agriculture authority to set limits on agricultural production and to implement various marketing programs to raise commodity prices to parity levels.

In January 1936, however, the US Supreme Court ruled the 1933 Act unconstitutional. The Court objected to a tax placed on processors to fund the Act, but more importantly, ruled that regulation of agriculture was a state, rather than federal, responsibility. Congress responded by attaching most of the provisions of the 1933 Act as amendments to the Soil Conservation and Domestic Allotment Act of

1. Agricultural Adjustment Act of 1933, Pub. L. No. 73-10, § 2(1), 48 Stat. 31, 32.
2. Agricultural Adjustment Act of 1933 § 2(3), 48 Stat. at 32.

1935.[3] The Soil Conservation Act had established soil conservation as a national issue that could not be left to the discretion of individual states.[4] The stated purpose of the resulting Agricultural Adjustment Act of 1938 was for "conserving national resources, preventing the wasteful use of soil fertility, and of preserving, maintaining, and rebuilding the farm and ranch land resources in the national public interest."[5]

Implementation of soil conservation practices was added as a precondition for farmers receiving government support. Thus, the 1938 Act also made clear that the purpose of federal farm policy was to provide economic security for family farmers who were willing to preserve, maintain, and rebuild the farm and ranch land resources needed to ensure long run domestic food security. The stated means of accomplishing this purpose included, "storage of reserve supplies, loans, marketing quotas, assisting farmers to obtain, insofar as practicable, parity prices for such commodities and parity of income, and assisting consumers to obtain an adequate and steady supply of such commodities at fair prices."[6]

The Act defined "parity prices" for individual commodities in terms of the level required to ensure parity farm family incomes, not simply in terms of farm profitability.

> 'Parity', as applied to prices for any agricultural commodity, shall be that price for the commodity which will give to the commodity a purchasing power with respect to articles that farmers buy equivalent to the purchasing power of such commodity in the base period of August 1909 to July 1914.[7]

The 1938 Act referred specifically to parity farm family incomes as being at parity with or equal to non-farm family incomes. Farm family living expenses were, and remain, an essential element in calculation of parity prices for agricultural commodities.

By focusing on family farming as a means of ensuring soil conservation as well as domestic food security, the Agricultural Adjustment Act of 1938 essentially defined agricultural sustainability, as the basic purpose of US farm policy. The 1938 Act is still considered "permanent legislation" and new Farm Bills have been enacted as amendments. If Congress fails to pass a new Farm Bill before the previous bill expires, US farm policy would revert to the Agricultural Adjustment Act of 1938. Many of the current farm programs would no longer exist and parity prices, acreage controls, and marketing quotas would all return. Congress is highly unlikely to allow this to happen, but the possibility adds a sense of urgency to the policy making process.

3. Agricultural Adjustment Act of 1938, Pub. L. No. 75-430, § 2, 52 Stat. 31.
4. Soil Conservation and Domestic Allotment Act of 1935, Pub. L. No. 74-46, 49 Stat. 163.
5. Soil Conservation and Domestic Allotment Act § 2, 52 Stat. at 31.
6. *Id.*
7. Soil Conservation and Domestic Allotment Act § 301(a)(1), 52 Stat. at 38.

II. TRANSITION IN US FARM POLICY

American agriculture was fundamentally changed by new agricultural technologies that emerged following World War II. Chemical technologies developed for munitions and chemical warfare during the war were used to produce cheap nitrogen fertilizers and commercial pesticides. Mechanical technologies developed to produce jeeps and tanks were used after the war to produce affordable farm tractors. Electrical power also began to make its way into many rural areas. These technologies allowed each farmer to farm more land and produce more crops and livestock than during the 1909 to 1914 base period used to calculate parity prices.

This meant parity commodity prices now translated into higher farm family incomes. In response, the calculation of parity was redefined in the Agriculture Act of 1948 and in later Farm Bills to reflect evolving production possibilities.[8] Parity prices are still calculated by the USDA.[9] However, the process of linking commodity price supports to parity prices was completely phased out in the Agriculture and Food Act of 1981.[10] The rationalization for abandoning government support of parity prices was that industrial agricultural technologies made it possible to ensure domestic food security with fewer farms and fewer farmers.

The basic strategies of industrialization are specialization, standardization, mechanization, and consolidation of management and control into larger organizations. As an inevitable consequence, industrial organizations employ fewer, and less-skilled, workers and fewer managers to produce any given quantity of output or production. In the case of American agriculture, increases in the nation's agricultural production capacity has exceeded increases in demand for agricultural commodities. Agricultural industrialization has resulted in chronically recurring periods of excess supplies and depressed prices for farm commodities. Farm employment in the US dropped by nearly 25% during the 1950s, as excess supplies and depressed prices forced 1.7 million farmers off their farms.[11] This became known in farm policy circles as the "agricultural problem."

In the early 1960s, the Committee for Economic Development ("CED") assembled a group of more than 50 distinguished business and academic leaders to develop government proposals to address the growing "agricultural problem." The stated mission of the CED is to "*deliver well-researched analysis and reasoned solutions in the nation's interest.*"[12] The CED was established in 1942 and claims credit for initiating the Marshall Plan, Bretton Woods Agreement, World Bank, International Monetary Fund, and other major public policies. In the 1962 CED report, "An Adaptive Program for Agriculture," concluded,

> The common characteristic shared by these [agricultural] problems is that, as a result of changes in the economy, labor and capital employed in the

8. Agricultural Adjustment Act of 1948, Pub. L. No. 80-897, § 201(a)(1)(A)-(D), 62 Stat. 1247, 1250.

9. U.S. DEP'T OF AGRIC., NAT'L AGRIC. STAT. SERV., NO. 1937-4216, AGRICULTURAL PRICES (Dec. 30, 2021).

10. *Kevin Engelbert, A Brief History of Parity Pricing and the Present Day Ramifications of the Abandonment of a Par Economy,* THE CORNUCOPIA INST. (last updated Jan. 28, 2013), https://www.cornucopia.org/2013/01/a-brief-history-of-parity-pricing-and-the-present-day-ramifications-of-the-abandonment-of-a-par-economy.

11. Patricia A. Daly, *Agricultural Employment: Has the Decline Ended?*, MONTHLY LAB. REV., Nov. 1981, at 11, 13.

12. *About CED*, COMM. FOR ECON. DEV., https://www.ced.org/about (last visited Apr. 20, 2022).

> industry cannot all continue to earn, by producing goods for sale in a free market, as much income as they formerly earned, or as much as they could earn if employed in some other use; that is—the industry is using too many resources![13]

The Committee noted that the migration of farmers out of agriculture had been taking place at a rapid rate for some time, but concluded,

> Nevertheless, the movement of people from agriculture has not been fast enough to take full advantage of the opportunities that improving farm technologies and increasing capital create for raising the living standards for the American people, including of course, farmers."[14] The CED proposed an "adaptive approach" that "utilizes positive government action to facilitate and promote movement of labor and capital where they will be most productive and will earn the most income.[15]

Throughout its history, farming has been as much a way of life as a way to make a living. The CED report basically redefined agriculture as an industry and farming as a "business." The report advocated government programs for reeducating and training displaced farmers for manufacturing jobs, relying on social welfare programs to ease the economic burden of their transition. The report reflected little concern for the cultural and social shock suffered by families being forced to sell or abandon multigenerational farms, break family and social connections, and move into some distant city. The implicit public-benefits justification for the proposed changes in farm policy was to promote domestic food security by making agriculture more productive and thus make food more affordable to more people.

The CED report served to validate the farm policy positions of many prominent agricultural economists at the time—some of whom served on the research advisory board of the CED committee. The most prominent to emerge as an advocate for the economic, bottom-line business approach to farming proposed by the CED was Professor Earl Butz of Purdue University. Dr. Butz had served as Assistant Secretary of Agriculture during the Eisenhour administration in the late 1950s and was appointed by Richard Nixon as Secretary of Agriculture in 1971. A major revision in US farm policy quickly followed.

The stated purpose of the Agriculture and Consumer Protection Act of 1973 was "[t]o extend and amend the Agricultural Act of 1970 for the purpose of assuring consumers of plentiful supplies of food and fiber at reasonable prices."[16] The extensions and amendments of the 1973 Farm Bill provided incentives for farmers to choose the free market option, reflecting the free market proposals of the CED. The option of either accepting acreage controls and price supports or producing for free markets had been given to farmers in 1968 and was extended during the 1970s.[17] The mantra of the Department of Agriculture during the Butz administration was to "plant fencerow to fencerow" and "get big or get out." America's "cheap food

13. COMM. FOR ECON. DEV., AN ADAPTIVE PROGRAM FOR AGRICULTURE 9 (1962).
14. *Id.* at 7.
15. *Id.* at 11.
16. Agricultural and Consumer Protection Act of 1973, Pub. L. No. 93-86, 87 Stat. 221.
17. ECON. RSCH. SERV., U.S. DEP'T OF AGRIC., AGRIC. INFO. BULL. NO. 485, HISTORY OF PRICE-SUPPORT AND ADJUSTMENT PROGRAMS, 1934-84, v (Dec. 1984).

policies" were not only going to make food more affordable in America; American farmers were going to feed the world.

III. FARM POLICIES NECESSARY TO SUPPORT INDUSTRIAL AGRICULTURE

US farm policy makers logically assumed that an industrialized agriculture, aided by evolving mechanical, chemical, and biological technologies, would be more economically efficient than the traditional family farmers they displaced. For example, hybrid seed corn proved a perfect complement to synthetic nitrogen fertilizers and pesticides to dramatically increase crop yields. Farmers could then abandon diversified crop rotations they had used to maintain fertility and manage pests and adopt specialized monocropped corn or corn-soybean rotations. Specialization facilitated mechanization and simplified farm management, allowing larger farming operations to achieve economies of scale.

The Land Grant University system joined agri-business corporations in providing a constant stream of new industrial technologies that farmers essentially were forced to adopt if they expected to compete and survive economically. This continual stream of new technologies forced farmers to substitute capital, including purchased inputs and hired labor, for intensive farm management and skilled labor, was described by agricultural economists as a "technology treadmill."[18] Agricultural economist Willard Cochran, who coined the term "technology treadmill," referred to this as "the curse of agricultural abundance."[19] The clear warning to farmers was to be prepared to "get big or be forced out."

However, large, industrial farming operations have the same fundamental flaws as other large industrial operations. As farms become larger and more specialized to gain economic efficiency, they lose their resilience or ability to absorb shocks and survive disruptions. In agriculture, the economic risks are even greater than in most industries. Unpredictable weather and outbreaks of pests and diseases in crop and livestock operations result in large production risks. Highly volatile and unpredictable agricultural prices magnify market risks. Not only are supplies more variable, but demand for agricultural commodities tends to be inelastic, meaning market prices are highly sensitive to changes in supply. Large industrial farming operations also require large outlays of capital for land, buildings, and equipment, frequently financed with borrowed money. The risks inherent in large, industrial farming operations were laid bare by the COVID pandemic of 2020, which threatened the availability and affordability of food in America.[20]

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18. *Technology treadmill*, WIKIPEDIA, https://en.wikipedia.org/wiki/Technology_treadmill (last visited Apr. 23, 2022).

19. *See generally* WILLARD A. COCHRAN, THE CURSE OF AMERICAN AGRICULTURAL ABUNDANCE: A SUSTAINABLE SOLUTION (2003).

20. Bridget Balch, *54 Million People in America Face Food Insecurity During The Pandemic. It Could Have Dire Consequences For Their Health*, AM. ASS'N OF MED. COLLEGES, (Oct. 15, 2020), https://www.aamc.org/news-insights/54-million-people-america-face-food-insecurity-during-pandemic-it-could-have-dire-consequences-their.

A. Farm policies to mitigate the economic risks of industrial agriculture

The US government has responded to the lack of resilience of industrial agriculture with an arsenal of farm policies designed to absorb the inherent economic risks of industrial agriculture. Until recently, a variety of commodity price support programs had been the primary means of offsetting agricultural price risk. The history of price support and supply adjustment programs for US farmers date back to the Farm Adjustment Board of 1929.[21] However, price supports didn't become a dominant feature of farm policy until the Agricultural Adjustment Acts of 1933 and 1938. Over the decades, a variety of different supply adjustment and payment schemes have been used to buffer US farmers from the increasing economic risks of industrial agriculture.

Several attempts have been made since the 1930s to return agriculture to the market economy but have ultimately failed. The voluntary acreage controls and price supports initiated in 1968 became dominant features in Farm Bills throughout the 1970s and 1980s.[22] However, voluntary programs resulted in surplus production by producers who chose not to participate, which depressed market prices below government price support levels for program participants. The voluntary programs simply did not work. "Relatively high price supports drained the federal treasury and the glut of supply resulted in ever lower commodity prices, requiring even more federal money to pay the commodity price supports; thus, creating a vicious cycle."[23] This farm policy failure was a significant contributing factor to the farm financial crisis of the 1980s.

Production cuts forced by financial pressures and stronger national and global economies allowed prices for agricultural commodities to rebound during the 1990s. This set the stage for another attempt to return American agriculture to the market economy. The Federal Agriculture Improvement and Reform Act of 1996 was commonly referred to as the "Freedom to Farm" Act. The Act "suspended" the authority of the Secretary of Agriculture to control supplies and support prices of agricultural commodities. Previous price supports were replaced with price "deficiency payments," designed to offset depressed market prices. This allowed prices for farm commodities to drop to market clearing levels during times of surplus, with differences between market prices and government support prices offset by government payments to farmers. Deficiency payments were scheduled to be phased out by 2002, returning agriculture to the market economy. Generous upfront payments provided an incentive for farmers to support the free market experiment.

At this point, the process of industrializing American agriculture was considered to be complete. The percentage of the US employment provided by farming had dropped from more than 25% in the 1930s to less than 2% in the 1990s.[24] By 1997, more than 70% of total US agricultural production was accounted for by less

21. ECON. RSCH. SERV., *supra* note 17 at iii, 2.

22. Nathan R.R. Watson, *Federal Farm Subsidies: A History Of Governmental Control, Recent Attempts At A Free Market Approach, The Current Backlash, And Suggestions For Future Action*, 9 Drake L. J., 281, 291, (2005).

23. WILLARD W. COCHRANE AND C. FORD RUNGE, REFORMING FARM POLICY: TOWARD A NATIONAL AGENDA, 48-50 (Wiley-Blackwell 2007) (2005).

24. Geoffrey S. Becker, *Farm Commodity Programs: A Short Primer*, CRS REPORT FOR CONGRESS, Order Code RS20848 CR-1, CR-5 (2002).

than 10% of US farms--larger industrial farms. It was time to bring government price subsidies to an end and return to the market economy.

However, surplus agricultural production had again depressed commodity prices by the late 1990s. Congressional representatives from states with major agricultural sectors dominate the Senate and House of Representatives Agricultural Committees and were quick to abandon the free-market experiment of 1996. In the Food Security and Rural Investment Act of 2002, deficient payments linked to current market prices and historic acres planted of program crops were returned.[25] Persistent attempts have failed to limit deficiency payments to amounts consistent with traditional family-sized farms. The government was and has remained committed to absorbing the market risks of the large industrial operations. The industrial system of agricultural production likely would not have survived without asking taxpayers to absorb the risks of volatile commodity markets.

Government subsidized crop insurance, which shares agricultural production risks, has been part of farm policy since it was introduced as an experimental program in the 1930s. With the industrialization of American agriculture, however, subsidized crop insurance became a more prominent part of US farm policy. In addition to crop insurance, Farm Bills during the 1960s and 1970s included free "disaster payments" to offset uninsured losses by farmers who suffered unavoidable crop losses or weather-related inabilities to plant a crop.[26] And, as farms became larger and more specialized, the economic impacts of cropping losses increased the government costs of crop insurance and disaster programs accordingly. In an attempt to replace the free disaster payments and mitigate total costs, government subsidies and coverage levels for crop insurance were increased significantly in 1980.

However, continuing multimillion-dollar government payments to wealthy owners of farmland and large commercial farming operations left the farm programs vulnerable to growing public resistance. From a 1995 story in the Los Angeles Times: Millions of dollars [of farm subsidies] went to such dubious agricultural centers as Sun City, Ariz.; Boca Raton, Fla.; Hilton Head, S.C.; Grosse Pointe, Mich.; Vail, Colo.; Key West, Fla.; Nantucket, Mass.; and Newport, R.I."[27] A potential solution was found in the Agricultural Risk Management Act of 2000, which allowed crop producers to insure crop prices as well as yields for eligible commodities.[28] Government programs would compensate farmers for their economic losses through insurance companies, rather than direct payments from the government. Wealth investors in farmland still receive millions of dollars in farm subsidies, just less directly from government.[29] Government subsidies covering about 60% of the insurance premiums, plus the costs of administering the program, would be less

25. Watson, *supra* note 22 at 295.

26. *History of Crop Insurance Program*, USDA RISK MGMT. AGENCY, https://legacy.rma.usda.gov/aboutrma/what/history.html.

27. John M Broader & Dwight Morris, *Urban Farmers Reap Rich Harvest of Farm Subsidies: Agriculture: Program is Cash Cow for Affluent Owners of Distant Lands: Under Rules, They Are Entitled to Every Cent*, LOS ANGELES TIMES, (Mar. 16, 1995), https://www.latimes.com/archives/la-xpm-1995-03-16-mn-43471-story.html.

28. *History*, CROP INS., https://cropinsuranceinamerica.org/history/ (last visited Apr. 23, 2022).

29. *Rich and Famous Get Taxpayers' $9 billion; Report*, CBS NEWS (Nov. 15, 2011), https://www.cbsnews.com/news/rich-and-famous-get-taxpayers-9b-report/.

noticeable.[30] The 2014 Farm Bill strengthened the incentives for farmers to enroll in the Revenue Protection Crop Insurance Program by eliminating the countercyclical payment programs that had been in the 2008 Farm Bill.[31]

In recent years, federal "disaster" payments, such as the trade disruption and COVID related payments of 2020, have dwarfed the costs of other government payments.[32] For example, direct governments to farmers totaled more than $45 billion in 2020, which accounted for nearly 40% of net farm income.[33] Nonetheless, federally subsidized crop revenue insurance remains the mainstay of US farm policy. There are no effective limits to the number of acres of insured crops or total program payments under the Revenue Protection Crop Insurance Program. Limited Liability Corporations allow virtually unlimited expansion of industrial farming operations, with US taxpayers absorbing most of the risks.[34] Between 1995 and 2019, the top 10% of farm program recipients received 78% of $223.5 billion in total payments by the USDA.[35] The largest 1% received 26% of the payments, averaging about $1.7 million per farming operation. Fifty people on Forbes' 400 list of wealthiest Americans received large farm subsidies, while 62% of US farmers received none.[36] Like the big banks, big farms have become "too big to fail."

The US government has also incentivized and subsidized the expansion of industrial agriculture less directly through a wide variety of other farm programs. A variety of these programs are administered through the USDA Farm Service Agency ("FSA").[37] These include programs with guarantees of loan repayment as well subsidized interest rates and costs of loan servicing. Farm credit programs are available for all sizes and types of farms, but are much more readily accessible and beneficial to large industrial operations that rely heavily on capital, including off-farm technology and inputs, rather than intensive farm management and skilled labor.

B. Farm policies to accommodate environmental risks of industrial agriculture

As explained previously, soil conservation was key to the constitutionality of the Agricultural Adjustment Act of 1938 and has claimed a significant portion of the USDA budget for each Farm Bill since. Conservation funding seems to depend primarily on the extent of public pressures on Congress to address environmental

30. *Reduce Subsidies for the Crop Insurance Program*, CONG. BUDGET OFF. (Dec. 13, 2018), https://www.cbo.gov/budget-options/54714.

31. CROP INS., *supra* note 28.

32. Anne Schechinger, Under Trump, Farm Subsidies Soared and the Rich Got Richer Biden and Congress Must Reform a Wasteful and Unfair System, ENV'T WORKING GRP. (Feb. 24, 2021), https://www.ewg.org/interactive-maps/2021-farm-subsidies-ballooned-under-trump.

33. *2022 Farm Sector Income Forecast*, ERS USDA (Feb. 4, 2022), https://www.ers.usda.gov/topics/farm-economy/farm-sector-income-finances/farm-sector-income-forecast.

34. *See generally Revenue Protection*, FARM CREDIT SERV. OF AM. https://www.fcsamerica.com/products-services/insurance/crop-revenue-protection (last visited Apr. 23, 2022).

35. *Commodity Subsidies in the United States Totaled $223.5 Billion from 1995-2019*, ENV'T WORKING GRP., https://farm.ewg.org/progdetail.php?fips=00000&progcode=totalfarm&page=conc&regionname=theUnitedStatesv (last visited Apr. 23, 2022).

36. Chris Edwards, *Agricultural Subsidies*, DOWNSIZING THE FED. GOV'T (Apr. 16, 2018), https://www.downsizinggovernment.org/agriculture/subsidies.

37. *Farm Loan Programs*, FARM SERV. AGENCY, https://www.fsa.usda.gov/programs-and-services/farm-loan-programs/index (last visited Apr. 23, 2022).

protection and long run food security. USDA's conservation funding covers programs for protecting drinking water, reducing soil erosion, preserving wildlife habitat, restoring forests and wetlands, and aiding farms damaged by natural disasters.[38]

Conservation programs, like other farm programs, have been developed in consultation with the agricultural industry, and as a result, have consistently accommodated the interests of industrial agriculture. For example, the Conservation Reserve Program ("CRP") has been among the most popular and most costly of environmental programs.[39] The CRP pays farmers to remove marginal cropland from production, which is popular with farmers during times of depressed market prices. However, farmers are allowed to return CRP land to production when contracts expire, which they routinely do once market prices have recovered. Some government payments to farmers have required compliance with soil conservation practices, as was the case with the early Farm Bills, but most have not. Soil conservation and environmental protection programs that would significantly affect costs for industrial producers are routinely deemed to be "economically infeasible," and thus considered "politically infeasible."

Industrial agriculture also receives special treatment by the Environmental Protection Agency ("EPA") in legislative rulemaking and in enforcement of environmental regulations. An EPA website states, *"EPA is committed to a strong partnership with the agriculture community to assist in fulfilling our mission of protecting human health and the environment."*[40] This places those with the farming operations that most need to be regulated, the industrial agricultural operations, in position to moderate or potentially veto any regulations that threaten their economic advantage. This partnership may well lead to rejection of effectively means of mitigating pollution as being "economically infeasible," if they would reduce industrial agriculture's economic advantage." Regardless of the motivation, the EPA treats industrial agriculture more leniently than other industries with similar pollution potential.

Most EPA regulations apply to "point-source" pollution, such as municipal sewage pipes or factory smokestacks, rather than "nonpoint source" pollution, such as land-applied livestock manure, chemical fertilizers, and agricultural pesticides. However, the EPA has developed sets of guidelines and regulations regarding the application of agricultural chemicals and livestock manure.[41] Unfortunately, the responsibility for enforcing these and other environmental regulations affecting agriculture has been delegated to the states, which typically lack the funding, staff, or political will to impose government regulations on "farming." This lack of enforcement is particularly true in major agricultural states where the political power of agriculture is disproportionate to the farm population.

Concentrated animal feeding operations, commonly called "factory farms" or "CAFOs," provide a prime example of the EPA's failure to effectively regulate industrial agriculture. The EPA has the authority to regulate CAFOs under the several

38. *Conservation Programs*, FARM SERV. AGENCY, https://www.fsa.usda.gov/programs-and-services/conservation-programs (last visited Apr. 23, 2022).

39. *About the Conservation Reserve Program (CRP)*, FARM SERV. AGENCY https://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program (last visited Apr. 23, 2022).

40. *Agriculture*, EPA, https://www.epa.gov/agriculture (last visited Apr. 23, 2022).

41. *Laws and Regulations that Apply to Your Agricultural Operation by Farm Activity*, EPA, https://www.epa.gov/agriculture/laws-and-regulations-apply-your-agricultural-operation-farm-activity#CropProduction (last visited Apr. 23, 2022).

federal laws to regulate air and water pollution. For example, "Section 502(14) of the Clean Water Act specifically defines point sources of pollution to include CAFOs."[42] So the EPA has the authority to regulate CAFOs like any other industry if they discharge into federally regulated waters. In response, the EPA has developed a set of "Animal Feeding Operations—Regulations and Guidelines."[43]

The primary problem has been in determining whether or not CAFOs discharge into federally regulated waters. To address this problem, EPA regulations developed for CAFOs in1974 and 1976 were amended in 2003.[44] The amendments clearly defined the conditions under which CAFOs would be considered a "point source" of pollution and thus required to apply for a pollution discharge or National Pollution Discharge Elimination System or NPDES permit. NPDES permits specify the pollution control systems that must be used by the CAFO to meet the requirements of the Clean Water Act. The new rules were scheduled to be implemented by the states in 2005. Different court appeals were filed against implementing the new rules by industry and environmental groups. These disparate appeals were combined into one case, which became known as *Waterkeepers All. v. EPA*.[45]

On February 28, 2005, the US Court of Appeals for the Second Circuit issued its decision.[46] The Court upheld some provisions of the EPA regulations but vacated or overturned others. One key provision that was overturned was the "duty to apply" provisions which would have required "all CAFOs" to apply for a pollution discharge or NPDES permit unless they could demonstrate that they would have no potential to discharge or pollute regulated waterbodies. The Court ruled the Clean Water Act applied only to operations that actually discharge, or plan to discharge, rather than those that have the potential to discharge.

A later 2011 federal appeals court decision went even further and essentially gutted the EPA's authority to regulate CAFOs by vacating a provision of the 2003 regulations that gave the EPA (or any state agency) the authority to determine whether a proposed new CAFO would discharge and require a NPDES permit under the Clean Water Act ("CWA").[47] Basically, what's left is that a CAFO is subject to EPA regulation under the CWA only if it requests a NPDES permit because it intends to discharge into federally protected waters, or if it actually has discharged into protected waters and thus is deemed a source by its actions. Discharges typically are only discovered if reported by someone living near a CAFO, since states lack the personnel to enforce EPA regulations. Once a discharge has been verified, a permit is required and a fine may be assessed, but fines are rarely large enough to prevent future instances of pollution.

The EPA has never properly exercised its authority to regulate air pollution by CAFOs under the Clean Air Act. An excuse has been a lack of feasible and reliable methods of monitoring air pollution by CAFOs. As a first step in developing air emission protocols for CAFOs, a 2-year nationwide air emission monitoring study, largely funded by the industry, was initiated in 2007. The potential effectiveness of

42. U.S. GOV'T ACCOUNTABILITY OFF. HIGHLIGHTS, GAO-08-1177T, CONCENTRATED ANIMAL FEEDING OPERATIONS (Sept. 24, 2008) [hereinafter GAO HIGHLIGHTS].

43. *Animal Feeding Operations-Regulations and Guidance*, EPA, https://www.epa.gov/npdes/animal-feeding-operations-regulations-and-guidance (last visited Apr. 23, 2022).

44. *Summary of the Second Circuit's Decision in the CAFO Litigation*, EPA, https://www3.epa.gov/npdes/pubs/summary_court_decision.pdf (last visited Apr. 23, 2022).

45. Waterkeeper Alliance et al. v. EPA, 399 F.3d, 486 (2d Cir. 2005).

46. *Id.*

47. Nat'l Pork Producers Council v. EPA, 635 F.3d 738, 750-51 (5th Cir. 2011).

the study was questionable at its inception.[48] Eleven years after the agreement, the office of the Inspector General determined that EPA still had not developed a reliable method of determining whether CAFOs are in compliance with the Clean Air Act. In 2021, a group of 24 organizations petitioned the EPA to rescind the voluntary agreement which has allowed the industry to indefinitely delay regulation of CAFOs under the Clean Air Act.[49] Recent legislation has further limited the EPA's ability to regulate industrial agriculture under the Clean Air Act.[50]

C. Farm policies to protect industrial agriculture from nuisance suits

Nuisance lawsuits have been the last line of defense for people whose property values and quality of life have been adversely affected by water and air pollution and other public health risks associated with industrial farming practices. However, this defense also has been severely restricted through misuse of states' so-called right-to-farm laws.[51] Right-to-farm laws restrict nuisance lawsuits against agricultural operations in general. One common restriction is a legal presumption that an operation is not a nuisance if it uses "generally accepted farming practices"—even when these practices diminish the property values or quality of life of nearby residents. Protected offenses may include emissions of toxic odors, water pollutants, antibiotics, dust, insects, noise and other consequences of industrial farming operations.

Right-to-farm laws were first initiated in the 1970s and 80s to protect farmers from nuisance lawsuits filed by people who were moving from cities and suburbs into traditional farming areas. These laws were based on the premise that urban and non-farming populations didn't understand the basic nature of farming and shouldn't be able to take nuisance actions against farmers, particularly when the farm was there first. While traditional farming practices may seem unpleasant to some, they did not threaten the health or well-being or diminish property value of neighbors. In fact, rural farming communities traditionally had been viewed as desirable places to live and raise families. However, with the evolution of agricultural industrialization, "generally accepted farming practices" changed, and so did the negative impacts of farming operations on their neighbors. A comprehensive 2019 study of right-to-farm laws and property rights concluded,

> Our analysis of statutes in all 50 U.S. states finds that right-to-farm laws, while largely purported to defend family farmers, reduce rural people's capacity to protect their land through nuisance actions in defense of their

48. GAO HIGHLIGHTS, *supra* note 42.

49. Cristina Stella et al., *Petition to Rescind the Air Consent Agreement and Enforce Clean Air Laws Against Animal Feeding Operations*, (Oct. 26, 2021), https://www.mitchellwilliamslaw.com/webfiles/2021-10-26-Petition-re-2005-Air-Consent-Agreement.pdf.

50. Deena Shanker, *U.S. Spending Bill Set to Limit Regulation of Livestock Emissions*, BLOOMBERG GREEN (Mar. 10, 2022), https://www.bloomberg.com/news/articles/2022-03-10/spending-bill-to-limit-environmental-regulation-of-livestock.

51. *States' Right-to-Farm Statutes*, NAT'L AGRIC. L. CTR., https://nationalaglawcenter.org/state-compilations/right-to-farm (last visited Apr. 23, 2022).

> environmental, health, and community right."[52] "We find that right-to-farm laws seek to collapse nuisance protections by safeguarding certain types of agricultural production from lawsuits where rural people allege pollution, health impacts, loss of property rights and livelihoods, and enjoyment of home and place—all based on their property rights.[53]

Prior to right-to-farm laws, agricultural nuisance cases typically involved either someone taking up residence near an alleged agricultural nuisance or a neighbor of an existing agricultural operation that had substantially changed its operation in a way that created a nuisance. In the first instance, the courts generally ruled that preexisting agriculture operations did not constitute a nuisance because the agriculture operation had been there first. In the second case, the courts were much more willing to side with non-agricultural plaintiffs if the nuisance had been created after the neighbor had established nearby residence. Currently, there is no uniformity among states regarding what conditions must be met for right-to-farm protections to be granted, and even less uniformity in court rulings in agricultural nuisance cases.[54]

For example, there are differences among states in definitions of "generally accepted farming practices" and even in how state laws define "farming operations." Most of the major agricultural states also have laws that prohibit counties and other units of local government from regulating agriculture. The state of Missouri has even added a constitutional amendment specifically to protect agricultural operations from nuisance suits.

> To protect this vital sector of Missouri's economy, the right of farmers and ranchers to engage in farming and ranching practices shall be forever guaranteed in this state, subject to duly authorized powers, if any, conferred by article VI of the Constitution of Missouri.[55]

Most of the major agricultural states also have laws prohibiting state regulations of agriculture that are more stringent than federal regulations.[56] Under current EPA regulations, the minimum size CAFO that would be required to obtain a NPDES permit has the potential to produce more potentially toxic biological waste, or raw sewage, than a city of 8,000 to 12,000 people. Under existing laws, most CAFOs of this size and larger remain virtually unregulated, particularly since EPA's ability to regulate CAFOs under Clean Water Act at the federal level has been weakened. Some of the largest CAFOs produce more raw sewage than cities of more than one million people.[57] While CAFOs may be the most egregious

52. Loka Ashwood, Danielle Diamond & Fiona Walker, *Property Rights and Rural Justice: A Study of U.S. Right-to-Farm Laws*, 67 J. OF RURAL STUD. 120 (2019), https://www.sciencedirect.com/science/article/abs/pii/S0743016718308313.

53. *Id.* at 120-121.

54. *See* Danielle Diamond et al., *Farm Fiction: How U.S. Right-to-Farm Laws Advance Injustices in Rural Areas and Contribute to The Decline of the Rural Environment* (Jan. 16, 2021) (unpublished manuscript) (on file with author).

55. MO. CONST. art. 1, § 35.

56. *State Constraints State-Imposed Limitations on the Authority of Agencies to Regulate Waters Beyond the Scope of the Federal Clean Water Act*, ENV'T L. INST. (May 2013), https://www.eli.org/sites/default/files/eli-pubs/d23-04.pdf.

57. GAO HIGHLIGHTS, *supra* note 42.

example of a lack of regulation of industrial agriculture, similar legal restraints on protecting the environment, property values, and public health from misuse of commercial fertilizers and pesticides exist for industrial cropping operations.

This preferential treatment of agriculture in the development and implementation of public policy has been defended politically as being necessary to create conditions for American agriculture to serve the best interest of the American people. Maximum agricultural productivity and economic efficiency have been generally accepted as equivalent to maximum societal well-being. However, an objective evaluation of industrial agriculture with respect to its contribution to legitimate public interest objectives of government farm policy clearly indicates otherwise.

IV. FARM POLICIES ABANDONED SUSTAINABILITY

The initial purpose of ensuring long run domestic food security was a legitimate public service and an important mission for US farm policy. By linking soil conservation with the economic viability of family farms the Agricultural Adjustment Act of 1938 addressed the essential ecological, social, and economic dimensions of agricultural sustainability. Traditionally, family farming had been a socially and ethically responsible way of life, as well as a way to make an economic living. The failure of family farmers to take care of the land during the Dust Bowl years of the 1930s was more of a matter of ignorance than indifference. Many farmers simply could not afford to think beyond harvesting one more crop.

Farm policies of the 1930s were a logical response to a lack of agricultural sustainability. Admittedly, the word "sustainable" has been co-opted, redefined, and misused to the extent that many of its early advocates have abandoned it. Regardless, sustainability is a generic concept that Merriam-Webster defines as, "relating to or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged." Based on this definition, agricultural sustainability means the ability to use the resources of the earth—sunlight, air, water, soil, plants, animals, people, communities, societies—to meet the basic nutritional needs of all in the present without depleting or permanently damaging the resources needed to meet the needs of the future. Using agriculture to produce fuel and fiber is a luxury rather than necessity.

The first part of the mission of sustainable farm policy to be abandoned was the economic viability of family farming. The descriptive titles of Farm Bills have changed, but the basic purpose of US farm policy since the 1970s has been to promote maximum productivity and economic efficiency. Ninety-eight percent of US farms are still operated by families,[58] but US farm policies since the 1960s have supported agricultural businesses, and not family farms. Policies promoting agricultural trade, and more recently, biological energy, have promoted maximum production of agricultural commodities. The last time "farm" was even mentioned in the title of a Farm Bill was the Farm Security and Rural Investment Act of 2002.[59] US farm policies have consistently promoted maximum production while

58. *Fast Facts about Agriculture & Food*, AM. FARM BUREAU FED'N, https://www.fb.org/newsroom/fast-facts (last visited Apr. 23, 2022).

59. Farm Security and Rural Investment Act of 2002, Pub. L. No. 107–171, § 1231(b)(5)(B)(i), 116 Stat. 134, 239.

protecting industrial farming operations from economic risks, environmental regulations, and nuisance suits of offended neighbors.

The purpose of ensuring domestic food security through agricultural productivity was also essentially abandoned during the 1960s—at least for those with limited incomes. The first "food stamp" program was administered through the US Department of Agriculture in 1939. However, the primary purpose of the program was to provide additional markets for surplus agricultural commodities. According to its first administrator,

> We got a picture of a gorge, with farm surpluses on one cliff and undernourished city folks with outstretched hands on the other. We set out to find a practical way to build a bridge across that chasm.[60]

The program was ended in the spring of 1943 "since the conditions that brought the program into being--unmarketable food surpluses and widespread unemployment--no longer existed.[61] However, the chasm of hunger and malnutrition could not be bridged by agricultural efficiency and "cheap food." A 1961 executive order by President Kennedy initiated a pilot Food Stamp program, previously authorized by Congress. This program was different from earlier programs, in that food stamps were not limited to surplus agricultural commodities. The US government would no longer rely on farm programs and free markets to ensure domestic food security. Food security for low-income consumers had been relegated to direct government food assistance programs. Direct government food assistance programs of various kinds continued to grow over the years to claim around three-quarters of USDA's total budgets.[62] Farm programs are still defended by advocates as being necessary to keep food prices affordable, but food security for the unfortunate who are economically insecure is no longer a credible justification for current US farm policy.

The last public priority to be essentially abandoned by US farm policy was soil conservation and natural resource protection. When the initial Farm Bills were enacted following the Dust Bowl years, soil conservation was the constitutional rationale for involvement of the federal government in farm policy. During the 1970s and 1980s, however, soil conservation took a backseat to expansion in US crop production.[63] Farming "fencerow to fencerow" brought rampant increases in soil erosion. However, this was also a time of public awakening to environmental and natural resource issues, including questions of agricultural sustainability. In response to growing public pressure, The Food Security Act of 1985 established the modern Conservation Reserve Program ("CRP"). The CRP pays farmers to remove highly erodible lands from production and conservation compliance, linking program eligibility to soil conservation.[64]

However, expansion of production soon took priority over soil conservation and natural resource protection. As long as commodity prices remained at

60. *A Short History of SNAP*, USA FOOD AND NUTRITION SERV., https://www.fns.usda.gov/snap/short-history-snap (last visited Apr. 23, 2022).

61. *Id.*

62. *Farm Bill Spending*, USDA ECON. RSCH. SERV., https://www.ers.usda.gov/topics/farm-economy/farm-commodity-policy/farm-bill-spending (last visited Apr. 23, 2022).

63. Jonathan Coppess, *Historical Background on the Conservation Reserve Program*, DEP'T OF AGRIC. UNIV. OF ILL. AT URBANA-CHAMPAIGN FARMDOC DAILY (7):82, (May 4, 2017), https://farmdocdaily.illinois.edu/2017/05/historical-background-on-the-crp.html.

64. Food Security Act of 1985, Pub. L. No. 99-198, § 1211-13, 99 Stat. 1354, 1505-07.

marginally profitable levels, farmers enrolled and kept marginal land in the CRP program. However, government programs promoting farm exports and biofuels during the early 2000s boosted demand and increased prices of agricultural commodities. As CRP contracts expired, highly erodible and ecologically fragile lands were brought back into production. In addition, subsidized crop insurance and crop revenue insurance payments were not linked to conservation practices, which may have exacerbated soil erosion by keeping marginal cropland in production. Conservation programs have continued to claim about 7% of the USDA budget, and admittedly, have been beneficial in facilitating reduced tillage, cover crops, and other soil and water conservation practices. However, resource conservation programs have been more a means of moderating environmental impacts of profit maximizing production practices than of protecting natural resources.

V. FAILURE OF THE INDUSTRIAL FARM POLICY EXPERIMENT

The industrialization of American agriculture was a bold experiment in farm policy designed to increase the efficiency of agricultural production, make food more affordable to more people, and more fully realize the economic value of natural resources in rural areas. The experiment was well-intended, but it failed.

A. Failure To Provide Domestic Food Security

At first, the industrial strategy for making food more affordable for "most people" seemed to be working. Between 1960 and 2000, the average share of Americans' disposable personal incomes (DPI) spent on food fell from 17.0% percent to 9.9%.[65] Since 2000, however, the percentage of income spent for food has remained relatively stable. In fact, US food prices have risen slightly faster than the overall Consumer Price Index.[66] Any increases in economic efficiency at the farm level have been more than offset by increases in marketing margins of food processors and distributors, including supermarkets, restaurants, and institutions. The failure of the US government to enforce antitrust policies in the agri-food sector since the 1980s has allowed food processors and retailers to capture the benefits of economic efficiency in production for their investors rather than allow the benefits to accrue to either farmers or consumers.[67]

Unfortunately, USDA's nutrition assistance programs have been unable to span the growing gap between those who can afford enough safe, nutritious food and those who cannot. Food insecurity is generally defined as uncertainty about being able to access enough food to meet the nutritional needs of a household.[68] In 2020, one-in-nine households in total, and one-in-seven households with children, were

65. Eliana Zeballos & Wilson Sinclair, *Average Share of Income Spent on Food in the United States Remained Relatively Steady 2000-2009*, USDA ECON. RSCH. SERV. (Nov. 2, 2020), https://www.ers.usda.gov/amber-waves/2020/november/average-share-of-income-spent-on-food-in-the-united-states-remained-relatively-steady-from-2000-to-2019.

66. *Food Inflation Calculator*, OFF. DATA FOUND., https://www.in2013dollars.com/Food/price-inflation/2000-to-2020?amount=20 (last visited Apr. 23, 2022).

67. Mary Hendrickson et al., The Food System: Concentration and Its Impacts 6 (2020).

68. *Food Security in the U.S.*, USDA ECON. RSCH. SERV., https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/ (last visited Apr. 23, 2022).

classified as "food insecure." [69] In 1968, when CBS-TV aired its classic documentary, "Hunger in America," only 5% of the people in the U.S. were estimated to be hungry.[70] US government food assistance programs have expanded dramatically since the1960s, alleviating hunger for many, but socioeconomic inequity has expanded even faster.

Producers of government-supported agricultural commodities have succeeded in providing cheap raw materials for highly processed foods, such as high-fructose corn sweeteners,[71] partially-hydrogenated vegetable oils,[72] and refined flour for breads and pasta.[73] These materials are used to produce the cheap "junk foods" that now threaten the health not only of those who are food insecure but the public in general.[74] Dramatic increases in obesity, diabetes, heart disease, hypertension, and a variety of cancers have been linked to changes in American diets during the era of agri-food industrialization.[75] Between 1962 and 2016, the percent of US adults who were obese increased from 3.4% to 39.8%, according to data from Centers for Disease Control and Prevention.[76] Obesity alone accounts for nearly 50% of total costs of chronic diseases in the US, and this does not include other diet-related illnesses.[77] Between 1960 and 2000, for example, when the average percent of incomes spend for food was nearly cut in half, the percent of the GDP spend for health care increased nearly fourfold, from 5% just under 20%.[78] The myopic focus of government policy on cheap food is threatening the physical and economic future of the nation.

B. Failure To Provide Rural Economic Security

The consequences of the government's abandonment of family farming have been similarly devastating for rural economies and communities. The negative effects of agricultural industrialization on rural economics were evident by the 1960s. In September 1966, President Johnson established the President's National Advisory Committee on Rural Poverty. [79] Its charge was "to make a comprehensive study

69. *Food Security in the U.S., Key Statistics*, USDA ECON. RSCH. SERV., https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/key-statistics-graphics/#foodsecurev (last visited Apr. 23, 2022).

70. *Hunger in America* (CBS Documentary 1968).

71. *Avoid the Hidden Dangers of High-Fructose Corn Syrup*, CLEVELAND CLINIC (Dec. 1, 2020), https://health.clevelandclinic.org/avoid-the-hidden-dangers-of-high-fructose-corn-syrup-video.

72. Mayo Clinic Staff, *Trans-fat is double trouble for heart health*, MAYO CLINIC (Feb. 23, 2022), https://www.mayoclinic.org/diseases-conditions/high-blood-cholesterol/in-depth/trans-fat/art-20046114.

73. *See* Michael Pollan, *In Defense of Food, An Eater's Manifesto*, N.Y.: THE PENGUIN PRESS (2008).

74. *See* Jessica Fanzo , *Inequity In The Food System Drives Both Hunger And Obesity*, HOPKINS BLOOMBERG PUB. HEALTH (Feb. 13, 2020), https://magazine.jhsph.edu/2020/inequity-food-systems-drives-both-hunger-and-obesity .

75. *Id.*

76. Hugh Water & Marlon Graf, *America's Obesity Crisis; The Health and Economic Costs of Excess Weight*, MILKIN INST. (Sept. 22, 2020), https://milkeninstitute.org/report/americas-obesity-crisis-health-and-economic-costs-excess-weight.

77. *See id.*

78. *Historical*, CENTERS FOR MEDICARE AND MEDICAID SERVICES, https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical (last visited Apr. 23, 2022).

79. EDWARD T BREATHITT, THE PEOPLE LEFT BEHIND: A REPORT BY THE PRESIDENT'S NATIONAL ADVISORY COMMISSION ON RURAL POVERTY vi, (1967).

and appraisal of the current economic situations and trends in American rural life, as they relate to the existence of income and community problems of rural areas."[80] The committee delivered its report to the President a year later: "[r]ural poverty is so widespread, and so acute, as to be a national disgrace."[81] The report concluded, "Our programs for rural America are woefully out of date."[82] They wrote,

> We have not yet adjusted to the fact that in the brief period of 15 years, from 1950 to 1965, new machines and new methods increased farm output in the United States by 45 percent and reduced farm employment by 45 percent. Nor is there adequate awareness that during the next 15 years the need for farm labor will decline by another 45 percent.[83]

The commission recommended "that the United States adopt and put into effect immediately a national policy designed to give the residents of rural America equality of opportunity with all other citizens."[84] Recommendations of the National Advisory Committee on Rural Poverty with respect to revising social welfare to address the negative economic impacts of industrial agriculture on rural communities were similar to those of the Council on Economic Development.

However, general social welfare programs and the special rural development programs implemented through USDA have continued to be woefully inadequate to address the negative impacts of agricultural industrialization on rural America.[85] From a 2007 review of 51 peer reviewed journal articles on the subject:

> Social scientists have a long history of concern with the effects of industrialized farming on communities. Recently, the topic has taken on new importance as corporate farming laws in a number of states are challenged by agribusiness interests. Defense of these laws often requires evidence from social science research that industrialized farming poses risks to communities…We evaluate studies investigating the effects of industrialized farming on community well-being from the 1930s to the present…The results demonstrate that public concern about industrialized farms is warranted.[86]

A national conference was convened in 2018 to evaluate changes in rural America during the 50 years following "The People Left Behind" report. The participants noted that

> [T]he safety net developed during and after the War on Poverty to help the least advantaged in this society has changed over the past 20 years in ways that have kept the poverty rate relatively stable, but that have also provided

80. *Id.*
81. *Id.* at ix.
82. *Id.*
83. *Id.*
84. *Id.* at xi.
85. John Ikerd, *A Fair Deal for Rural America*, 10 J. OF AGRIC., FOOD SYS., AND CMTY. DEV. 5, 7 (2010).
86. Linda Lobao & Curtis Stofferahn, *The Community Effects of Industrialized Farming: Social Science Research and Challenges to Corporate Farming Laws*, 25 AGRIC. AND HUM. VALUES 219 (2007).

> a smaller share of its benefits to those who are in deep poverty (incomes less than half the poverty line).[87]

A 2017 Wall Street Journal analysis of rural policy had reached similar conclusions. The authors concluded, "Rural America is the new 'inner city.'" [88]"In terms of poverty, college attainment, teenage births, divorce, death rates from heart disease and cancer, reliance on federal disability insurance and male labor-force participation, rural counties now rank the worst among the four major U.S. population groupings."[89]—below the inner-cities.

C. Failure to Provide Environmental Protection

Industrial agriculture obviously has succeeded in extracting greater economic value from the natural and human resources of rural areas than did the family farms it displaced. However, even if the negative social and cultural costs industrial agriculture has imposed on rural communities are ignored, the economic costs it has externalized or imposed on society by its environmental pollution and degradation have been greater than its economic benefits.

The basic problem is that industrial operations, including industrial farming operations, concentrate more potentially toxic wastes in specific locations or places than natural ecosystems are able to neutralize or absorb. As a result, industrial farming operations present far greater environmental and public health risks than the smaller, geographically dispersed family farming operations they replaced. This is an inevitable result of the concentration of wastes. For example, a well-function septic tank provides adequate waste treatment for single households in sparsely populated rural area, whereas households in densely populated towns and cities require sophisticated waste treatment facilities to achieve similar results in environmental protection. Regulations were, and still are, unnecessary for small and mid-sized diversified family farms, but are absolutely essential to mitigate the negative environmental impacts of industrial farming operations. The concentration of wastes on family farms is more like single households and wastes from industrial farming operations are more like cities. However, the government regulations that society has been able to impose on industrial agriculture have been woefully inadequate.

For example, the number of "impairments" of Iowa streams, lakes, and wetlands reported to the EPA by the Iowa Department of Natural Resources has increased more than four-fold between 1998 and 2020—from 159 to 751.[90] This was a time of rapid expansion of industrial agriculture in Iowa. Agriculture is by far the largest source of water pollution in the state of Iowa.[91] More than half of Iowa's

87. Bruce Weber, *Fifty Years After The People Left Behind: The Unfinished Challenge of Reducing Rural Poverty*, 34 IRP FOCUS 3, 4 (2018). .

88. Janet Adamy & Paul Overberg, *Rural America is the New 'Inner City'*, WALL ST. J. (May 26, 2017), https://www.wsj.com/articles/rural-america-is-the-new-inner-city-1495817008.

89. *Id.*

90. *Iowa's Section 303(d) Impaired Waters Listings*, IOWA DEP'T OF NAT. RES., http://www.iowadnr.gov/Environmental-Protection/Water-Quality/Water-Monitoring/Impaired-Waters.

91. *See generally id.*; *Iowa's Nutrient Budget*, IOWA DEP'T OF NAT. RES. (2005), https://www.iowadnr.gov/portals/idnr/uploads/water/standards/nbsum.pdf.

public waters are now classified as polluted or "impaired".[92] A 2018 review of relevant research concluding, "[w]hile one cannot ignore this now extensive scientific evidence, there is every indication that the industry intends business as usual… The industry is fortified by a new anti-nuisance suit law that prevents or severely limits real nuisance damages and seeks to eliminate from consideration evidence-based health effects research."[93] While the report focused on Iowa, it cited more than 150 scientific studies from many other parts of the US.

At the national level, the EPA has identified "agricultural nonpoint source pollution as the leading source of water quality impacts on surveyed rivers and streams, the third largest source for lakes, the second largest source of impairments to wetlands, and a major contributor to contamination of estuaries and groundwater."[94] Industrial agriculture is widely acknowledged as a major contributor to massive "dead zones" in the Gulf of Mexico, Chesapeake Bay, and other water bodies.[95] Industrial crop and livestock production are also major source of groundwater pollution, tainting sources of drinking water in many agricultural areas of the US.[96]

On matters of public health, the world's most popular weed-killer, Roundup, has been identified by the World Health Organization (WHO) as a "probable carcinogen."[97] Atrazine, another most commonly used herbicide on US farms, has been identified as a probable endocrine disruptor linked to a variety of adverse health impacts.[98] A 2013 U.S. Center for Disease Control and Prevention report stated: *"*Scientists around the world have provided strong evidence that antibiotic use in food-producing animals can harm public health.*"*[99] The WHO "strongly recommends an overall reduction in the use of all classes of medically important antibiotics in food-producing animals."[100] A 2016 global summit of Heads of State at the United Nations General Assembly, concluded*:* "Antimicrobial resistance is a problem not just in our hospitals, but on our farms and in our food, too. Agriculture must shoulder its share of responsibility."[101] A comprehensive assessment of the total economic external or non-market costs of US food production, including environmental and public health costs, funded by the Rockefeller Foundation concluded,

92. *Iowa's Section 303(d) Impaired Waters Listings*, *supra* note 90; *2016 305(b) Assessment Summary*, IOWA DEP'T OF NAT. RES., https://programs.iowadnr.gov/adbnet/Assessments/Summary/2016 (last visited Apr. 23, 2022).

93. JAMES MERCHANT & DAVID OSTERBERG, THE EXPLOSION OF CAFOS IN IOWA AND ITS IMPACTION ON WATER QUALITY AND PUBLIC HEALTH ii (2018).

94. *Polluted Runoff; Non-Point Source: Agriculture*, EPA, https://www.epa.gov/nps/nonpoint-source-agriculture (last visited May 22, 2022).

95. *Dead Zone*, NAT. GEOGRAPHIC SOC'Y, https://www.nationalgeographic.org/encyclopedia/dead-zone / (last visited Apr, 20, 2022).

96. MERCHANT & OSTERBERG, *supra* note 93.

97. Daniel Cressey, *Widely Used Herbicide Linked to Cancer*, NATURE MAG. (Mar. 25, 2015), https://www.scientificamerican.com/article/widely-used-herbicide-linked-to-cancer/ .

98. U.S. ENV'T PROT. AGENCY, ATRAZINE CHEMICAL SUMMARY, U.S. EPA TOXICITY AND EXPOSURE ASSESSMENT FOR CHILDREN'S HEALTH 1 (2007).

99. CTR. FOR DISEASE CONTROL AND PREVENTION, ANTIBIOTIC RESISTANCE THREATS IN THE U.S., DEPARTMENT OF HEALTH AND HUMAN SERVICES 37 (2013).

100. Christian Lindmeier, *Stop Using Antibiotics in Healthy Animals to Prevent the Spread of Antibiotic Resistance*, WHO (*Nov. 7, 2017)*, http://www.who.int/mediacentre/news/releases/2017/antibiotics-animals-effectiveness/en/ .

101. Press Release, General Assembly, High Level Meeting on Antimicrobial Resistance, (Sept. 21, 2016).

> In 2019, American consumers spent an estimated $1.1 trillion on food. That price tag…does not include the cost of healthcare for the millions who fall ill with diet-related diseases. Nor does $1.1 trillion include the present and future costs of the food system's contributions to water and air pollution, reduced biodiversity, or greenhouse gas emissions, which cause climate change**.** Take those costs into account and it becomes clear the true cost of the U.S. food system is at least three times as big—$3.2 trillion per year.[102]

US environmental and public health regulations are clearly inadequate to address even the economic costs of the ecological and social externalities that industrial agriculture imposes on society.

VI. FARM AND FOOD POLICIES FOR AGRI-FOOD SUSTAINABILITY

A 2016 study by an International Panel of Experts on Sustainability-Food (IPES) reviewed and cited more than 350 sources in support of its indictment of industrial agriculture and its call for fundamental change:

Today's food and farming systems have succeeded in supplying large volumes of foods to global markets, but are generating negative outcomes on multiple fronts: widespread degradation of land, water and ecosystems; high GHG emissions; biodiversity losses; persistent hunger and micro-nutrient deficiencies alongside the rapid rise of obesity and diet-related diseases; and livelihood stresses for farmers around the world.

> What is required is a fundamentally different model of agriculture based on diversifying farms and farming landscapes, replacing chemical inputs, optimizing biodiversity and stimulating interactions between different species, as part of holistic strategies to build long-term fertility, healthy agroecosystems and secure livelihoods. Data shows that these systems can compete with industrial agriculture in terms of total outputs, performing particularly strong under environmental stress, and delivering production increases in the places where additional food is desperately needed. Diversified agroecological systems can also pave the way for diverse diets and improved health.[103]

A variety of sustainable alternatives to industrial agriculture are being proven successful by farmers across the US and around the world.[104] Organic, ecological, holistic, regenerative, innovative, practical, and natural are just a few of the names of farming systems that avoid many of the fatal pitfalls of industrial agriculture. These alternatives share common roots in the scientific principles of agroecology,

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102. *True Cost of Food: Measuring What Matters to Transform the U.S. Food System*, THE ROCKEFELLER FOUND., https://www.rockefellerfoundation.org/report/true-cost-of-food-measuring-what-matters-to-transform-the-u-s-food-system (last visited Apr, 23, 2022).

103. INT'L PANEL OF EXPERTS-FOOD (IPES), FROM UNIFORMITY TO DIVERSITY: A PARADIGM SHIFT FROM INDUSTRIAL AGRICULTURE TO DIVERSIFIED AGROECOLOGICAL SYSTEMS 3 (2016).

104. *Id.*

which applies the science of ecology to agriculture.[105] The first principle of ecology is that everything in nature and society is interconnected.[106] In agroecological farming systems, all elements of farming—soil, plants, animals, workers, farmers—are treated as parts of an interconnected whole.[107] Farms are also integrally connected with the natural bioregions and social communities within which, and for which, they function.

Agroecological farms cannot be specialized, standardized, or consolidated into operations larger than their unique ecological, social, and economic niches. Individual ecosystems, communities, and economies are different—because nature is diverse. Many elements of the economies, communities, and natural ecosystems within which farms function, and which are integrally connected with those farms, are important to the ecological sustainability of those farms, cannot be changed by individual farmers. Thus, agroecological farms must be designed and managed to fit or accommodate the ecological, social, and economic niches within which they function.

Agroecology also provides the conceptual foundation for the global Food Sovereignty Movement, which proclaims:

> [T]he 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. It puts the aspirations and needs of those who produce, distribute and consume food at the heart of food systems and policies, rather than the demands of markets and corporations."[108]

Agroecology and food sovereignty provide the principles upon which sustainable local food systems must be built. Food sovereign communities could logically evolve into bioregional, national, and global networks of local systems.[109]

Olivier De Schutter, leader of the IPES panel of experts, stated:

> It is not a lack of evidence holding back the agroecological alternative. The way food systems are currently structured allows value to accrue to a limited number of actors, reinforcing their economic and political power, and thus their ability to influence the governance of food systems. Simply tweaking industrial agriculture will not provide long-term solutions to the multiple problems it generates. We must change the way we set political priorities.[110]

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105. Miguel Altieri, *Agroecology: Principles and Strategies for Designing Sustainable Farming Systems*, AGROECOLOGY IN ACTION, http://www.agroeco.org/doc/new_docs/Agroeco_principles.pdf (last visited Apr, 24, 2022).

106. Ronald Gomeseria, *The Approach of the Four Laws of Ecology*, LINKEDIN, (Sept. 14, 2018), https://www.linkedin.com/pulse/approach-four-laws-ecology-dr-er-eng-engr-ronald-gomeseria-phd.

107. *See generally id.*

108. John Ikerd, *Food Sovereignty: A New Mandate for Food and Farm Policy*, 5 J. OF AGRIC., FOOD SYS., AND CMTY. DEV. 11, 13 (2015).

109. John Ikerd, *Soul of The Local Food Movement*, 7 J. OF AGRIC., FOOD SYS., AND CMTY. DEV. 5, 6 (2017).

110. Andrea Germanos, *'Overwhelming' Evidence Shows Path is Clear: It's Time to Ditch Industrial Agriculture for Good*, COMMON DREAMS (June 2, 2016),

The basic framework for another transformation of US farm policy is not some radical, unrealistic ideal. It is clearly outlined in the US Congressional House Resolution-332, called the "Green New Deal." The resolution states that:

> [I]t is the duty of the federal government to secure for all people of the United States for generations to come—clean air and water; climate and community resiliency; healthy food; access to nature; and a sustainable environment; and to promote justice and equity by stopping current, preventing future, and repairing historic oppression of people,…[including people in]…depopulated rural communities.[111]

The resolution would commit government to "work collaboratively with farmers and ranchers to reduce agricultural pollution and greenhouse gas emissions… by supporting family farming; investing in sustainable farming and land use practices that increase soil health; and by building a more sustainable food system that ensures universal access to healthy food."[112]

The Green New Deal acknowledges that markets will never provide nutritional food security for those who are unable to compete with biofuels, synthetic building materials, and other economic uses for croplands and crops that could be used for food. Hunger is a "market failure." One means of meeting the challenge of local food sovereignty would be through community-based public utilities.[113] Public utilities are authorized by state governments to provide "public services." They are commonly used to provide water, sewer, electricity, natural gas, communication systems, and other essential services.[114] They are granted special privileges and are thus subject to governmental regulation.[115] "Community food utilities" could not only ensure universal access to food but could also ensure that everyone has enough nutritious food to meet their basic needs – as an essential public service.[116] While it may not yet be politically feasible to ensure nutritious food as a basic human right at state or national levels, people in local communities could use existing laws governing public utilities to ensure local food sovereignty.

Numerous proposals have been developed to turn the principles of the Green New Deal into workable, effective farm and food policies. Among these, Regenerative Farming and the Green New Deal, was released in January 2020.[117] Among its specific proposals are: 1) Over time, phase out government subsidized crop insurance programs for single crops and all commodity-based programs unless accompanied by supply management programs; 2) Replace the current crop insurance

http://www.commondreams.org/news/2016/06/02/overwhelming-evidence-shows-path-clear-its-time-ditch-industrial-agriculture-good?utm_campaign=shareaholic&utm_medium=facebook&utm_source=socialnetwork.

111. Recognizing the Duty of the Federal Government to Create a Green New Deal, H.R. 332, 117th Cong. (2021).

112. *Id.*

113. *Public Utility*, CORNELL L. SCH. LEGAL INFO. INST. (Aug. 2020), https://www.law.cornell.edu/wex/public_utility.

114. *Id.*

115. *Id.*

116. John Ikerd, *Enough Good Food for All: A Proposal*, 7 J. AGRIC., FOOD SYS., AND CMTY. DEV. 3, 4 (2016).

117. Mackenzie Feldman et al., *Regenerative Agriculture and the Green New Deal*, DATA FOR PROGRESS (Jan. 17, 2020), https://www.dataforprogress.org/memos/regenerative-agriculture-and-the-green-new-deal.

with a Whole-Farm Net Revenue Insurance program that shares risks of family farms transitioning to regenerative, sustainable farming systems; 3) Support existing programs that prepare farmers to transition from monoculture farming practices to soil building, carbon sequestering, regenerative farming systems; 4) Train existing US soil health experts to help farmers develop regenerative whole farm plans; 5) Grow the agricultural research and development budget to improve resilience and regenerative capacity of family farms. There is no shortage of proposals for fundamental change in farm policy, only the political will.

The industrial agricultural technologies that emerged after World War II made it possible to industrialize American Agriculture. The fundamental changes in farm policies during the 1960s and 1970s made the transition from family farms to industrial farming operations inevitable. These policies were well-intended but have failed to serve legitimate public interests. The scientific and technical knowledge necessary to farm sustainably is further advanced today than was the scientific and technical knowledge of industrial agriculture during the 1960s and 1970s. It's time for another fundamental transition in farm and food policies. It's time for new farm and food policies for a sustainable future.