

**SMALL, SLOW, AND LOCAL: ESSAYS ON BUILDING A
MORE SUSTAINABLE AND LOCAL FOOD SYSTEM**

Mary Jane Angelo

with

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SMALL, SLOW, AND LOCAL*Mary Jane Angelo**

We're at Wounded Knee. For all the foodie fluff and eco-local buzz, in the final analysis the imbedded, heritage, transparent, truthful food system is in danger of annihilation. The Seventh Cavalry wears blue pinstriped suits and sits in posh government office buildings. The Native Americans are farmers trying to heal their land, their neighbors, and their food.

—Joel Salatin¹

INTRODUCTION

The United States is in the middle of a significant cultural shift. Until very recently, United States citizens and policy-makers were willing to accept, or at least tolerate, what has become our food status quo—a highly subsidized, centralized, industrial food system that is environmentally harmful and unsustainable and encourages unhealthy eating habits. Many citizens and policy-makers are now demanding that we re-evaluate our entire agricultural system from farm to table and look for ways to develop a new food paradigm that is environmentally sound, sustainable, socially equitable, and that makes healthy whole foods available to all. Although the dramatic rise in demand for organic foods is evidence of a change in sentiment, many believe that a more transformative approach is necessary to make a true shift to an environmentally sound, sustainable, equitable, and healthy food system. Well-known author Michael Pollan, whose best-selling books, *The Omnivore's Dilemma*² and *In Defense of Food*,³ have contributed to the public's interest and concerns in these matters, has argued in favor of a more regionalized food system. Other best-selling books have urged local-eating, which has led to the “locavore” movement and the idea of eating from our own local “foodshed.” A Virginia farmer, Joel Salatin,

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1. *Books by Joel*, POLYFACE, INC., <http://www.polyfacefarms.com/books.aspx> (last visited Feb. 4, 2011).

2. MICHAEL POLLAN, *THE OMNIVORE'S DILEMMA: A NATURAL HISTORY OF FOUR MEALS* (2006) [hereinafter POLLAN, *OMNIVORE'S DILEMMA*].

3. MICHAEL POLLAN, *IN DEFENSE OF FOOD: AN EATER'S MANIFESTO* (2008).

who authored the book *Everything I Want to Do is Illegal*⁴ and the quotation above, has become the unexpected hero of the local food movement.

During the summer of 2010, I taught a course titled “Agricultural Policy and the Environment” at Vermont Law School. When I walked into the classroom on the first day I was shocked to see almost fifty students in the class. I taught the same course the year before and had approximately twenty-five students in the class. Although I cannot be sure, I think that if I taught the same course ten years ago I would be lucky to have enough students register to avoid having the course cancelled. Not only did the 2010 course have a very large enrollment, but the students who were in the course were extremely interested and engaged and brought with them a broad range of relevant experience. Some had grown up on farms in various parts of the country while others had chosen to work on organic farms as teenagers or adults. Some students had previously or were currently working on agricultural or food policy matters through a variety of organizations such as land trusts and in a variety of capacities such as being a social worker. Many others, while not having as much direct experience, had learned a great deal about agricultural and food policy through other formal education or independently. The widespread interest in agricultural issues at Vermont Law School mirrors the renewed interest in food policy by the public in general.

Unquestionably, many factors contribute to this cultural shift to local foods, including a desire to feel more connected to the land and to interact more with our communities. However, certainly a major factor is the public’s growing awareness that our current industrialized food system has failed us with regard to the health of both our diets and the environment.

I. THE PROBLEMS WITH CENTRALIZED INDUSTRIAL AGRICULTURE⁵

The United States agricultural system today is dramatically different from what it was fifty years ago, due in large part to the “Green Revolution” of the mid-twentieth century. The Green Revolution replaced human labor with technological innovations and a reliance on large amounts of fossil fuel inputs and mechanized farm equipment, which

4. JOEL SALATIN, *EVERYTHING I WANT TO DO IS ILLEGAL: WAR STORIES FROM THE LOCAL FOOD FRONT* (2007).

5. Portions of this essay are derived from Mary Jane Angelo, *Corn, Carbon, and Conservation: Rethinking U.S. Agricultural Policy in a Changing Global Environment*, 17 *GEO. MASON L. REV.* 593 (2010) [hereinafter Angelo, *Corn, Carbon, and Conservation*].

significantly increased per acre farm yields.⁶ The Green Revolution was promoted by a new suite of government policies that encouraged high-yield farming of commodity crops by linking subsidy payments to production levels, more government money for research and development on high yield farming, and a vast network of extension service education and training of farmers in high-yield commodity farming.⁷ The Green Revolution has led to a more than 150% increase in farm production over the past sixty years.⁸

The hallmarks of industrialized agriculture include: monocultures;⁹ few crop varieties; reliance on chemical and other inputs; and the separation of animal and plant agriculture.¹⁰ Each of these features, alone and in combination, contributes to a variety of environmental, human health, and socio-economic impacts. It cannot be denied that the Green Revolution significantly increased crop yields and thus made more and cheaper food available.¹¹ However, along with its societal benefits, the Green Revolution also brought with it a variety of serious adverse social, economic, and environmental consequences. Centralized industrialized agriculture has replaced human inputs with fossil fuel inputs.¹² Thus, from an economic and social standpoint, intensive industrial agriculture has led to the virtual disappearance of the traditional family farm, and a decline of economic and social conditions in rural communities. High production industrialized agriculture is also a major contributor to a large number of environmental harms including topsoil depletion, contamination of surface and groundwater, loss of biodiversity, and harm to protected species.¹³

6. 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, 269–70 (2009) [hereinafter Eubanks, *A Rotten System*].

7. Angelo, *Corn, Carbon, and Conservation*, *supra* note 5, at 602; Eubanks, *A Rotten System*, *supra* note 6, at 251–52.

8. *Agricultural Productivity in the United States*, USDA ECON. RES. SERVICE, <http://www.ers.usda.gov/Data/agproductivity> (last updated May 5, 2010) (“The level of U.S. farm output in 2008 was 158 percent above its level in 1948.”).

9. For a discussion of the global reliance on monoculture farming, see Helena Norberg-Hodge, *Global Monoculture: The Worldwide Destruction of Diversity*, in THE FATAL HARVEST READER: THE TRAGEDY OF INDUSTRIAL AGRICULTURE 58 (Andrew Kimbrell ed., 2002).

10. *Industrial Agriculture: Features and Policy*, UNION CONCERNED SCIENTISTS, http://www.ucsusa.org/food_and_agriculture/science_and_impacts/impacts_industrial_agriculture/industrial-agriculture-features.html (last revised May 17, 2007); *see also*, Kelley R. Tucker, *Wildlife Harvest*, in THE FATAL HARVEST READER, *supra* note 9, at 208, 221 (discussing the impacts of agriculture on wildlife).

11. Angelo, *Corn, Carbon, and Conservation*, *supra* note 5, at 602.

12. Eubanks, *A Rotten System*, *supra* note 6, at 269–70.

13. *Id.* at 269. For additional discussion on the environmental harms caused by farming, *see* Angelo, *Corn, Carbon, and Conservation*, *supra* note 5; Mary Jane Angelo, *Embracing Uncertainty*,

Moreover, because industrialized agriculture relies on high fossil fuel energy inputs, and thus has high carbon outputs, it is exacerbating the global climate change crisis.

A. Impacts to Water

Industrialized agriculture is a major contributor to adverse impacts on both the quantity and quality of the nation's water bodies.¹⁴ Industrialized agriculture relies on large fossil-fuel-derived fertilizer and pesticide inputs as well as substantial water inputs—all of which play a significant role in causing harm to water resources.¹⁵ High-yield industrialized agriculture, particularly when located in geographic areas that do not experience sufficient rainfall to support such intense agricultural practices, is a significant user of water.¹⁶ Agricultural practices that depend on large-scale irrigation can result in severe adverse water quantity impacts.¹⁷ Agricultural irrigation accounts for more than one-third of the freshwater use in the United States, making it the largest user of water in the country.¹⁸ In many western states, agricultural irrigation constitutes approximately seventy-five percent of total water consumption.¹⁹ The fact that many commodity grain crops are grown in parts of the country that do not have sufficient water resources to support intensive agriculture only exacerbates the problem.²⁰

Complexity and Change to Protect Ecological Integrity: An Eco-Pragmatic Reinvention of a First Generation Environmental Law, 33 *ECOLOGY L.Q.* 105 (2006) [hereinafter Angelo, *Embracing Uncertainty*]; Mary Jane Angelo, *The Killing Fields: Reducing the Casualties in the Battle between U.S. Endangered Species and Pesticide Law*, 32 *HARV. ENVTL. L. REV.* 96 (2008) [hereinafter Angelo, *The Killing Fields*]; Eubanks, *A Rotten System*, *supra* note 6; William S. Eubanks II, *The Sustainable Farm Bill: A Proposal for Permanent Environmental Change*, 39 *ENVTL. L. REP. NEWS & ANALYSIS* 10,493, 10,504 (2009) [hereinafter Eubanks, *Sustainable Farm Bill*]; Jan Lewandowski et al., *The Interface Between Agricultural Assistance and the Environment: Chemical Fertilizer Consumption and Area Expansion*, 73 *LAND ECON.* 404 (1997); J.B. Ruhl, *Farms, Their Environmental Harms, and Environmental Law*, 27 *ECOLOGY L.Q.* 263, 272–92 (2000).

14. Eubanks, *A Rotten System*, *supra* note 6, at 252–54.

15. *Id.* at 252; Daniel A. Farber, *Adaptation Planning and Climate Impact Assessments: Learning from NEPA's Flaws*, 39 *ENVTL. L. REP. NEWS & ANALYSIS* 10,605, 10,605 (2009).

16. Eubanks, *A Rotten System*, *supra* note 6, at 253–54; Farber, *supra* note 15, at 10,605.

17. Peter Rosset, *Lessons from the Green Revolution*, *FOOD FIRST* (Apr. 8, 2000), <http://www.foodfirst.org/media/opeds/2000/4-greenrev.html>; *see also* Ruhl, *supra* note 13, at 274, 279–81 (explaining how agricultural production will raise the demand for irrigated water from groundwater sources).

18. Eubanks, *A Rotten System*, *supra* note 6, at 253.

19. B. Delworth Gardner, *Legal Impediments to Transferring Agricultural Water to Other Users*, in *AGRICULTURAL POLICY AND THE ENVIRONMENT* 67, 67 (Rodger E. Meiners & Bruce Yandle eds., 2003).

20. Christine A. Klein, *Water Transfers: The Case against Transbasin Diversions in the Eastern States*, 25 *UCLA J. ENVTL. L. & POL'Y* 249, 269–70 (2007).

Consequently, water is often diverted from sources far from the farms' fields.²¹

To make matters worse, many of the current irrigation methods used, such as spray irrigation, are inefficient, resulting in large amounts of water being lost to evaporation or runoff. Water quantity impacts could be significantly reduced by growing crops in appropriate places, using efficient irrigation systems, and having water management plans.²² Regardless of any efficiencies gained by using better technology or growing crops in appropriate geographic locales, industrialized agriculture has a driving goal of maximizing per acre yields, and thus still demands large amounts of water to produce such large yields.²³ As urban and suburban centers grow, many areas of the country currently are facing severe water shortages. Such shortages often set up a fierce competition between agriculture and either the natural environment²⁴ or public water supply needs for urban and suburban populations.²⁵

In addition to causing adverse water quantity impacts, industrialized agriculture is a major contributor to adverse impacts to the quality of both groundwater and surface water.²⁶ Stormwater runoff from farm fields contains high levels of pollutants including sediments from soil erosion from tilled fields, pesticides, and fertilizers.²⁷ When rain or irrigation water

21. *Id.* at 253.

22. J.D. Oster & D. Wichelns, *Economic and Agronomic Strategies to Achieve Sustainable Irrigation*, 22 IRRIGATION SCI. 107, 107 (2003).

23. Eubanks, *A Rotten System*, *supra* note 6, at 253.

24. Bennett v. Spear, 520 U.S. 154 (1997); see Reed D. Benson, *Giving Suckers (and Salmon) an Even Break: Klamath Basin Water and the Endangered Species Act*, 15 TUL. ENVTL. L.J. 197 (2002) (discussing the 2001 drought in the Klamath River Basin that led to controversy between farmers and the government over fish protected by the Endangered Species Act); Holly Doremus & A. Dan Tarlock, *Fish, Farms, and the Clash of Cultures in the Klamath Basin*, 30 ECOLOGY L.Q. 279 (2003) (presenting a case study to demonstrate the key challenges faced by many communities in the arid West); Eubanks, *A Rotten System*, *supra* note 6, at 254 (discussing conflict between Georgia, Florida, and Alabama over the allocation of water in the Apalachicola-Chattahoochee-Flint River Basins and increased scarcity of water resulting from the Green Revolution); Klein, *supra* note 20, at 260–61 (discussing water diversion in Florida for urban development that literally separated the northern citizens from those living in the south); Drew Melville, "Whiskey is for Drinking . . .": *Recent Water Law Developments in Florida*, 20 J. LAND USE & ENVTL. L. 489 (2005) (discussing Florida's issues dealing with water, development, property rights, and agricultural policy); C. Grady Moore, *Water Wars: Interstate Water Allocation in the Southeast*, 14 NAT. RESOURCES & ENVT. 5 (1999) (discussing the strain that expansion in the southeast has placed on water resources).

25. See Christine Klein, Mary Jane Angelo, & Richard Hamann, *Modernizing Water Law: The Example of Florida*, 61 FLA. L. REV. 403 (2009) (describing the advancement of public interest while allocating water among competing users).

26. Eubanks, *A Rotten System*, *supra* note 6, at 255.

27. See John Boardman et al., *Socio-Economic Factors in Soil Erosion and Conservation*, 6 ENVTL. SCI. & POL'Y 1 (2003) (discussing industrial agriculture's contribution to soil erosion).

contacts farm fields, agricultural chemicals, including certain pesticides and nitrites from fertilizers, leach into groundwater²⁸ often rendering the water unacceptable for drinking or other uses.²⁹ Where groundwater naturally flows into surface water, such as is the case with artesian springs, contaminants enter the surface water as well.³⁰ Moreover, rain and irrigation water that exceeds the amount capable of being absorbed into the soil picks up pollutants and carries them from agricultural fields into surface water bodies.³¹

Fertilizers used to achieve high per acre yields in industrial agriculture contain nutrients such as phosphorus and ammonium nitrate, which can cause serious harm to water bodies.³² Large quantities of fertilizers are carried in rainwater runoff into water bodies where they act, in essence, as fertilizers for algae, thereby promoting overgrowth of algae.³³ Water bodies with overabundant algae and high nutrient levels are referred to as hyper-eutrophic.³⁴ Hyper-eutrophic water bodies are characterized by algae dominance, rather than submersed plant dominance, low oxygen, and reduced fish and other aquatic organisms.³⁵ Nutrient-rich waters from fertilized fields eventually flow into estuaries where they can create “dead zones” in areas previously characterized by high fish and aquatic organism productivity.³⁶ The primary example of this phenomenon is the enormous dead zone in the Gulf of Mexico at the mouth of the Mississippi River.³⁷ Seventy percent of the nitrogen entering the Gulf of Mexico comes directly from agricultural activities in the Mississippi River basin.³⁸ Similarly, rainwater runoff carries pesticides used on agricultural fields to water bodies where they exert harmful effects on fish and aquatic life.³⁹

Another significant agricultural pollutant in surface water bodies is sedimentation from soil erosion resulting from tilling practices that dislodge soil which is then carried by runoff.⁴⁰ The Green Revolution’s shift from perennial rotation of crops to large single crop monocultures, such as most

28. *Id.* at 4.

29. Ruhl, *supra* note 13, at 291.

30. Eubanks, *A Rotten System*, *supra* note 6, at 255.

31. *Id.*

32. Lewandowski et al., *supra* note 13, at 404, 408; Ruhl, *supra* note 13, at 284.

33. Eubanks, *A Rotten System*, *supra* note 6, at 256–57.

34. *Id.* at 255–56.

35. Ruhl, *supra* note 13, at 288.

36. *Id.* at 288–89.

37. Eubanks, *A Rotten System*, *supra* note 6, at 256.

38. *Id.*

39. Ruhl, *supra* note 13, at 283–84.

40. Eubanks *A Rotten System*, *supra* note 6, at 257.

cornfields, has accelerated the rate of topsoil erosion.⁴¹ Loss of topsoil to erosion can dramatically reduce productivity of agricultural lands.⁴² Moreover, the more than two billion tons of sediment that enter the nation's waterways each year⁴³ can clog streams and fill shallow areas of water bodies, thereby reducing habitat and light availability to submersed plants.⁴⁴

In addition to the water quality problems associated with fertilizer, pesticide, and topsoil runoff, another major contributor to water quality impacts is animal waste from concentrated feedlots. Historically, farmers raised livestock primarily on open grazing fields.⁴⁵ The cattle's nutrition was primarily from field grass with very small amounts of supplementation from grains. By heavily subsidizing commodity grain production, the policies of the Green Revolution made grains far less expensive for livestock producers to purchase.⁴⁶ Consequently, producers were able to confine livestock onto highly concentrated feedlots where they could feed the animals inexpensive grain rather than needing large areas of land for the animals to graze on grasses.⁴⁷ Corn has now replaced grass as the primary cow feed and thus many cattle ranchers have replaced open-range grazing with a mostly corn-based diet in confined feedlots.⁴⁸ Cattle diet, which once was almost solely a grass diet, now is largely comprised of grain.⁴⁹ Today corn is the primary feed grain in the United States, accounting for more than ninety percent of total feed grain produced and used.⁵⁰ The concentrated animal feeding operations, where much of the livestock is confined, are a major source of water pollution problems.⁵¹ Historically, farmers used animal wastes as fertilizers for crops grown on the same farm as the animals that created the waste. Now these wastes have no use and the vast quantities of concentrated animal waste have become one the nation's largest sources of water pollution.⁵² In his October 12, 2008 letter, Michael Pollan explains how the once closed-loop animal waste fertilizer system has

41. *Id.* at 257–58.

42. *Id.* at 262.

43. *Id.* at 257.

44. *Id.*

45. *Id.* at 259.

46. *Id.* at 280.

47. *Id.* at 259–60.

48. *Id.*

49. POLLAN, OMNIVORE'S DILEMMA, *supra* note 2, at 66–67.

50. *Corn: Background*, USDA ECON. RES. SERVICE, <http://www.ers.usda.gov/Briefing/Corn/background.htm> (last updated Feb. 18, 2009).

51. Bruce Yandle & Sean Blacklocke, *Regulating Concentrated Animal Feeding Operations: Internalization or Cartelization?*, in *AGRICULTURAL POLICY AND THE ENVIRONMENT*, *supra* note 19, at 45, 48–49.

52. Eubanks, *A Rotten System*, *supra* note 6, at 260.

been replaced with a system that creates two major problems.⁵³ Pollan explains these problems by paraphrasing Wendell Barry as follows:

[T]o take animals off farms and put them on feedlots is to take an elegant solution—animals replenishing fertility that crops deplete and neatly divide it into two problems: a fertility problem on the farm and a pollution problem on the feedlot. The former problem is remedied with fossil-fuel fertilizer; the latter is remedied not at all.⁵⁴

B. Implications for Biodiversity

A number of industrialized agriculture practices cause harm to wildlife and biodiversity.⁵⁵ First, converting large natural areas into vast monoculture farmlands greatly reduces or eliminates habitat.⁵⁶ Second, as described above, sedimentation from erosion adversely impacts aquatic organisms.⁵⁷ Nutrients from fertilizer lead to eutrophic conditions in water bodies, characterized by low oxygen levels, which results in reductions of submersed plants and aquatic organisms.⁵⁸ Third, one of the most significant impacts to biodiversity results from synthetic pesticide use. Pesticides harm wildlife and aquatic organisms through direct contact with animals that are in farm fields when they are treated with pesticides, as well as from aerial drift and runoff from farm fields into non-farm areas where wildlife species are present.⁵⁹ Finally, some classes of pesticides bioaccumulate in the food chain, exposing species that feed high on the food chain to highly-concentrated pesticides in their food sources.⁶⁰

53. Michael Pollan, *Farmer in Chief*, N.Y. TIMES MAG., Oct. 12, 2008 [hereinafter Pollan, *Farmer in Chief*], available at http://www.nytimes.com/2008/10/12/magazine/12policy-t.html?_r=1&pagewanted=all.

54. *Id.*

55. *See generally*, THE FATAL HARVEST READER, *supra* note 9 (discussing the harm that industrial agriculture causes to wildlife and biodiversity).

56. Alex Avery & Dennis Avery, *High-Yield Conservation: More Food and Environmental Quality through Intensive Agriculture*, in AGRICULTURAL POLICY AND THE ENVIRONMENT, *supra* note 19, at 135, 135–36.

57. Ruhl, *supra* note 13, at 277–78.

58. Eubanks, *A Rotten System*, *supra* note 6, at 255–56.

59. *Id.* at 258–59. *See also* Angelo, *Embracing Uncertainty*, *supra* note 13 (discussing the harmful effects of pesticides on wildlife); Ruhl, *supra* note 13, at 283 (explaining how pesticides, such as DDT, can fail to reach target pests and instead cause damage to adjacent ecosystems, waterways, and humans).

60. James M. Armitage & Frank A.P.C. Gobas, *A Terrestrial Food-Chain Bioaccumulation Model for POPs*, 41 ENVTL. SCI. & TECH. 4019, 4019 (2007).

Although pesticides of one form or another have been used in agriculture for hundreds of years,⁶¹ it was not until World War II that the development of new synthetic chemical pesticides led to an explosion of global pesticide usage.⁶² The rapid worldwide adoption of synthetic chemical pesticides beginning during World War II coincided with the Green Revolution and its push toward ever-higher per acre yield. Highly toxic synthetic pesticides became a major component of high yield industrialized agriculture. Pesticide use was extensively promoted by the vast agricultural extension service network that supported the Green Revolution. The environmental movement of the 1960s and early 1970s led to the banning of one category of synthetic pesticides—the organo-chlorines, such as DDT⁶³ which bio-accumulated and resulted in severe problems for many species of predatory birds. Nevertheless, many of the synthetic pesticides, such as organo-phosphates and carbamates, that continue to dominate in United States industrialized agriculture, pose significant risks to fish and wildlife even though they do not bio-accumulate. In fact, recent studies and reports indicate that the threat of agricultural pesticide use to wildlife continues despite the ban of the organo-chlorine pesticides. A Center for Biological Diversity report concluded that the EPA has approved registrations for pesticides that put more than 375 threatened and endangered species at risk.⁶⁴ Another study by the American Bird Conservancy estimates that out of the 672 million birds that are directly exposed to pesticides each year, more than sixty-seven million will die from the pesticide exposure.⁶⁵ Moreover, reports of pesticide poisoning of fish, birds, and other wildlife are not uncommon. Furthermore, pesticides are believed to be a contributing factor in the “impending pollinator crisis.”⁶⁶ Pollinators at risk include commercial honey bees as well as other wild pollinators, including wild bees and a

61. Angelo, *Embracing Uncertainty*, *supra* note 13, at 144.

62. Clive A. Edwards, *The Impact of Pesticides on the Environment*, in *THE PESTICIDE QUESTION: ENVIRONMENT, ECONOMICS, AND ETHICS* 13, 13 (David Pimentel & Hugh Lehman eds., 1993). Portions of this section have been adapted from Angelo, *Embracing Uncertainty*, *supra* note 13.

63. DDT is the abbreviation for synthetic insecticide, 1, 1, 1-trichloro-2,2-bis(*p*-chlorophenyl)ethane. *FUNDAMENTALS OF APPLIED ENTOMOLOGY* 755 (Robert E. Pfadt ed., 3rd ed., 1978).

64. BRIAN LITMANS & JEFF MILLER, CTR. FOR BIOLOGICAL DIVERSITY, *SILENT SPRING REVISITED: PESTICIDE USE AND ENDANGERED SPECIES* 52 (2004), *available at* http://www.biologicaldiversity.org/publications/papers/Silent_Spring_revisited.pdf.

65. *Id.* at 17. This estimate is supported by work conducted by Dr. David Pimentel, who has reported a conservative estimate of sixty-seven million bird deaths per year from agricultural pesticide use. David Pimentel et al., *Assessment of Environmental and Economic Impacts of Pesticide Use*, in *THE PESTICIDE QUESTION: ENVIRONMENT, ECONOMICS, AND ETHICS*, *supra* note 62, at 47, 68.

66. LITMANS & MILLER, *supra* note 64, at 17.

variety of species of bird and bat pollinators.⁶⁷ Finally, many scientific studies suggest that we do not yet have a full understanding regarding the pesticide risks to wildlife.⁶⁸

Another obvious impact to biodiversity from industrialized agriculture is the clearing of land to grow vast areas of monocultures of commodity crops.⁶⁹ A shift away from monocultures to fields containing a diversity of crops, coupled with the use of borders, buffers, and refugia for other organisms could limit the impacts to wildlife and biodiversity resulting from the conversion of nature to farmland.

C. Contribution to Climate Change

High intensity industrialized agriculture is heavily dependent upon fossil fuel inputs, and consequently results in high fossil fuel outputs—namely, greenhouse gases. For example, nitrogen fertilizers are made from natural gas⁷⁰ and most synthetic pesticides are derived from fossil fuels.⁷¹ Diesel and gasoline are used to run heavy farm machinery such as tractors and combines, as well as to transport agricultural products long distances to

67. Mrill Ingram et al., *Our Forgotten Pollinators: Protecting the Birds and the Bees*, in THE FATAL HARVEST READER, *supra* note 9, at 191, 191–92.

68. See, e.g., ANDREW OGRAM & YUN CHENG, ST. JOHNS RIVER WATER MGMT. DIST., FINAL REPORT: BIOLOGICAL BREAKDOWN OF PESTICIDES IN LAKE APOPKA NORTH SHORE RESTORATION AREA SOIL IN A MESOCOSM EXPERIMENT (2007), available at <http://www.sjrwmd.com/technicalreports/pdfs/SP/SJ2007-SP1.pdf> (demonstrating the complexity of pesticide breakdown in soils and under a variety of conditions); Lawrence J. Blus & Charles J. Henry, *Field Studies on Pesticides and Birds: Unexpected and Unique Relations*, 7 ECOLOGICAL APPLICATIONS 1125 (1997) (finding, among other things, shortcomings with existing field testing of pesticides on birds and unexpected toxic effects and routes of exposure of certain organophosphate pesticides); see also Ruhl, *supra* note 13, at 272–92. In this article, Professor J.B. Ruhl describes the negative impacts of agriculture and the lack of strong environmental regulation of agriculture. Ruhl describes how farms, despite their substantial and negative influence on the American environment, often are exempted from environmental laws and regulations. *Id.* Farms account for 930 million acres of the American landscape, and in 1997 had sales of just under \$200 billion. *Id.* at 272–73. However, the farming industry also provides numerous hazards to the United States environment, such as habitat loss and degradation, soil erosion, pesticide releases, and nonpoint source water pollution. *Id.* at 274–93. Farms use over 750 million pounds of pesticides annually, and account for roughly eighty percent of the United States pesticide use. *Id.* at 282. The author notes how a “significant fraction” of pesticides fail to interact with the target but rather are absorbed into the soil, posing short-term, and for some pesticides, long-term toxic risks. *Id.* at 283. Furthermore, pesticide runoff has serious and negative consequences for the water supply. *Id.* at 283–84.

69. See generally Thomas K. Gottschalk et al., *Impact of Agricultural Subsidies on Biodiversity at the Landscape Level*, 22 LANDSCAPE ECOL. 643 (2007) (discussing the differing impacts of production-based subsidies and direct income support on biodiversity).

70. Eubanks, *Sustainable Farm Bill*, *supra* note 13, at 10,504.

71. Pollan, *Farmer in Chief*, *supra* note 53.

processing facilities and retailers.⁷² Agricultural activities are responsible for approximately twenty percent of United States fossil fuel consumption. Agriculture accounts for approximately thirty-seven percent of United States and fifteen percent of worldwide greenhouse gas emissions.⁷³

D. Human Health Impacts

Industrialized agriculture can have significant adverse effects on human health. Pesticides not only harm wildlife in and around the farm field, but also pose risks to humans who come into contact with them through water, air, or food contamination. Pesticides that leach into groundwater or run off into surface waters can contaminate drinking water sources as well as fish that humans consume. Humans are also directly exposed to pesticides that are sprayed on fields and are carried by the wind to neighboring inhabited areas.⁷⁴ Pesticide residues remain in or on foods consumed by humans. The human population that is at greatest risk from pesticides, however, is farmworkers and their families, who are directly exposed to substantial amounts of pesticides in the places in which they work and live.⁷⁵

In addition to pesticidal contamination, one of the most significant human health concerns is the way that industrialized agriculture has transformed the American diet, which now is comprised of unprecedented amounts of relatively inexpensive processed foods.⁷⁶ These processed foods not only lack the nutrients found in fresh whole foods, but they also contain a large array of substances that pose risks to human health.⁷⁷ As a result of United States policy that provides generous subsidies to large-scale commodity crop producers, commodities such as corn are over-produced to such a degree that cheap subsidized corn-derived products are used in virtually all processed foods. Michael Pollan discusses at length in *The Omnivore's Dilemma* that virtually all processed food contains sweeteners, starches, and other additives derived from corn. The cheap availability of these corn derived additives is a direct result of United States agricultural

72. Eubanks, *Sustainable Farm Bill*, *supra* note 13, at 10,504.

73. *Id.*; Pollan, *Farmer in Chief*, *supra* note 53.

74. A detailed discussion of the risks to humans from pesticide exposure from food and water is beyond the scope of this article. For a more detailed discussion, see EDWIN D. ONGLEY, *Pesticides as Water Pollutants*, in CONTROL OF WATER POLLUTION FROM AGRICULTURE—FAO IRRIGATION PAPERS (1996), available at <http://www.fao.org/docrep/W2598e/w2598e07.htm>.

75. A detailed discussion of the health effects of farmworker exposure to pesticides is beyond the scope of this article. For a more detailed discussion, see Eubanks, *A Rotten System*, *supra* note 6, at 276.

76. Eubanks, *A Rotten System*, *supra* note 6, at 279–81.

77. *See id.* at 279–82 (discussing the health impacts of “corn based, high fat, processed food items”).

policy which encourages overproduction of corn and other commodity crops though generous government subsidies linked to per acre production levels.⁷⁸ Many of the corn products that dominate processed food ingredient lists are linked to serious health concerns.⁷⁹ For example, high fructose corn syrup, which has been incorporated into large numbers of processed foods, has been linked to the current obesity and diabetes epidemics.⁸⁰

E. Social Impacts

In the fifty years between 1950 and the end of the twentieth century, the number of United States farms declined by approximately sixty percent.⁸¹ Since 1979, the United States has lost more than 300,000 farmers.⁸² The Green Revolution dramatically changed the landscape of the nation's rural communities. As human labor inputs were replaced with fossil fuel inputs, and as human workers were replaced with mechanized farm equipment, fewer and fewer workers were needed on the farm. At the same time, the consequences of the Industrial Revolution and the economic expansion of post-WWII America created unprecedented numbers of new jobs in and near urban areas.⁸³ The combination of these two phenomena led to a vast migration of rural populations to urban and suburban areas.⁸⁴ Children of farmers who once would have stayed on the family farm, and other workers who once would have worked on farms or in businesses that supported farming and rural communities, left in droves for opportunities in the cities. The result of this exodus was economic and social devastation for many rural communities, with many farming towns becoming virtual ghost towns. Family farms that remained began to be bought out by large industrialized farms that, armed with massive government subsidies, gobbled up thousands of small farms.⁸⁵

78. See POLLAN, OMNIVORE'S DILEMMA, *supra* note 2 (discussing the rise of corn in food and nonfood products).

79. *Id.*

80. A detailed discussion of the health effects linked to high fructose corn syrup is beyond the scope of this article. For a more detailed discussion, see George A. Bray et al., *Consumption of High-Fructose Corn Syrup in Beverages May Play a Role in the Epidemic of Obesity*, 79 AM. J. CLINICAL NUTRITION 537 (2004), available at <http://www.ajcn.org/cgi/reprint/79/4/537>.

81. Eubanks, *A Rotten System*, *supra* note 6, at 229.

82. Marnie Coit, *Jumping on the Next Bandwagon: An Overview of the Policy and Legal Aspects of the Local Food Movement*, 4 J. FOOD L. & POL'Y 45, 55 (2008).

83. Eubanks, *A Rotten System*, *supra* note 6, at 216–40.

84. *Id.*

85. *Id.*

A more localized food system could bring many benefits to both rural and urban communities.⁸⁶ A local agriculture system can bring back the family farm, thereby returning jobs and economic activity and a sense of community to rural areas. Similarly, the emergence of urban agriculture has the potential to provide new and different economic opportunities to urban dwellers who participate in growing, distributing, and selling locally grown foods. Perhaps even more important than the economic opportunities local agriculture can provide, however, are the less tangible social benefits. The explosion of farmers' markets in suburban and urban communities suggests a desire to feel more connected to community, as well as to where our food is grown.⁸⁷ Farmers' markets can be a regular meeting place for neighbors to meet and interact. There also seems to be a desire to feel a connection with the people who grow our food and to know where and how our food is produced.

In addition, a localized food system can be a way to improve the nutritional value of the American diet and to provide access to fresh healthful foods to people who may not historically have had such access. Food that does not have to travel hundreds or thousands of miles between producer and seller does not need as much processing and retains more nutrients.⁸⁸ Moreover, in many urban areas, it is extremely difficult, if not impossible, for lower income people to obtain fresh healthful fruits and vegetables. Many lower income urban areas are considered to be "food deserts" in that there are not any grocery stores in the area where residents can purchase anything but processed fast foods. To get to a grocery store that sells whole non-processed foods, residents must travel for long distances. This may not be practical for people who do not own cars and do not have the money or time to travel between their neighborhoods and the typically suburban supermarkets. Urban gardens, urban farmers' markets, and food to school programs can make fresh nutritious food readily available, thereby giving low income urban dwellers the ability to improve their health through good nutrition.

F. Resilience and Food Security

Modern centralized industrial agriculture is based on vast acreages of monocultures, with large areas being devoted to the heavily subsidized

86. For a detailed discussion of the reasons to purchase local foods and the benefits of such practices, see generally Coit, *supra* note 82, at 55.

87. *Id.* at 48–51.

88. *Id.* at 50–52.

commodity grain crops.⁸⁹ Monocultures without crop rotation and intercropping create the perfect environment for the build-up of monoculture crop pests.⁹⁰ The absence of crop rotation and intercropping in these systems also creates the need for higher inputs of artificial fertilizers.⁹¹ In addition to the increased need for pesticide and fertilizer inputs associated with the growing large areas of a single crop, monocultures also are less resilient than more diverse systems. Ecological resilience is a measure of the magnitude of a perturbation that a system can absorb before the disturbance causes the system to shift into a different regime of behavior with different controlling processes.⁹² Accordingly, ecological resilience captures the strength of redundancies in the system stemming from reinforcing processes and compensating functions provided by a diversity of species. These redundancies enable the system, whether it be a natural ecosystem or an agricultural farm field, to absorb disturbances and persist despite the disruption.⁹³

Generally, the more diverse the system, the more resilient it becomes. Single crop and especially single crop variety systems are extremely vulnerable to outbreaks of particular diseases, pests, or contamination with particular pollutants to which the crop or variety is vulnerable.⁹⁴ If a variety is vulnerable, all of the plants within the variety will be similarly vulnerable. A more diverse system, both in terms of crop diversity and genetic diversity within a crop type, will limit vulnerability to specific

89. Angelo, *Corn, Carbon, and Conservation*, *supra* note 5, at 603, 611.

90. See Judith Thompson et al., *Biodiversity in Agroecosystems*, in *FARMING WITH NATURE: THE SCIENCE AND PRACTICE OF ECOAGRICULTURE* 46, 46–48 (Sara J. Scherr & Jeffrey A. McNeely, eds., 2007) (discussing the importance of the various components of agricultural biodiversity and the contribution they make to sustainable production, livelihoods, and ecosystem health); Eubanks, *A Rotten System*, *supra* note 6, at 264–65 (discussing the unintended consequence of pesticides on insects and animals not directly targeted by the pesticides).

91. Eubanks, *A Rotten System*, *supra* note 6, at 258; see also Antonio P. Mallarino et al., *Grain Yield of Corn, Soybean, and Oats as Affected by Crop Rotation and Nitrogen Fertilization for Corn*, in 2005 ANNUAL PROGRESS REPORTS: NORTHERN RESEARCH & DEMONSTRATION FARM (2006), available at http://www.agronext.iastate.edu/soilfertility/info/NIRFN_RotationJan-30-06.pdf (discussing the results of a crop rotation study); Boardman et al., *supra* note 27, at 1–6 (discussing industrial agriculture's contribution to soil erosion); Cal. Acad. of Scis., *Sustainable Crop Rotation*, *SCI. TODAY: BEYOND THE HEADLINES*, May 4, 2010, <http://www.calacademy.org/sciencetoday/sustainable-crop-rotation/> (explaining that crop rotation and intercropping can be used to replenish the soil by introducing nitrogen producing crops among or in sequence with the desired crop and that these practices also can help to reduce erosion of fertile topsoil by reducing vulnerability to erosion by ensuring that bare land is not exposed to rain and wind).

92. Lance H. Gunderson et al., *Resilience of Large-Scale Resource Systems*, in *RESILIENCE AND THE BEHAVIOR OF LARGE-SCALE SYSTEMS* 3, 4 (Lance H. Gunderson & Lowell Pritchard, Jr. eds., 2002).

93. *Id.* at 6.

94. Thompson et al., *supra* note 90, at 46.

diseases, pests, or environmental conditions.⁹⁵ In a diverse system, even if vulnerable crop varieties or individual plants within a crop variety are killed off, other more resistant varieties or individual plants will be able to survive. Of course, reliance on large monocultures that are vulnerable to, for instance, a particular disease decreases food security, which can lead to food shortages and can also result in volatile markets and dramatic increases in food prices. By shifting to more localized, diverse food systems, the resilience of individual farms and our food system as a whole can be strengthened, thereby improving food security and stabilizing food prices. If people in local communities purchase most of their food from local sources, individual communities can build their own secure food systems and will not be reliant on availability and affordability of food from large industrialized agriculture thousands of miles away.⁹⁶

The industrialized agriculture system's heavy reliance on fossil fuels for fertilizer and pesticides and to fuel the heavy mechanized equipment used in producing, processing, and transporting food long distances means that the system is vulnerable to availability and cost of the fossil fuels. Given that a large percentage of American fossil fuels are imported from other countries,⁹⁷ the United States agricultural system is at the mercy of the political and economic volatility of other countries.

II. TRANSFORMING OUR FOOD SYSTEM: LOCAL SOLUTIONS

In his 2008 *New York Times* letter to the "Farmer-in-Chief," Michael Pollan describes how our regional food economy has become "national and increasingly global in scope."⁹⁸ He attributes this change largely to cheap fossil fuel, which supports high yield industrialized farming and allows us to ship crops and products all over the world and still be able to sell food products at relatively low prices.⁹⁹ Pollan and others have pointed out the absurdity and wastefulness of our current system in which it can be economically feasible to, for example, "catch salmon in Alaska, ship it to China to be filleted and then ship the fillets back to California to be eaten."¹⁰⁰

95. *Id.* at 47.

96. *Id.* at 48.

97. *Crude Oil and Total Petroleum Imports Top 15 Countries*, U.S. ENERGY INFO. ADMIN. (Jan. 28, 2011), http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications/company_level_imports/current/import.html.

98. Pollan, *Farmer in Chief*, *supra* note 53.

99. *Id.*

100. *Id.*

Pollan argues that to move to a more sustainable agricultural system, it will be necessary to build the infrastructure for what he calls a “regional food economy.”¹⁰¹ Such a system will be better able to support diversified farming rather than monoculture farming, and shorten the food chain, thereby decreasing the amount of fossil fuel used to produce and distribute food.¹⁰²

Pollan identifies a number of environmental, health, and social benefits of such a system. For example, locally grown food is fresher and requires less processing than food that is shipped long distances.¹⁰³ Consequently, locally grown food is more nutritious. Pollan also describes how any efficiency that may be lost by moving to a localized food system will be outweighed by the increased resilience of a regional food system.¹⁰⁴ A resilient system is better able to respond more quickly and effectively to problems to avoid widespread catastrophe. For example, if a large centralized food producer’s processing facility is contaminated by disease, large amounts of food could be contaminated, and the contaminated food could be distributed throughout the United States and beyond before the problem is even detected. If such a contamination occurs in a local production or processing facility, it will be easier to contain the problem and to track and recall any contaminated food that escapes containment.

Pollan proposes a number of steps the government could take to encourage the shift to a more localized or regionalized food system.¹⁰⁵ The government could provide funding to local governments to build year-round indoor farmers’ markets, thereby making local food readily available to the local community.¹⁰⁶ To ensure adequate supply for these local markets, Pollan suggests that the government could provide grants to rebuild local distribution networks.¹⁰⁷ Another of Pollan’s proposals is to establish “Agricultural Enterprise Zones,” in which food safety regulations are appropriately tailored to local food production.¹⁰⁸ Many of the existing food safety regulations are targeted toward minimizing contamination that occurs in large-scale food processing facilities. Small-scale food processing facilities typically do not face the same contamination challenges. Thus, many of these regulations not only are not necessary for small-scale

101. *Id.*

102. *Id.*

103. *Id.*

104. *Id.*

105. *Id.*

106. *Id.*

107. *Id.*

108. *Id.*

facilities, but also frequently serve as barriers to the development of local food systems. For example, a farmer in Florida may sell her pecans at a farm stand or farmers' market without invoking food processing regulations. If, however, that same farmer makes a crack in the pecan shell to make it easier for customers to break through the hard pecan shells (a long-standing practice among Florida pecan growers), she becomes a food processor and must invest in potentially tens of thousands of dollars of equipment to meet food safety regulations. Similarly, it makes no sense to apply the same food safety regulations for "bagged" salad greens, which are sealed in a bacteria-friendly environment and travel long distances over long periods of time before they reach the dinner table, to locally grown unbagged salad greens, which go from the farm to the dinner table in a very short period of time with limited opportunity for bacterial growth to occur. Moreover, as Pollan points out, one of the most serious impediments to moving away from an industrialized confined feedlot livestock system to a local grass-based system is the disappearance of regional slaughter facilities. This is due in part to food safety regulations that prevent most on-farm slaughter and make it difficult for small regional slaughterhouses to turn a profit.¹⁰⁹ Consequently, it is difficult, if not impossible, for small farmers to raise and sell small numbers of grass-fed livestock.

Pollan also suggests establishing a "Strategic Grain reserve" modeled on the "Strategic Petroleum Reserve," to stabilize the market during times of large price swings and to hedge against a major national or regional food shortage.¹¹⁰ Pollan also suggests ways to establish a regionalized food procurement system which would provide a ready market for local food growers by ensuring that governments purchase locally grown foods, when available, for public facilities such as schools, prisons, and military bases.¹¹¹ Finally, Pollan discusses ideas such as making it easier for food stamp and low income urban dwellers to have access to locally-grown fresh foods.¹¹²

The essays that follow all deal with one or more issues related to moving toward a more environmentally sound, sustainable, socially equitable, and healthy food system by creating a more localized approach to growing and distributing food. Interestingly and unplanned, the essays all touch on some aspect of Pollan's proposals, ranging from promoting local slaughterhouses to improving the availability of locally grown healthy foods to food stamp recipients. Some of the essays address the problems

109. *Id.*

110. *Id.*

111. *Id.*

112. *Id.*

associated with our current large-scale centralized industrialized food system and suggest legal or policy changes that can redress these problems. For example, in the essay, *Overdoing It: The Story of the Agricultural Exemption in United States Antitrust Regulation*, Amelia Timbers describes the current agriculture market, which is dominated by a few large firms and increasingly pushes out small farmers. The essay analyzes the issues through a lens of antitrust law and explores ways in which Congress could create a system in which small local farmers are able to compete in the marketplace. Matthew Walker's essay, *Exploring Re-regionalization of U.S. Agriculture: A Glance at Vermont Initiatives*, examines some of the negative impacts of our existing centralized industrial food system and explores the benefits and challenges of re-regionalizing the United States agricultural system. This essay looks at some of the efforts being made by the state of Vermont to "decentralize" its food system.

Other essays focus on legal and social barriers to local and urban agriculture and propose ways to overcome these barriers. For instance, Joshua Donabedian's essay, *Bringing Down the Walls: Addressing Barriers to a New Generation of American Farmers*, examines the problem of the historic loss of young farmers to urban careers and how this trend has led to a shortage of younger educated progressive farmers that will be necessary to reinvent our current agricultural system. This essay explores a variety of mechanisms for overcoming social, economic, and educational barriers to encourage aspiring young progressive farmers to participate in a new decentralized farm economy. Devon Van Noble's essay, *Alternatives in Land Tenure*, examines the "web of problems" created by dominant models of United States land tenure and suggests options that would provide economic incentives for farmers to use land in ways that employ conservation values while protecting the public's interest in the long-term productivity of agricultural lands.

Finally, some of the essays describe creative approaches to localizing the food supply currently being taken in certain progressive communities. For example, in his essay *Local Food Currency: An Economic Tool for Community Health*, Erik Phillips-Nania describes the local food currency system that has been successfully implemented in Mendocino County, California, and explains how such a system can improve community health, economic viability, and environmental sustainability. Emily Parish's essay, *Farm to School Programs*, explores the recent emergence of a multitude and variety of programs throughout the nation that seek to increase the availability of healthy food to children, particularly in low income areas, by establishing systems whereby locally-grown fruits and vegetables are included in school lunch programs. These programs not only provide

nutritional foods to children who otherwise might not have access to healthy food, but also can support small local farmers and provide educational opportunities for students. In her essay, *Farmers' Markets Take Food Stamps: Making an Impact on the American Diet?*, Jennifer Perez evaluates another approach to making locally grown nutritional foods available to low income citizens. The 2008 Farm Bill established a process by which local farmers selling at farmers' markets may accept food stamps, thereby making locally grown foods more readily available to food stamp recipients. This essay points out the benefits and challenges of implementing such a program.

CONCLUSION

As can be seen from this essay and the essays that follow, there are strong arguments in favor of shifting from our existing centralized industrial agricultural system to a more localized system. This shift will reduce reliance on fossil fuels, which are used to make pesticide and fertilizer inputs and to transport foods long distances, thereby reducing contributions to climate change and decreasing environmental impacts. The shift will also provide social and economic benefits to local communities, improved health and a more sustainable, secure, and resilient food supply. To achieve such a shift, however, it will be necessary to overcome existing legal, economic, and social barriers and to institute new innovative ideas to incentivize and promote local agriculture. Making these changes will be challenging and will require modifications to, among other things, food safety regulations and antitrust laws. It will also require overcoming social, economic, and educational barriers to facilitate the emergence of a new generation of small-scale local farmers. However, as the ideas discussed in the following essays demonstrate, the ability to meet these challenges is only limited by the desire, creativity, and political will to find workable solutions. The essays that follow present some of the creative solutions that are being tried or proposed to meet these challenges.

OVERDOING IT: THE STORY OF THE AGRICULTURAL EXEMPTION IN UNITED STATES ANTITRUST REGULATION

*Amelia Timbers**

INTRODUCTION

Antitrust laws in the United States are designed to produce fair markets via idealized competition. So, when considering the current agricultural market, a system that favors large-scale agricultural operations over small-scale farmers, an observer may ask: what went wrong? This essay investigates the conditions that created the antitrust exemption for agricultural organizations and the exemption's effects on the current agricultural market.

Congress is excellent at passing legislation designed to address emergencies or temporary social problems, but such laws sometimes remain in effect long after the instigating event has passed, as Congress often fails to amend existing legislation in response to changing political conditions. This leftover legislation can result in skewed policies that produce harmful, unintended consequences over time. The Farm Bill is a prime example of such a detrimentally anachronous law. Passed to mitigate Great Depression poverty, it resulted in policies that radically changed agriculture and nutrition for the following seventy years, long after the Depression's end.¹¹³ Antitrust exemptions have a similar character, continuing to exist despite radically overachieving their purpose.

I. FARMERS STRUGGLE IN THE EARLY 1900S

The exemptions carved out of antitrust laws for agricultural organizations were a specific response to a socio-temporal phenomenon: the exemptions were designed to protect farmers struggling for fair prices against emerging Victorian Era food industrialists.¹¹⁴ Ironically, these

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113. *Farm Commodity Programs: An Overview*, NAT'L AGRIC. L. CENTER (May 20, 2009), <http://www.nationalaglawcenter.org/assets/overviews/commodityprograms.html>.

114. David L. Baumer et al., *Curdling the Competition: An Economic and Legal Analysis of the Antitrust Exemption for Agriculture*, 31 VILL. L. REV. 183, 186 (1986).

exemptions have nurtured the same type of market-power abuse in food markets that they were originally meant to counteract.

During the industrial revolution, the demographic shift from small localized farming communities to industrial production in urban centers created new demand for processed food in cities.¹¹⁵ Farmers did not transition smoothly, and found it difficult to price crops for markets they knew little of and from which they were hundreds of miles.¹¹⁶ Baumer writes that “the development of urban centers disrupted [direct sales to consumers] and middlemen emerged to take over the intermediate steps between harvest and market—transportation, sorting, processing, and retail sales to consumers.”¹¹⁷ Farmers’ vulnerability was further amplified by the lack of refrigeration; farmers were forced to sell crops for whatever price was offered, rather than let the crops rot for a total loss.¹¹⁸ While these turbulent changes occurred in farming, a second food transition was occurring in the urban centers. Olson explains that “[t]he Industrial Revolution . . . brought about a revolution of its own in food processing, and the size and power of the major food processing companies created demands for government regulation.”¹¹⁹

The food processing industry was exploitive, maintaining unsanitary, feudalistic operations famously characterized by Upton Sinclair in *The Jungle*.¹²⁰ Various problems with processing procedures and factory conditions spawned the first public health laws: 1906 saw the passage of the Meat Inspection Act and the Pure Food and Drug Act.¹²¹ Approximately a decade later, the nation was preparing for World War I and seeking to incentivize food production, and did so with the Food and Fuel Control Act of 1917.¹²² Agricultural antitrust exemptions emerged at this juncture, with exemptions in 1916’s Clayton Act and 1922’s Capper-Volstead Act.¹²³

115. *Id.*

116. *Id.* at 186–87.

117. *Id.* at 186.

118. *Id.* at 187.

119. JAMES S. OLSON, *ENCYCLOPEDIA OF THE INDUSTRIAL REVOLUTION IN AMERICA* 166 (Robert L. Shadle ed., 2002).

120. UPTON SINCLAIR, *THE JUNGLE* 36–37 (Univ. of Ill. Press 1988) (1906).

121. Marc T. Law, *History of Food and Drug Regulation in the United States*, *EH.NET ENCYCLOPEDIA* (Robert Whaples ed., Oct. 11, 2004), <http://eh.net/encyclopedia/article/Law.Food.and.Drug.Regulation>.

122. Hugh Rockoff, *U.S. Economy in World War I*, *EH.NET ENCYCLOPEDIA* (Robert Whaples ed., Feb. 10, 2008), <http://eh.net/encyclopedia/article/Rockoff.WWI>.

123. Capper-Volstead Act, 7 U.S.C. § 291 (2006); Clayton Act, 15 U.S.C. § 17–18 (2006).

II. STATUTES PROTECT FARMER CO-OPS

In response to the market power exercised by urban food processors, and in the context of burgeoning national labor and unionization movements, farmers banded together into co-ops. The co-ops served to enhance businesses, facilitate distribution, and to act defensively.¹²⁴ However, these co-ops posed a legal problem for newly enacted antitrust laws:¹²⁵ the co-ops exhibited the very anticompetitive behavior antitrust laws were meant to quash, and they faced litigation as a result.¹²⁶

To solve this problem, Congress exempted agriculture from antitrust laws, justifying the action as defense of small farms from industrial processors and intermediaries. The most formative of these exemptions is found in section 17 of the Clayton Act, which states:

Nothing contained in the antitrust laws shall be construed to forbid the existence and operation of labor, agricultural, or horticultural organizations, instituted for the purposes of mutual help, and not having capital stock or conducted for profit, or to forbid or restrain individual members of such organizations from lawfully carrying out the legitimate objects¹²⁷

This section of the Clayton Act was very successful, and spurred rapid growth of the farming co-ops it protected. In 1922, the Capper-Volstead Act clarified the Clayton Act by offering definitions of “legitimate” farming activities, and expanded the type of protected businesses to include those that issued equity, thus protecting corporations.¹²⁸ Four years later in 1926, the Capper-Volstead Act was extended to legalize behavior that would otherwise constitute collusion and price fixing (antitrust’s per-se

124. *Cooperatives—An Overview*, NAT’L AGRIC. L. CENTER (May 20, 2009), <http://www.nationalaglawcenter.org/assets/overviews/cooperatives.html>.

125. The Sherman Antitrust Act was passed in 1890. 15 U.S.C. § 1–7; *Sherman Antitrust Act*, L. LIBRARY – AM. L. & LEGAL INFO., <http://law.jrank.org/pages/10248/Sherman-Anti-Trust-Act.html> (last visited Feb. 4, 2011).

126. See *Ford v. Chi. Milk Shippers’ Ass’n*, 39 N.E. 651, 655–56 (Ill. 1895) (discussing the anticompetitive behavior of the Milk Shippers’ Association); see also *Reeves v. Decorah Farmers Coop. Soc’y*, 140 N.W. 844 (Iowa 1913) (discussing the trial of a farming co-op in Iowa state court for antitrust practices in farming).

127. 15 U.S.C. § 17.

128. Joshua J. Hlavacek & Timothy E. Troll, *Antitrust Law: Agricorporate Membership in Cooperatives—Is the Capper-Volstead Exemption a Threat to Farmers?*, 17 WASHBURN L.J. 525, 529 (1978).

anticompetitive behavior).¹²⁹ Under Capper-Volstead, agricultural co-ops were allowed to share pricing information and data if it did not “unduly enhance” prices.¹³⁰ The result of these laws has been to effectively waive serious antitrust litigation in agriculture for half a century.

III. CO-OPS GROW INTO ANTICOMPETITIVE BUSINESSES

Thus, Congress created “ideal growing conditions” for consolidation in the agricultural sector by using regulations to mute legal and market based limiting factors. The 2010 commodities market now comprises less than a dozen firms producing less than a dozen crops, and in 2009 it received the majority of \$15 billion in United States agricultural subsidies to do so.¹³¹

Product/ Industry	Number of Firms	Percent of Market Share Represented	Companies
Dairy	4	≈100%	Dean Foods, Kraft, Leprino, Dairy Farmers of America
Corn seed	2	58%	Monsanto, DuPont
Corn	3	90%	Archer Daniels Midland, Bunge, Cargill
Beef	3	>80%	JBS Swift, Tyson, Cargill
Pork	4	66%	Smithfield, Tyson, Cargill and JBS Swift
Poultry	4	60%	Pilgrim's Pride, Tyson, Perdue and Sanderson Farms
Totals: Twenty firms in six industries produce sixty to one hundred percent of U.S. commodities.			

Table 1: 2010 Agricultural Market Share¹³²

The trend toward consolidation is both nurtured and magnified by a negative feedback cycle of capital. Agricultural consolidation resulted from subsidies and antitrust protection. Yet the same factors that allowed

129. U.S. DEP'T OF JUSTICE, ANTITRUST DIVISION MANUAL at II-18 (4th ed. 2008), available at <http://www.justice.gov/atr/public/divisionmanual/atrdvman.pdf>.

130. Baumer et al., *supra* note 114, at 202.

131. Ken Cook, *Government's Continued Bailout of Corporate Agriculture*, FARM SUBSIDY DATABASE, <http://farm.ewg.org/summary.php> (last visited Feb. 4, 2011); Env'tl. Working Grp., *USDA Subsidies for Farms in United States Totaled \$245,156,000,000 from 1995 through 2009*, FARM SUBSIDY DATABASE, <http://farm.ewg.org/regionsummary.php?fips=00000> (last visited Feb. 4, 2011).

132. NAT'L FAMILY FARM COAL., INDUSTRIAL AGRICULTURE VS. FOOD SOVEREIGNTY: FACTS AND SOLUTIONS NEEDED TO FIX THE FOOD SYSTEM!, http://www.nffc.net/Learn/FactSheets/NFFC_Factsheet_2010.pdf.

agribusiness firms to concentrate market power also perpetuate the firms' existence. One strategy for maintaining the status quo is lobbying for it, and in 2010 agribusiness invested nearly \$38.5 million in political contributions.¹³³ Thus, Congress' subsidy and antitrust protection, originally designed to protect small farmers, now has the effect of not only pushing them out of the market, but keeping them out.

Small farmers are being eliminated, and quickly. A 2009 GAO study for Senator Grassley showed that while the reasons for the decline of medium and small independent farms are numerous, the effect is single: increasing concentrations of agricultural subsidies and profits to firms like those named in Table 1.¹³⁴ The report suggests that the trend accelerated during the recession in the 1980s, when farmers buckled under high debt and low crop prices.¹³⁵ It also found that "less than 2 percent of farms accounted for 50 percent of total sales in 2007."¹³⁶ Similarly, and echoing the findings in Table 1, "beef, pork, poultry, dairy, and grains . . . accounted for 86 percent of the total market value of food-related agricultural products sold by farms in 2007."¹³⁷

This consolidation of food producers and sources has not harmed consumers financially; food prices have remained stable relative to inflation since the 1980s.¹³⁸ Outward price stability, coupled with the systematic capital starvation of small farms, has had the effect of limiting public outcry. Even when consumers are being gouged by agribusiness, as in the mid-nineties Archer Daniels Midland lysine scandal,¹³⁹ the theft is so diffuse, representing fractions of cents from individual consumers per purchase in an international market, that the effect is often known only to insiders. The ADM lysine scandal aptly illustrates another result of excessive market power: third parties and regulators are unable to accurately gauge the total harmful effects and illegal activities of consolidated firms. Thus, the antitrust protection extended by Congress has,

133. Ctr. for Responsive Pol., *Long Term Contribution Trends*, OPENSECRETS.ORG, <http://www.opensecrets.org/industries/totals.php?cycle=2010&ind=a> (last visited Feb. 4, 2010).

134. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-09-746R, U.S. AGRICULTURE: RETAIL FOOD PRICES GREW FASTER THAN THE PRICES FARMERS RECEIVED FOR AGRICULTURAL COMMODITIES, BUT ECONOMIC RESEARCH HAS NOT ESTABLISHED THAT CONCENTRATION HAS AFFECTED THOSE TRENDS 3 (2009), available at <http://www.gao.gov/new.items/d09746r.pdf>.

135. *Id.*

136. *Id.*

137. *Id.* at 7.

138. *Id.* at 14.

139. Lawrence J. White, *Lysine and Price Fixing: How Long? How Severe?*, 18 REV. INDUS. ORG. 23 (2001), available at <http://www.springerlink.com/content/g530p041641nj284/fulltext.pdf>.

over time, morphed into a de facto waiver of antitrust regulation of agribusiness altogether.

IV. YET—IS AGRIBUSINESS ON THE RUN?

Nonetheless, there are at least three reasons to think that agribusiness will not survive much longer in its current form, even with antitrust protection and subsidy cash flows.

A. Health

Although consumers may not have paid literally for the costs of agribusiness monopolization, they have paid in the form of their health. In the last twenty years, record setting rates of obesity, cancer, diabetes, and the associated health care cost increases have produced a great awakening for consumers regarding their food.¹⁴⁰ Center for Disease Control data shows a progression of obesity rates from approximately fourteen percent or less in all reporting states in 1985 to twenty percent or greater in nearly all states by 2008.¹⁴¹ Notably, this is the same period during which farming became agribusiness. In response to these personal health crises, consumers are becoming increasingly interested in their food's sourcing, ingredients, toxicity, and nutritional value. This consumer awakening is still in its early stages, but has already created increased demand for affordable organic food and vegetables, as well as drawn criticism of the agribusiness system that works against healthful farming.

B. Politics

President Obama has demonstrated interest in regulating agribusiness via antitrust regulations despite its donations to the Democratic Party. Under Obama, the DOJ has launched a series of public workshops to discuss agriculture antitrust with stakeholders.¹⁴² Meanwhile, dairy and meat are both facing increased Capper-Volstead scrutiny. Obama's DOJ has

140. *U.S. Obesity Trends*, CENTERS FOR DISEASE CONTROL & PREVENTION, <http://www.cdc.gov/obesity/data/trends.html#State>. (last updated Sept. 1, 2010). The flash map on this webpage is worth a visit—unnerving.

141. *Id.*

142. *Agriculture and Antitrust Enforcement Issues in Our 21st Century Economy*, U.S. DEPARTMENT JUST., <http://www.justice.gov/atr/public/workshops/ag2010/index.htm> (last visited Feb. 4, 2011).

launched a federal probe of the dairy industry,¹⁴³ while the USDA has proposed new antitrust rules on the meat industry.¹⁴⁴ Further, Michelle Obama has made childhood obesity her personal issue, and she had a vegetable garden planted at the White House¹⁴⁵ (much to agribusiness' ire; industry associations protested it).¹⁴⁶

C. Resource Constraints

Large-scale, consolidated agribusiness depends on inexpensive fossil fuels and unlimited water supply,¹⁴⁷ both commodities that are widely understood to be rapidly diminishing. A major oil supply disruption, for any reason, resulting in a "peak oil" scenario would have a serious effect on consolidated agribusiness. In such a case, no amount of market power will be able to mask price increases.

V. WHY WAIT? A SILVER BULLET POLICY TO ENACT NOW

Despite agribusiness' strong lobbying presence, Congress could easily accelerate the death of consolidated agribusiness by limiting access to federal subsidies and antitrust protection to farms and co-ops a) not owned by a parent company and b) with an annual net income below \$500,000. This would restrict antitrust and subsidy benefits to actual small farmers. One USDA study showed that forty-five percent of farming activity in 2003 occurred on farms with a net income above \$500,000, up thirteen percent from its 1989 concentration of thirty-two percent of activity.¹⁴⁸ The same

143. Rick Barrett, *Dairy Farmers: Shrinking Profits Pinching Industry*, MILWAUKEE J. SENTINEL, June 25, 2010, <http://www.allbusiness.com/agriculture-forestry/agriculture-agriculture-ownership/14707967-1.html>.

144. Alan Bjerga & Whitney McFerron, *Tyson, Meat Companies Face New Antitrust Rule*, BUS. WEEK, June 18, 2010, <http://www.businessweek.com/news/2010-06-18/tyson-meat-companies-face-new-antitrust-rule-update2-.html>.

145. Marian Burros, *Obamas to Plant Vegetable Garden at White House*, N.Y. TIMES, Mar. 19, 2009, <http://www.nytimes.com/2009/03/20/dining/20garden.html>.

146. Johanna Neuman, *Michelle Obama's Foray into Food Politics Sparks Industry Debate over Future of Agribusiness*, L.A. TIMES, May 21, 2010, <http://latimesblogs.latimes.com/washington/2010/05/michelle-obamas-foray-into-food-politics-spurs-industry-.html>.

147. Norman Church, *Why Our Food Is So Dependent on Oil*, ENERGY BULL. (Apr. 1, 2005), <http://www.energybulletin.net/node/5045>.

148. JAMES MACDONALD ET AL., U.S. DEP'T OF AGRIC., ECONOMIC BRIEF NUMBER 6, GROWING FARM SIZE AND THE DISTRIBUTION OF FARM PAYMENTS 2 (2006), available at <http://www.ers.usda.gov/publications/EB6/EB6.pdf>.

study showed that subsidies were shifting toward high net income farms.¹⁴⁹ A policy limiting subsidies and antitrust protection to small farms would provide the competitive advantage for small farms to stay in business, disincentivizing commodity crop farming, and such a policy would give the government the tools to wind down the farming conglomerates that are currently stifling agriculture markets.

CONCLUSION

Legislation exempting agriculture from antitrust regulation became superfluous after 1950. With the conclusion of the Depression and World Wars I and II, the 1950s would have been an ideal time to unravel agricultural exemptions. Unfortunately, 1950s culture was infatuated with science, progress, and technology, all embodied by industrialized farming. Congress' failure to alter United States agricultural antitrust exemptions since the 1950s has resulted in the demise of small-scale farming operations and an increase in health problems significantly correlated with nutrition. It is unclear what portion of the blame for the current United States public health crisis should be attributed to agribusiness' continued antitrust exemptions, but despite this gloomy retrospective, increasing consumer awareness, political scrutiny, and diminishing environmental quality provide reason to hope for changes to United States agricultural antitrust exemptions in coming decades.

EXPLORING REGIONALIZATION OF UNITED STATES AGRICULTURE: A GLANCE AT VERMONT INITIATIVES

*Matthew J. Walker**

INTRODUCTION

In the article, *Farmer in Chief*, leading expert Michael Pollan examines what is needed for our "21st century food system."¹⁵⁰ Pollan attempts to

149. *Id.* at 3–4.

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150. Pollan, *Farmer in Chief*, *supra* note 53.

answer this broad question by stating that “policies should aim to improve the resilience, safety and security of our food supply . . . [by] promoting regional food economies.”¹⁵¹ Pollan suggests that there is a need to re-regionalize the US agricultural system¹⁵² and this leaves one to question how re-regionalization is possible in a national and multi-national web of food control. What obstacles get in the way of achieving a secure, local food supply? Why is our government making it hard for small-scale farms to exist?

While researching the present-day climate within the United States’ agricultural policy system, it becomes clear that our national system is based on supporting large-scale, industrial agriculture, instead of small-scale farms.¹⁵³ This has created numerous economic, environmental, and health problems. For example, it has been found that industrial agriculture contributes up to thirty-seven percent of greenhouse gases due to its dependency on fossil fuel, which is used for transportation of food, production of pesticides and fertilizers, mass irrigation, and other fossil fuel draining practices.¹⁵⁴

Since World War II, there has been a dramatic shift away from the “family-owned farm” to large commodity farms, which produce the majority of our country’s corn, soybean, cotton, and grain, otherwise known as “commodity crops.”¹⁵⁵ Not only has our government’s legislation supported this shift towards industrial farming, it is vital to acknowledge that America’s large-scale farms would not exist without government subsidies and cheap fossil fuel. It appears that valuing small, local farms has become an outdated American cultural value and as Joel Salatin states in his article, *Everything I Want To Do Is Illegal*, “Our whole culture suffers from an industrial food system that has made every part disconnected from the rest.”¹⁵⁶

When exploring how re-regionalization can be made possible, Pollan offers multiple ways that our nation and communities can begin to create positive changes within our current food system. Pollan asserts that one option is to create “Agricultural Enterprise Zones,” where farmers are regulated proportionally, based on the size of their operation.¹⁵⁷ Pollan

151. *Id.*

152. *Id.*

153. See Eubanks, *A Rotten System*, *supra* note 6, at 228–30 (discussing how the Farm Bill’s subsidy program destroyed small, family farms, while promoting large, industrial farms).

154. Angelo, *Corn, Carbon, and Conservation*, *supra* note 5, at 598–600.

155. Pollan, *Farmer in Chief*, *supra* note 53.

156. Joel Salatin, *Everything I Want to Do is Illegal*, MINDFULLY.ORG (Sept. 1, 2003), <http://www.mindfully.org/Farm/2003/Everything-Is-Illegal1esp03.htm>.

157. Pollan, *Farmer in Chief*, *supra* note 53.

states, “Food-safety regulations must be made sensitive to scale and marketplace, so that a small producer selling direct off the farm or at a farmers’ market is not regulated as onerously as a multinational food manufacturer.”¹⁵⁸ This perspective appears to be one way to change our system, which has put small-scale farmers at the disadvantage due to strict farming regulations. For example, it does not seem appropriate to place the same regulations on small farms that process 100 chickens per week as are placed on large farms that process hundreds or even thousands of chickens per day, because the amount of potential environmental contamination differs greatly.¹⁵⁹

Another suggestion Pollan offers as a way to re-regionalize is to create a “Local Meat-Inspection Corps.”¹⁶⁰ Pollan states, “Perhaps the single greatest impediment to the return of livestock to the land and the revival of local, grass-based meat production is the disappearance of regional slaughter facilities.”¹⁶¹ Pollan explains that “big meat processors” are currently “buying up local abattoirs only to close them down as they consolidate, and the U.S.D.A. does little to support the ones that remain.”¹⁶²

The owner and farmer of Mount Pleasant Farm, in Tunbridge, Vermont, appears to be the perfect real-life example of what Pollan describes. While talking with the farmer on June 24th, 2010 at the South Royalton Farmers’ market, he explained that he recently bought 200 ducklings that he wanted to eventually slaughter himself on his farm, which he would then sell to a local restaurant owner, who had previously purchased his duck meat from a source in Boston. This farmer was attempting to re-regionalize the duck industry; however, after making his initial investment, he discovered that because he did not have an approved inspected facility, he could not slaughter the ducks on his farm, as he routinely does with chickens. The nearest slaughterhouse for ducks was in upstate New York, and after considering the expenses associated with the transportation of 200 ducks, he realized he could not travel that far and still make a profit. As a result,

158. *Id.*

159. *See id.* (arguing that food safety standards must be “sensitive to scale and marketplace” because contamination problems arising from small producers are “less catastrophic and easier to manage because local food is inherently more traceable and accountable”); *Understanding the Poultry Processing Provision for Bill H522*, RURAL VT., <http://www.ruralvermont.org/poultry.html> (last visited Feb. 4, 2011) [hereinafter *Poultry Processing Provision*] (explaining provisions of the 2007 “Chicken Bill” generally and providing direct links to the final version of the bill).

160. Pollan, *Farmer in Chief*, *supra* note 53.

161. *Id.*

162. *Id.*

the farmer had to accept a loss on his initial investment and was forced to sell his ducklings at half the price for which he bought them.¹⁶³

Similarly, Alison Purcell, who is a farmer in Charlotte, Vermont, is prohibited from selling meat that is processed on her land. Purcell does not have an inspected facility, nor does she have a big enough enterprise to warrant investing in an inspected facility. Without any other options, Purcell sends her livestock, primarily sheep, to be processed at a slaughterhouse, which she states is her biggest expense and is not a sustainable way to make a profit for years to come.¹⁶⁴

Pollan further describes that the USDA believes that it is a better use of resources to “to dispatch its inspectors to a plant slaughtering 400 head an hour than to a regional abattoir slaughtering a dozen.”¹⁶⁵ Consistently trying to find ways to cut its expenses, the USDA streamlines the inspection process, which has multiple negative impacts. Not only does this streamlining affect the local economy, but it also results in the loss of jobs, farmers’ livelihoods, and the ability for local communities to provide their own food supplies. Furthermore, when one considers the expense of shipment costs from a centralized source out to communities across the country, it leads one to wonder if this system is actually saving money in the long run. Pollan states that “[t]he local-food movement will continue to grow with no help from the government, especially as high fuel prices make distant and out-of-season food, as well as feedlot meat, more expensive.”¹⁶⁶

Pollan suggests the establishment of a Local Meat-Inspectors Corps is needed in order to allow smaller slaughter facilities to continue to operate.¹⁶⁷ This would shift the current national inspection system to a regionally controlled inspection system, which would allow the resources and costs that local farmers expend to process their food to significantly decrease. If what Pollan is suggesting came into fruition, farmers like Allison Purcell may begin to feel supported, rather than hindered by the system.

While the climate within the United States values large-scale farms, it appears that there are pockets within the United States that are aspiring to do differently. Grassroots organizations and advocacy groups throughout the country are working hard to shift the predominant way of farming. Within the state of Vermont, these advocacy groups are committed to being vocal about the negative impact of industrial agriculture and are trying to

163. Interview with Owner, Mount Pleasant Farm, in South Royalton, Vt. (June 24, 2010).

164. Interview with Alison Purcell, Farmer, in South Royalton, Vt. (June 24, 2010).

165. Pollan, *Farmer in Chief*, *supra* note 53.

166. *Id.*

167. H. 313, 2009 Leg. Sess. (Vt. 2009).

re-establish a system, which honors local agriculture, and in-turn, allows local farmers to profit and make farm-fresh-food more accessible. This effort toward positive change is reflected in some of Vermont's current agricultural policies; however, it is clear that national regulation makes it hard for significant progress to be made.

One example of Vermont's attempt to take action on re-regionalizing its state's agriculture is the recent passing of the "The Farm to Plate Initiative," which is part of House Bill 313.¹⁶⁸ This initiative seems to reflect Vermont's commitment to reach for high standards because the overall mission of this initiative is to require that *at least* twenty percent of Vermont's food supply is being produced by local farmers by the year 2020.¹⁶⁹ The initiative has a two-fold agenda: not only is it strategically planning for a twenty percent local food supply, it is also looking to the Vermont Sustainable Jobs Fund to create an economic development plan for Vermont agriculture in the hopes of establishing a food industry that is able to raise and distribute sufficient funds to support continued economic success.¹⁷⁰

While this initiative may appear unrealistic given our centralized food system, and skeptics may question if Vermont has set an unreachable goal, it appears that significant efforts, hard-work, collaboration, and legislation may secure progress towards the twenty percent goal. One example of Vermont's current effort toward meeting this goal is reflected in legislation passed in 2007, which granted farmers the ability to sell up to 1000 slaughtered chickens per year at local farmers' markets and restaurants.¹⁷¹ Before 2007, Vermont prohibited the selling of chickens that had been slaughtered on farms to restaurants and at farmers' markets without inspection. The negative impact of this meant that until the passage of the new legislation in 2007, farmers had to out-source the slaughtering of their poultry, which is very costly, causing a farmer's actual profit to be significantly reduced.

Similarly, the passage of the 2009 "Unpasteurized (Raw) Milk Bill" into law allows farmers to sell raw milk, which has become a sought after product that has continued to increase in demand.¹⁷² The new standard allows farmers to sell up to fifty quarts per day with limited regulation

168. *Farm to Plate*, RURAL VT., <http://www.ruralvermont.org/farm2plate.html> (last visited Oct. 31, 2010).

169. *Id.*

170. VT. STAT. ANN. tit. 10, § 330 (2009); *Farm to Plate*, *supra* note 168.

171. VT. STAT. ANN. tit. 6, § 3312 (introduced as H. 552, 2007 Leg. Sess. (Vt. 2009)); *Poultry Processing Provision*, *supra* note 159.

172. VT. STAT. ANN. tit. 6, ch. 152 (2009) (introduced as H. 125, 2009 Leg. Sess. (Vt. 2009)); *Farm Fresh Milk*, RURAL VT., <http://www.ruralvermont.org/milk.html> (last visited Oct. 31, 2010).

standards, and also permits the solicitation of up to forty gallons with slightly more stringent standards.¹⁷³ Furthermore, this legislation finally allows farmers to advertise and deliver raw milk, which surprisingly had been previously illegal.¹⁷⁴ Rural Vermont is one advocacy group in Vermont that appears to be working hard to remove unfair and costly agricultural regulatory barriers and has played a significant role in “The Farm to Plate Initiative,” the unpasteurized (raw) milk legislation, and the 2007 poultry legislation.

While some organizations in Vermont are making great efforts to create a local food economy, they continue to persevere in an uphill battle against the national forces of agriculture that remain steadfast. While the concepts and current issues of the national and local agricultural system have a number of complexities and details not presented in this essay, this is an initial attempt at understanding how to support changes within the agriculture system in the United States. In conclusion, farmer, activist, and writer, Joel Salatin states,

Society seems bound and determined to hang me for everything I want to do. But there's power in truth. And for sure, surprises are in store that may make society shake its collective head and begin to question some seemingly unalterable doctrines. Doctrines like the righteousness of the bureaucrat. The sanctity of government research. The protection of the Food Safety and Inspection Service . . . When that day comes, you and I can graciously offer our society honest food, honest ecology, honest stewardship. May the day come quickly.¹⁷⁵

173. VT. STAT. ANN. tit. 6 § 2777 (2009).

174. § 2778.

175. Salatin, *supra* note 156.

**BRINGING DOWN THE WALLS: ADDRESSING BARRIERS TO A
NEW GENERATION OF AMERICAN FARMERS**

*Joshua B. Donabedian**

INTRODUCTION

The catch is that we cannot live in machines. We can only live in the world, in life. To live, our contact with the sources of life must remain direct When we let machines and machine skills obscure the values that represent [our] fundamental dependencies, then we inevitably damage the world; we diminish life. We begin to “prosper” at the cost of a fundamental degradation.

—Wendell Berry¹⁷⁶

As the number of American farms peaked at 6.8 million following the Great Depression,¹⁷⁷ the production of any given farmer could feed roughly fifteen people.¹⁷⁸ Since then, the number of farms has declined by more than seventy percent¹⁷⁹ while the increased demand of a growing population has been met, and far exceeded, by large-scale mechanization, improved crop varieties, and commercial fertilizers and pesticides. As agricultural labor efficiency has grown from 27.5 acres per worker in 1890 to 740 acres per worker in 1990,¹⁸⁰ the corresponding decline in need for human labor is evident. Vertical integration and commercialized agriculture has brought the industry to the point to where now less than one percent of the United

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176. WENDELL BERRY, *The Use of Energy*, in *THE UNSETTLING OF AMERICA: CULTURE AND AGRICULTURE* 92 (1977).

177. Nat'l Agric. Center, *Demographics*, U.S. ENVTL. PROTECTION AGENCY, <http://www.epa.gov/oecaagct/ag101/demographics.html> (last updated Sept. 10, 2009).

178. *Crisis in Agriculture*, NEBRASKASTUDIES.ORG, http://www.nebraskastudies.org/1000/frameset_reset.html?http://www.nebraskastudies.org/1000/stories/1001_0100.html (last visited Feb. 4, 2011).

179. Eubanks, *A Rotten System*, *supra* note 6, at 229.

180. Nat'l Agric. Center, *supra* note 177.

States population is considered to be a farmer.¹⁸¹ Today one farmer now has the ability to feed over 140 mouths.¹⁸²

Reforming American agriculture to the scale that this country desperately needs starts with a new generation of young American farmers. In a 2008 *New York Times* editorial, Michael Pollan writes, “[t]he sun-food agenda must include programs to train a new generation of farmers and then help put them on the land We need more highly skilled small farmers in more places all across America.”¹⁸³ However, significant barriers stand in the way of the new farmers seeking to regain control. These barriers can be considered under four distinct policy categories: capital, land, training, and markets,¹⁸⁴ and must be recognized, understood, and addressed on a national level. Funding must be provided to organizations dedicated to promoting this “new” system of agriculture and training, educating, and supporting the young, motivated new generation looking to take the reins.

I. THE BARRIERS: PROVIDING ACCESS TO THE TOOLS NEW FARMERS NEED

A. Capital and Credit

Financial concerns are possibly the biggest hurdle to young, aspiring farmers today. Many new farmers have low equity and strapped by limited resources. High land prices and a variety of start-up costs make it increasingly difficult for new farmers to establish themselves. When considering the current economic downturn, it is easy to see why traditional lenders are particularly reluctant to provide them loans. Moreover, beginning farmer loan programs are too few and inadequately funded.

In a lengthy evaluation of United States farm and food systems, Ken Meter identified rural communities with their own supply of credit, sufficient to cover all costs of farm production, as a key indicator to a healthy farm economy.¹⁸⁵ In 1950, a time regarded as a “healthy” period for farm economies, national aggregate farm debt was about six billion

181. *Id.*

182. BEN HEWITT, *THE TOWN THAT FOOD SAVED: HOW ONE COMMUNITY FOUND VITALITY IN LOCAL FOOD* 43–44 (2009).

183. Pollan, *Farmer in Chief*, *supra* note 53.

184. KATHRYN Z. RUHF, *NEW ENGLAND SMALL FARM INST., NORTHEAST NEW FARMERS: OPPORTUNITIES FOR POLICY DEVELOPMENT* (2001), *available at* http://www.smallfarm.org/uploads/uploads/Files/Policy_Background_Paper.pdf.

185. Kenneth A. Meter, *Evaluating Farm and Food Systems in the U.S.*, in *SYSTEMS CONCEPTS IN EVALUATION: AN EXPERT ANTHOLOGY* 141, 141–43 (Bob Williams & Iraj Imam eds., 2006).

dollars.¹⁸⁶ By 1985, and on the verge of another “farm crisis,” this number had grown to a massive \$222 billion.¹⁸⁷ The numbers don’t lie; strong, responsive local credit sources are an important key to healthy farm economies and vibrant rural communities.

The number of aspiring new farmers is continuing to increase, and access to adequate capital and credit must be available to get them started. Government policy should be reconsidered to focus on creating non-debt options to accessing capital and devising new financing options available to new farmers. Increased federal funding for new farmer loan programs will enhance the efficacy of such programs.¹⁸⁸ In the meantime, it is important that organizations currently providing this support to new farmers are recognized and remain viable until federal funds start to flow.

Slow Money Alliance is an organization dedicated to investing in local farm economies and sustainable food production.¹⁸⁹ Part of Slow Money’s mission is to develop local and national networks dedicated to investing in appropriate-scale organic farming and local food systems.¹⁹⁰ The “Slow Money Principles” include “bringing our money home to build sustainable communities” and learning “to invest as if food, farms and fertility mattered . . . We must connect investors to the places where they live, creating vital relationships and new sources of capital for small food enterprises.”¹⁹¹ Through organizations such as Slow Money, new farmers can obtain the financial support needed to start and maintain their farm and gain comfort and security in their business operations.

B. Land

Capital and financing issues aside, accessing land for new, sustainable farming operations is another challenge many new farmers face. As Midwestern farm heirs have fled the fields, fewer family farms are being passed down to subsequent generations.¹⁹² As the United States loses an average of two acres of farmland per minute,¹⁹³ this traditional method of

186. *Id.* at 143.

187. *Id.*

188. RUHF, *supra* note 184.

189. *Principles*, SLOW MONEY ALLIANCE, http://blog.slowmoneyalliance.org/?page_id=4 (last visited Feb. 4, 2011).

190. *Id.*

191. *Id.*

192. Jen Hashley, *Cultivating and Sustaining the Next Generation of Food Producers*, GOOD EATER COLLABORATIVE (June 7, 2010), <http://www.goodeater.org/2010/06/07/cultivating-and-sustaining-the-next-generation-of-food-producers/>.

193. *Id.*

farm succession is no longer adequate to satisfy current realities. Aging farmers with an eye toward retirement either have no or poor succession plans in place while new farmers struggle to locate and obtain valuable farmland.¹⁹⁴ Furthermore, current tax policies inhibit the smooth transfer of farms from the aging farmers of today to the younger farmers of tomorrow.¹⁹⁵

To ensure farm succession over sale and commercial development, a number of things must happen. First, the federal tax code must be amended to facilitate more efficient intergenerational transfer of farms and farmland. Programs must also be developed to support and assist retiring farmers with succession and tenure planning. Conservation easements and land trusts are excellent ways to ensure protected farmland remains exactly that. Most important however, “farm link” programs that connect young and old generations must be funded and expanded.¹⁹⁶

California FarmLink (CF) is an organization that enables dialogue between exiting and entering farmers and educates on farm transfer options and keeping agricultural lands productive.¹⁹⁷ To achieve its mission of building family farms and conserving farmland, CF links aspiring and retiring farmers and disseminates information that facilitates intergenerational farm transitions.¹⁹⁸ In the years to come, roughly 400 million acres of farmland will be sold or transferred to subsequent generations.¹⁹⁹ Keeping this land in the hands of young, sustainable farmers is essential. Increased funding and support for such programs is necessary for this to happen.

C. Education and Training

America is slowly losing its ability to produce food and traditional methods for information, knowledge, and skill transfer are no longer adequate to meet the needs of new farmers.²⁰⁰ Agricultural extension budgets are being slashed and agricultural educations at land-grant universities have developed to focus much more on specialty careers than

194. *Id.*

195. RUHF, *supra* note 184.

196. *Id.*

197. *California FarmLink's Mission*, CAL. FARMLINK, http://californiafarmlink.org/joomla/index.php?option=com_content&task=view&id=13&Itemid=32 (last visited Feb. 4, 2011).

198. *Id.*

199. *About Us*, CARROT PROJECT, http://www.thecarrotproject.org/about_us (last visited Feb. 4, 2011).

200. Hashley, *supra* note 192.

food production as a whole.²⁰¹ As a result, aspiring new farmers have difficulty locating training opportunities in sustainable, organic agricultural methods. Through competitive grant programs, universities can revamp agricultural education. Comprehensive beginning farmer development programs, as well as mentoring and apprenticeship programs, should be established and developed to address these issues.²⁰² Additionally, farm and agricultural business incubators are an alternative with potential to be the all-encompassing solution.

“Incubator” operations provide aspiring farmers the opportunity to own and operate their small-scale farm business at low or no cost, thereby gaining practical experience. Farmers receive extensive classroom and experiential education, and the proper operational, financial, and business training to “spin-off” from the incubator and establish their own business. The organization is there to share costs, provide assistance, and ease the burden at each step along the way. With the proper educational curriculum in place, prospective start-up farmers set out on a path for success from day one, creating vacancies at the incubator for more farmers to follow along in their footsteps.²⁰³

The Intervale Center in Burlington, Vermont serves as a national model in this regard. In creating opportunities for new farmers and removing many of the educational and operational barriers they face, The Intervale Center is a key player in strengthening its surrounding community food system.²⁰⁴ It is absolutely essential for farm incubators such as this to develop a comprehensive educational curriculum on all aspects of sustainable farming and agricultural production. This curriculum must provide prospective farmers with an understanding of the chain of food and agricultural production, from the fields to our forks. Courses on soil management, harvesting, and packaging to business planning, marketing, and even legal contracts should be included. A comprehensive knowledge of the economic processes of food and agricultural production are necessary for the success of our farmers within the new type of food systems our future inevitably holds in store.

201. *Id.*

202. RUHF, *supra* note 184.

203. *Agriculture and Forestry Business Incubator*, N.H. INST. AGRIC. & FORESTRY, <http://www.nhiaf.org> (follow “about” hyperlink; then follow “projects” hyperlink) (last visited Feb. 4, 2011).

204. *Intervale Farms Program*, INTERVALE CENTER, http://www.intervale.org/programs/agricultural_development/intervale_farms.shtml (last visited Feb. 4, 2011).

D. Markets and Technical Support

There is little incentive to begin a career in farming without viable local markets and public demand. Any hope of fixing a broken food system depends on an inspired new generation of farmers, which, in turn, hinges on a solid economic infrastructure and a reawakened cultural vitality that is necessary to surround and support them.²⁰⁵ In facing barriers to accessing markets and joining local farmer cooperatives, even the most motivated beginning farmers become easily frustrated.²⁰⁶ Confounded with the lack of availability and inadequacy of marketing assistance and customized risk management strategies,²⁰⁷ new farmers struggle to produce an economic return sufficient to cover costs and provide for a decent quality of life.

If provided with the right marketing and business assistance, new farmers will be aided in understanding, addressing, and overcoming these barriers. Non-profits such as the National Young Farmers Coalition²⁰⁸ and The Greenhorns²⁰⁹ provide support while facilitating the relationships and the connections to resources that new farmers need in order to cultivate successful, sustainable farms. As the local, sustainable food movement continues to grow, an increasing number of these programs must be established, funded, and made available. The services, communication, and marketing resources such organizations offer are invaluable. Without adequate support networks, a new generation of farmers will remain stuck in the struggle to compete with mega-farms and multinational corporations.

Yet, all the support and resources in the world will not make a difference if the market for organic, sustainable food is weak and demand is low. The real key to viable markets and increased consumer demand is public education and awareness. There are three main factors that contribute to successful, organic, sustainable farming operations: a rising consumer demand for local and organic produce, a large and nationwide increase in farmers' markets, and growing popularity of community-supported agriculture programs.²¹⁰ It all starts from the bottom-up. If the American public can be exposed to the realities behind a food system subsidized with

205. Gordon Jenkins, *The Next Generation of Farmers*, CIVIL EATS (Dec 2, 2008), <http://civileats.com/2008/12/02/the-next-generation-of-farmers/#more-662>.

206. RUHF, *supra* note 184.

207. *Id.*

208. Tobin Hack, *Greenhorns Unite: National Young Farmer Coalition Emerging*, BRAVE GREEN WORLD BIG THINK (Dec. 28, 2009, 10:23 PM), <http://bigthink.com/ideas/18026>.

209. *About*, GREENHORNS, <http://www.thegreenhorns.net/about.html> (last visited Feb. 4, 2011).

210. Elizabeth Weise, *On Tiny Plots, A New Generation of Farmers Emerges*, USA TODAY, July 14, 2009, available at http://www.usatoday.com/news/nation/environment/2009-07-13-young-farmers_N.htm.

their tax dollars, consumer behavior will begin to change. Eventually the demand for organic and more environmentally-friendly food products will take over, farmers' markets will continue to spread, small-scale family-style farms will begin to pop up across the American countryside, and rural communities and local food systems will regain a lost vitality.

CONCLUSION

An industrial farming chain that has become addicted to fossil fuels and gross overproduction is far from sustainable in light of the threats that climate change and energy dependence pose.²¹¹ For any real changes to be seen and gains to be made, direct federal involvement with and subsidization of agriculture must be addressed. As the destruction of family farming and rural depopulation is one of the most direct consequences of the Farm Bill's commodity subsidy program,²¹² Farm Bill policy must be reversed and restored to the days where small farmers were protected and sustainable production was promoted. For the necessary funding to exist and flow to the right sources, the public must be educated on these issues, which affect their everyday lives. When the reality of our food production system is widely known and understood, the public will respond and habits will change. When America knows and demands the changes we need, politicians will react, policy will improve, and progress will be made. Our agricultural policies have forced farmers out of the fields. Now the policies need to be realigned to encourage the farmers to head back. The machines of today must be replaced with the farmers of tomorrow: for a healthy economy, for a healthy harvest, and for a healthy environment.

211. Eubanks, *A Rotten System*, *supra* note 6, at 270.

212. *Id.* at 228.

ALTERNATIVES IN AGRICULTURAL LAND TENURE***Devon Van Noble****

INTRODUCTION

One of the primary challenges in modern United States agriculture is the lack of availability of suitable, affordable land for aspiring young farmers. The loss of arable lands to urbanization and environmental degradation, combined with rising property values, has made access to suitable agricultural property very difficult. A significant barrier to access to suitable land is the limited forms of land tenure available to farmers. Presently, two distinct forms of land tenure exist in the United States. One is premised upon full ownership of land by farmers themselves; and the alternative, tenancy, often brings together landowning individuals and farmer-operators in short-term rental arrangements.²¹³ Alone, these two traditional models of land tenure can limit a community's ability to craft individually appropriate ownership arrangements that protect the long-term public interest in American farmland and maintain stewardship of agroecosystems across the nation. However, the drive to create alternative ownership options has resulted in some innovative agreements, which have allowed private equity funds, state and municipal governments, community supported agriculture (CSA) members, land trusts, as well as community members to share some of the rights and responsibilities associated with agricultural land tenure, along with traditional landowners and farmers. Creating agriculturally-restricted conservation easements and long-term ground leases involving socially-minded landowners exposes further shades of gray between the concepts of full ownership and short-term tenancy. Utilized in combination with traditional forms of ownership and tenancy, these new relationships between public and private parties may serve to improve the long-term stewardship of agricultural lands at all scales.²¹⁴

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213. EQUITY TRUST, INC., PRESERVING FARMS FOR FARMERS: A MANUAL FOR THOSE WORKING TO KEEP FARMS AFFORDABLE 1–3 (2009).

214. A similar argument can be found in many of the sources cited herein. However, a key collection of essays surrounding precisely these ideas can be found in: PROPERTY AND VALUES: ALTERNATIVES TO PUBLIC AND PRIVATE OWNERSHIP (Charles Geisler & Gale Daneker eds., 2000) [hereinafter PROPERTY AND VALUES].

I. LAND TENURE SYSTEMS

Land tenure describes who can use what resources and land, in what ways they can use them, and for how long.²¹⁵ The terms of these ownership agreements may either be strictly enforceable or loosely defined.²¹⁶ In addition to defining a landowner's use of property, tenure describes the rights and responsibilities that a landowner may retain or pass on according to a lease.²¹⁷ Property law experts use the "Bundle of Rights"²¹⁸ approach to address these distinct aspects of tenure arrangement in each case of property ownership. If each right is a stick in the bundle, the assortment of sticks in the bundle includes rights such as the right to development, the right to water and air, the right to sell or lease, the right to occupy the land, and the right to exclude others from the land.²¹⁹ While a landowner may hold most of the rights associated with a given property (known as owning the land "in fee simple"), there are always rights retained by government, notably the right to taxation, the ability to regulate, and the right to eminent domain.²²⁰ Thus, there are generally limits to property ownership, for even as a full owner in the United States one does not have ultimate authority and control over his or her land. However, the limits to ownership vary significantly from case to case, and the qualitative and quantitative differences of tenure arrangements have important implications for farmers, agricultural communities, and the general food-consuming public.

The modern understanding of tenure in the United States has been passed from Western European feudalism to the founding fathers of our nation, and into almost all United States agricultural policy since the nation's inception.²²¹ This understanding has commonly treated land ownership as an exclusive right, and tends to assume that all rights should be held completely by the landowner, because only those individuals with a vested, long-term interest in a parcel of land will make it productive and care for it. This logic is embodied in statutes like the Homestead Act of

215. FARMLASTS PROJECT, AGRICULTURE LAND TENURE: A CURRICULUM FOR BEGINNING FARMERS AND FARM SEEKERS 3 (2010), available at <http://www.uvm.edu/farmlasts/FarmLASTSAgLandTenure.pdf>.

216. *Id.* at 13.

217. *Id.*

218. ANNETTE HIGBY ET AL., HOLDING GROUND: A GUIDE TO NORTHEAST FARMLAND TENURE AND STEWARDSHIP 3 (Miranda Smith ed., 2004).

219. *Id.*

220. EQUITY TRUST, INC., *supra* note 213, at 3.

221. FARMLASTS PROJECT, *supra* note 215, at 4.

1862,²²² which was intended to divulge a massive amount of public land to private landholders in order to ensure the best utilization and stewardship of the land.²²³ However, a few decades after the enactment of the Homestead Act, the Roosevelt administration's 1937 report on United States land tenancy revealed that the Dust Bowl and the Great Depression caused landlessness and poverty for many farmers.²²⁴ In 1940, forty percent of agricultural lands were being tilled by tenant farmers rather than landowners.²²⁵ The federal agricultural agency at the time, the Farm Security Administration (FSA), attributed the increasing environmental and social problems associated with agriculture to the prevalence of absentee ownership.²²⁶ In response to these problems, the FSA proposed "[l]and ownership . . . as the best way to conserve agricultural resources and promote economic democracy."²²⁷

II. IMPLICATIONS OF LAND TENURE ON AGRICULTURE

The classic belief that full ownership (as a private, exclusive right) is essential for proper stewardship of land and a rewarding return for the farmer, has seemingly created a boom-and-bust pattern in land tenure over United States history. Full ownership has been prevalent for periods, as it was during 1980s financial reform, which popularized highly-leveraged farm mortgages and capital loans. However, the cost of ownership can become infeasible for farmers, at which point they commonly find tenancy through one to five year leases with landowners, or stop producing altogether.²²⁸ The serious limitations of this conception of property ownership have left a situation in which Americans presently rely on two predominant forms of land tenure: full ownership (fee simple) by farmers and short-term lease agreements.²²⁹

For farmers who can afford or access credit, financing the fee simple purchase of land by going into debt seems sensible, because the farmer

222. Homestead Act of 1862, ch. 75, 12 Stat. 392 (repealed 1976); FARMLASTS PROJECT, *supra* note 215, at 5.

223. Homestead Act of 1862, ch. 75, 12 Stat. 392 (repealed 1976).

224. HIGBY ET AL., *supra* note 218, at 5–7.

225. *Id.*

226. *Id.*

227. *Id.* at 7.

228. See FARMLASTS PROJECT, *supra* note 215, at 6 (stating that land ownership for farmers often ended when loan repayment became impossible).

229. EQUITY TRUST, INC., *supra* note 213, at 1–3; see also Joseph William Singer, *Property and Social Relations*, in PROPERTY AND VALUES, *supra* note 214, at 3, 15 (considering the important features of property that are obscured by the classical ownership model).

wants the freedom of use associated with full ownership, such as the security to continue using his property after making investments and building a life around his property. To many farmers in the United States, it is preferable to have the control associated with full ownership and go into long-term debt to pay for it, than to lease the land on a short-term basis.²³⁰ However, those farmers who are just starting out or who are so small that financing is not possible are forced to enter into short-term leases because they offer affordability.²³¹ Short-term leases are not necessarily optimal because they can limit a farmer's use of and access to the land, which does not afford the same level of discretion in farming and business decisions as full ownership. In addition, the term of the tenure is for such a short period that the farmer often does not have much, if any, security in his or her investments beyond the immediate few years. This lack of long-term security hinders farmers' ability to build equity in their land, or their businesses.²³² Additionally, the short time frame of these agreements can create disincentives to protecting the environmental integrity of the land, as the prospective returns are based in the immediate use of the land, not the long-term conservation of its wildlife, habitat, and resources.²³³

The two dominant models of United States land tenure are by nature limited, and create a web of problems for three distinct classes: for the farmer, for rural communities, and for the general public. From a farmer's perspective, the loss of arable lands to urbanization and environmental degradation, combined with rising property values, has made *access* to suitable agricultural property very difficult. Full ownership allows owners of previously productive lands to sell at unrestricted market values that permit development and estate interests to out-price those of agriculture, leading to the conversion of farmland away from its productive use.²³⁴ In addition to limiting agricultural access, the rise in prices for farmland introduces the issue of continuing *affordability*.²³⁵ The National Agricultural

230. FARMLASTS PROJECT, *supra* note 215, at 6 (stating that since 1950 the tenure type of part-owner-operator has become "dominant," and as of 2002, sixty percent of farms with annual sales over \$25,000 leased some or all of their land).

231. EQUITY TRUST, INC., *supra* note 213, at 2.

232. *Id.*

233. Margaret Rosso Grossman, *Leasehold Interests and the Separation of Ownership and Control in U.S. Farmland*, in PROPERTY AND VALUES, *supra* note 214, at 119, 144; *see also* HIGBY ET AL., *supra* note 218, at 12 (discussing how security of tenure is essential to good stewardship). *See generally* FARMLASTS PROJECT, *supra* note 215, at 14 (discussing how long-term leases promote land stewardship).

234. EQUITY TRUST, INC., *supra* note 213, at 1-2.

235. *See generally* FARMLASTS PROJECT, *supra* note 215, at 14 (discussing how any tenure should have affordability).

Statistics Service reported a twenty-three percent increase in per acre value of farms nationally, between 1997 and 2002.²³⁶ If the prices of the nation's agricultural lands are not kept in a range at which it is profitable to farm them, then arable land will not be affordable for farmers, and the general public will not have access to nutritious food grown locally by small-scale producers. Furthermore, two commonly cited problems of short-term leases are that due to the lack of *security* in lease agreements there is no opportunity for farmers to build equity over the life of their businesses,²³⁷ and because of this short-term vision there is no incentive to *use* the land in a way that employs conservation values or maintains the public good that is derived from the land.²³⁸ In addition, farmland conversion is often followed by the loss of many farm-related rural businesses²³⁹ and, as the agriculture infrastructure that maintained the local economy is displaced, so is the community that surrounded it.

III. LAND TENURE OPTIONS TO PROMOTE INNOVATION AND INVESTMENT IN FARMING

Surely, short-term tenure over land is not a preferable arrangement for farmers or the public. However, there is a middle ground between short-term leases and full ownership that is being ignored by the current models. It seems that policymakers and farmers alike continue to favor the idea of full ownership over short-term tenure because they do not see any other way to assure the control and rights provided by long-term tenure. The control and rights derived from land tenure that are essential to the proper stewardship of land are identified by the FarmLASTS Project as the *use, access, affordability, and security* of farmland.²⁴⁰ If an alternative arrangement is able to provide these aspects of tenure to farmers on a long-term basis, then that arrangement should provide for their needs just as well as full ownership. Farmers, communities, and federal agencies all need to consider ownership alternatives, which can maintain continued stewardship without compromising these critical elements of long-term tenure.²⁴¹

236. *Id.* at 6.

237. EQUITY TRUST, INC., *supra* note 213, at 2–3.

238. *See generally* FARMLASTS PROJECT, *supra* note 215, at 14 (discussing how long-term leases promote land stewardship). *See also* HIGBY ET AL., *supra* note 218, at 12 (discussing how security of tenure is essential to good stewardship).

239. FARMLASTS PROJECT, *supra* note 215, at 6 (stating that, “when 235,000 farms failed during the U.S.’s mid-1980s farm crisis, 60,000 other rural business also failed”).

240. *Id.* at 14.

241. Singer, *supra* note 229, at 4–5.

A broader vision of the bundle of rights and responsibilities associated with agricultural land tenure incorporates a stewardship ethic, which creates a role for both a farmer and a public institution as stewards of the long-term interests in productive and healthy farmland.²⁴² Using such a framework as a lens, it is possible to see that there are certain rights and responsibilities in the bundle that are appropriately divested to a farmer, while there are other interests for which the public institution more appropriately bears the stewardship role.²⁴³ Two such alternative models of tenure are outlined below, but are not exclusive to the other possibilities that exist.

One option is to expand upon the current land trust model, in which a current owner or the prospective buyer initiates a process to protect land in its current state. Traditionally, a landowner will give a land trust the development rights on the property, and the trust holds those rights in perpetuity. This has two beneficial effects. The first benefit is that giving the land trust development rights allows the land trust to protect that land from ever being developed. The second benefit is that it keeps the property affordable because the market value of development is removed from the property's purchase price. The problem is that when used as a mechanism to keep farmlands affordable and productive, these basic conservation easements are not sufficient; although they may conserve the physical character of the land, they do not prohibit the sale of lands based on the estate value.²⁴⁴ Although estate purchasers do not have the intention of developing the land, the estate value of land outweighs the agricultural value in many cases. Thus, these purchasers have the same effect on farmland as development interests, by out-pricing farmers and thereby removing the capacity for food production. To avoid both of these concerns and to ensure enforcement of the conservation goals, some farms have developed agriculturally-restricted conservation easements. In addition to transferring the development rights to the land trust, such easements can require that: the land be actively farmed, any home on the property be occupied by the farmer-owner; the farmer-owner derive a specific level of income from the farm itself;²⁴⁵ and the farmer engage in specific production

242. *See id.* at 8–17 (describing “The Social Relations Model” that “reconceptualizes property as a social system composed of entitlements that shape the contours of social relationships”); *see also* David M. Abromowitz, *An Essay on Community Land Trusts*, in *PROPERTY AND VALUES*, *supra* note 214, at 213, 227 (discussing “limited equity ownership” with regards to community land trust housing).

243. Charles Geisler, *Property Pluralism*, in *PROPERTY AND VALUES*, *supra* note 214, at 65, 79–80; HIGBY ET AL., *supra* note 218, at 12–13.

244. *EQUITY TRUST, INC.*, *supra* note 213, at 4.

245. *Id.*

methods, certification processes, or conservation measures.²⁴⁶) However, the most important mechanism in these arrangements is that the holder of the easement is given a purchase option at the agriculturally-restricted market value. This requires that if the landowner decides to sell, the trust gets the right of first refusal on the property at such a price that it can buy the land and sell it back to another farmer at an affordable rate.²⁴⁷

Another tenure model that is being explored is a long-term ground lease,²⁴⁸ in which a land trust or other stewardship institution purchases the fee simple interest in the land, and the farmer-owner buys all improvements on the property such as the farmhouse and barn. The landholding institution can then “lease the ground” back to the farmer based on a ninety-nine-year lease, which prohibits absentee ownership so that the land is kept in production by a farmer-owner and may cap the resale of the improvements by the farmer-lessee, in order to maintain the affordability of the farm housing for another farmer.²⁴⁹ Furthermore, this type of leasehold is inheritable and renewable, so that it provides long-term multigenerational tenure as well as the security necessary to build equity through a farmer’s long-term investments.²⁵⁰

Experience with the use of the alternative models described above suggests that such approaches satisfy the farmers’ needs for long-term tenure²⁵¹ and also help to protect the public’s interest in the long-term health and productivity of agricultural lands by distributing the burdens of ownership among other members of the community.²⁵² However, in addition to creating alternatives to traditional land tenure models, it will be necessary to look at alternative business structures and financing mechanisms for farms. Issues of tenure, business structure, and financing are inextricably connected in agriculture, and the possibilities for farms can only fully be realized when examining all of the potential options together.

246. *Id.* at 11 (discussing the requirement of “organic” or “biodynamic” certification processes in Live Power Community Farm’s easement).

247. *Id.* at 11–12.

248. *See id.* at 15–18, 22–24 (providing examples of long-term ground leases at several farms). *See generally* HIGBY ET AL., *supra* note 218, at 6 (describing the important details of employing long-term ground leases).

249. HIGBY ET AL., *supra* note 218, at 66.

250. EQUITY TRUST, INC., *supra* note 213, at 16. *See generally* HIGBY ET AL., *supra* note 218, at 6 (describing the important details and common issues associated with long-term ground leases).

251. *See generally* KENDRA BROWN ET AL., NAT’L CTR. FOR APPROPRIATE TECH., FINDING LAND TO FARM: SIX WAYS TO SECURE FARMLAND (2009), available at <http://attar.ncat.org/attar-pub/PDF/finding.pdf> (discussing various agreements for leasing and owning farmland).

252. Abromowitz, *supra* note 242, at 227 (discussing sharing rights in “limited equity ownership” with regard to CLT housing). *See generally* EQUITY TRUST, INC., *supra* note 213, at 14–18 (discussing the wider community’s role of farm ownership).

Full ownership, debt financing, and sole proprietorships do work for some people, in some places, but do not work for all farming communities everywhere. Thus, one balanced policy approach would alternately utilize diversified ownership, equity financing,²⁵³ and innovative business structures like the limited liability corporation (LLC)²⁵⁴ and low-profit limited liability corporation (L3C).²⁵⁵ In conclusion, it is incumbent upon agricultural agencies, such as the USDA, Cooperative Extensions, financing institutions, policy and lawmakers, and farmers themselves, to consider how to incorporate these alternatives into both law and culture, since the current models of tenure have, in some cases, proven limited to meet the multifarious needs of the United States agricultural system today.

LOCAL FOOD CURRENCY: AN ECONOMIC TOOL FOR COMMUNITY HEALTH

*Erik Phillips-Nania**

INTRODUCTION

Money will decide the fate of mankind.

—Jacques Rueff²⁵⁶

If money grew on trees, then people would plant more trees.

—Author

Humans' primary physiological needs for survival are water, food, and shelter. The social and environmental health of communities depends on the

253. CARROT PROJECT, ARE NORTHEAST SMALL FARMERS IN A FINANCING FIX? 7–9 (2008), available at http://thecarrotproject.org/yahoo_site_admin/assets/docs/Microsoft_Word_-_NESmFarmsFinFixFullReport_1.17073835.pdf.

254. Annette Higby, *Legal Structure of the Farm Business*, in A LEGAL GUIDE TO THE BUSINESS OF FARMING IN VERMONT 11–14 (2006), available at <http://www.uvm.edu/~farmtran/LegalGuide.pdf>.

255. *The Concept of the L3C*, AMS. FOR COMMUNITY DEV., <http://www.americansforcommunitydevelopment.org/concept.php> (last visited Jan. 29, 2011).

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256. Thomas H. Greco, Jr., *New Money for Healthy Communities*, RATIONAL.COM, http://www.ratical.com/many_worlds/cc/NMfHC/chp1.html (last visited Jan. 29, 2011) (quoting JACQUES RUEFF, THE AGE OF INFLATION, (A.H. Meeus & F.G. Clarke trans., Henry Regnery Co. 1964)).

food that we grow, cook, and eat. The United States industrial food system has a strong influence on Americans' diets and four out of the top six causes of death in the country are diet-related.²⁵⁷ Not only is the United States' industrial food system a major contributor to diet-related deaths and illnesses, but it also significantly contributes to dependence on fossil fuels,²⁵⁸ climate change,²⁵⁹ environmental degradation and water pollution,²⁶⁰ and international disputes.²⁶¹ The solution is for people to produce, prepare, and consume sustainably grown local food because this directly contributes to not just their own health, but also to the health of their community and the world's interconnected biotic communities.²⁶²

Like Colony Collapse Disorder (CCD), where millions of bee colonies "mysteriously" die in the fields each year,²⁶³ the idea of the "Agricultural Collapse Disorder" I propose describes how our industrially produced food "mysteriously" kills millions of people each growing season through diet-related diseases,²⁶⁴ famine,²⁶⁵ water contamination,²⁶⁶ acute poisonings,²⁶⁷

257. *Leading Causes of Death*, CENTERS FOR DISEASE CONTROL & PREVENTION, <http://www.cdc.gov/nchs/fastats/lcod.htm> (last updated Dec. 31, 2009) [hereinafter *Leading Causes*] (reporting the primary causes of death in the United States, including four that are diet-related: (1) Heart Disease (616,067 deaths per year), (2) Cancer (562,875 deaths per year), (3) Strokes (135,952 deaths per year), and (6) Diabetes (71,382 deaths per year)).

258. Eubanks, *A Rotten System*, *supra* note 6, at 269–70 (citing DANIEL IMHOFF, *FOOD FIGHT: THE CITIZEN'S GUIDE TO A FOOD AND FARM BILL 102* (2007)) (reporting that agriculture accounts for approximately twenty percent of United States fossil fuel usage, including cultivation, processing, and distribution); *see also*, Dale Allen Pfeiffer, *Eating Fossil Fuels*, ENERGY BULL. (Oct. 2, 2003), <http://www.energybulletin.net/node/281> (citing David Pimentel & Mario Giampietro, *Food, Land, Population and the U.S. Economy*, CARRYING CAPACITY NETWORK (Nov. 21, 1994), <http://www.dieoff.org/page55.htm>) (reporting that "400 gallons of oil equivalents are expended annually to feed each American").

259. Eubanks, *A Rotten System*, *supra* note 6, at 268–73; HENNING STEINFELD ET AL., UNITED NATIONS FOOD & AGRIC. ORG., *LIVESTOCK'S LONG SHADOW: ENVIRONMENTAL ISSUES AND OPTIONS 112* (2006), available at <ftp://ftp.fao.org/docrep/fao/010/a0701e/a0701e.pdf> (reporting that global livestock contributes eighteen percent of carbon dioxide-equivalent greenhouse gases).

260. Eubanks, *A Rotten System*, *supra* note 6, at 251–273.

261. Michael Holley, *The EPA's Pesticide Export Policy: Why the United States Should Restrict the Export of Unregistered Pesticides to Developing Countries*, 9 N.Y.U. ENVTL. L.J. 340, 348–53 (2001); Stacey Willemsen Person, *International Trade: Pushing United States Agriculture toward a Greener Future?*, 17 GEO. INT'L ENVTL. L. REV. 307, 307–08 (2005).

262. *See* Eubanks, *A Rotten System*, *supra* note 6, at 304–10 (discussing the benefits of subsidizing sustainable agricultural practices).

263. KEVIN HACKETT ET AL., U.S. DEP'T OF AGRIC., *COLONY COLLAPSE DISORDER PROGRESS REPORT* (2009), available at http://www.ars.usda.gov/is/br/ccd/ccd_progressreport.pdf.

264. *Leading Causes*, *supra* note 257 (reporting that diet-related disease kills about 1,386,276 people per year just in the United States); NAT'L ALLIANCE FOR NUTRITION & ACTIVITY, STRENGTHEN THE CENTERS FOR DISEASE CONTROL AND PREVENTION'S DIVISION OF NUTRITION, PHYSICAL ACTIVITY, AND OBESITY (2010), available at www.cspinet.org/new/pdf/cdc_briefing_book_fy10.pdf.

265. SHARON ASTYK & AARON NEWTON, *A NATION OF FARMERS: DEFEATING THE FOOD CRISIS ON AMERICAN SOIL 43* (2009) ("In fact, most of the 24,000 people who die each day of hunger world-

and farmer suicides.²⁶⁸ Similar to how toxic pesticides are key among many synergistic factors killing the bees, the United States Dollar (USD) and the economic bottom line are key among many synergistic factors stifling our local agriculture.²⁶⁹ While more environmentally friendly practices such as integrated pest management (IPM) can help alleviate CCD,²⁷⁰ complementary local currencies can similarly help alleviate Agricultural Collapse Disorder.²⁷¹

A fundamental social problem is that in most communities there is a very large demand for healthy and sustainable food that is not being met.²⁷² A large market failure exists because in many of these same communities there are unused labor, land, and physical resources (e.g., farm equipment and storage facilities) that can be employed to fill this unmet and fundamental need for sustainable food.²⁷³ The problem is that there is a lack of money in the local economy.²⁷⁴ By creating a local food-backed currency,

wide don't actually die of starvation, but of diseases that they would have shaken off had they not been starving."); *Malnutrition: The Starvelings*, ECONOMIST, Jan. 26, 2008, http://www.economist.com/node/10566634?story_id=10566634 (reporting that malnutrition causes about 3.5 million child deaths in the world, or one-third of total child mortality, and also exacerbates diseases such as measles, pneumonia, and diarrhea).

266. Person, *supra* note 261, at 310 (reporting that about "80% of all pesticide use in the United States occurs on farms, and approximately 42 million tons of the pesticides farmers use end up in U.S. surface waters each year"); *Water, Sanitation, and Hygiene*, UNICEF, <http://www.unicef.org/wash/> (last updated July 6, 2010) (reporting that 884 million people still use unsafe drinking water sources, which kills and sickens thousands of children every day).

267. See Holley, *supra* note 261, at 351.

268. P. Sainath, *The Largest Wave of Suicides in History*, COUNTER PUNCH, Feb. 12, 2009, <http://www.counterpunch.org/sainath02122009.html> ("The number of farmers who have committed suicide in India between 1997 and 2007 now stands at a staggering 182,936.").

269. WOODY TASCH, *INQUIRIES INTO THE NATURE OF SLOW MONEY: INVESTING AS IF FOOD, FARMS, AND FERTILITY MATTERED* xvii (2008) ("In a financial system organized to optimize the efficient use of capital, we should not be surprised to end up with cheapened food, millions of acres of GMO corn, billions of food miles, dying Main Streets, kids who think food comes from supermarkets, and obesity epidemics side by side with persistent hunger.").

270. Angelo, *The Killing Fields*, *supra* note 13, at 108, 143.

271. TASCH, *supra* note 269, at xvii ("The problems we face with respect to soil, fertility, biodiversity, food quality, and local economies are not primarily problems of technology. They are problems of finance."); Jason Bradford, *Food-Backed Local Money*, OIL DRUM (Mar. 4, 2009, 7:24 PM), <http://www.theoil Drum.com/node/5158>; Bryn Meyer, *Democratic Money: The Case for a Decentralized Monetary System*, E.F. SCHUMACHER SOC'Y, http://www.smallisbeautiful.org/local_currencies/articles.html (last visited Jan. 29, 2011).

272. STEVE MARTINEZ ET AL., U.S. DEP'T OF AGRIC., *LOCAL FOOD SYSTEMS: CONCEPTS, IMPACTS AND ISSUES* (2010), available at <http://www.ers.usda.gov/Publications/ERR97/ERR97.pdf>.

273. THOMAS GRECO, JR., *MONEY: UNDERSTANDING AND CREATING ALTERNATIVES TO LEGAL TENDER* 14 (2001).

274. *Id.* (stating that the United States dollar "does not remain in circulation for very long within the local economy. Rather, it provides a means by which absentee owners can extract their gains from the local economy and allocate them to more profitable investments elsewhere").

communities can meet the demand for local sustainable food, as well as the demand for other local goods and services.²⁷⁵

A local currency is confined to a small geographic area (e.g., a watershed or local political boundary) and it essentially formalizes a barter system.²⁷⁶ Over 4000 communities in the world use some type of local currency.²⁷⁷ Local currency does not replace the national currency, but it is a parallel or complementary currency.²⁷⁸ Local currencies encourage consumers to “buy local”—to increase consumption of locally produced goods and services.²⁷⁹ Local currency also helps protect the community from the national currency’s hyper-inflation or deflation, helps increase employment and local investment, and helps decrease income disparity.²⁸⁰ A local “food-backed” currency is a *reserve* currency that represents an amount of food, written on the currency, which the person holding the currency can exchange for food.²⁸¹

Part I of this essay first explains how the USD, and the United States financial system in general, is experiencing an economic crisis with implications for agriculture comparable to, or worse than, the Great Depression and the 1980s farm crisis. Part I then explains why local food production and storage is important for emergency preparedness. Part II describes a local food currency used in Willits, California and the major legal issues involved in implementing a local currency. Part III proposes how a community can implement a local food currency.

275. *Id.* at 14, 52–54; Arin Farrington, *When the Money Isn't Flowing: Invent Your Own Currency*, BERKSHARES, INC. (Oct. 2008), <http://www.berkshares.org/press/08oct13.htm>.

276. GRECO, *supra* note 273, at 87 (“The primary role of money is to transcend the barter limitation by serving as an intermediary exchange medium.”).

277. Ben Block, *Local Currencies Grow during Economic Recession*, WORLDWATCH INST. (Jan. 6, 2009), <http://www.worldwatch.org/node/5978>.

278. GRECO, *supra* note 273, at 13–14.

279. MICHAEL H. SHUMAN, GOING LOCAL: CREATING SELF-RELIANT COMMUNITIES IN A GLOBAL AGE 132–33 (2000) (A community currency is “a system to promote local purchasing.” “Whenever citizens buy a good that is made locally they expand jobs, enlarge the tax base, and strengthen the economy.”)

280. Meyer, *supra* note 271.

281. Bradford, *supra* note 271; *see* GRECO, *supra* note 273, at 132 (stating that commodities that have “special importance for the local economy could be used as a standard of value for a local currency. This could be a cord of wood, a bushel of corn, a bale of cotton, or some other commodity that is widely traded in local commerce.”)

I. FOOD SECURITY AND EMERGENCY PREPAREDNESS

A. *Economic Instability*

The USD is a “fiat currency” because it is declared legal tender by the United States government, but it has no intrinsic value and it is not convertible to gold like it was prior to 1945.²⁸² The USD’s value is derived from its ability to be exchanged for goods and services and used for tax payments.²⁸³ Experts have warned that the long-term stability of the USD should not be taken for granted.²⁸⁴

By many accounts, the American economic system is becoming increasingly unstable.²⁸⁵ Among the factors contributing to this increased economic instability is a United States debt of over \$14 trillion;²⁸⁶ the cost of the 2009 financial bailout through direct spending, loans, and aid guarantees, which was over \$11.6 trillion;²⁸⁷ a widening income disparity, with the top one percent earning 21.8 percent of total income,²⁸⁸ an increasing emphasis on financial services, which represent twenty percent of GDP and forty-four percent of all United States corporate profits;²⁸⁹ ever-

282. 152 CONG. REC. 318, 320–21 (2006) (statement of Rep. Ron Paul, *The End of Dollar Hegemony*) (stating that United States military strength is the backing of the United States dollar); KEVIN PHILLIPS, *BAD MONEY: RECKLESS FINANCE, FAILED POLITICS, AND THE GLOBAL CRISIS OF AMERICAN CAPITALISM* at x (2008) (stating that the United States dollar “was partly supported by gold until 1971, in 1974 became partly tied to oil”).

283. *FAQs: Currency*, U.S. DEPARTMENT TREASURY, <http://www.treasury.gov/resource-center/faqs/Currency/Pages/legal-tender.aspx> (last visited Nov. 3, 2010).

284. 152 Cong. Rec. at 320; RICHARD HEINBERG, *THE PARTY’S OVER: OIL WAR AND THE FATE OF INDUSTRIAL SOCIETIES* 171 (2003) (“[I]t is highly likely that the net-energy decline will sooner or later trigger a financial crisis through a reduction in demand for goods and services, and hence for money (via loans) with which to pay for the machinery to produce those goods and services.”); PHILLIPS, *supra* note 282, at viii–ix (“‘Risky’ doesn’t begin to describe this new focus in the American economy. Bingeing on debt is reckless CPI revisions begun a decade ago understate inflation and overstate growth in the U.S. gross domestic product.”); MICHAEL C. RUPPERT, *CONFRONTING COLLAPSE: THE CRISIS OF ENERGY AND MONEY IN A POST PEAK OIL WORLD 2* (2009) (“The current economic implosion will only result in the greatest and longest-lasting economic ‘depression’ in human history—a new Dark Age—especially if some fundamental sea changes to the way we view both money and energy are not made immediately.”).

285. 152 CONG. REC. at 318–20.

286. U.S. Dep’t of the Treasury, *The Debt to the Penny and Who Holds It*, TREASURY DIRECT, <http://www.treasurydirect.gov/NP/BPDLogin?application=np> (last updated Jan. 27, 2011).

287. Mark Pittman & Bob Ivry, *Fed’s Strategy Reduces U.S. Bailout to \$11.6 Trillion*, BLOOMBERG (Sept. 25, 2009, 16:39 EDT), <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aJwZIBMSGsek>.

288. LARRY M. BARTELS, *UNEQUAL DEMOCRACY: THE POLITICAL ECONOMY OF THE NEW GILDED AGE* 1–6 (2008).

289. Phillips, *supra* note 282, at 29–31.

increasing real unemployment, which is currently at 16.5 percent,²⁹⁰ a recent decision by the United States Supreme Court, which declared that “corporate money in politics” is “undermining self-government;”²⁹¹ and record-low confidence in United States financial and political institutions.²⁹² The current economic crisis has important and severe implications for industrial agriculture.²⁹³

The Great Depression resulted in land foreclosures and the price of food crashing.²⁹⁴ The 1980s’ economic crisis involved the use of complicated financial management tools, a surge in interest rates, and a forty-five percent drop in Farm Credit System loans.²⁹⁵ During that time, farmer incomes plunged, and 214,000 farms were lost.²⁹⁶ Thus, industrial agriculture is in crisis when the economy is in crisis.²⁹⁷

Economic growth in the production and consumption of goods and services (i.e., GDP) based on cheap fossil fuels surpasses the limits of ecosystems to provide resources and absorb human pollution, thus

290. BUREAU LAB. STATS., *Economic News Release: Table A-15: Alternative Measures of Labor Underutilization*, U.S. DEPARTMENT LABOR, <http://www.bls.gov/news.release/empsit.t15.htm> (last modified Nov. 5, 2010) (stating that seasonally adjusted unemployment for June to July 2010 was 16.5%).

291. *Citizens United v. Fed. Election Comm’n*, 130 S.Ct. 876, 979 (2010) (5-4 decision) (Stevens, J., dissenting).

292. Dennis Jacobe, *Americans’ Confidence in Banks Remains at Historical Low*, GALLUP (April 6, 2010), <http://www.gallup.com/poll/127226/Americans-Confidence-Banks-Historic-Historic-Low.aspx>.

293. *Financial Crash Could Deepen Food Crisis*, UNITED NATIONS FOOD & AGRIC. ORG. (Oct. 15, 2008), <http://www.fao.org/newsroom/en/news/2008/1000937/>; see also ASTYK, *supra* note 265, at 7 (“The energy train, the money train and the food train were inextricably linked in a host of ways that were difficult to disentangle, and each crisis fed the other, until a near-inevitable crisis in the world economy is unfolding”).

294. DANIEL IMHOFF, *FOOD FIGHT: THE CITIZEN’S GUIDE TO A FOOD AND FARM BILL 34* (2007); Angelo, *Corn, Carbon, and Conservation*, *supra* note 5, at 621; Eubanks, *A Rotten System*, *supra* note 6, at 218–19; see also ASTYK, *supra* note 265, at 44 (“The systematic removal of more than a million farming families from their land during the Depression resulted in both a new class of the desperately poor and hungry and in the disruption of links between local regions and food supplies. In the absence of money and energy to transport food long distances to markets, people starved.”).

295. Eubanks, *A Rotten System*, *supra* note 6, at 217 (reporting that the “commercialization of agriculture created a more complex economy both domestically and abroad, which tempted farmers to rely more heavily on capital, banking, [and] mechanization”); Susan A. Schneider, *Financing the Agricultural Operation: Recent Developments and Current Trends*, 4 DRAKE J. AGRIC., 216, 225 (1999).

296. DAVID HARRINGTON & THOMAS A. CARLIN, U.S. DEP’T OF AGRIC., *THE U.S. FARM SECTOR: HOW IS IT WEATHERING THE 1980’S?* (AIB-506) at iv, 4, 12 (1987), available at <http://www.eric.ed.gov/PDFS/ED280998.pdf> (according to this study, farm households earned only eighty percent of the national average in 1984; in 1973 they earned fifty percent more than the national average).

297. *Id.* at 4.

compromising Earth's ability to support civilization.²⁹⁸ Sustainable economic growth should mean an improvement in local natural capital, in large part, through sustainable agricultural practices.

B. Food Insecurity

Social well-being is at risk when people's basic physiological needs for food and water are at risk.²⁹⁹ One current source of social risk is that food in the United States is grown using approximately \$28.8 billion in fossil fuels per year.³⁰⁰ This energy supply is at risk of failure or interruption due to transportation breakdowns,³⁰¹ natural disasters, and war. Large-scale crop failures³⁰² and bioterrorism could also cut off a community's food supply. If these disastrous events were to occur, there would be less than a week's worth of food in most local grocery stores to meet the demand.³⁰³ The likelihood of food shortages is significant,³⁰⁴ and individuals and communities should prepare accordingly.

Community and personal food production and storage dramatically improve emergency preparedness and food security.³⁰⁵ Experts recommend that every household have an emergency evacuation kit, a three-month

298. JARED DIAMOND, *COLLAPSE: HOW SOCIETIES CHOOSE TO FAIL OR SUCCEED* 441–42 (2005); GRECO, *supra* note 273, at 5 (“This *debt imperative* creates a *growth imperative* that is forcing us to destroy the life-support systems of the planet.” (emphasis in original)); HEINBERG, *supra* note 284, at 177–79 (stating that post-industrial agriculture will be able to support “as many people as were supported before agriculture was industrialized . . . [which is] somewhat fewer than 2 billion people,” and that reduction “will probably come about as a result of famines, plagues, and wars”).

299. See CHRISTIAN NELLEMAN ET AL., U.N. ENVTL. PROGRAM, *THE ENVIRONMENTAL FOOD CRISIS: THE ENVIRONMENT'S ROLE IN AVERTING FUTURE FOOD CRISES* 6 (2009), available at http://www.grida.no/_res/site/file/publications/FoodCrisis_lores.pdf (evaluating the economic and environmental causes of food crises).

300. RANDY SCHNEPE, CONG. RESEARCH SERV., *ENERGY USE IN AGRICULTURE: BACKGROUND AND ISSUES* (RL32677) at 8 (2004), available at <http://www.nationalaglawcenter.org/assets/crs/RL32677.pdf>; Pfeiffer, *supra* note 258, at 3.

301. See HEINBERG, *supra* note 284, at 174–75 (stating reduced transportation, due to more expensive fossil fuels, will disrupt the distribution of goods and “we will see an inevitable return to local production for local consumption Unfortunately, the rebuilding of local production infrastructures will be problematic with less energy available.”).

302. See Reuters, *Wheat Hits 23-Month High after Russia Bans Grain Exports*, N.Y. TIMES, Aug. 5, 2010, <http://www.nytimes.com/2010/08/06/business/global/06wheat.html> (stating due to record-breaking heat waves and drought, Russia will export significantly less than the previous year's export of “18.3 million metric tons of wheat, a total only exceeded by the United States and the European Union”).

303. Jessica Gorman, *The Short and Long of the Food Transport Story*, SCI. NEWS, http://sciencenews.org/view/generic/id/3319/title/Food_for_Thought__The_Short_and_Long_of_the_Food_Transport_Story (last visited Jan. 29, 2011).

304. NELLEMAN, *supra* note 299, at 6.

305. Bradford, *supra* note 271.

supply of stored food, and access to water.³⁰⁶ The money we use should communicate and facilitate this security imperative.

II. BACKGROUND OF LOCAL CURRENCIES

... for ye pay tith of mint and dill and cumin,
and have omitted the weightier matters of the law . . .

—Matthew 23:23 (King James)³⁰⁷

The history of local currency in the pre-industrial era began with businesses paying employees or encouraging customer loyalty with notes similar to today's IOUs and gift certificates.³⁰⁸ Complementary currencies were mostly created in response to a national economic crisis: the Greenbacks were created during the American Civil War; the British Bradbury "Treasury Notes" and the German Kriegsgeld were created during the First World War; and the Caslow Recovery Certificates,³⁰⁹ along with 300 others, were created during the Great Depression.³¹⁰

A. An Example: Mendo Food Futures

The Willits Action Group, a nonprofit in Mendocino County, California, has successfully implemented a local food-backed currency.³¹¹

306. CHRIS MARTENSON, PERSONAL PREPARATION, THE POST CARBON READER SERIES: BUILDING RESILIENCE 5 (2010), available at <http://www.postcarbon.org/Reader/PCReader-Martenson-Preparation.pdf>; *Emergency Food and Water Supplies*, AM. RED CROSS (Aug. 7, 2006), http://www.redcross.org/preparedness/cdc_english/foodwater-2.asp (recommending a two-week supply of stored food).

307. See MATTHEW BIGGS ET AL., VEGETABLES, HERBS & FRUIT, AN ILLUSTRATED ENCYCLOPEDIA 214 (2002) (stating that the Bible suggests "herbs were of sufficient value to be used as tax payment").

308. GRECO, *supra* note 273, at 57–68 (discussing the brief history of community currencies and private exchange systems, stating that "[s]erious human needs went unmet—until people began to organize"); Block, *supra* note 277, at 1–2. *But see* SHUMAN, *supra* note 279, at 133 ("The earliest colonial settlers used corn as a medium of exchange in Massachusetts and wampum with Native Americans.").

309. GRECO, *supra* note 273, at 58 ("Common scrip types were *certificates of indebtedness, tax anticipation warrants, payroll warrants, trade scrip, clearinghouse certificates, credit vouchers, moratorium certificates, and merchandise bonds*. All these were intended to supplement the supply of scarce official money and to give people a means of paying for the goods and services they needed." (emphasis in original)).

310. SHUMAN, *supra* note 279, at 133.

311. MENDO FUTURES, <http://mendofutures.org/> (last visited Jan. 29, 2011); *see also*, Interview by Jason Bradford with Cyndee Logan, Mendo Food Futures at 1:05, *Reality Report: Household and Community Food Security*, ENERGY BULL. (Mar. 9, 2009), available at

The “Mendo Food Futures” currency was created with a two year grant from the CA Endowment to expand the local food system.³¹² The goal is to improve community health, economic vitality, and environmental sustainability.³¹³ In particular, the Willits Action Group seeks to encourage the establishment of more farms, a community kitchen, a granary, and the “Mendo Food Futures” currency.³¹⁴

The Willits Action Group sold 600 Mendo Food Futures at ten dollars each after storing 8000 pounds of grains and dry beans from local organic farms within 150 miles.³¹⁵ Each note is exchanged for eleven pounds of brown or white rice, or pinto beans, or seventeen pounds of triticale.³¹⁶ People redeem their Mendo Credits for food at the farmers’ market or at an office.³¹⁷ Importantly, delivery is cheap, with empty trucks picking up the food on return trips, and storage is free at a warehouse.³¹⁸ The program’s next step is to get a wider diversity of commodities,³¹⁹ establish a local brand for value-added products, and build silos for storage.³²⁰

B. Legalties of Local Currencies

The United States Constitution prohibits private coinage and counterfeiting.³²¹ The clear intention is to standardize coinage.³²²

<http://media.globalpublicmedia.com/RM/2009/03/r399clogan.mp3> (discussing the success of the Mendo Food Futures). Over 4000 communities in the world use some type of local food currency. For another example of local food currency, see RED COMAL, <http://www.redcomal.org/hn/> (last visited Jan. 29, 2011). For others examples of local currencies, see E.F. SCHUMACHER SOCIETY, http://www.smallisbeautiful.org/local_currencies.html (last visited Jan. 29, 2011). See also SHUMAN, *supra* note 279, at 133 (reporting that “hundreds of communities worldwide print their own currencies to induce residents to pump up their local economies” (emphasis added)).

312. Bradford, *supra* note 271; Interview by Alex Smith with Jason Bradford, at 2:20–4:30, RADIO ECOSHOCK, available at http://www.ecoshock.org/downloads/ecoshock/ES_Jason%20Bradford_LoFi.mp3 (last visited Jan. 29, 2011); Interview by Jason Bradford, *supra* note 311, at 1:30.

313. Bradford, *supra* note 271.

314. *Id.*

315. Interview by Jason Bradford, *supra* note 311, at 6:25, 8:00, 15:20.

316. *Id.* at 13:35–13:45.

317. *Id.* at 8:10–8:50.

318. *Id.* at 6:45–7:08.

319. GRECO, *supra* note 273, at 132 (“[Currency] based on a single commodity has drawbacks. Its value is more influenced by transitory conditions like weather, and the market . . . can be more easily manipulated by governments and large-volume traders.”)

320. Interview by Jason Bradford, *supra* note 311, at 12:45.

321. U.S. CONST. art. I, § 10.

322. GRECO, *supra* note 273, at 42.

Nevertheless, no Constitutional barrier exists to the issuance of local paper currency by organizations or municipalities.³²³

Several federal laws apply to establishing a local currency. Barter exchanges are subject to IRS information reporting requirements,³²⁴ and the 1933 Securities Act applies if the seller seeks to raise money for a business or to finance investments.³²⁵

“State codes may affect the circulation and use of alternative currencies.”³²⁶ At least thirteen states require employers to pay their workers in United States currency only.³²⁷ Only Vermont specifically authorizes the formation of a corporation for the sole purpose of issuing local currency.³²⁸ In addition, Vermont prohibits the counterfeiting of local currency.³²⁹

III. LOCAL FOOD-BACKED CURRENCIES AS THE ANSWER

Food currencies can be a powerful tool to facilitate and measure a community’s food security and economic health.³³⁰ First, the local currency

323. 18 U.S.C. §§ 486, 491 (stating that federal law prohibits local currency with denominations of less than a dollar); *Briscoe v. Bank of Ky.*, 36 U.S. 257, 347 (1837) (“The Constitution . . . does not prohibit private persons, or private partnerships, or private corporations . . . from issuing bills of credit.”); GRECO, *supra* note 273, at 68 (“[T]here is no current law that would prevent scrip, community currencies, and private exchange systems from being implemented in the United States.”).

324. LEWIS SOLOMON, *RETHINKING OUR CENTRALIZED MONETARY SYSTEM: THE CASE FOR A SYSTEM OF LOCAL CURRENCIES* 118–20 (1996) (explaining that a “barter exchange,” is any organization of members who provide property or services and who trade or barter such property or services directly or through the entity). Tax Forms 1096 and 1099-B require information with respect to bartering, including the name and address of each member providing property or services, the property or services provided, the amount received for such property or services, and the date on which the exchange occurred. *Id.* See also GRECO, *supra* note 273, at 88.

325. See *Reves v. Ernst & Young*, 494 U.S. 56 (1990) (establishing the definitive approach in determining the federal securities law of notes). A local currency organization should consider the Small Corporate Offering Registration Form (SCOR), known as Form U-7, which is available in over forty-five states, with respect to Rule 504 of the SEC exemption for “small” securities under the 1933 Securities Act. *Q & A: Small Business and the SEC*, U.S. SEC. & EXCHANGE COMMISSION, <http://www.sec.gov/info/smallbus/qasbsec.htm> (last visited Nov. 5, 2010). Section 77c(a)(3) of the 1933 Securities Act lists several “exempted securities,” including those with maturities of less than nine months. 15 U.S.C. § 77c(a)(3) (2006)

326. SOLOMON, *supra* note 324, at 104–05, 127 (noting that Virginia and Arkansas are the only states with laws that restrain a system of paper scrip).

327. *Id.* at 104.

328. *Id.* at 105.

329. *Id.*

330. GRECO, *supra* note 273, at 14–17, 18–21, 57–70 (“[We can] start creating structures that are more consistent with our highest values, dreams, and visions. . . . [Money is a]mong the primary obstacles to the improvement of the human condition.”).

increases overall economic activity.³³¹ For example, if Vermont purchased ten percent more of its food directly from farmers, up from 1.2% today, it would add more than \$100 million to the Vermont economy and over 3600 jobs.³³² Even if the nation's economic recession worsened, a local currency would help maintain money availability.³³³ Furthermore, the asset value of food currency remains stable over a significant time period because the exchange rate is locked for specific quantities of food for one year from the date of issue.³³⁴

Second, the local currency would enable the utilization of productive resources, especially unemployed labor.³³⁵ The amount of people cultivating food should determine food security.³³⁶ As of 2000, less than two percent of the United States labor force worked full-time on farms, down from forty-five percent in the early 1900s and ninety-five percent in the early 1800s.³³⁷ Local food-currency can help "radically alter our food system" so as to create agrarian ascendancy.³³⁸

Third, the food currency would encourage the production and consumption of locally produced goods and services.³³⁹ Directly related to this is the local environmental benefit. Because the organization facilitating the food currency would be buying significant amounts of food from local producers, the organization can help facilitate agricultural best practices among the farmers, such as planting a diversity of crops, reducing synthetic

331. *Id.* at 53 (stating that a local currency favors local producers and its "narrow range of circulation makes it more likely that the spender will be able to earn it back. Local currencies, thus, stimulate local production and employment").

332. RON KRUPP, *LIFTING THE YOKE: LOCAL SOLUTIONS TO AMERICA'S FARM AND FOOD CRISIS* 205 (2009) (citing DOUG HOFFER & ELLEN KAHLER, *THE VERMONT JOB GAP STUDY: THE LEAKY BUCKET: AN ANALYSIS OF VERMONT'S DEPENDENCE ON IMPORTS* 6 (2000)).

333. GRECO, *supra* note 256, at 52 ("Community currencies supplement the available supply of conventional money, which is kept artificially scarce and expensive (because interest is charged). The amount of community currency can be expanded as needed to enable whatever amount of trading the local economy requires.").

334. Interview by Jason Bradford, *supra* note 311, at 13:50–14:10.

335. GRECO, *supra* note 256, at 52.

336. *See* ASTYK, *supra* note 265, at 38–40 ("[T]he lack of farmers is a crisis on the scale of economic inequity, climate change, and peak energy We believe our future may well hinge upon whether we are able to create new farmers [T]he number of farmers you have can determine the stability of governments and whether a population goes hungry.").

337. CAROLYN DEMITRI ET AL., *ECON. RESEARCH SERV., U.S. DEP'T OF AGRIC., THE 20TH CENTURY TRANSFORMATION OF U.S. AGRICULTURE AND FARM POLICY* (2005), available at <http://www.ers.usda.gov/publications/EIB3/eib3.pdf>; IMHOFF, *supra* note 294, at 33.

338. *See* ASTYK, *supra* note 265, at 10 ("[We need] 100 million new farmers and 200 million new cooks in the US, and more worldwide [W]e simply have no choice but to radically alter our food system, to end its dependency on fossil fuels and to bring food security to the table as a central issue of our times.").

339. GRECO, *supra* note 256, at 52.

fertilizers and pesticides, and using IPM.³⁴⁰ Furthermore, the localization of agriculture can help reduce dependence on fossil fuels because sustainable farming systems “use 30% to 70% less energy per unit of land than conventional systems.”³⁴¹

Fourth, the local currency can be a great educational device to raise awareness about issues such as the ecological or energy footprint of the food.³⁴² Additionally, distribution of information guides, as done with Mendo Food Futures, can help people determine what and how much food they should store and how to cook with seasonal foods.³⁴³ Food currencies improve emergency preparedness because people necessarily buy in bulk, eat, and restock their food stores.³⁴⁴

IV. AN IMPLEMENTATION STRATEGY

The specific actions a community organization can take to implement a food currency begin with a survey of interest, planning, and solicitation of funds. After these steps, a community organization can (1) design and print the currency, (2) find and buy the food from local farmers and store it, (3) sell the currency, and (4) distribute the food (or other commodities) in exchange for a return of the local currency.³⁴⁵

A cooperative, run for the benefit of the community, should facilitate implementation.³⁴⁶ Acceptance is a function of social capital, wide and deep support, commitment, and the competence of the currency issuer.³⁴⁷ Acceptance from the municipality, schools, landlords, and grocery stores, plus other private businesses like restaurants, carpenters, healers, beekeepers, and law firms can significantly increase success.³⁴⁸

340. See Eubanks, *A Rotten System*, *supra* note 6, at 295–310 (discussing the benefits of subsidizing sustainable agricultural practices).

341. *Id.* at 306.

342. *Id.* at 304–10; Greco, *supra* note 256, at 24 (stating that money is an “information system” and “our acceptance of money is based on its information content”)

343. GRECO, *supra* note 273, at 24.

344. Bradford, *supra* note 271.

345. *Id.*; Interview by Jason Bradford, *supra* note 311, at 1:30, 6:00–13:00; Greco, *supra* note 256, at 128–135, 197–212. See generally, PETER NORTH, LOCAL MONEY: HOW TO MAKE IT HAPPEN IN YOUR COMMUNITY (2010) (describing various alternative currencies and explaining how they may be implemented).

346. Compare GRECO, *supra* note 273, at 199 with Bradford, *supra* note 271 (“Local governments, regional business associations, community banks, and worker cooperatives are examples of the kinds of institutions who tend to successfully issue local currency.”).

347. GRECO, *supra* note 273, at 212.

348. *Id.* at 198. See also Block, *supra* note 277 (“Businesses must be convinced to accept the currency and know where they can, in turn, spend it.”).

CONCLUSION

Farming will soon be more local, occur at a smaller scale, use more human labor, and return to the center of people's economic life.³⁴⁹ Unfortunately, communities cannot expect federal assistance with local sustainable agriculture or Farm Bill subsidies.³⁵⁰ Nor should communities depend on economic stability or cheap oil. Even without federal assistance, however, communities can catalyze local sustainable agriculture. One powerful way to do this is with the creation of local food currencies. Food currencies can help encourage people to buy in bulk, eat local, produce food, and become more aware of personal and community health and economic issues. A local food-backed currency is the manifestation of Thomas Jefferson's ideal of an agrarian democracy.

A lack of creative leadership and community participation is the primary barrier to both agricultural reform and local currency implementation. It is necessary to have a shared community commitment to and vision of a decentralized, sustainable, and low fossil fuel energy system in order to address the numerous social and ecological problems associated with the United States' current agricultural system.

FARM TO SCHOOL PROGRAMS

*Emily Parish**

INTRODUCTION

"Farm to School" programs are school-based programs that "connect[] schools (k-12) and local farms with the objectives of serving healthy meals in school cafeterias, improving student nutrition, providing agriculture, health and nutrition educational opportunities, and supporting local and regional farmers."³⁵¹ As the definition demonstrates, Farm to School programs vary broadly, with some focusing on all, some, or just one of the

349. Eubanks, *A Rotten System*, *supra* note 6, at 295–96.

350. Bryan Endres, *An Awkward Adolescence in the Organics Industry: Coming to Terms with Big Organics and Other Legal Challenges for the Industry's Next Ten Years*, 12 *DRAKE J. AGR. L.* 17, 57–59 (2007).

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351. *National Farm to School Network*, FARM TO SCH., <http://farmtoschool.org>, (last visited Nov. 11, 2010).

different program components. The focus on different components is dependent upon many factors, including the priorities and issues of the particular school or school system, the local agricultural market, and the funding available to support these types of programs. The growing popularity of Farm to School programs is a direct response to concerns surrounding childhood obesity, children's nutrition standards, and children's increasing disconnection from the origins of their food.³⁵²

I. BACKGROUND

According to the United States Department of Agriculture (USDA), approximately sixty million children attend public elementary and secondary schools, and about half, or just over thirty million, receive free or reduced-price lunches through the National School Lunch Program (NSLP) administered by the federal government.³⁵³ The other half either pay full price for their lunches, buy lunches from vending machines, pay for lunch as part of private school tuition, or bring their lunches from home. The National School Lunch Act mandates that school meals "safeguard the health and well-being of the Nation's children."³⁵⁴ Participating schools must serve lunches that meet the applicable recommendations of the USDA's most recent Dietary Guidelines for Americans.³⁵⁵ These guidelines include: eating a variety of foods; choosing a diet with plenty of grain products, vegetables, and fruits; choosing a diet moderate in sugars and salt; and choosing a diet with thirty percent or less calories from fat and less than ten percent from saturated fat.³⁵⁶ In addition, lunches must provide at least one-third of the daily Recommended Dietary Allowances for protein, iron, calcium, and vitamins A and C.³⁵⁷ The USDA suggests four menu plans that help guide local schools on setting their lunch menus.³⁵⁸

352. *Id.*

353. GORDON W. GUNDERSON, FOOD & NUTRITION SERV., U.S. DEP'T AGRIC., NATIONAL SCHOOL LUNCH PROGRAM BACKGROUND AND DEVELOPMENT, *available at* <http://www.fns.usda.gov/cnd/Lunch/AboutLunch/NSLP-Program%20History.pdf>; FOOD & NUTRITION SERV., U.S. DEP'T. AGRIC., NATIONAL SCHOOL LUNCH PROGRAM [hereinafter NATIONAL SCHOOL LUNCH PROGRAM], *available at* <http://www.commodityfood.usda.gov/cnd/lunch/AboutLunch/NSLPFactSheet.pdf>.

354. *Menu Planning in the National School Lunch Program*, U.S. DEPARTMENT AGRIC. (Sept. 1, 2000), http://www.fns.usda.gov/cnd/menu/menu_planning.doc.

355. *Id.*

356. *Id.*

357. *Id.*

358. *Id.*

According to a USDA study completed for the 2004–2005 school year, only six to seven percent of schools meet all the nutritional standards as established through the NSLP.³⁵⁹ According to this same study, only forty-nine percent of school meals served met caloric standards, only thirty percent met saturated fat standards, and only twenty-one percent met total fat standards.³⁶⁰ These statistics show that school lunches that exceed recommended caloric and fat standards are serious contributors to the childhood obesity epidemic in our country.³⁶¹ According to the Center for Disease Control, childhood obesity has more than tripled in the past thirty years with one in three children in the United States (ages two to nineteen) now classified as obese or overweight.³⁶²

II. FARM TO SCHOOL PROGRAM STRUCTURE

There is currently no significant national Farm to School program or guidelines. Farm to School can generally be characterized as a grassroots movement at the local level, either by state, county, school district, or individual school. According to farmstoschool.org, the United States' Farm to School programs are supported by the National Farm and School Network, a group of regional lead agencies that guide programs in eight geographic regions of the country.³⁶³ These regional lead agencies are mostly non-profits supported through private foundations or academic institutions, and are responsible for providing technical support, research, expertise, and guidance to local schools or school districts on Farm to School programs.³⁶⁴ Typically, the local school or school district designs, implements, and runs the specific programs itself.³⁶⁵

Funding is one of the more difficult aspects of the Farm to School movement. As we all know, school budgets are extremely tight, which often limits the types of choices a school can make when developing lunch menus. Schools participating in the NSLP get cash subsidies and donated

359. WHITE HOUSE TASK FORCE ON CHILDHOOD OBESITY, REPORT TO THE PRESIDENT, SOLVING THE PROBLEM OF CHILDHOOD OBESITY WITHIN A GENERATION (2010), available at http://www.letsmove.gov/pdf/TaskForce_on_Childhood_Obesity_May2010_FullReport.pdf

360. *Id.*

361. *Id.*

362. *Childhood Obesity*, CENTERS FOR DISEASE CONTROL & PREVENTION, <http://www.cdc.gov/HealthyYouth/obesity/> (last visited Aug. 18, 2010).

363. FARM TO SCH., <http://www.farmstoschool.org/> (last visited Nov. 11, 2010).

364. *National Profile*, FARM TO SCH., <http://www.farmstoschool.org/state-home.php?id=18> (last visited Mar. 26, 2011).

365. NATIONAL SCHOOL LUNCH PROGRAM, *supra* note 353.

commodities from USDA surplus agricultural stocks for each meal that they serve.³⁶⁶ Therefore, schools depending on the NSLP, which comprise a large majority of both public and private schools in the United States, are severely limited in their purchasing options for school lunches. Schools that want to create Farm to School programs must supplement their food budgets with private grants to both launch and run these programs. The success stories show that after getting through the initial start-up costs, some schools are able to fund the projects due to increased meal participation rates.³⁶⁷ Some schools even find that the costs become more manageable after their staff becomes accustomed to using and preparing meals using local, fresh food sources.³⁶⁸ For programs focused less on cafeteria programs and more on general nutritional education or school gardens, start-up costs are usually covered either through educational budgets, private grants, school fundraising, or some combination of these sources.³⁶⁹

III. FEDERAL GOVERNMENT SUPPORT

USDA provides some support for local Farm to School programs, although its role appears quite limited by a lack of funding and other responsibilities. The USDA Farm to School Team is comprised of staff from both the Food and Nutrition Service and the Agricultural Marketing Service.³⁷⁰ According to USDA's Farm to School Program web site, the team "was created to support local and regional food systems by facilitating alliances between schools and their local food producers."³⁷¹ The Team focuses on several goals including: assisting schools in accessing local markets, enabling food producers to effectively service their local schools, and providing resources and technical assistance.³⁷² This year, the Team will visit fifteen school districts around the country to "analyze and assess variables that support or deter Farm to School activities, both from the

366. *Id.*

367. See RENATA BRILLINGER, JERI OHMART, & GAIL FEENSTRA, THE CRUNCH LUNCH MANUAL (2003), available at <http://www.sarep.ucdavis.edu/cdpp/farmtoschool/crunchlunch32003.pdf>; ANUPAMA JOSHI, MARION KALB, & MOIRA BEERY, NAT'L FARM TO SCH. PROGRAM, OCCIDENTAL COLL. & CMTY. FOOD SEC. COAL., GOING LOCAL: PATHS TO SUCCESS FOR FARM TO SCHOOL PROGRAMS (2006), available at <http://departments.oxy.edu/uepi/cfj/publications/goinglocal.pdf>.

368. JOSHI ET AL., *supra* note 367.

369. See generally *id.* (discussing the success of eight farm to school programs).

370. *Farm to School Team*, FOOD & NUTRITION SERVICE, U.S. DEPARTMENT AGRIC., <http://www.fns.usda.gov/cnd/F2S/f2stacticalteam.htm> (last visited Mar. 26, 2011).

371. *Id.*

372. *Id.*

school and farmer perspectives, and the effects the activities have had on the school and the community.”³⁷³ In addition, the USDA offers various grants that do not specifically fund farm to school programs, but that could be adapted or manipulated by a creative program director to fund portions of the programs.³⁷⁴ For example, the USDA has grants for many related topics including health and nutrition, food equipment, and local farm grants.³⁷⁵

IV. WHO BENEFITS FROM FARM TO SCHOOL PROGRAMS?

Above all, children benefit from Farm to School programs. These programs can provide healthy lunches to children and give them more exposure to fruits and vegetables. Farm to School programs can be an excellent tool for tackling childhood obesity from within the place where children spend the majority of their time during the day. The education programs provided through Farm to School programs will give children healthy-eating skills and knowledge that they can carry with them for the rest of their lives. Through the programs, which include farm tours, children have a wonderful opportunity to experience the outdoors and gain increased exposure to the land, thereby gaining a better understanding of their natural environment. Farmers and small to medium-size farms can also benefit significantly from these programs. These programs have the potential to open new markets that would provide additional support to family farms. According to farmtoschool.org, these programs can open a \$12 billion market which has been traditionally closed to small farmers.³⁷⁶ This is also a way to provide greater connectivity between farmers and community. Farm to School programs can also benefit local communities by supporting local economies and fostering relationships between parents, farmers, and schools.

373. *Id.*

374. *Supporting Farm to School Activities*, FOOD & NUTRITION SERVICE, U.S. DEPARTMENT AGRIC., <http://www.fns.usda.gov/cnd/f2s/Supporting.htm> (last visited Nov. 17, 2010).

375. *Id.*

376. *Farm to School in the Senate*, FARM TO SCH., <http://www.farmtoschool.org/policy/NFSNSenate.pdf> (last visited Nov. 11, 2010).

V. FARM TO SCHOOL PROGRAMS AROUND THE UNITED STATES

Currently, forty-five states have at least one operational Farm to School program.³⁷⁷ This includes over 2200 programs, involving 8900 schools in 2100 school districts.³⁷⁸ According to the United States Census Bureau's 2002 Census of Government, there are 13,506 school districts in the country,³⁷⁹ and Farm to School programs exist in approximately fifteen percent of them.³⁸⁰

As mentioned above, programs vary broadly by school or school district. Some programs address multiple components like cafeteria nutrition or school gardens, while some choose to focus on just one area. For example, the New York City school district focused their cafeteria program on just one item—local apples, the Riverside Unified School District in California focused on salad bar alternatives to hot lunches, and one Chicago school district designed their program around an eight-week curriculum focused solely on nutrition education in the classroom.³⁸¹

In the Riverside Unified School District in southern California, one elementary school launched a Farm to School program in 2005.³⁸² The program focused on providing a salad bar stocked with locally grown lettuces, vegetables, and fruits. The California Endowment, in partnership with the Center for Food and Justice provided funding to start the program. This salad bar program has since grown to twenty-six elementary schools in the district. Based on surveys completed by the National Farm and School Network, children who choose the salad bar over hot lunch get 2.36 servings of fruits and vegetables opposed to the 1.49 servings they would get through hot lunch. The survey also reported that within one year of starting the program, the two local farmers who provided the fresh produce to the schools were averaging \$1700 more per month in direct income.³⁸³

Another successful program is Illinois' Fresh from the Farm (FFF) program, implemented in select schools in the Chicago area, and focusing

377. *National Profile*, *supra* note 364.

378. *Id.*

379. U.S. CENSUS BUREAU, U.S. DEP'T OF COMMERCE, 2002 CENSUS OF GOVERNMENTS at v, viii (Vol. 1, No. 1, 2002), *available at* <http://www.census.gov/prod/2003pubs/gc021x1.pdf>.

380. U.S. CENSUS BUREAU, 2002 CENSUS OF GOVERNMENT ORGANIZATION, PUB. NO. GC02(1)-1 at 6 (2002), *available at* <http://www.census.gov/prod/2003pubs/gc021x1.pdf> (dividing the 2137 school districts involved in Farm to School programs by the 13,506 total number of school districts in the country comes out to approximately fifteen percent); *National Profile*, *supra* note 364.

381. CMTY. FOOD SEC. COAL., NOURISHING THE NATION ONE TRAY AT A TIME: FARM TO SCHOOL INITIATIVES IN THE CHILD NUTRITION REAUTHORIZATION 5, 8, *available at* http://www.farmtoschool.org/files/publications_192.pdf; JOSHI ET AL., *supra* note 369, at 3, 9.

382. *Id.* at 3.

383. *Id.* at 4.

mainly on lower-income areas of the district.³⁸⁴ Seven Generations Ahead (SGA), a local non-profit focused on health and nutrition issues in the Chicago area, runs the FFF program. After trying to launch a pilot project to bring fresh food into the cafeteria, SGA realized that the barriers were too numerous to overcome in many of the schools. For example, they had difficulty finding farmers willing to deliver to the schools and most schools did not have kitchens where fresh food could be prepared. As a result of this pilot project, SGA designed the FFF program to focus mostly on educating both students and parents. The program is comprised of several elements including an eight-week in-class curriculum focused on health and nutrition, parent-child healthy eating night workshops and newsletters, and providing produce baskets that can be purchased by parents who want to cook healthy food at home.³⁸⁵

VI. LEGISLATIVE HISTORY

Over the last sixty years, there have been significant pieces of legislation that impact school lunch programs in the United States, some of which have an impact on the current and future success of the Farm to School movement.³⁸⁶ In 1946, Congress passed the National School Lunch Act (NSLA) with the purpose of providing a market for agricultural production and to improve the health and wellbeing of the nation's youth.³⁸⁷ The 1966 Child Nutrition Act expanded the National School Lunch Program by establishing a school breakfast program, extending the Special Milk Program, and providing federal assistance towards non-food purchases for equipment.³⁸⁸ Significant legislation impacting Farm to School programs did not pass again until the 2002 Farm Bill, which authorized the Fresh Fruit and Vegetable Pilot (FFVP) in four states.³⁸⁹ Congress designed this pilot program to determine best practices for increasing fruit and vegetable consumption in schools, and expanded the pilot in both 2006 and 2008. It now includes all fifty states with \$9.9 million allocated to the program.³⁹⁰ In 2004, the Child Nutrition and WIC Reauthorization Act was the first piece of legislation to specifically mention

384. *Id.* at 10.

385. *Id.*

386. FOOD & NUTRITION SERV., U.S. DEP'T OF AGRIC., LEGISLATIVE HISTORY RELATED TO FARM TO SCHOOL 1-2, available at http://www.fns.usda.gov/cnd/F2S/pdf/F2Sleg_history.pdf.

387. *Id.*

388. *Id.*

389. *Id.*

390. *Id.* at 2.

school access to local food.³⁹¹ Although no funding was provided in this Act (nor has been allocated since the act passed in 2004), the act amended the NSLA to encourage improved access to local foods in schools.³⁹² Additionally, the Act required schools that participate in the NSLP to establish a local wellness policy for the 2006–2007 school year, including setting goals for nutrition education and physical activity.³⁹³

The 2008 Farm Bill includes several key items that effect Farm to School programs. First, it amended the NSLA to allow schools that receive funding through the Child Nutrition Program to apply geographic preferences when procuring unprocessed foods.³⁹⁴ The bill also discusses a farm to cafeteria pilot program and clarifies that it should promote healthy food education, gives priority to projects that other schools can replicate, and authorizes hands-on gardening programs in high-poverty schools in up to five states.³⁹⁵ Unfortunately, the bill retains its minimum \$50 million annual allocation for the purchase of fresh foods and vegetables for use in schools instead of increasing the allocation to enable schools to achieve these goals.³⁹⁶

In March of 2010, Senator Patrick Leahy of Vermont and seventeen co-sponsors introduced S.3123: The Growing Farm to Schools Program Act.³⁹⁷ (There was a similar bill in the House—H. 4710³⁹⁸). If passed, this act would have provided \$50 million in mandatory funding to grow Farm to School programs nationwide.³⁹⁹ In addition, the act would have created a grant program for local schools to help establish or grow Farm to School programs.⁴⁰⁰ The program would have required local in-kind or cash matches to any grant funds received.⁴⁰¹ The bill was referred to the Senate Committee on Agriculture, Nutrition and Forestry where no further action was taken before the end of the 111th session.⁴⁰²

391. *Id.* at 1.

392. *Id.*

393. *Id.*

394. *Id.* at 2.

395. *Id.*

396. *Id.*

397. Growing Farm to School Programs Act of 2010, S. 3123, 111th Cong. (2d Sess. 2010).

398. Farm to School Improvements Act of 2010, H.R. 4710, 111th Cong. (2d Sess. 2010).

399. Growing Farm to School Programs Act of 2010, S. 3123, 111th Cong. § (2)(g)(8)(A) (2d Sess. 2010).

400. *Id.* § 2(g)(3)(A)(vii).

401. *Id.* § 2(g)(4)(B).

402. S.3123: *Growing Farm to School Programs Act of 2010*, GOVTRACK, <http://www.govtrack.us/congress/bill.xpd?bill=s111-3123> (last visited Jan. 26, 2011). (showing no action taken on the bill as of January 26, 2011).

In addition to federal legislation, there is currently state legislation relating to Farm to School programs pending in twenty-seven states.⁴⁰³

VII. BARRIERS TO A SUCCESSFUL FARM TO SCHOOL MOVEMENT

Although Farm to School programs are seeing success and gaining momentum around the country, there are still several barriers to these programs succeeding on a scale that would have a significant impact on the nutrition of school lunches and the health of our nation's children. First, these programs place the majority of responsibility for implementation on local schools and school districts and often require significant investments of time and resources. Implementation of such programs requires schools to create a program vision, seek and secure funding opportunities, encourage buy-in from parents and faculty, and launch and sustain the program. This first barrier touches on another significant barrier—funding. As discussed above, most successful programs have looked to private foundations or philanthropic corporations to supplement their school budgets to support the programs. The process of seeking out funding and applying for grants is time-consuming, is not always fruitful, and can be severely limited by a lack of access to funding sources in a specific geographic area (like some rural communities). There is also a lack of significant sources of dedicated government funding that would be necessary to allow these programs to achieve success in all parts of the country.

The third barrier is largely cultural; if children have grown up eating processed foods that are high in fat and sugar and taste good to them, it is extremely challenging to break them of these habits, especially if their parents are not supportive. These unhealthy eating habits can be a significant problem when highly processed hot lunch options are still prevalent in school cafeterias, when schools offer vending machines with snack foods and drinks for purchase, and when children have the option to bring lunches from home. Some Farm to School programs are trying to address these concerns through in-classroom education, by creating fun and creative ways to expose kids to new and different foods, and through parental education.⁴⁰⁴ For example, Cornell University has created a website called Smarter Lunchrooms, which provides educators and parents with

403. *Policies*, FARM TO SCH., <http://www.farmentoschool.org/policies.php> (last visited Oct. 22, 2010).

404. See *National Farm to School Network*, *supra* note 351 (explaining how Farm to School not only promotes fresh salad bars and local foods in the cafeteria but also includes activities such as composting, planting school gardens, farm tours, and cooking demonstrations).

creative tools to help children consider eating healthier options.⁴⁰⁵ One of the many strategies they suggest is changing the names of foods to make them more attractive to children—so instead of “peas,” name them “power peas.”⁴⁰⁶

CONCLUSION

Farm to School is a growing movement throughout the United States that has been largely of grassroots origin to date because of limited federal support. This movement has been successful thus far because of the significant efforts of creative educators, ingenious farmers, and supportive non-profits and foundations. The movement is gaining more public attention thanks to reality shows like Jamie Oliver’s *Food Revolution*, but it still has a long way to go before it becomes a mass movement affecting all the schools in the entire country. Government support, like that proposed through S. 3123 would go a long way toward helping to increase the pace and impact of these programs, but full success will always require the willingness, creativity, and commitment of schools to make a significant difference in the health of their students.

FARMERS’ MARKETS TAKE FOOD STAMPS: MAKING AN IMPACT ON THE AMERICAN DIET?

*Jennifer L. Perez**

BACKGROUND

The Food Stamp Program (FSP), administered by the United States Department of Agriculture (USDA), has served one in eleven Americans or more than twenty-eight million people as of December 2009.⁴⁰⁷ This

405. Food & Brand Lab., Cornell Univ., *Smarter Lunchrooms: Subtle Solutions to Mindless Eating in Schools*, (last updated Nov. 30, 2010, 16:53:38). 406. *Id.*

406. *Id.*

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407. *Supplemental Nutrition Assistance Program: A Short History of SNAP*, FOOD & NUTRITION SERVICE, U.S. DEPARTMENT AGRIC., <http://www.fns.usda.gov/snap/rules/Legislation/about.htm> (last visited Nov. 17, 2010) [hereinafter *SNAP*].

staggering number includes one in four children.⁴⁰⁸ Food stamps have been in existence in some form since the early 1930s.⁴⁰⁹ Congress developed the pilot program for purchasing food coupons during the Great Depression era as a way to rid the nation of unmarketable food surpluses and assist with widespread unemployment.⁴¹⁰ Several decades later, Congress voted the Food Stamp Act of 1964 into law in conjunction with the 1965 Food and Agriculture Act, which would eventually become part of what is known as the Farm Bill.⁴¹¹

Under Title IV of the 2008 Farm Bill, Congress officially re-named the federal Food Stamp Program as the Supplemental Nutrition Assistance Program (SNAP).⁴¹² Changing the well-known program name was an effort to emphasize a national focus on the definition of nutrition and encourage SNAP participants to consume healthier foods.⁴¹³ One of the features of Title IV is a program where farmers' markets throughout the nation can accept SNAP.⁴¹⁴ With the growing trend toward eating locally grown food, this program makes it possible for people in our country's lower economic tiers to access fresh fruit, vegetable, and meat products directly from their local farmers.

I. FOOD STAMPS AND FARMERS' MARKETS

Under the SNAP farmers' market program, each farmer has to fill out an application to become eligible to accept SNAP as payment.⁴¹⁵ Farmers' markets claiming more than \$100 in SNAP sales are provided a machine on-site that accepts the electronic benefit (EBT) cards on which SNAP supplements are distributed.⁴¹⁶ The county in which the farmers' market is located creates a system providing tokens or coupons that consumers can

408. Jason DeParle & Robert Gebeloff, *Food Stamp Use Soars, and Stigma Fades*, N.Y. TIMES, Nov. 28, 2009, http://www.nytimes.com/2009/11/29/us/29foodstamps.html?_r=2.

409. *SNAP*, *supra* note 407.

410. *Id.*

411. *Id.*

412. *2008 Farm Bill Side-By-Side*, U.S. DEPARTMENT AGRIC., <http://www.ers.usda.gov/FarmBill/2008/titles/titleIVNutrition.htm> (last visited September 10, 2010).

413. *SNAP*, *supra* note 407.

414. 7 U.S.C. § 2011 (2008).

415. *Supplemental Nutrition Assistance Program: Apply Online to Become Authorized to Accept SNAP at Your Retail Food Store*, FOOD & NUTRITION SERVICE, U.S. DEPARTMENT AGRIC., <http://www.fns.usda.gov/snap/retailers/application-process.htm> (last visited Nov. 11, 2010).

416. *Supplemental Nutrition Assistance Program: Get EBT Equipment*, FOOD & NUTRITION SERVICE, U.S. DEPARTMENT AGRIC., http://www.fns.usda.gov/snap/ebt/fm-scrip-EBT_Equipment.htm (last visited Nov. 11, 2010).

exchange for produce with each farmer.⁴¹⁷ The farmers exchange the coupons or tokens for a reimbursement. The farmers or entity that owns the farmers' market is responsible for advertising that they accept SNAP benefits and for attracting SNAP participants to their stands.⁴¹⁸

According to the USDA, SNAP utilization at several farmers' markets has been successful thus far.⁴¹⁹ The statistics on how many consumers have used food stamps at the markets range from twenty to one hundred per farmers' market in a selling season (usually about four or five months in length) to over 1000 at larger farmers' markets.⁴²⁰ In addition, statistics from 2006 through 2008 show a steady increase in participation, likely providing some justification for the nearly twenty million dollars that went toward Food and Nutrition Programs under Title IV of the 2008 Farm Bill.⁴²¹ In fact, some SNAP participants who use their benefits at farmers' markets receive bonus incentives from these funds.⁴²² A bonus dollar matches each dollar of SNAP funds spent at a farmers' market.⁴²³ Participants can only use the bonus at the farmers market, effectively doubling the benefit for the participant and the farmer.⁴²⁴

As this program is fairly new, there are no readily available statistics on the total number of farmers who participate or what percentage of the farmer's income has been supplemented by accepting SNAP. There are also no statistics on SNAP consumers' rationale for participation in the program or lack thereof. We can, however, theoretically explore the impact of this program on the SNAP consumers' diets.

417. *Supplemental Nutrition Assistance Program: Scrip System (Paper Scrip, Token or Receipt)*, FOOD & NUTRITION SERVICE, U.S. DEPARTMENT AGRIC., http://www.fns.usda.gov/snap/ebt/fm-scrip-what_is_scrip.htm (last visited Nov. 11, 2010).

418. *Supplemental Nutrition Assistance Program: Attracting SNAP Customers to your Farmers' Market*, FOOD & NUTRITION SERVICE, U.S. DEPARTMENT AGRIC., http://www.fns.usda.gov/snap/ebt/fm-scrip-attract_customers.htm (last visited Nov. 11, 2010).

419. *See, e.g.*, U.S. Dep't Agric., *Farmers' Market Success Stories*, NUTRITION ASSISTANCE PROGRAMS, http://www.fns.usda.gov/snap/ebt/fm-scrip-success_stories.htm (last modified Mar. 4, 2010).

420. *See id.* (discussing, through several success stories listed, that farmers' markets currently have customers using EBT, and the number of customers depends on the size of the farmers' market).

421. *Supplemental Nutrition Assistance Program Participation and Costs*, FOOD & NUTRITION SERVICE, U.S. DEPARTMENT AGRIC., <http://www.fns.usda.gov/pd/SNAPsummary.htm> (last visited Nov. 18, 2010).

422. *Supplemental Nutrition Assistance Program: Bonus Incentives*, FOOD & NUTRITION SERV., U.S. DEPARTMENT AGRIC., http://www.fns.usda.gov/snap/ebt/fm-scrip-Bonus_Incentives.htm (last visited Nov. 11, 2010).

423. *Id.*

424. *Id.*

II. BENEFITS AND CHALLENGES

Farmers' markets accepting SNAP benefits could have a positive impact in many ways. Government officials, in writing the 2008 Farm Bill, created dialogue around the nutritional intake of some of the poorest people in our nation and ways to encourage healthful eating. Poor nutritional health can lead to numerous diseases such as diabetes and obesity. Both of these are rampant problems in the United States at large and specifically among the minority groups that receive a significant percentage of SNAP benefits.⁴²⁵ By increasing the fruits, vegetables, and fresh proteins eaten by individuals receiving SNAP, the result should be a positive impact on these health problems. In addition, individuals throughout our nation have lost touch with their local farmer and many are probably not aware that they are within close proximity to a farm or farmers' market. With the growing trend toward supporting locally grown foods, this program has the potential to connect a significant number of individuals to their local farms. Another benefit is financial support for the local farmer and creation of a new stream of income that can assist them in sustaining production and keeping their farms.

There are also potential systemic problems with the Farmers' Market Food Stamp Program. In nearly fifty years since its passage into law, fraud and problems with reimbursement have been recurrent themes within the Food Stamp Program.⁴²⁶ Although policing of these inherent issues has strengthened over the last several years, many individuals historically have circumvented buying only "eligible" foods specified by the USDA for SNAP benefits. It may be difficult for the SNAP program to determine what consumers have purchased and how they use those purchases.

One of the biggest issues is overcoming a mentality that health food is simply unaffordable. The authors of *Can Low-Income Americans Afford to Eat a Healthy Diet?* weigh the economics of healthy eating and state that the subjective mind-set of Americans regarding food cost increasingly complicates the analysis.⁴²⁷ Moreover, SNAP benefits have barely kept up with inflation. The average family of four receives about \$668 in benefits per month or roughly five dollars per day per person, a sum difficult to

425. *About Minority Health*, OFF. MINORITY HEALTH & DISPARITIES, CENTERS FOR DISEASE CONTROL & PREVENTION, <http://www.cdc.gov/omhd/amh/amh.htm> (last visited Nov. 17, 2010); Parke Wilde, *Food Stamp Participation by Race and Ethnicity*, U.S. FOOD POL'Y (Dec. 9, 2009) <http://usfoodpolicy.blogspot.com/2009/12/food-stamp-participation-by-race-and.html>.

426. *SNAP*, *supra* note 407, at 69.

427. Elise Golan et al., *Can Low Income Americans Afford a Healthy Diet?*, AMBER WAVES (Nov. 2008), <http://www.ers.usda.gov/AmberWaves/November08/Features/AffordHealthyDiet.htm>.

budget with the increasing prices of food and the tough economic times.⁴²⁸ Better education on cost analysis and on the benefits of eating healthier may help SNAP consumers see food in a new light. The USDA does provide several free educational tools on nutrition and eating healthy while on a budget.⁴²⁹

CONCLUSION

Many questions arise from a debate on the pros and cons of Farm Bill programs like the Farmers' Market SNAP initiative. After generations of learned behavior around stretching a dollar by purchasing less expensive, more convenient foods, have we created a nation addicted to additives and chemicals such as high fructose corn syrup? Can a program like this really encourage people to stop and think about their nutrition and start traveling to and buying produce from their local farmers' market? With many of the twenty-eight million people on food stamps being children, would it make a bigger impact to divert funding to our youngest generation, instilling in them a love of farms, fresh fruits, and vegetables over fast, processed food? Both consumers and legislatures are discussing interesting views on these questions. Ultimately the bottom line may be simply what Michael Pollen touts in *Farmer in Chief*, when he states, "[a]ll these initiatives have the virtue of advancing two objectives at once: supporting the health of at-risk Americans and the revival of local food economies."⁴³⁰ Only time will tell if this proves to be true.

428. *Supplemental Nutrition Assistance Program: Eligibility*, FOOD & NUTRITION SERVICE, U.S. DEPARTMENT AGRIC., http://www.fns.usda.gov/snap/applicant_recipients/eligibility.htm#income (last visited Nov. 11, 2010).

429. *About SNAP-Ed Connection*, U.S. DEPARTMENT AGRIC., http://snap.nal.usda.gov/nal_display/index.php?info_center=15&tax_level=1&tax_subject=245 (last visited Nov. 11, 2010).

430. Pollan, *Farmer in Chief*, *supra* note 49.