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Zoning for Public Health: Why a National Land Use Scheme is Essential to Sustainable Food Production

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ZONING FOR PUBLIC HEALTH: WHY A NATIONAL LAND USE SCHEME IS ESSENTIAL TO SUSTAINABLE FOOD PRODUCTION

VICTOR J. ABSIL*

ABSTRACT

Industrial agriculture has dominated food production in the United States for close to one hundred years. It has contributed to major public health problems, including segregation, climate change, the depletion of natural resources, malnutrition, and mental illness. Integrating sustainable agriculture into urban communities can help alleviate these public health issues. Unfortunately, Euclidean zoning laws and the current allocation of crop subsidies in the United States obstruct meaningful progress. Sustainable food production requires national food policies that drastically change the way food is produced. When the National Land Use Policy Act was defeated in 1974, momentum for a national land use law slowed to a halt. Subsequently, scholarship around this barrier and a national land use scheme is limited and often outdated.

To address this hindrance, Congress should confer certain rights on urban sustainable farmers through legislation that combines elements of state enacted “by right” and “right-to-farm” statutes. The federal government’s authority to create a national land use scheme derives from multiple Constitutional sources. Congress should look to the Commerce Clause as the best source for enacting a national land use law. Local government also continues to occupy a significant role in land use schemes. This Article illustrates what states and municipalities can do, and what they have done, to alleviate land use barriers to sustainable urban agriculture. The changes proposed in this Article represent just one step toward a future of sustainable food production, but it is a critical step at a critical time.

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I. INTRODUCTION

The time has long passed for Congress to adopt national food policies that drastically change the way food is produced. Reforming food production requires significant changes at all levels of government. The current allocation of crop subsidies and application of Euclidean zoning laws are two major barriers to food production reform.¹ The combination of these two obstacles has shaped how food is produced in the United States. In particular, it has given rise to and continues to enable large-scale industrial agriculture. This Article first discusses how industrial agriculture has come to dominate food production in the United States for nearly one hundred years and why it presents a major public health problem. This requires a brief account of the Farm Bill, crop subsidies, and Euclidean zoning. This Article then discusses how Euclidean zoning laws and regulations inhibit urban and sustainable agriculture and examines the source of the federal government's authority to enact national zoning laws as a move toward developing urban sustainable agriculture and sustainable communities. To illustrate what states and municipalities can do to alleviate this barrier, this Article also considers examples of local efforts to change zoning regulations.

1. See Anthony Kammer, *Cornography: Perverse Incentives and the United States Corn Subsidy*, 8 J. FOOD L. & POL'Y 1, 52-62; Madeline Jeffrey P. LeJava & Michael J. Goonan, *Zoning and Land Use Planning*, 41 REAL EST. L. J. 216, 225-31 (2012) (noting zoning obstacles to urban agriculture).

Euclidean zoning divides a community into areas and permits or prohibits certain uses in each area.² Each zoning use must also comply with federal environmental and public health laws.³ In some respects, this type of zoning has helped reduce nuisance and health issues. For example, in compliance with zoning laws, chemical plants are prohibited from building a factory next to residential homes or watersheds. Conversely, zoning has also increased segregation, limited housing supply, and encouraged urban sprawl by imposing minimum lot sizes and strict building codes, which raise housing costs and limit new housing construction.⁴ Moreover, zones separating commercial uses from residential uses force people to use cars and highways to get from home to work.⁵ Importantly, Euclidean zoning also imposes barriers when integrating local sustainable agriculture into urban environments.⁶ This Article attempts to raise awareness around integrating local sustainable agriculture into local communities to help alleviate public health issues caused by industrial agriculture. Facilitating sustainable urban agriculture is just one essential step toward adopting a sustainable food production system.⁷

Further, this Article argues the federal government has the authority to regulate sustainable urban agriculture and should exercise this authority by enacting laws that designate sustainable urban agriculture as “by-right” land uses, regardless of whether they are primary uses.⁸ Alternatively, states and municipalities can assist this movement by enacting zoning laws that do the same. By-right permitting means the government may regulate a certain use of land,

2. *Euclidean Zoning*, MERRIAM-WEBSTER L. DICTIONARY, available at <https://www.merriam-webster.com/legal/Euclidean%20zoning> (last visited Jan. 14, 2020).

3. See, e.g., Zoning Ordinance of the City of St. George, Utah 10-1-2.

4. Rachael Watsky, *The Problems with Euclidean Zoning*, B.U. L. DOME (July 19, 2018), <http://sites.bu.edu/dome/2018/07/19/the-problems-with-euclidean-zoning/>. See Shelby D. Green, *The Search for a National Land Use Policy: For the Cities' Sake*, 26 *FORDHAM URB. L.J.* 69, 75 (1998) (explaining urban sprawl is characterized by low population density and inefficient allocation of resources resulting in irreplaceable loss of natural and recreational resources).

5. See Green, *supra* note 4, at 75.

6. Jeffrey P. LeJava & Michael J. Goonan, *Zoning and Land Use Planning*, 41 *REAL EST. L. J.* 216, 225-31 (2012) (noting various obstacles to urban agriculture).

7. See Amy Crawford, *Big Data Suggests Big Potential for Urban Farming*, CITY LAB (Feb 15, 8:00 AM), <https://www.citylab.com/environment/2018/02/big-data-suggests-big-potential-for-urban-farming/552770/>.

8. *Smart Growth/Smart Energy Toolkit Modules – Zoning Decisions*, MASS.GOV, <https://www.mass.gov/service-details/smart-growth-smart-energy-toolkit-modules-zoning-decisions> (last visited Jan. 14, 2020) (identifying and explaining “by-right” and “as-of-right” laws).

but a zoning board does not have discretionary review of that use.⁹ In other words, a designated by-right use of the land may not be prohibited but remains subject to other regulations.

Congress has authority under the Commerce Clause to pass a law that designates sustainable, urban agriculture as a by-right land use.¹⁰ Exercising this authority in combination with a reallocation of subsidies to local, sustainable farms would incentivize sustainable agriculture to take hold across the nation, where support for urban agriculture has proliferated for several years.¹¹ Public support is likely to continue to expand as demand increases for sustainable, locally grown, healthier foods and the public becomes more aware of food deserts¹² and climate change.¹³

In order to undertake any meaningful change in subsidy allocation, Congress also needs to shift funds from specific parts of the Farm Bill to others because the Congressional Budget Office (“CBO”) uses the costs from the past Farm Bill to set a limit on the reauthorized Farm Bill budget.¹⁴ Therefore, Congress should also shift the majority of subsidies away from large-scale commodity crops and provide them to local, urban, and sustainable farms. Alternatively, if states and municipalities change zoning laws and integrate sustainable agriculture into local communities, Congress may feel pressure from its constituents to enact laws that support a system of decentralized, local, and sustainable agriculture. These changes would support local sustainable agriculture and strengthen communities by incentivizing healthier farming practices, boosting

9. *Id.*

10. *See Gonzales v. Raich*, 545 U.S. 1, 32-33 (2005).

11. *See* Kate A. Voigt, *Pigs in the Backyard or the Barnyard: Removing Zoning Impediments to Urban Agriculture*, 38 B.C. ENVTL. AFF. L. REV. 537, 537-38 (2011); Martha M. Hamilton, *Urban Farming Yields Fresh Foods, Land Reuse*, NAT’L GEOGRAPHIC (May 18, 2014), <https://www.nationalgeographic.com/news/2014/5/140518-urban-farming-produce-chickens-community-agriculture-food> (discussing a new wave of urban agriculture).

12. Paul Dutko ET AL., *Characteristics and Influential Factors of Food Deserts*, U.S. DEP’T OF AGRIC. (Aug. 2012), https://www.ers.usda.gov/webdocs/publications/45014/30940_err140.pdf?v=2159.5 (discussing problem of food deserts in United States).

13. *Local Foods*, NAT’L AGRIC. LIBRARY – U.S. DEP’T OF AGRIC., <https://www.nal.usda.gov/aglaw/local-foods> (last visited Jan. 10, 2020) (noting demand for local food systems has grown in past decade). Surveys on food trends place local food systems at top, with the number of farmers markets tripling and initiated thousands of farm-to-school programs. *Id.*

14. *See* Gary Schnitkey ET AL., *Reviewing the CBO Baseline for 2018 Farm Bill Debate*, UNIV. OF ILL. FARMDAILY (Apr. 12, 2018), <https://farmdocdaily.illinois.edu/2018/04/reviewing-cbo-baseline-for-2018-farm-bill-debate.html> (explaining the Farm Bill baseline).

local economic development, and facilitating sustainable farming in various environments.¹⁵

II. WHY SHOULD INDIVIDUALS CARE ABOUT SUSTAINABLE AGRICULTURE?

A. The Farm Bill: A History of Agricultural Monopolies and Oligopolies

The U.S. Farm Bill is another name for the omnibus legislation that Congress typically passes every five years, each with a distinct title.¹⁶ The Agricultural Adjustment Act of 1933 was the first Farm Bill and the Food and Agriculture Act of 1965 was the first multi-year farm law that lasted five years.¹⁷ The U. S. Farm Bill was first enacted in response to an economic downturn and widespread hunger in the 1930s after the Great Depression and the Dust Bowl, which resulted from the widespread use of monoculture and other unsustainable farming practices.¹⁸ The commercialization of agriculture, defined as growing crops for commercial purposes rather than for subsistence, led farmers to rely on mechanization and crops that could increase yields.¹⁹ Small farmers were especially

15. See Voigt, *supra* note 11, at 560-65 (explaining how changes to zoning laws can facilitate the expansion of urban agriculture); see also Peter H. Steeves, FOUNDING COMMUNITY: A PHENOMENOLOGICAL-ETHICAL INQUIRY, 1, 94-116 (1998) (a phenomenological communitarian perspective, developed by Peter H. Steeves, provides an insightful account of community). Developing an understanding of the meaning of community is important to adopting a sustainable food system and helpful to understand fully the position underlying and giving rise to this article. See *id.*

16. See *History of Agricultural Price-Support and Adjustment Programs, 1933-84 Background for 1985 Farm Legislation*, USDA ECONOMIC RESEARCH SERVICE, Agriculture Information Bulletin Number 485, available at https://www.ers.usda.gov/webdocs/publications/41988/50849_aib485.pdf?v=1759.5.

17. *Id.*

18. Agricultural Adjustment Act of 1933; *History of Agricultural Price-Support and Adjustment Programs, 1933-84*, U.S. DEP'T OF AGRIC. ECON. RSCH. SERV. (Dec. 1984), https://www.ers.usda.gov/webdocs/publications/41988/50849_aib485.pdf?v=1759.5; see also R. Louis Baumhardt, *Dust Bowl Era*, ENCYCLOPEDIA OF WATER SCI. 187, 190-91 (2003), https://www.researchgate.net/publication/43255753_Dust_Bowl_Era (discussing agricultural impacts of Dust Bowl); *What is the Farm Bill?*, NAT'L SUSTAINABLE AGRIC. COALITION, <https://sustainableagriculture.net/our-work/campaigns/fbcampaign/what-is-the-farm-bill/#:~:text=every%20five%20years%2C%20the%20farm,Agriculture%20Improvement%20Act%20of%202018>.

19. William S. Eubanks II, *A Rotten System: Subsidizing Environmental Degradation and Poor Public Health with Our Nation's Tax Dollars*, 28 STAN. ENVTL. L.J. 213, 217 (2009); see also R. Louis Baumhardt, *Dust Bowl Era*, ENCYCLOPEDIA OF WATER SCI. 187, 190-91 (2003), https://www.researchgate.net/publication/43255753_Dust_Bowl_Era (discussing agricultural impacts of Dust Bowl).

negatively impacted in the 1920s and 1930s.²⁰ Notably their plight was not due to a lack of food but instead from the overproduction of commodity crops.²¹ With the rise of commercialization, large processing firms, distributors, and monopolists took command of the food system and small farmers received lower profits as crop prices fell.²²

The first Farm Bill introduced in 1933 raised crop prices, provided insurance for subsistence farmers, and utilized crop surpluses in nutrition assistance programs for school children and the poor.²³ Most of the farmers' income stability, however, resulted from crop subsidies.²⁴ The subsidies provided only an artificial, temporary support to a market for hundreds of crops.²⁵ Soon, the largest companies would receive most subsidies for only a few crops.²⁶ When pesticides, increased mechanization, and plant breeding took hold in the 1960's "Green Revolution," a new wave of commercialized agriculture once again resulted in overproduction and decreased prices.²⁷ This allowed the largest firms, which could endure low crop prices, to exploit small farmers and lobby Congress to draft Farm Bill policies that favored industrial agriculture.²⁸ The "Green Revolution" used emerging technology and subsidies to focus on high yields for only a few crops and abrogated biodiversity, sustainability, and small farmers in favor of large industrial agriculture companies ("Big Ag").²⁹

B. Urban Agriculture

The industrial agriculture revolution pushed food production out of the city and into rural areas better suited for large-scale monoculture, so urban agriculture responded by focusing on niche markets.³⁰ Urban agriculture is not novel; it has a nuanced history in every part of the world.³¹ Different traditions of urban agricul-

20. Eubanks, *supra* note 19, at 217-18.

21. *Id.*

22. *Id.*

23. *Id.* at 219.

24. *See id.* at 221.

25. *See* Eubanks, *supra* note 19, at 221.

26. *Id.*

27. *Id.* at 224-27.

28. *Id.*

29. *Id.*

30. *See* LeJava ET AL., *supra* note 6, at 225-26. *See also* Voigt, *supra* note 11, at 556-59; JAC SMIT ET AL., *Urban Agriculture: Food, Jobs, and Sustainable Cities* (2001 ed.).

31. *Id.*

ture are deeply rooted in local concepts of community and cultural practices.³² An influential United Nations report aptly notes that “some societies have evolved technology and management systems that include agriculture as an urban activity, but others have separated the settled and the sown. This difference in approach typically reflects varying attitudes to the way natural and man-made environments relate to each other, and characteristically has cultural roots.”³³ In his book *Hyperobjects, Philosophy and Ecology after the End of the World*, Timothy Morton highlights how the man-made and natural environments relate to each other.³⁴ He argues, for instance, that when the background of agriculture is taken to be “nature,” it is an aesthetic creation that distances objects from each other.³⁵ As Morton explains, because of this aesthetic background, when a windmill is erected, people see it as something that destroys their aesthetic world and develop a poor attitude toward something that may be helpful.³⁶ The windmill thus emerges in the foreground and informs what humans define as valuable, based on how well it fits with the background. Currently, the dominant urban aesthetic distances the built environment from the agricultural one and creates the view that settlement and agriculture should be separate. In light of climate change, however, people are shifting their attitudes and norms about how natural and man-made environments should relate to each other.³⁷

More recently, countries around the world have begun to reintegrate urban agriculture using improved technologies with varying support from governments.³⁸ Developed countries, such as the United States, typically have less dense urban populations and more vacant land in cities, allowing for greater opportunities for urban agriculture.³⁹ Nonetheless zoning and financial barriers, imposed by state, local, and federal governments, frustrate efforts to inte-

32. *Id.*

33. *Id.*

34. TIMOTHY MORTON, *HYPEROBJECTS, PHILOSOPHY AND ECOLOGY AFTER THE END OF THE WORLD* (Cary Wolfe ed. 2013).

35. *Id.* at 99-107.

36. *Id.*

37. Todd Stern, *How to Shift Public Attitudes and Win the Global Climate Battle*, YALE SCH. OF THE ENV'T (Oct. 25, 2018), <https://e360.yale.edu/features/the-essential-front-in-the-climate-battle-altering-public-attitudes> (discussing climate change's impact on human behavior and attitudes).

38. See Smit, *supra* note 30, at 26-27 (discussing urban agricultural developments in various countries).

39. *Id.*

grate sustainable agriculture into urban areas in the United States.⁴⁰

C. Euclidean Zoning and the Farm Bill

As explained above, Euclidean zoning is a regulatory tool used by state governments to divide a community into areas where specific uses of land are permitted.⁴¹ When a particular use creates a nuisance to the area designated for a different primary use, a zoning ordinance or regulation may prohibit the subsequent use from occurring.⁴² For example, erecting an apartment building in a single-family residential neighborhood may be prohibited because of the perceived nuisances it may create.⁴³ Euclidean zoning uses this same rationale of conflicting primary uses to exclude agricultural activities from urban and suburban areas, and such a regulation is a valid exercise of state police power.⁴⁴ State police powers allow state governments to enact laws and regulations that have a rational relationship to public health, safety, or the general welfare of people in that state.⁴⁵ However, such laws must not violate those individuals' rights protected by the Constitution.⁴⁶ The Supreme Court in *Village of Euclid v. Ambler Realty Co.*⁴⁷ (“*Euclid*”) relied upon the doctrine of nuisance to uphold what became known as Euclidean zoning laws as a valid exercise of police power.⁴⁸ In particular, the Court ruled that zoning laws do not violate the Fourteenth Amendment's Due Process Clause.⁴⁹

While Euclidean zoning laws create barriers to urban agriculture, the Farm Bill uses subsidies and regulations to further incentivize unsustainable methods of farming, such as only rewarding the mass production of single crops. The Farm Bill mainly subsidizes corn, soybeans, wheat, cotton, and rice, all of which are produced by the largest and most financially secure farm operations.⁵⁰ Farmers who produce fruits and vegetables may only qualify for crop in-

40. *Id.* at 27.

41. *See* Euclidean Zoning, *supra* note 2.

42. *See* Village of Euclid v. Ambler Realty Co., 272 U.S. 365, 387-97 (1926).

43. *Id.*

44. *See id.* at 397.

45. *See* Jacobson v. Massachusetts, 197 U.S. 11, 30-31 (1905).

46. *See* Euclid, 272 U.S. at 396-97.

47. *Id.*

48. *Id.*

49. *Id.*

50. *Farm Subsidy Primer*, ENVTL. WORKING GRP., <https://farm.ewg.org/subsidyprimer.php> (last visited Jan. 9, 2020).

surance and not subsidies.⁵¹ Thus, incentives encourage farmers to cultivate predominantly only those plants that are easily mass produced and subsidized.⁵²

Due in large part to Euclidean zoning laws and subsidies, most farmland is owned by Big Ag, which produces commodity crops.⁵³ The wealthiest ten percent of farms, those with the most acres, have received seventy-five percent of subsidies since 1995.⁵⁴ Furthermore, the existence of large-scale processing and distribution companies, such as Nestle, Tyson, General Mills, Coca-Cola, and PepsiCo, ensures that local farmers retain a smaller portion of a sale.⁵⁵

D. The Health Impact of Industrialized Agriculture

Euclidean zoning laws and the Farm Bill, introduced every five years, determine the means by which food is grown, including the methods used and which farms implement those methods, types of food produced, and quantity of those types of foods.⁵⁶ Industrial agriculture contributes significantly to numerous adverse effects on public health and the environment. About forty-two percent of Americans are obese and just under twelve percent of families suffer from food insecurity.⁵⁷ Industrial agriculture largely bears responsibility for both of these public health problems.⁵⁸ The Supplemental Nutrition Assistance Program (“SNAP”) provides school children with processed surplus commodity crops and families with only enough money to purchase inexpensive food, which

51. *Id.*

52. See Kammer, *supra* note 1, at 22-32; see also *Farming and Farm Income*, U.S. DEP’T OF AGRIC. ECON. RSCH. SERV., <https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/farming-and-farm-income/> (last accessed Jan. 2021).

53. See *id.*

54. Eubanks, *supra* note 19, at 228; Laura Reiley, *Trump’s \$16 billion farm bailout will make rich farmers richer, report says*, WASH. POST (July 31, 2019, 7:00 AM), <https://www.washingtonpost.com/business/2019/07/31/trumps-billion-farm-bailout-will-make-rich-farmers-richer-hasten-small-farm-failure-study-says/>; Amelia Urry, *Our crazy farm subsidies, explained*, GRIST (Apr. 20, 2015), <https://grist.org/food/our-crazy-farm-subsidies-explained/>.

55. See Eubanks, *supra* note 19, at 305.

56. Janie Simms Hipp & Collby D. Duren, *Regaining Our Future: An Assessment of Risks & Opportunities For Native Communities in the 2018 Farm Bill*, INDIGENOUS FOOD AND AGRIC. INITIATIVE (2017), http://seedsofnativehealth.org/wp-content/uploads/2017/06/Farm-Bill-Report_WEB.pdf.

57. Map the Meal Gap, *Food Insecurity in The United States*, FEEDING AM., <http://map.feedingamerica.org/> (last visited Oct. 30, 2018); *Overweight & Adult Obesity*, CTR. FOR DISEASE CONTROL AND PREVENTION, <https://www.cdc.gov/obesity/data/adult.html> (last visited Oct. 30, 2018). See also Eubanks, *supra* note 19, at 213-310.

58. See Eubanks, *supra* note 119, at 293.

tends to consist of the same unhealthy surplus commodity crops that lack nutrition.⁵⁹ Americans are surrounded by the option of cheap, unhealthy food. The low prices for processed foods made from subsidized crops do not accurately reflect their cost on the environment and on human and nonhuman animal health.⁶⁰ Most farmland is devoted to heavily subsidized commodity crops produced by mega farms and only a small number of crops grown are for human consumption. Much of American farmland is not devoted to producing food for human consumption, further contributing to food insecurity and obesity. About thirty-six percent of corn crops in the U.S. feed livestock, and another forty percent of the corn is used to make ethanol for cars.⁶¹ Humans consume only a small percentage of the rest, mostly in the form of high fructose corn syrup and processed foods.⁶²

Moreover, the overproduction of corn has enabled livestock owners to change their methods of operation from grass-fed grazing cattle to enormous Concentrated Animal Feeding Operations (“CAFOs”).⁶³ Between 1995 and 2005, seventy-three percent of commodity subsidy payments supported meat, egg, and dairy production while less than 0.5% supported fruit and vegetable production.⁶⁴ These overcrowded feeding operations result in the overuse of antibiotics, leading to antibiotic-resistant bacteria and stressed animals with increased rates of infectious diseases and viruses.⁶⁵ The concentrated system of food production severely increases food insecurity and large-scale human vulnerability to disease, due to a consolidated supply chain and increased exposure pathways for a greater number of people.⁶⁶ The potential for natural disasters and agroterrorism exacerbates this vulnerability.⁶⁷ Diseases thrive and spread to humans when large numbers of species are kept in confined or crowded spaces or when deforestation paves the way

59. *Id.* at 274.

60. See Kammer, *supra* note 1, at 33-41.

61. Jonathan Foley, *It's Time to Rethink America's Corn System*, SCI. AM. (Mar. 5, 2013), <https://www.scientificamerican.com/article/time-to-rethink-corn/>.

62. *Id.*

63. Urry, *supra* note 54.

64. AYSHA AKHTAR, ANIMALS AND PUBLIC HEALTH – WHY TREATING ANIMALS IS CRITICAL TO HUMAN WELFARE, 130 (2012).

65. See *id.* at 86-112; see generally Sigal Samuel, *The Meat We Eat is a Pandemic Risk, Too*, VOX (Aug. 20, 2020, 11:50 AM), <https://www.vox.com/future-perfect/2020/4/22/21228158/coronavirus-pandemic-risk-factory-farming-meat>.

66. Akhtar, *supra* note 64, at 91-112; see generally Samuel, *supra* note 65.

67. See PETER CHALK, HITTING AMERICA'S SOFT UNDERBELLY: THE POTENTIAL THREAT OF DELIBERATE BIOLOGICAL ATTACKS AGAINST THE U.S. AGRICULTURAL AND FOOD INDUSTRY, 7-17 (2004).

for intensive animal farming.⁶⁸ Researchers suspect that the coronavirus (“COVID-19”) originated in live animal markets that are often characterized by poor hygiene and crowded conditions for live animals.⁶⁹ The Severe Acute Respiratory Syndrome (“SARS”) virus outbreak originated in wildlife markets and killed 774 people between 2002-2003.⁷⁰ Moreover, avian influenza strains, repeated rabies outbreaks, and SARS-CoV-2, the virus that causes COVID-19, arose from intensive wildlife farming.⁷¹ Similarly, the Nipah virus, Hendra virus, and avian flu emerged from intensive domestic animal farming.⁷² The use of antibiotics to limit disease in crowded farms has inevitably resulted in antibiotic-resistant infections in both animals and humans.⁷³ Concerns for human, animal, and environmental health cannot be separated from one another. Respect for the biological and behavioral needs of different species, such as foraging, will improve the wellbeing of all who require natural resources to live.⁷⁴

Finally, vast amounts of water, energy, land, pesticides, and commodity crops are needed to sustain CAFOs, especially now that animals raised for meat and dairy “account for [twenty] percent of the world’s terrestrial animal biomass.”⁷⁵ CAFOs are also the largest source of greenhouse gas emissions and excess nutrient runoff that contributes to ocean dead zones.⁷⁶ Monoculture, the method of agriculture used by industrial farms, depletes soil health, which decreases crop nutrition and increases crop vulnerability to invasive plants and insects.⁷⁷ This creates a feedback loop in which farmers

68. Ioannis Magouras ET AL., *Emerging Zoonotic Diseases: Should We Rethink the Animal-Human Interface?*, 7 FRONTIERS IN VETERINARY SCI. 1, 3-4 (Oct. 22, 2020), available at <https://www.frontiersin.org/articles/10.3389/fvets.2020.582743/full>. See generally, Jessica H. Leibler ET AL., *Industrial Food Animal Production and Global Health Risks: Exploring the Ecosystems and Economics of Avian Influenza*, 6 ECOHEALTH 58 (2009); Samuel, *supra* note 65.

69. See Samuel, *supra* note 65. See also Magouras, ET AL., *supra* note 68, at 2; Hossam M. Ashour ET AL., *Insights into the Recent 2019 Novel Coronavirus (SARS-CoV-2) in Light of Past Human Coronavirus Outbreaks*, 9 PATHOGENS 186 (2020).

70. See Magouras ET AL., *supra* note 68, at 2.

71. See generally Magouras ET AL., *supra* note 68; Leibler ET AL., *supra* note 68. See also Samuel, *supra* note 65.

72. *Id.*

73. *Antibiotic/Antimicrobial Resistance (AR/AMR): Food and Food Animals*, CTRS. FOR DISEASE CONTROL AND PREVENTION, <https://www.cdc.gov/drugresistance/food.html> (last visited Dec. 2020).

74. See Magouras ET AL., *supra* note 68, at 3.

75. Akhtar, *supra* note 64, at 117.

76. See Shannon A. Hughes, *Data Feast: Information-Forcing For Industrialized Agriculture*, 22 DRAKE J. AGRIC. L. 159, 165-72 (2017).

77. *Id.*

become dependent on pesticides.⁷⁸ Pesticides in turn pollute water, air, and food.⁷⁹ Furthermore, agricultural water use accounts for eighty to ninety percent of the United States water consumption, using up scarce resources for farming practices that cause more harm.⁸⁰

E. Environment and Health Are Interdependent: Rethinking Community and Writing Legislation Accordingly

Industrial agriculture contributes to another frequently unacknowledged public health problem—the alienation among and between people. So-called community members purchasing food at a supermarket “never know who grew the vegetables, where they came from, what chemicals they have been blasted with, whether their genetic structure has been manipulated, [and] what people are being helped or harmed through our purchase of the products.”⁸¹ Similar structures pervade everyday lives with companies like Amazon alienating the buyer from meeting or knowing the producer, factory workers never seeing the finished product, and voters never meeting the elected official.⁸² While “[s]mall communities created us,” the current societal structure destroys or renders such communities irrelevant.⁸³ This dynamic of alienation and disconnect runs counter to interconnection: “the neural basis for our personal beliefs overlap[s] significantly with one of the regions of the brain primarily responsible for allowing other people’s beliefs to influence our own.”⁸⁴ An industrial structure that promises the successful pursuit of individual identity and freedoms alienates the people and interactions that would normally form primary relationships in a community and renders such bonds irrelevant.⁸⁵ The current societal construction, manifested in industrial agriculture, is “self-defeating and *Self* defeating.”⁸⁶

Why should society consider this aspect of industrialized agriculture a problem? Matthew Lieberman, a social cognitive neuroscientist, has shown that “when humans experience threats or

78. *Id.* at 168-69.

79. *See id.* at 169-70.

80. *Id.*; Amir AghaKouchack ET AL., *Water and climate: Recognizing Anthropogenic anthropogenic drought*, 524 NATURE, 409-11 (2015).

81. Steeves, *supra* note 15, at 106.

82. *Id.*

83. *Id.*

84. *See* MATTHEW D. LIEBERMAN, *SOCIAL: WHY OUR BRAINS ARE WIRED TO CONNECT*, 9 (2013).

85. *See* Steeves, *supra* note 15, at 106-07.

86. *Id.*

damage to their social bonds, the brain responds in much the same way as it responds to pain.”⁸⁷ Indeed, an estimated fifty percent of Americans are diagnosed with a mental illness during their lifetime.⁸⁸ Further, economic structures contribute to a sedentary lifestyle and increased food consumption.⁸⁹ Finally, when people are disconnected from others, they are largely unaware, unwilling, or unable to act on the conduct or harms caused by pesticide application, monoculture, or deforestation.⁹⁰ The dominant agricultural methods selected, and whether they are used by large or small-scale farms, shape community structure, which conditions how people relate to one another and their surroundings.

F. What Does Sustainable Agriculture Look Like?

A primary distinction between sustainable agriculture, or organic farming, and non-organic farming is that the former focuses on feeding the soil while the latter focuses on feeding the crops. For example, instead of using pesticides for depleted soil conditions, organic farmers protect soil quality and prevent erosion using techniques such as cover cropping, crop rotation, and agroecology.⁹¹ Cover cropping allows the soil to rest for one year with crops such as buckwheat that feed the soil and add nutrients.⁹² Subsequent crops have a nutritious food source and environment that provides for higher nutrient content upon harvest.⁹³ As a result, organic crops have lower levels of toxic heavy metals and as much as sixty nine percent higher levels of antioxidants.⁹⁴ Further,

87. See Lieberman, *supra* note 84, at 40.

88. *Mental Health: Data and Publications*, CNTRS. FOR DISEASE CONTROL AND PREVENTION, https://www.cdc.gov/mentalhealth/data_publications/index.htm (last visited Mar. 14, 2019).

89. Eric A. Finkelstein & Kiersten L. Strombotne, *The economics of obesity*, 91 AM. J. OF CLINICAL NUTRITION 1520, 1520-22 (2010).

90. See generally, Ryan Gunderson, *Problems with the Defetishization Thesis: Ethical Consumerism, Alternative Food systems, and Commodity Fetishism*, 31 AGRIC. AND HUMAN VALUES 109, 109-17 (in a capitalist society marked by alienation, attempts to change things with consumerism only perpetuates the root cause of the thing to change).

91. *Introduction to Organic Practices*, U.S. DEPT. OF AGRIC., <https://www.ams.usda.gov/publications/content/introduction-organic-practices> (last accessed Jan. 17, 2021).

92. *Id.*

93. *Id.* See generally Marcin Baranski ET AL., *Higher antioxidant and lower cadmium concentrations and lower incidence of pesticide residues in Organically Grown Crops: A Systematic Literature Review and Meta-Analyses*, 112 BRITISH J. OF NUTRITION 794-811 (2014).

94. See generally Baranski, *supra* note 93.

organic meat contains fewer antibiotics, reducing contributions to the antibiotic resistance problem.⁹⁵

Organic crops, grown locally, have a lower carbon footprint, link communities to farms, and allow people to relate more closely to their food and gain a deeper understanding of the environment. Sustainable agriculture uses an ecological understanding of the way the world works. It is designed to utilize interdependent conditions to cultivate an environment in which plants can grow healthy.⁹⁶ Agroecology, the scientific framework for sustainable agriculture, uses a high biodiversity of plant species and active soil so that the interactions of the ecosystem naturally produce high nutrient crops and prevent weeds and pests.⁹⁷ Furthermore, by engaging with the earth, communities reconnect with the conditions that give rise to their very being and become more aware of their surroundings.⁹⁸ Sustainable local agriculture would change the design and social milieu of communities. Interpersonal interaction plays a necessary role in decentralized agriculture, thereby increasing the value placed on a critical aspect of human development and mental health.

Agricultural laws assume that productive farms must occupy large expanses of land outside urban areas, but this notion is outdated and harmful.⁹⁹ Modern technology and farming methods allow sustainable farmers to adapt to urban environments and various forms of architecture and infrastructure provide the opportunity for urban environments to adapt to sustainable farming practices.¹⁰⁰ When it comes to urban farming, “there are four main

95. See generally Melinda Moyer, *How Drug-Resistant Bacteria Travel from the Farm to Your Table*, SCI. AM. (2016), <https://www.scientificamerican.com/article/how-drug-resistant-bacteria-travel-from-the-farm-to-your-table/>. See also Amy Pruden ET AL., *Management Options for Reducing the Release of Antibiotics and Antibiotic Resistance Genes to the Environment*, 121 ENV'T HEALTH PERSPECTIVES 878, 879 (2013).

96. *Agroecology – An Ecological Approach to Agriculture*, AGROECOLOGY FUND, <https://www.agroecologyfund.org/what-is-agroecology/> (last visited Mar. 13, 2019).

97. *Id.*

98. See Kristophe Green & Dacher Keltner, *What Happens When We Reconnect with Nature*, GREATER GOOD MAGAZINE SCI-BASED INSIGHTS FOR A MEANINGFUL LIFE (Mar. 1, 2017), https://greatergood.berkeley.edu/article/item/what_happens_when_we_reconnect_with_nature.

99. See Robert McDougall, Paul Kristiansen, & Romina Rader, *Small-scale urban agriculture results in high yields but requires judicious management of inputs to achieve sustainability*, PROC. OF THE ACAD. OF SCI. OF THE U.S., 129, 129-32 (2019) (noting yields of urban farms can be twice that of commercial farms); Hamilton, *supra* note 11 (noting undervalued land in cities can be converted to agricultural land).

100. See Susanne Thomaier ET AL., *Farming in and on urban buildings: Present practice and specific novelties of Zero-Acreage Farming (ZFarming)*, 30(1) RENEWABLE AGRI. & FOOD SYSTEMS 43, 48-51 (2015); Esther Sanyé-Mengual ET AL., *Integrating*

types [of farms]: rooftop farms, greenhouses, vertical farms, and vacant lot farms.”¹⁰¹ Rooftop greenhouses use indoor setups for more controlled growing environments.¹⁰² Vertical farms grow produce vertically and have high production rates.¹⁰³ Vacant lot farms convert vacant city lots into farms,¹⁰⁴ and, because they require labor, provide jobs to community members.¹⁰⁵ Additionally, green areas create more community pride, decrease crime, improve neighborhoods, and provide a source of local fresh produce, which helps alleviate food deserts.¹⁰⁶ All four of the aforementioned methods are viable methods for cultivating sustainable agricultural lands in urban communities.

III. STATE AND LOCAL ZONING LAWS

A. By-Right and Right-to-Farm Zoning

As previously discussed, state governments can employ their police powers to enact Euclidean zoning laws based on a nuisance rationale and can prohibit a certain use of land by declaring it incompatible with a designated primary use.¹⁰⁷ Additionally, states typically pass an enabling act that delegates the power to enact zoning regulations to municipalities.¹⁰⁸ Municipalities then enforce zoning laws and review appeals through a municipal agency, such as a Zoning Board of Appeals (“ZBA”).¹⁰⁹ State laws that grant such zoning agencies discretion over zoning decisions often also provide aggrieved parties the chance to appeal those decisions to state courts.¹¹⁰

Horticulture into Cities: A Guide for Assessing the Implementation Potential of Rooftop Greenhouses (RTGs) in Industrial and Logistic Parks, 22(1) J. OF URB. TECH. 87, 105-107 (2015).

101. Gabriela Prado Hoops ET AL., *Copenhagen’s Case for Urban Farming: A Feasibility Study*, WORCESTER POLYTECHNIC INST., 8 (2018).

102. *Id.*

103. *Id.* at 9.

104. *Id.*

105. *Id.*

106. See generally Kruijze ET AL., *Urban Green Space: Creating a Triple Win for Environmental Sustainability, Health, and Health Equity through Behavior Change*, INT. J. OF ENV. RSCH. AND PUB. HEALTH 1, 1-11 (2019).

107. See *Village of Euclid v. Ambler Realty Co.*, 272 U.S. 365, 397 (1926).

108. See *Land-Use Planning Systems in the OECD – Country Fact Sheets, Organization for Economic Co-Operation and Development (OECD)*, ORG. FOR ECON. CO-OPERATION AND DEV. 1, 220-2621 (2017), available at https://read.oecd-ilibrary.org/urban-rural-and-regional-development/land-use-planning-systems-in-the-oecd_9789264268579-en#page1; see also MASS. GEN. LAWS ch. 40A., §§ 12-14 (2020).

109. See, e.g., MASS. GEN. LAWS ch. 40A, §§ 12-14 (2020).

110. *Id.*

A primary feature of many zoning laws is so-called “by-right” or “as-of-right” zoning, which refers to land uses that are permitted without discretionary review by the zoning agency.¹¹¹ Typically, zoning ordinances list the permitted and primary uses of land in a district, including those that are permitted by right.¹¹² For example, operation of a bakery on a parcel zoned for commercial use is permitted by right, as the bakery is a commercial business.¹¹³ The land use permitted by-right may still be regulated, but as long as the use complies with state regulations and building codes, a permit will be issued.¹¹⁴

States also employ right-to-farm laws, enacted in every state in the United States in the 1970s and 1980s to protect farming activities conducted on farmland from nuisance lawsuits.¹¹⁵ Right-to-farm statutes often protect farmers from nuisance lawsuits when the farm existed prior to the development of the surrounding area, so long as the operations constitute a reasonable use of farmland.¹¹⁶ The purpose of these statutes is to protect agricultural land and encourage farmers to invest in farm improvements¹¹⁷ without fear of lawsuits from neighbors.¹¹⁸ These laws originally sought to limit urban sprawl by protecting farmland from urban encroachment.¹¹⁹ However, they more often protect large-scale industrial farms than small-town family farmers.¹²⁰ Increasingly, rural communities are

111. See *Smart Growth / Smart Energy Toolkit Modules – Zoning Decisions*, *supra* note 8.

112. Brad Neumann, *Permitted Uses, aka “Use by Right”*, CMTY. PLANNING AND ZONING, <https://community-planning.extension.org/permitted-uses-aka-use-by-right/> (last visited Jan. 24, 2020).

113. *Id.*

114. See *id.* (explaining how “use by right” operates in zoning law).

115. See Loka Ashwood & Danielle Diamond, *Opinion: Right-to-Farm laws run counter to rural culture and property rights*, *Envtl. Health News* (Apr. 11, 2019), <https://www.ehn.org/right-to-farm-laws-failing-rural-people-2634037860.html>.

116. See Kitt Tovar, *Update on Right-to-Farm Legislation, Cases and Constitutional Amendments*, IOWA ST. U. CTR. FOR AGRIC. L. AND TAX’N (May 28, 2019), <https://www.calt.iastate.edu/article/update-right-farm-legislation-cases-and-constitutional-amendments>.

117. See, e.g., The Farm Nuisance Suit Act, 740 ILL. COMP. STAT. 70/0.01 (2018).

118. See, e.g., The Farm Nuisance Suit Act, 740 ILL. COMP. STAT. 70/0.01 §1 (2018).

119. See Ashwood, *supra* note 115; Michael Elizabeth Sakas, ‘Right To Farm’ Laws Allow Ag To Be Stinky And Noisy, But Some Neighbors Cry ‘Fowl’, *CPR News* (Oct. 8, 2018), <https://www.cpr.org/2018/10/08/right-to-farm-laws-allow-ag-to-be-stinky-and-noisy-but-some-neighbors-cry-fowl/>.

120. Anne Blythe, *Hog Farmers Win New Protections As Lawmakers farmers win new protections as lawmakers override Roy Cooper’s veto*, *THE NEWS & OBSERVER* (June 27, 2018), <https://www.newsobserver.com/news/politics-government/article213914154.html> (North Carolina laws limit neighbors ability to sue and recover damages

beginning to organize and speak out against the adverse environmental and health effects caused by neighboring CAFOs.¹²¹ For example, juries in five cases in 2017 found Smithfield Foods Inc., the country's largest pork producer, liable for over \$574 million in damages to its neighbors in North Carolina.¹²² As a result, the agriculture industry successfully lobbied several state legislatures to pass laws strengthening right-to-farm laws, further protecting industrial farmers from liability for their actions.¹²³

Local zoning laws also insulate agricultural land from development and nuisance lawsuits by restricting other uses and employing tools such as “transitional buffer zones” and “urban growth boundaries.”¹²⁴ Transitional buffer zones designate small areas of land for agricultural use set between farmland and residential or commercial uses.¹²⁵ Urban growth boundaries restrict development beyond a set boundary or line.¹²⁶ Nevertheless, these strict zoning laws have contributed to increased development outside urban areas, known as the “leapfrog effect” and urban sprawl.¹²⁷

Massachusetts' right-to-farm statute incorporates “by-right” permitting by protecting conventional farming practices from nuisance suits, zoning ordinances, and unreasonable regulations when commercial agricultural practices constitute the primary use of that land.¹²⁸ Additionally, the zoning protections only apply to parcels of land two acres or larger and that generate at least one thousand dollars annually per acre.¹²⁹ Two critical limitations in this law are

from large industrial hog farms including Smithfield Foods, owned by WH Group, a company that generated \$22 billion in revenue in 2017 and is headquartered in Hong Kong).

121. Leah Douglas, *Big Ag Is Pushing Laws To Restrict Neighbors' Ability To Sue Farms*, NPR (Apr. 12, 2019), <https://www.npr.org/sections/thesalt/2019/04/12/712227537/big-ag-is-pushing-laws-to-restrict-neighbors-ability-to-sue-farms>.

122. *Id.*

123. *Id.*; see also Blythe, *supra* note 120.

124. Jess M. Krannich, *A Modern Disaster: Agricultural Land, Urban Growth, and the Need for A Federally Organized Comprehensive Land Use Planning Tool*, 16 CORNELL J. L. & PUB. POL'Y 57, 76-77 (2006).

125. *Id.*

126. *Id.*

127. Richard J. Vyn, *Examining for Evidence of the Leapfrog Effect in the Context of Strict Agricultural Zoning*, 88 LAND ECON. 457, 475 (2012); see also *Rethinking Urban Sprawl: Moving Towards Sustainable Cities*, OECD (2018), <https://www.oecd.org/environment/tools-evaluation/Policy-Highlights-Rethinking-Urban-Sprawl.pdf>.

128. MASS. GEN. LAWS ch. 111, § 125A (2020); MASS. GEN. LAWS ch. 40A, § 3 (2018) (listing restrictions on zoning laws).

129. MASS. GEN. LAWS ch. 40A, § 3 (2018).

that parcels must be at least two acres and agricultural use must be the primary use.¹³⁰

B. Local Efforts to Create Urban Farm Friendly Zoning

Some states and municipalities have shown an initiative toward urban farming and changed zoning laws to facilitate sustainable urban agriculture. For example, states or cities that allow agriculture use on land designated for a different primary use remove a substantial barrier to urban farming. Seattle, Washington did just this when it passed Ordinance No. 123378 in 2010.¹³¹ The ordinance allows homeowners to sell food grown in their backyard, permits community gardens in almost all zones, even if agricultural use is not the primary use, exempts rooftop greenhouses from city height limits, and increases the number of chickens allowed per lot from three to eight.¹³² Similarly, Nashville, Tennessee passed ordinance No. BL2009-479 in 2009, which allows non-commercial and commercial community gardening as permitted uses or exceptions in areas primarily designated for other uses (e.g., residential, commercial, and industrial uses).¹³³ Boston, Massachusetts passed a similar law, Article 89, in the Boston Zoning Code in 2013.¹³⁴ It permits various types and sizes of farming (e.g., small ground level and rooftop) in zones that are primarily designated for residential, commercial, industrial, and institutional uses.¹³⁵ Small ground level farms are the simplest to implement, but even these operations must obtain additional permits depending on the neighborhood and type of farm, which can be an onerous process.¹³⁶

Some areas have further facilitated urban agriculture by removing additional limitations to starting urban farms. For example, Chicago, Illinois increased the allowable size of community gardens from eighteen thousand seven hundred fifty square feet to

130. See Sarah Taylor Lovell, *Multifunctional Urban Agriculture for Sustainable Land Use Planning in the United States*, 2 SUSTAINABILITY 2500, 2511-12 (2010) (limited availability of land is a major barrier to urban agriculture); Voigt, *supra* note 11, at 547 (whether agricultural use is included as a primary or accessory use can have a big impact on agricultural activities).

131. SEATTLE, WASH., Ordinance, 123378 (Aug. 16, 2010).

132. SEATTLE, WASH., Ordinance, 123378, §§3-4, §14 (Aug. 16, 2010).

133. NASHVILLE, TENN., Substitute Ordinance BL2009-479, §2 (July 30, 2009).

134. Urban Agriculture, Comprehensive Farm Review BOSTON, MASS., Zoning Code art. 89 (2013).

135. *Id.*

136. *Id.* at §2 (A small ground level urban farm “means a Ground Level Urban Farm with a Farm Area Less than ten-thousand (10,000) square feet that is used for Urban Agriculture for commercial purposes, whether for profit or nonprofit).

twenty-five thousand square feet and authorized the sale of surplus produce.¹³⁷ Next, New York, New York passed a bill in 2018 requiring the city to create an urban agriculture website that makes it easier for farmers to start urban farms.¹³⁸ In 2007, Cleveland, Ohio created the Urban Garden District, a new zoning category that permits urban farming by-right in designated areas.¹³⁹ Cleveland's zoning code also allows certain animals to be farmed, subject to regulation.¹⁴⁰

Unfortunately, municipal efforts to facilitate growth in sustainable urban farming are helpful yet piecemeal.¹⁴¹ As a result, urban farmers still face complicated permitting processes and high costs that deter entrepreneurs from entering the market.¹⁴² To alleviate some of these problems, states can produce uniform zoning regulations to make it easier for urban farmers to enter the market. Also, municipalities can create comprehensive zoning reforms. Addressing such municipal zoning reforms, Kate A. Voigt lays out a three-step process in her article, *Pigs in the Backyard or the Barnyard: Removing Zoning Impediments to Urban Agriculture*.¹⁴³ First, municipalities should incorporate the express goals of promoting sustainable urban agriculture into the city's comprehensive plan.¹⁴⁴ Then, the municipality should develop a land use category using a definition of urban agriculture that includes the various types of farming that would benefit urban communities.¹⁴⁵ The municipality next needs to amend its zoning code to include this new definition and allow urban farming as a primary and accessory use across residential, commercial, industrial, and institutional zoning districts.¹⁴⁶ Finally, municipalities must amend the zoning code to allow home growers to farm and sell surplus produce.¹⁴⁷

C. Discounting Property Assessments

Another way some states have encouraged urban agriculture is by discounting property taxes for land that is used for it. For exam-

137. CHICAGO, ILL., Zoning Ordinance ch. 17-9 § 17-9-0103.5 (2011).

138. NEW YORK CITY, N.Y., Local Law No. 2018/046 (Jan. 11, 2018).

139. CLEVELAND, OHIO, Ordinance ch. 336 § 336.01 (2007).

140. See CLEVELAND, OHIO, Ordinance ch. 205 § 205.04 & ch. 347 § 347.02 (2007).

141. See Voigt, *supra* note 11, at 559-60.

142. See *id.*

143. *Id.*

144. *Id.*

145. *Id.*

146. See Voigt, *supra* note 11, at 559-60.

147. See *id.*

ple, Utah's Farming Assessment Act, passed in 2012, allows property devoted to urban farming to be assessed at a lower tax rate, which effectively lowers property taxes for those land owners.¹⁴⁸ To qualify for an urban farming assessment, the land must be actively devoted to urban farming, excluding the production of animal-derived foods, for at least two years and must occupy between one and five acres.¹⁴⁹ Whether a parcel is actively devoted to urban farming depends on minimum crop production levels.¹⁵⁰

While this law can help provide incentives to convert land to an urban farm, the parcel size limitation remains a deterrent and requires high start-up costs. In urban areas, one acre is a sizeable amount of land and unnecessary to run a productive urban farm. However, Utah's law does provide a path for a waiver from the acreage requirement.¹⁵¹ A county board of equalization may grant a waiver of the acreage requirement on appeal if the owner demonstrates that "failure to meet the requirement[] . . . arose solely as a result of an acquisition by a government entity by: (A) eminent domain . . . the land is actively devoted to urban farming; [] and no change occurs in the ownership¹⁵² of the land."¹⁵³ Finally, to deter investors from purchasing the land with lower property tax and then selling it for development, the bill provides a rollback tax to penalize such practices.¹⁵⁴ The rollback tax is based on the difference between the tax paid during the discounted assessment and the tax paid had the property not been assessed under the lower rate.¹⁵⁵

A similar bill, the Urban Agriculture Incentive Zones Act, was signed into law in California in 2013 and authorizes counties or cities to create "urban agriculture incentive zones."¹⁵⁶ These incentive zones consist of areas where a county contracts with a landowner and agrees to provide a property tax break in exchange for the landowner dedicating the parcel to urban farming for five or

148. *Id.*; Urban Farming Assessment Act, UTAH CODE ANN. § 59-2-1703 (2012).

149. Urban Farming Assessment Act, UTAH CODE ANN. § 59-2-1703(1) (2012).

150. *Id.* at § 59-2-1703(2).

151. *Id.* at § 59-2-1703(3).

152. *Id.*

153. *Id.*

154. Urban Farming Assessment Act, UTAH CODE ANN. § 59-2-1705(1-3) (2015).

155. *Id.*

156. Assemb. 551, 2013-14 Sess. (Cal. 2013); *see also* Cal. Rev. & Tax Code § 422.7 (2012).

more years.¹⁵⁷ The property is taxed based on the average value of an acre of farmland in California, which is a much lower tax than an urban parcel's fair market value.¹⁵⁸ California's tax breaks are limited to incentive zones and, therefore, are not as expansive as in Utah. However, the law's acreage requirement is more reasonable than in Utah, set at a minimum of 0.10 to three acres.¹⁵⁹ The California legislature extended these county and city incentive zone authorizations in 2017, making them effective until 2029.¹⁶⁰ The intent behind the Urban Agriculture Incentive Zones Act is to help promote sustainable urban farms by allowing owners to more easily convert vacant lots.¹⁶¹ Other states have similarly passed bills that establish tax incentives in urban and blighted areas, including Missouri,¹⁶² Maryland,¹⁶³ and New Jersey.¹⁶⁴ Missouri also included "urban and community gardens" within its definition of agricultural property, thus taxing these areas at lower rates than other urban parcels.¹⁶⁵ Despite the occasional effort to ease the cost of sustainable urban farming, these farmers still face high start-up costs and slim profit margins.¹⁶⁶

D. Recommendation

1. *The Spillover Problem*

Controlling the negative effects of land use requires action at the federal level. First, states, municipalities, and local governments acting in their own self-interest often adopt policies that may unintentionally affect neighboring communities. This is known as the "spillover" problem and forms the basic rationale for Congress' Clean Air Act. For example, states and municipalities may derive the benefits of additional tax revenue and jobs for a large factory, but the pollution from that factory spills over to other communi-

157. *Id.* at §1; California Code, Government Code, section 51042.

158. California Code, Government Code, § 51042(f).

159. *Id.* at § 51042(b)(2).

160. Assemb. 465, 2017-18 Sess. (Cal. 2017), available at https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB465.

161. California Code, Government Code, §51040.1.

162. See H.R. 542, 97th Gen. Assemb., 1st Reg. Sess. (Mo. 2013), available at <https://house.mo.gov/billtracking/bills131/sumpdf/HB0542T.pdf>.

163. See Md. Tax-Property Code Ann. § 9-253(a-e).

164. See N.J. STAT. § 40A:12-21(k-n).

165. MO. REV. STAT. § 137.016.1.(2) (2018).

166. Tracie McMillan, *Urban Farms Fuel Idealism. Profits? Not So Much*, NPR (Mar. 7, 2016), <https://www.npr.org/sections/thesalt/2016/03/07/469500509/urban-farms-fuel-idealism-profits-not-so-much>.

ties.¹⁶⁷ The federal government can intervene here and force states to internalize those costs, providing an incentive to consider negative externalities.¹⁶⁸

When goods or services, like those provided in agriculture, have costs and benefits that affect such large geographic expanses, the federal government needs to intervene to provide equitable solutions.¹⁶⁹ The National Land Use Policy Act, proposed in 1972, recognized three main deficiencies in local land use regulations:

- 1) Local governments sacrifice environmental values due to a failure to recognize the effect of land use on an ecological system.
- 2) Local governments face difficulty in facilitating appropriate development in environmentally critical areas due to social and fiscal pressures.
- 3) Federal-assisted large public works projects, such as airports and highways, lead to poorly thought-out secondary development in surrounding areas.¹⁷⁰

When the National Land Use Policy Act was defeated in 1974, momentum for National Land Use Policy waned.¹⁷¹ Today, nearly fifty years later, these deficiencies remain.¹⁷² Local government is ill-suited to regulate an activity that has such extensive consequences and impacts interests that span the entire country and globe.¹⁷³ Moreover, industrial agriculture not only produces negative externalities on surrounding communities, but also contributes

167. See, e.g., *EPA v. EME Homer City Generation, L.P.*, 527 U.S. 489, 489-492 (2014).

168. *Id.*

169. See Richard Barrows & Lawrence W. Libby, *The Federal Role in Land Use Policy: Arguments For and Against Federal Involvement, Food and Agriculture Organization of the United Nations*, INCREASING UNDERSTANDING OF PUBLIC PROBLEMS AND POLICIES, OAK BROOK, IL: THE FARM FOUNDATION 45, 47-48 (1983), available at <http://agris.fao.org/agris-search/search.do?recordID=US8612984>.

170. See Green, *supra* note 4, at 72 (citing U.S. COUNCIL ON ENVTL. QUALITY, 3d ANN. REP. 165-97, 224-30 (1972)); U.S. COUNCIL ON ENVTL. QUALITY, The President's 1972 Environmental Program 1, 77-92 (1972), available at <https://files.eric.ed.gov/fulltext/ED075166.pdf>. See also Green, *supra* note 4, at 107 (noting deficiencies relating to regulation of brownfield sites); John Nolon, *The National Land Use Policy Act* 13 PACE ENVTL. L. REV. 523 (1996).

171. JAY M. STEIN, CLASSIC READINGS IN URBAN PLANNING, 141-47 (1st ed. 2001).

172. *Id.* See *Addressing Community Concerns: How Environmental Justice Relates To Land Use Planning and Zoning*, NAT'L ACADEMY OF PUB. ADMIN. 1, 37-54 (2003), available at <https://www.epa.gov/sites/production/files/2015-02/documents/napa-land-use-zoning-63003.pdf>. See generally Green, *supra* note 4.

173. See, e.g., Richard L. Revesz, *Federalism and Interstate Environmental Externalities*, 144 U. PA. L. REV. 2341, 2343 (1996) (without regulation, states reap the benefits of economic activity without internalizing interstate externalities).

to – and is affected by – global climate change.¹⁷⁴ However, instead of taking the initiative to force companies and states to internalize these costs, the federal government provides them with subsidies. If there is one industry that requires national land use regulations, it is agriculture.

2. *A National Law Should Combine Elements of By-Right and Right-to-Farm Statutes*

Congress should pass a national law combining elements of state-enacted “by right” and “right-to-farm” statutes and offer important changes to both forms of zoning. First, the law should provide urban farmers the right to use their land for sustainable agricultural use, regardless of whether the state has designated that parcel’s primary use as agricultural. While states may continue to implement Euclidean zoning laws, sustainable urban agriculture would essentially constitute an exemption because those state laws would be preempted by federal protections. If someone desires to start an urban sustainable farming operation on land zoned for residential or commercial use, this decision should not be subject to discretionary review by a zoning agency. This law would preempt state zoning laws, providing urban farmers protection from discretionary review by state and municipal zoning agencies. The farming operation, however, may still be regulated to a reasonable degree and subject to state and federal environmental laws. The law should grant owners or lessees the right to use land for sustainable agricultural practices provided they do not violate certain other laws.

Second, vegetable farms do not need to occupy at least two acres, as required by some urban zoning regulations. Consequently, a national law providing by-right and right-to-farm protections for urban farms should not be contingent on minimum acreage. For example, Chicago converted a green roof into Windy City Harvest, its first major rooftop farm, in 2013 at 20,000 square feet.¹⁷⁵ This space, significantly less than one acre,¹⁷⁶ also has several local urban farms, smaller than two acres, where youth can

174. Matthew Houser & Diana Stuart, *An Accelerating Treadmill and an Overlooked Contradiction in Industrial Agriculture: Climate Change and Nitrogen Fertilizer*, 1 J. OF AGRARIAN CHANGE 1 (2019).

175. Eliza Barclay, *Rooftop Farming is Getting Off the Ground*, NPR (Sept. 25, 2013), <https://www.npr.org/sections/thesalt/2013/09/24/225745012/why-arent-there-more-rooftop-farms>; *Acres to Square Feet*, METRIC CONVERSIONS, <https://www.metric-conversions.org/area/acres-to-square-feet.htm> (last visited June 18, 2020) (one acre equals 43,560 square feet).

176. Barclay, *supra* note 175; *Acres to Square Feet*, *supra* note 175.

learn about urban farming and communities benefit from fresh produce.¹⁷⁷

Third, the law should protect sustainable urban farming practices from other laws that would unreasonably restrict them and adopt a federal objective to promote such development. For example, an urban sustainable farm should be exempt from performance zoning regulations, architectural design controls, and nuisance laws, to the extent that such laws provide for a cause of action arising from mere preference or for a reason other than impaired health or unsustainable practices.¹⁷⁸ Congress may insulate urban farmers from these unreasonable restrictions by specifying the types of limitations that should take priority over the farmer's right to farm. Such limitations should include certain environmental and public health laws that further the federal objective to create a healthy, sustainable food system. A federal law that combines "by right" and "right-to-farm" statutes with these three basic changes would make significant strides in promoting urban sustainable agriculture.

3. *Encourage Urban Farming With Financial Incentives*

Finally, state and local governments should discount taxes on land used for agriculture in urban settings.¹⁷⁹ Many states and municipalities tax agricultural land in urban settings at a rate based on fair market value, which is higher in urban settings, forcing owners to sell to developers.¹⁸⁰ Local governments often lack the incentive to provide tax breaks as a way to promote urban agriculture due to their reliance on property taxes. Some states, such as California and Maryland, have addressed this concern and allow tax reductions for urban farms.¹⁸¹ Other states reduce property assessments for land designated as an agricultural district with acreage require-

177. *Windy City Harvest Farms*, CHICAGO BOTANIC GARDEN, <https://www.chicagobotanic.org/urbanagriculture/farms> (last visited Jan. 4, 2021).

178. *See Land Use Planning and Regulation*, NEW YORK STATE, https://www.dos.ny.gov/lg/handbook/html/land_use_planning_and_regulation.html (last visited Feb. 1, 2020) (explaining how performance zoning establishes performance standards based on effects or impacts of a proposed use). Impacts might include noise, vibration, visual quality impacts, and stormwater runoff. *Id.*; *see, e.g.*, *Myrick v. Peck Elec. Co. et al.*, 164 A.3d 658, 664-668 (Vt. 2017) (the court affirmed that mere aesthetic preference or harm does not give rise to a private nuisance claim in Vermont).

179. Krannich, *supra* note 124, at 72-76.

180. *See id.* at 96-97.

181. *See* Cal. Rev. & Tax Code § 422.7 (2012); Md. Tax-Property Code Ann. § 9-253(a-e).

ments that preclude urban farms from qualifying.¹⁸² States should apply similar reductions to urban farm lots used primarily, or even partially, for agriculture. The federal government can also minimize the state property tax's effect on urban agriculture by subsidizing sustainable farming. This would help make such uses more profitable, encourage more people to convert both used and vacant urban areas into sustainable farms, and deter owners of prime agricultural land from trying to rezone to a potentially more profitable use.

IV. FEDERAL AUTHORITY TO REGULATE LAND USE

The Constitution provides the federal government with specific powers while the states retain other powers.¹⁸³ As discussed, the Supreme Court upheld the constitutionality of Euclidean state zoning laws in *Euclid* and it is generally accepted that land use regulation falls under states' jurisdiction, which can then delegate that authority to municipalities.¹⁸⁴ However, while there is no national land use scheme, the federal government does have the authority to regulate land use. This section addresses the origins of the federal government's power to regulate land use.

A. The Spending Power and Property Clause

First, using the spending power, Congress can make federal funds contingent upon adoption of policies that further a federal goal.¹⁸⁵ This power has allowed Congress to allocate crop subsidies and crop insurance in a way that promotes the use of large expanses of land for monoculture. For example, the Conservation Reserve Program pays farmers to reduce acreage for environmental gains, while the Federal Crop Insurance Program and crop subsidies incentivize crop expansion into low quality and environmentally sensitive areas.¹⁸⁶ This power also underlies the expansion of highways, which contributes to urban sprawl.¹⁸⁷

182. See, e.g., N.Y. Agric. & Mkts. Law § 304-a(3) (McKinney 2013).

183. U.S. CONST. amend. X.

184. *Village of Euclid v. Ambler Realty Co.*, 272 U.S. 365, 397 (1926).

185. *South Dakota v. Dole*, 483 U.S. 203, 211-12 (1987).

186. Ruben N. Lubowski ET AL., *Agricultural Policy Affects Land Use and the Environment*, Economic Research Service – United States Department, U.S. DEPT. OF AGRIC. (Sept. 1, 2006), <https://www.ers.usda.gov/amber-waves/2006/september/agricultural-policy-affects-land-use-and-the-environment/>.

187. See *Briefing Book*, TAX POL'Y CTR., <https://www.taxpolicycenter.org/briefing-book/what-highway-trust-fund-and-how-it-financed> (last visited Feb. 3, 2020) (for example, the Highway Trust Fund finances government spending for highways through federal grants to state and local governments).

Additionally, the federal government already regulates and influences land development extensively. Federal statutes have shaped land development and encourage or discourage different types of land use.¹⁸⁸ Federal funding for the interstate highway system split cities and neighborhoods in half and enabled urban sprawl.¹⁸⁹ The federal government then exacerbated this sprawl with grant-in-aid funding programs for highways and infrastructure in the 1960s.¹⁹⁰ Additionally, the Farmland Protection Policy Act of 1981 required federal agencies to consider adverse effects on the preservation of agricultural land for their programs.¹⁹¹

Next, the Property Clause provides the federal government the authority to regulate federal land. It served as the source of Congress's power to enact the Federal Land Policy and Management Act of 1976.¹⁹² A driving policy behind this statute is to manage public lands "in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resources, and archeological values"¹⁹³ By comparison, cases that affirm the government's power to regulate private land under the Property Clause generally only apply to activities that concern or might affect nearby federal land.¹⁹⁴

Proposals for national land use laws are not novel. In the early 1970s, the Land Use Policy and Planning Assistance Act was proposed in Congress.¹⁹⁵ This bill offered grants to encourage states to adopt comprehensive land use plans that address land use issues beyond the scope of local concerns.¹⁹⁶ This was similar to the Coastal Zone Management Act of 1972, which allocated financial assistance to states that used police powers to protect environmentally sensitive coastal areas from development.¹⁹⁷

188. See Green, *supra* note 4, at 107-17 (discussing federal regulation of land management and development).

189. *Id.* at 70-84.

190. *Id.* at 71.

191. 42 U.S.C. § 4201 (1981) (repealed) (although this law has since been repealed, it nonetheless demonstrates how federal statutes have shaped land development and were designed to encourage or discourage different types of land use).

192. 43 U.S.C. §§ 1701-1785 (2018).

193. 43 U.S.C. § 1701(a)(8) (2018).

194. Marla E. Mansfield, *A Primer of Public Land Law*, 68 WASH. L. REV. 801, 811 (1993).

195. S. 268, 93d Cong. (1973).

196. *Id.*

197. *Coastal Zone Management Act*, 16 U.S.C. § 1451 (2018); see also Martin R. Healy, *National Land Use Proposal: Land Use Legislation of Landmark Environmental Significance*, 3 B.C. ENVTL. AFF. L. REV. 355, 358 (1974).

In sum, federal laws have had enormous impacts on land development and agricultural land uses. Congress already uses the spending power and its power under the Property Clause to regulate land use in a variety of indirect and direct ways. In this case, however, Congress's most relevant power is the Commerce Clause. Found in Article I, Section 8, Clause 3 of the U.S. Constitution, the Commerce Clause states that Congress may "regulate Commerce with foreign nations and among the several states, and with Indian Tribes."¹⁹⁸

B. The Commerce Clause

In *Wickard v. Filburn*,¹⁹⁹ the Supreme Court held that Congress may use the Commerce Clause to regulate activities that, in the aggregate, substantially affect interstate commerce.²⁰⁰ The Court also concluded growing wheat on private property could be regulated as a commercial activity even if grown for personal consumption.²⁰¹ The Court reasoned that if other farmers grew their own wheat then, in the aggregate, such practices could substantially affect the price of wheat in the national market.²⁰² This case overturned the Court's 1936 decision in *United States v. Butler*,²⁰³ which held that agricultural production was a local concern and not within reach of the Commerce Clause.²⁰⁴

In 1995, the Supreme Court limited the commerce power in *United States v. Lopez*,²⁰⁵ by holding Congress could not regulate gun possession near school grounds because it was not an economic activity.²⁰⁶ The Supreme Court later reaffirmed that the activity being regulated under the Commerce Clause must be economic in *United States v. Morrison*.²⁰⁷ While reviewing a challenge to the Violence Against Women Act, the Court in *Morrison* held that violence is not an economic activity and, therefore, cannot be aggregated to fall under the Commerce Clause.²⁰⁸ Most recently, the Supreme Court reaffirmed *Wickard* in *Gonzales v.*

198. U.S. CONST. art. I §8, cl. 3.

199. 317 U.S. 111 (1942).

200. *Id.* at 124-28.

201. *Id.* at 124-28.

202. *Id.*

203. 297 U.S. 1 (1936).

204. *Id.* at 63-64.

205. 514 U.S. 549 (1995).

206. *Id.* at 567-68.

207. 529 U.S. 598, 627 (2000).

208. *Id.*

Raich.²⁰⁹ In *Raich*, the respondent challenged the Controlled Substances Act's prohibition against growing medical cannabis for personal consumption.²¹⁰ The Court held that growing cannabis, like wheat and other agricultural products, is an economic activity and integral to a larger federal regulatory scheme.²¹¹ Growing agricultural products for personal consumption or intrastate sales both affects the price of crops in a national market and is an economic activity that may be integral to a larger federal regulatory scheme. Accordingly, farming affects interstate commerce and may be regulated by Congress.

Urban agriculture concerns sustainable food production, sales, and economic stability in both local and national markets. The Supreme Court previously acknowledged that local agriculture production affects price in a national market in *Wickard*.²¹² It follows that the issue of whether Congress can provide by-right and right-to-farm type protections may not need any further support. Moreover, Congress' power to provide such protections is also supported by *Raich*.²¹³

Crops produced in urban agriculture are commodities, but whether they are integral to a larger federal regulatory scheme is up to Congress. Facilitating local, sustainable agricultural production concerns not just local communities but also the nation and world. The geographic scope of interests in agriculture and long-term use of natural resources spans much more than municipalities or individual states and should be subject to a national regulatory scheme. National land use regulations, already essential to agricultural production, concern national commercial activity, the environment, and public health.

C. Challenges to Congress' Authority to Regulate Land Use Under the Commerce Clause

One potential challenge to Congress' authority to pass some form of by-right and right-to-farm laws arises under the anti-commandeering doctrine of the Tenth Amendment.²¹⁴ The Tenth Amendment states "powers not delegated to the United States by the Constitution nor prohibited by it to the states, are reserved to

209. 545 U.S. 1, 32-33 (2005).

210. *Id.* at 6-7.

211. *Id.* at 33.

212. *Wickard*, 317 U.S. at 124-25.

213. *See Raich*, 545 U.S. at 33.

214. U.S. CONST. amend. X.

the states respectively, or to the people.”²¹⁵ The Supreme Court has interpreted it to mean that the federal government cannot commandeer state governments to act: “The Federal Government may neither issue directives requiring the States to address particular problems, nor command the States’ officers, or those of their political subdivisions, to administer or enforce a federal regulatory program.”²¹⁶

While some may argue federal regulation of agriculture violates the Tenth Amendment by prohibiting states from denying a sustainable, agricultural use of land, this does not commandeer the state government to act. In *Reno v. Condon*,²¹⁷ the Supreme Court upheld a law that prohibited states from disclosing personal information contained in the records of state motor vehicle department (DMVs).²¹⁸ This case appeared to confirm Congress’ ability to use the Commerce Clause in a way that prohibits state actions while not violating the Tenth Amendment.²¹⁹

However, in *Murphy v. NCAA*,²²⁰ the Court clarified that a federal law cannot dictate what a state legislature may and may not do, and thus, prohibiting a state from enacting certain laws violates this principle.²²¹ To validly preempt a state law, the federal law must be an exercise of power conferred on Congress by the Constitution. More specifically, it must be a power to regulate private actors rather than states.²²² The Court in *Murphy* explained that in *Reno*, the federal law restricting state disclosure of personal information found in state DMV records applied equally to state and private actors engaging in an activity and did not regulate the sovereign authority of states to regulate their own citizens.²²³ A law that confers federal rights on individuals interested in sustainable urban agriculture – an interstate economic activity – regulates private actors under the Commerce Clause.²²⁴ A federal law providing urban sustainable agriculture by-right and right-to-farm protections would, therefore, preempt state laws without violating the Tenth Amendment.

215. *Id.*

216. *Printz v. United States*, 521 U.S. 898, 935 (1997).

217. 528 U.S. 141 (2000).

218. *Id.* at 149-51.

219. *Id.* at 150-51.

220. 138 S.Ct. 1461 (2018).

221. *Id.* at 1477-82.

222. *Id.*

223. *Id.* at 1478-79.

224. *Id.* at 1477-82.

Preemption is based on the Supremacy Clause.²²⁵ The three types of preemption identified by the courts include “conflict, express, and field.”²²⁶ “Conflict preemption” occurs when Congress enacts a law that imposes restrictions or confers rights on private actors and a state law is inconsistent or in conflict with these restrictions or rights.²²⁷ “Express preemption” occurs when Congress explicitly states in the law that it preempts state laws.²²⁸ Conferring a federal right to engage in conduct, subject only to certain constraints, can sometimes be confused with language that appears to directly impact the state legislature.²²⁹ This distinction is important to avoid interpreting a federal law as a violation of the anticommandeering doctrine. Finally, “field preemption” occurs when a federal law is so comprehensive that it occupies an entire “field,” leaving no room for state law.²³⁰ A federal law that provides farmers who wish to engage in urban sustainable agriculture by-right and right-to-farm protections can use any of these three mechanisms to preempt state laws. Congress may also explicitly constrain the right it confers on private actors by subjecting it to constraints imposed by other environmental and public health laws.

V. CONCLUSION

A movement for national food policies needs to emerge once more if there is any hope for alleviating climate change, fighting food deserts, and improving public health. Congress has authority under the Commerce Clause to confer federal rights upon sustainable farmers who wish to contribute to a new national objective of achieving a sustainable food system. Congress also has authority under the Spending Clause to incentivize states to adopt comprehensive zoning laws that support sustainable urban agriculture. Pursuant to this objective, the Spending Clause should also be used to redistribute government subsidies away from industrial farming operations and toward sustainably-run farms.

A national food law enacted under the Commerce Clause could combine by-right and right-to-farm elements to confer certain rights on sustainable urban farmers. First, urban farmers should have a right to farm as either a primary or accessory use of

225. *Murphy*, 138 S.Ct. at 1479.

226. *Id.* at 1480-82.

227. *Id.* at 1480-82.

228. *See id.* at 1480.

229. *Id.*

230. *Murphy*, 138 S.Ct. at 1480.

land, regardless of the zoning district. Second, this law should apply to urban sustainable farms regardless of size or whether they are growing food for personal consumption. Finally, a national law should protect sustainable farming from unreasonable laws that run contrary to the new federal objective to promote a sustainable food system.

Municipalities also have an important role to play. They should continue to revise zoning laws to make it easier for sustainable farms to thrive. Moreover, local support for a sustainable food system may pressure Congress to make changes on a federal level. These proposed changes represent just one step toward a future of sustainable food production, but it is a critical step at a critical time. The government can no longer neglect industrial agriculture's contribution to climate change and other public health issues.²³¹

231. See generally Trevor J. Smith, *Corn, Cows, And Climate Change: How Federal Agricultural Subsidies Enable Factory Farming And Exacerbate U.S. Greenhouse Gas Emissions*, 9 WASH. J. ENVTL. L. & POL'Y 26, 28-31 (2019).