THE FARM BILL: A WICKED PROBLEM
SEEKING A SYSTEMATIC SOLUTION

SARAH J. MORATH†

In a recent op-ed in the Washington Post, a food writer, a professor of journalism (and New York Times best-selling author), a senior scientist, and a professor of human rights law, declared in unison that our “food system and the diet it’s created have caused incalculable damage to the health of our people and our land, water and air.” The authors noted that the United States’ food system largely developed out of agricultural policies that were concerned with issues that hold much less significance today—“policies that made sense when the most important public health problem concerning food was the lack of it and when the United States saw ‘feeding the world’ as its mission.” As a solution, the authors called on the President to implement “an executive order establishing a national policy for food, health, and wellbeing.”

Although never expressly stating so, the authors describe why farm bill reform has proven to be a “wicked” problem. The authors point to national problems such as shorter life spans, increased fossil fuel usage, and the rise of income inequality as results of our “piecemeal” policy on food law. More specifically, the authors point out that “[d]iet-related chronic disease, food safety, marketing to children, labor conditions, wages for farm and food-chain workers, immigration, water and air quality, greenhouse gas emissions, and support for farmers” are all issues related to the food system, despite

Copyright © 2015 Sarah J. Morath.
† Associate Professor of Legal Writing, University of Akron School of Law. B.A., Vassar College, M.E.S., Yale University School of Forestry and Environmental Studies, J.D., University of Montana School of Law.


2. Id. at 2.
3. Id. at 3.
4. See id. (“As long as food-related issues are treated as discrete rather than systemic problems, congressional committees in thrall to special interests will be able to block change.”).

5. Id.
being overseen by eight separate federal agencies.\textsuperscript{6}

The authors subtly offer “systems thinking” as a solution. The complexity of the U.S. food system—of which the farm bill is an integral part—is what makes reform so wicked and is why systems thinking offers a promising solution. Systems thinking focuses on interrelationships, perspectives, and boundaries surrounding a given problem.\textsuperscript{7} Thinking systematically requires participation from a greater number of stakeholders and employs a holistic approach.\textsuperscript{8} The focus is on making things better rather than making them perfect. Because of these characteristics, systems thinking is well suited to helping advocates, stakeholders, and decision makers design a more sustainable farm bill.

It is no surprise that the Washington Post op-ed is written by no less than four advocates with varied backgrounds. Consideration of diverse perspectives from a variety of stakeholders sits at the very heart of systems thinking.

The authors suggest that a national food policy that employs systems thinking could be created and implemented by White House counsel, working with the Department of Health and Human Services and the United States Department of Agriculture (USDA) to “align agricultural policies with public health objectives.”\textsuperscript{9} White House Counsel would also collaborate with the Environmental Protection Agency (EPA) and the USDA to ensure that environmental goals are not compromised to produce food.\textsuperscript{10} The authors are confident that our government has the power to restructure the American food system. Yet, they caution that “[a]s long as food-related issues are treated as discrete rather than systemic problems,” reforming our food system will remain a challenge.\textsuperscript{11}

Although the op-ed authors describe the most recent Farm Bill\textsuperscript{12} as “business-as-usual,”\textsuperscript{13} there are many creative and innovative aspects of this Farm Bill that employ “system-like” thinking already.

\textsuperscript{6} Id.
\textsuperscript{8} See id. (discussing the importance of analyzing problems holistically to identify and respond to feedback loops that may not appear at the local level of a particular problem).
\textsuperscript{9} Id. at 3.
\textsuperscript{10} Id.
\textsuperscript{11} Id.
\textsuperscript{13} National Food Policy, supra note 1, at 3.
For example, for the first time in farm bill history, the 2014 Farm Bill makes funding available for programs that promote physical activity. A system thinker would approach the country’s obesity problem by not only looking at what Americans eat but also at how much Americans exercise. Establishing a sustainable food system will require a systems thinking approach to food policy reform. Ultimately, this country needs a farm bill that takes a holistic approach, appreciates integration and coordination, and further embraces the principles of systems thinking.

I. INTRODUCTION

Many scholars have blamed national agricultural policies for a whole host of horribles, including the degradation of human health, the destruction of the natural environment, and the disappearance of the family farm. The programs embedded in the U.S Farm Bill—the


16. See Linda Breggin & Bruce Myers, Subsidies With Responsibilities: Placing Stewardship and Disclosure Conditions on Government Payments to Large-Scale Commodity Crop Operations, 37 HARV. ENVTL. L. REV. 487, 522 (2013) [hereinafter Subsidies with Responsibilities] (recommending reforms to the Farm Bill to better address pollution resulting from large-scale commodity crop operations).

17. See Emily Broad Leib, The Forgotten Half of Food System Reform: Using Food and Agricultural Law to Foster Healthy Food Production, 9 J. FOOD L. & POL’Y 17, 51 (2013) [hereinafter The Forgotten Half of Food System Reform] (noting the disappearance of “the agriculture of the middle”); Melanie J. Wender, Goodbye Family Farms and Hello Agribusiness:
piece of legislation responsible for establishing the United States’ agricultural policies—have been described as “broken,”18 “imbalanced,”19 “unpopular,”20 and “wasteful.”21

The farm bill in its modern form continues to be the single most important piece of legislation to address agriculture and food policy at the national level.22 It is not surprising then, that farm bill reform is often suggested as a way to cure the ills associated with high-fructose corn syrup, factory farming, and mega-monocultures,23 as well as to achieve a more sustainable food system.24 Yet, the most recent incarnation of the farm bill did not include the overhaul many desired, or the full-scale revolution requested.25 The farm bill continues to favor industrial farming practices.26 Meanwhile, U.S.
obesity rates continue to rise, the number of farms in this country continues to decline, and farmland continues to disappear.

Reforming the farm bill, and, with it, this nation’s agricultural and food policies, has proven to be a “wicked” problem. But to say that the United States is worse off because of the 2014 Farm Bill would be incorrect. In fact, the vast majority of stakeholders calling for reform labeled the most recent farm bill as something closer to a “mixed bag” than a complete failure.

This article advocates for employing systems thinking in food system reform generally, but also, specifically, as a way to approach farm bill reform. Using the most recent farm bill as an example, this article introduces systems thinking and explains how a systems thinking approach to food policy reform might be developed.

This article provides the first broad analysis of programs within the 2014 Farm Bill “bag” that employ a systems thinking approach and thereby help create a more sustainable food system. Part I describes the original Farm Bill and its evolution from a law to with support farmers and feed the hungry during the Great Depression, to a 1,000 page, one trillion dollar piece of legislation. Part II uses the concept of a “wicked problem” to describe challenges to food policy and Farm Bill reform, and offers systems thinking as a new approach to designing a better farm bill. Part III analyzes the most recent Farm Bill, focusing on efforts that use systems thinking principles and create a more sustainable food system. New and innovative programs support alternative ways of farming and build partnerships between agencies, farmers, and consumers. Finally, with complete food policy reform unlikely, Part IV encourages the use of systems thinking by policy makers, advocates, and citizens in crafting future farm bills.

27. Id. at 3 (stating that “[t]he American citizenry continues to bear the ultimate costs and risk associated with bad and politically unassailable policies in the form of . . . skyrocketing obesity rates”).
29. See infra Part II.
30. Bill Ayers, The 2014 Farm Bill: A Reflection After 40 Years of Advocacy, THE HUFFINGTON POST (Mar. 5, 2014), http://www.huffingtonpost.com/bill-ayres/the-2014-farm-bill-the-ba_b_4896404.html (noting that the farm bill “was not the disaster it could have been”).
31. See id. (calling the results of the final farm bill “mixed”).
II. EVOLUTION OF THE FARM BILL

A. The Original Farm Bill

The very first farm bill, the Agricultural Adjustment Act of 1933,\(^{32}\) arose from a confluence of economic and environmental disasters.\(^ {33} \) The overarching goal of the original farm bill was to stabilize commodity crop prices (and farm income), which had fallen below the cost of production during the course of the Great Depression.\(^ {34} \) The federal government accomplished this by paying farmers to produce less.\(^ {35} \) Although the Agricultural Adjustment Act of 1933 also had provisions for providing nutritional assistance to children, implementing conservation policies, and building infrastructure in rural farming communities,\(^ {36} \) the passage of the first farm bill was “primarily to manage fluctuations in commodity price and supply,”\(^ {37} \) thus marking the beginning of federally subsidized commodity crops.\(^ {38} \)

Since 1933, the farm bill has been reauthorized fifteen times.\(^ {39} \) Each bill, with its various goals and priorities, has shaped America’s agricultural policies.\(^ {40} \) For example, the 1973 Farm Bill—formally known as the 1973 Agriculture and Consumer Protection Act—initiated the use of target prices and deficiency payments.\(^ {41} \) The 1985 Farm Bill—or the 1985 Security Act—focused on farmers’ conservation practices, thus bringing conservation issues squarely into the farm bill debate.\(^ {42} \) The 2002 Farm Bill—officially titled the Farm


\(^{33}\) See Corn, Carbon, and Conservation, supra note 15, at 621 (describing the Great Depression and the Dust Bowl as leading federal agriculture laws).

\(^{34}\) MARY JANE ANGELO, JASON J. CZARNEZKI, & WILLIAM S. EUBANKS II, FOOD, AGRICULTURE AND ENVIRONMENTAL LAW 3 (2013). [hereinafter FOOD, AGRICULTURE, AND ENVIRONMENTAL LAW].

\(^{35}\) Corn, Carbon, and Conservation, supra note 15, at 597.

\(^{36}\) FOOD, AGRICULTURE, AND ENVIRONMENTAL LAW, supra note 34, at 3.

\(^{37}\) JILL RICHARDSON, RECIPE FOR AMERICA: WHY OUR FOOD SYSTEM IS BROKEN AND WHAT WE CAN DO TO FIX IT 165 (2009) [hereinafter RECIPE FOR AMERICA].

\(^{38}\) Corn, Carbon, and Conservation, supra note 15, at 597.

\(^{39}\) The reauthorization process reauthorizes the provisions of the Agricultural Act, but also includes a new set of amendments. Id.

\(^{40}\) Id.

\(^{41}\) Cornography, supra note 15, at 14. Deficiency payments are made when market price for a commodity crop falls below the target price set by Congress. Id. at 15.

Security and Rural Investment Act of 2002—housed the first energy title, signaling the federal government’s interest in the development of bioenergy.  

Despite fluctuations in policy preferences throughout the reauthorizations, federal support has remained constant for the production of commodity crops including wheat, rice, and corn. The emphasis on commodity crops has been linked to environmental degradation, the nation’s obesity crisis, and the loss of the family farm. As food activist Jill Richardson explains, the commodity title of the farm bill “sets up a system to ensure we have lots of cheap corn, wheat, rice, soy and cotton so we can run factory farms and make processed foods.”

But, as legal scholar Mary Jane Angelo notes, while the basic structure of the farm bill has remained the same (including support for commodity crops), “significant changes have been made, numerous programs have been added, and the breadth of issues covered by the farm bill has expanded to encompass emerging agricultural interests such as conservation, organic production, and bioenergy.” One such change was the addition of Title X to the 2008 Farm Bill, The Food Conservation and Energy Act, which created the Horticulture and Organic Production program. Although federal support for organic practices has been a part of farm bills since the 1990 Farm Bill, the creation of the Horticulture and Organic Production title under the 2008 Farm Bill formally recognized and

conservation and environmental issues into the heart of the farm bill debate and, very importantly, created a direct linkage between farmers’ conservation practices and the economic benefits they receive from government.”


44. See FOOD, AGRICULTURE, AND ENVIRONMENTAL LAW, supra note 34, at 14–15 (noting that it is desirable for Congress to include commodities in new farm bills when old bills expire because the permanent laws authorize the USDA to operate farm commodity programs, support eligible commodities at significantly higher rates than currently, and make certain commodities that are currently included ineligible for support).

45. See The Forgotten Half of Food System Reform, supra note 17, at 18–19 (stating that most discussions about mitigating the environmental and health impacts of the agricultural system in the United States “focus on reforming or dismantling the industrial commodity-based food system”).

46. RICHARDSON, RECIPE FOR AMERICA, supra note 37, at 168.

47. FOOD, AGRICULTURE, AND ENVIRONMENTAL LAW, supra note 34, at 13.

further expanded this support.\textsuperscript{49} In addition, the 2008 Act increased support for specialty crops (fruits, vegetables, and nuts) and programs that support local and healthy foods.\textsuperscript{50}

The 2008 Farm Bill was also the product of new “coalitions” advocating for change. Organic farmers, environmentalists, anti-hunger advocates, and public health groups, all worked together to demand certain changes.\textsuperscript{51} Shortly after the passage of the 2008 Farm Bill, the American Farmland Trust—an organization focused on conserving farmland—deemed the bill historic, noting that, “[n]ew players and new partnerships shifted the debate in unprecedented ways, resulting in better programs and an increased focus on supporting the needs of producers and consumers.”\textsuperscript{52}

Increased public interest and coalition-type advocacy represented a growing understanding of the interconnectedness of food, our health, the environment, and the economy. New partnerships and coalitions continued to form over the next six years.\textsuperscript{53} In 2010, Yale Law School and the National Policy & Legal Analysis Network to Prevent Childhood Obesity went so far as to hold a workshop to bring together leaders of different organizations with a specific common interest in reshaping farm bill policies.\textsuperscript{54} The purpose of the workshop was to initiate coalition-building among organizations that did not communicate regularly with each other, and to discuss a “multidisciplinary agenda” for the next farm bill, strategically incorporating goals from the environmental as well as the public health and sustainable agriculture communities.\textsuperscript{55} In 2012, a group of agricultural economics professors suggested that none of the farm bill beneficiaries would have been strong enough to pass a bill alone, noting that “[a] coalition of the food insecure interests,

\textsuperscript{49} Id.

\textsuperscript{50} Id. (describing cost-sharing provisions that focus on and support organic products).

\textsuperscript{51} Wiley, \textit{supra} note 15, at 80.


\textsuperscript{53} For example, in 2011, The Healthy Farms, Healthy People Coalition was formed to “work toward policy reform that promotes the health of all Americans while strengthening the economic and environmental viability of the food and agricultural sectors.” HEALTHY FARMS, HEALTHY PEOPLE COALITION, CROSS-SECTOR STATE MEETINGS, http://hfphcoalition.org/cross-sector-state-meetings (last visited Feb. 21, 2015).


\textsuperscript{55} Id.
rural communities, fruit and vegetable growers, and program crop producers would likely find a more receptive audience than any one or two could find alone.\footnote{56} Collaboration was apparent during negotiations of the most recent farm bill, suggesting that coalitions may play a greater role in farm bill negotiations in the coming years.

B. The Most Recent Farm Bill

Although the farm bill was once referred to as “The Most Important Bill You’ve Never Heard Of,”\footnote{57} development of the food movement has significantly increased awareness of the farm bill, allowing advocates with overlapping farm bill interests to come together.\footnote{58} In 2012, a coalition of over 90 stakeholders gathered by the Public Health Institute (the “Coalition”) sent a letter to Congress outlining what they thought should be the priorities for the next farm bill.\footnote{59} Organizations with various interests ranging from environmental,\footnote{60} anti-hunger,\footnote{61} immigration,\footnote{62} trade,\footnote{63} religion,\footnote{64} and policy\footnote{65} also signed on. The Coalition also included experts in nutrition,\footnote{66} public health,\footnote{67} and children rights\footnote{68}—at the local\footnote{69} and national level\footnote{70}—with varied goals of preserving family farms,\footnote{71}


\footnote{58} See Helen Dombalis, Healthy Farms, Healthy People Summit, NATIONAL SUSTAINABLE AGRICULTURE COALITION BLOG (May 19, 2011), http://sustainableagriculture.net/blog/public-health-summit/ (summarizing the speakers and speeches given at the Healthy Farms, Healthy People summit in Washington, DC in May 2011).


\footnote{60} Id. (Environmental Working Group).

\footnote{61} Id. (Bread for the World).

\footnote{62} Id. (National Immigration Law Center).

\footnote{63} Id. (United Fresh Produce Association).

\footnote{64} Id. (Catholic Charities USA).

\footnote{65} Id. (Institute for Agriculture and Trade Policy).

\footnote{66} Id. (Academy of Nutrition and Dietetics).

\footnote{67} Id. (American Public Health Association).

\footnote{68} Id. (First Focus Campaign for Children).

\footnote{69} Id. (Eat Smart Move More South Carolina).

\footnote{70} Id. (The National Farm to School Network).

\footnote{71} Id. (National Family Farm Coalition).
improving access to food,\textsuperscript{72} and combating homelessness.\textsuperscript{73}

Although the Coalition was created because of threatened cuts to nutrition programs, the Coalition’s letter articulated three much broader shared principles in reforming the farm bill.\textsuperscript{74} The letter explained that, while each organization had “specific missions and farm bill priorities,” these missions and priorities revolved around three specific principles: to (1) protect against hunger; (2) improve nutrition and health outcomes among vulnerable populations; and, (3) strengthen community-based initiatives that link farmers with consumers and increase access to healthy food.\textsuperscript{75}

Despite seeming agreement between advocates, the path of the Agricultural Act of 2014 (the most recent farm bill) from its introduction to its enactment was long and acrimonious. The 2014 Farm Bill was first introduced in 2012, with discussions regarding the bill beginning as early as 2011.\textsuperscript{76} For almost three years, the 2014 Farm Bill experienced extreme gridlock and debate within the walls of Congress,\textsuperscript{77} with disagreements primarily centered on funding for nutrition programs.\textsuperscript{78} During the summer and fall of 2013, articles on the status of the farm bill, and the lack of progress, were published on a regular basis.\textsuperscript{79} But when the dust began to settle in January 2014,
and the conference committee reached an agreement on January 27, 2014, it took less than eight days for both chambers to approve the agreement and less than two weeks for the President to sign the bill into law on February 7, 2014.\footnote{RALPH M. CHITE, CONG. RESEARCH SERV., R43076, THE 2014 FARM BILL: COMPARISON AND SIDE-BY-SIDE 1 (2014), available at http://www.farmland.org/programs/federal/documents/2014_0213_CRS_FarmBillSummary.pdf [hereinafter 2014 FARM BILL SUMMARY].}

In his presidential signing statement, President Obama called the 2014 Farm Bill “a jobs bill, an innovation bill, an infrastructure bill, a research bill, a conservation bill.”\footnote{Press Release, Office of the Press Secretary, Remarks by the President at the Signing of the Farm Bill (Feb. 7, 2014), available at http://www.whitehouse.gov/the-press-office/2014/02/07/remarks-president-signing-farm-bill-mi.} The president pointed out that the farm bill is “not just about helping farmers”—it “[creates] more good jobs,” and “gives more Americans a shot at an opportunity.”\footnote{Id.} The farm bill does this, the President noted, in two main ways: by supporting rural communities and by helping hungry families.\footnote{Id.} This support is seen through investments in farmers markets and organic agriculture to support local food\footnote{Id.} and through investing in hospitals and schools, affordable housing, and broadband infrastructure in rural areas.\footnote{Id.} The President referred to these areas as “the things that help attract more businesses and make life easier for working families.”\footnote{Id.}

When discussing the nutrition programs, the President noted that the 2014 Farm Bill gives citizens greater spending power at places like farmers markets, while also making it more affordable for working families to eat healthily and support farmers.”\footnote{Id.} The President lauded the bill for creating new markets for farmers, and giving people the opportunity to purchase nutritious food directly from their farmer.\footnote{Id.} Tom Vilsack, Secretary of the USDA, was equally complementary of the farm bill, calling it “an investment in every American, no matter where they live.”\footnote{Tom Vilsack, Secretary’s Column: New Farm Bill is an Investment in Rural America, U.S. DEP’T AGRIC. BLOG (Feb. 14, 2014, 12:00 PM), http://blogs.usda.gov/2014/02/14/secretarys-}
Despite these lofty sentiments about the bill, reviews from advocates and scholars on the new farm bill were mixed. The American Farm Land Trust praised the new bill, calling it the “biggest reform in agricultural policy in years.” The Fair Food Network viewed the bill favorably because it included the Food Insecurity Nutrition Incentive, calling the program “[a] [w]in for [f]amilies, [f]armers, [a]nd [l]ocal economies.” The Farmers Market Coalition also supported the bill’s passing, remarking that it “offers substantial support for farmers markets, beginning farmers and ranchers, local food systems, organic agriculture and healthy food access.”

In contrast, several other groups readily disapproved of the bill. The Environmental Working group blogged its top six reasons for opposing the farm bill. Feeding America, a nationwide network of food banks, also stated its opposition to the farm bill because of the deep financial cuts made to the Supplemental Nutrition Assistance Programs (SNAP). Although the Public Health Institute’s statement on the bill was also critical of cuts made to SNAP, it was at least pleased that Congress supported other initiatives that improve access to affordable, higher quality nutrition for hungry Americans.

After the passing of the 2014 Farm Bill, Marion Nestle (the Paulette Goddard Professor of Nutrition, Food Studies, and Public Health at New York University) lamented to National Public Radio that the 2014 Farm Bill benefits agribusiness, but not small farms. Nonetheless, he noted, there were still “little tokens scattered throughout . . . that do lovely things for organics and for farmers markets,” as well as other useful initiatives that would be help low-

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90. Id.
93. Those six reasons were that the 2014 Farm Bill increases farm subsidies, rejects subsidy limits, increases insurance subsidies, cuts nutritional assistance, cuts funding for conservation, and flouts transparency. Scott Faber, Top Six Reasons EWG Opposes the Farm Bill, ENVTL. WORKING GROUP (Jan. 31, 2014), http://www.ewg.org/agmag/2014/01/top-six-reasons-ewg-opposes-farm-bill.
income groups eat more fruits and vegetables. In the end, most
analysts referred to the 2014 Farm Bill as a compromise or mixed-
bag, with many breathing a sigh of relief knowing that “it could have
been worse.”

III. WICKED PROBLEMS AND SYSTEMS THINKING

A. Wicked Problems

Why was passing the farm bill such a challenge and why do so
many feel that the results fall short? Simply put, reauthorizing the
farm bill has become a wicked problem. The term “wicked problem”
is most frequently associated with social scientists Horst Rittel and
Melvin R. Webber, to describe problems that are: exceedingly
complex; involve a number of stakeholders, often with conflicting
interests; and for which the solution will generate waves of
consequences over a period of time. Since their 1973 article
addressing planning and design, Rittel and Webber’s concept of a
“wicked problem” has been applied to a number of social,
environmental, and public policy problems including AIDS, national


98. A variety of experts, including physicians, farmers, rural affairs and anti-hunger advocates, have labeled the farm bill a “mixed-bag.” See, e.g., Public Health Experts Say Farm Bill is a “Mixed Bag” for Nutritional Assistance Program, ISHN (Feb. 3, 2014), http://www.ishn.com/articles/97899-public-health-experts-say-farm-bill-is-a-mixed-bag-for-nutritional-assistance-program (describing the American Public Health Association’s stance on the Farm Bill); see also The Farm Bill, THE UNION OF CONCERNED SCIENTISTS, http://www.ucsusa.org/food_and_agriculture/solutions/strengthen-healthy-farm-policy/the-2012-farm-bill.html (last visited Feb. 26, 2015) (describing the version of the bill as “both victories and disappointments for healthy food and farm advocates”); What is in the 2014 Farm Bill For Sustainable Farms and Food Systems?, NAT’L SUSTAINABLE AGRIC. COAL. BLOG (Jan. 31, 2014), http://sustainableagriculture.net/blog/2014-farm-bill-outcomes (pointing out that, while the bill has many positive aspects, it nevertheless “fails to reform farm commodity and crop insurance subsidies and continues the regime of uncapped, unlimited payments”).


100. See Horst Rittel & Melvin Webber, Dilemmas in a General Theory of Planning, 4 POL’Y SCI. 155, 155–69 (1973) (introducing the concept of a wicked problem as it relates to planning).
security, healthcare, education, climate change, water resource management, and sustainability. Wicked problems often involve profound conflicts between societal priorities and values, and solutions to one problem often create others.

Because farm bill stakeholders have diverse social, ethical, political, and legal motivations and short-term goals, the long-term goal of reforming our farm bill and our food system can be classified as a wicked problem. Examining the food movement reveals how food movement players are often interested in separate, but sometimes overlapping, objectives. Michael Pollan notes in The Food Movement, Rising that unlike many social movements—which splinter over time—“the food movement starts out splintered.”

Among the many threads of advocacy that can be lumped together under that rubric we can include school lunch reform; the campaign for animal rights and welfare; the campaign against genetically modified crops; the rise of organic and locally produced food; efforts to combat obesity and type 2 diabetes; ‘food sovereignty’ (the principle that nations should be allowed to decide their agricultural policies rather than submit to free trade regimes); farm bill reform; food safety regulation; farmland preservation; student organizing around food issues on campus; efforts to promote urban agriculture and ensure that communities have access to healthy food; initiatives to create gardens and cooking classes in schools; farm worker rights; nutrition labeling; feedlot pollution; and the various efforts to regulate food ingredients and marketing, especially to kids.

106. See Rittel & Webber, supra note 100, at 155–69 (indicating that “many societal processes have the character of zero-sum games”).
108. Id.
Another way to approach a wicked problem is to think about problems that are resistant to a unilateral solution. Wicked problems often “lack a definite formulation, have no clear set of possible solutions, and offer no obvious means of determining whether or not the problem has been resolved.” As explained in the book *Wicked Environmental Problems*,

In a wicked problem, key stakeholders, including the agency and various interest groups, typically have significantly different and often incompatible worldviews. Yet these profound differences are rarely acknowledged or explored. Thus a missing dimension in the decision process is an effort to explicitly identify and consider the range of values that inform participants’ perceptions of the problem and their preferred policy responses.

While the most recent farm bill represents greater consideration of stakeholder interests, decision makers should acknowledge that farm bill reform is a wicked problem and continue to encourage participation from the greatest number of stakeholders. In addition, policy makers should employ systems thinking when evaluating programs within the farm bill.

**B. Systems Thinking**

1. **Systems Thinking: An Introduction**

Systems thinking has increasingly been offered as a way to address complex or wicked problems. Systems thinking has its foundation in system theory. Modern system theory is credited to the biologist Ludwig von Bertalanffy who, in 1968, wrote *General System Theory: Foundations, Development, Applications*—a book about the

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111. Peter J. Balint et al., *WICKED ENVIRONMENTAL PROBLEMS* x (2011).

112. See, e.g., Agricultural Act of 2014, H.R. 2642, 113th Cong. § 6025 (2014) (requiring the Secretary to “give a higher priority to strategic applications for a plan” that was “developed through the collaboration of multiple stakeholders in the service area of the plan”).

organizational principles of natural systems. Yet, system theory has roots in Greek philosophy, such as Aristotle’s musing that “the whole is greater than the sum of the parts.” At its core, systems thinking is a method of organizing the chaos of real world problems, using concepts and components that promote better understanding.

Systems thinking is best thought of as a paradigm for perceiving and thinking about a problem. Systems thinking begins with a system. While there is no uniform definition of a system, academics agree that a system is comprised of its elements, or parts that make up the whole, linkages between these parts, and the system’s boundary. Donella H. Meadow, a pioneer of systems thinking, defines a system as “an interconnected set of elements that is coherently organized in a way that achieves something.” Dr. Meadow explains that systems thinking focuses on interactions of parts, connections, and feedback loops. This way of thinking allows for the identification of leverage points—or places in a system where a small change could lead to a large shift in behavior.

Subsystems can exist within a system. For example, a forest is a larger system that encompasses subsystems of trees and animals. Systems thinking allows understanding of not only the tree and the forest within which it grows, but also the greater landscape that encompasses the forest, as well as other geological and ecological features that allow the tree to survive; thus, the tree becomes “a small part in global exchange processes.” Systems thinking is, therefore, forest thinking—a way of viewing “the systems of relationships that link the component parts.”

The use of pesticides is often offered as an example to illustrate the difference between piecemeal, linear thinking and holistic.

114. See generally L. VON BERTALANFFY, GENERAL SYSTEM THEORY: FOUNDATIONS, DEVELOPMENT, APPLICATIONS (1968).
118. Id. at 16.
120. Id. at 11–34.
121. Id.
122. WILLIAMS & HUMMELBRUNNER, supra note 116, at 17.
123. MAANI & MAHARAJ, supra note 113, at 3.
circular thinking associated with systems thinking.\textsuperscript{124} The pesticide example works like this: researchers have been asked to design a strong pesticide to prevent a particularly pesky pest from destroying crops. Linear thinking would focus on only the strong pesticide’s effect on the pesky pest.\textsuperscript{125} Missing from this type of thinking is any consideration of feedback loops or relationships that might exist in addition to the effect on the pest; thus, unintended consequences are overlooked.\textsuperscript{126} If systems thinking is employed instead of linear thinking, researchers may see that the strong pesticide’s ability to kill the pesky pest is a short term outcome.\textsuperscript{127} Because of the pesticide’s potency, it also kills other insects that help control the population of the pesky pest. As the pesky pest becomes resistant to the pesticide, its population will no longer be controlled by these other insects. The population of the pesky pest ultimately increases, doing even more damage to the crops.

Using linear thinking can make the original problem worse. In the pesticide example, the problem was exacerbated because the researchers did not consider all the interactions between the pesticide and the environment to which it was being applied. Understanding interactions and feedback loops that might arise from the application of a stronger pesticide may have prevented such a failure.\textsuperscript{128} Using a more systemic approach, researchers could have determined that introducing more of the insect that controlled the pesky pest, or planting a crop that was more resistant to the pesky pest, would have been superior solutions.\textsuperscript{129} Stated another way, the systems thinking approach goes beyond this input-blackbox-output paradigm to one that considers inputs, outputs, initial, intermediate and eventual outcomes, and feedback, processes, flows, control and contexts.\textsuperscript{130}

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  \item \textsuperscript{124} Aronson, \textit{Targeted Innovation}, supra note 7.
  \item \textsuperscript{125} See \textit{id.} (contrasting systems thinking with the traditional linear approach to pest control).
  \item \textsuperscript{126} See \textit{id.} (“Instead of focusing on the individual pieces of what is being studied, systems thinking focuses on the feedback relationships between the thing being studied and the other parts of the system.”).
  \item \textsuperscript{127} See \textit{id.} (“[T]he application of the stronger pesticide indeed reduces the number of the target insect . . . in the short run.”).
  \item \textsuperscript{128} See \textit{id.} (explaining how systems thinking can prevent long-term failure of pest control).
  \item \textsuperscript{129} See \textit{id.} (“Some of the insects killed by the pesticide helped control the population of the target insect by preying or competing with them . . .”).
  \item \textsuperscript{130} See Peter J. Hammer & Charla M. Burill, \textit{Global Health Initiatives and Health System Development: The Historic Quest for Positive Synergies}, 9 \textit{IND. HEALTH L. REV.} 567, 598 (2012) (“It demands a deeper understanding of the linkages, relationships, interactions and behaviors among the elements that characterize the entire system.”).
\end{itemize}
Despite various definitions of systems and systems thinking, there are several common themes. These include “notions of holism, integration, interconnectedness, organization, perspective taking, nonlinearity, and constructivism.” Systems thinking is often defined as a framework for looking at interrelationships—as opposed to linear cause-effect chains—by focusing on patterns of change instead of specific moments in time. The consideration of interrelationships involves looking at connections between things and the resulting consequences. The concept of perspectives suggests that “a situation can be ‘seen’ in different ways” and that this will “affect how [we] understand the system and situation.” Finally, thinking systematically requires the ability to determine the boundaries of the system by determining what is in and what is out of the system.

2. Systems Thinking As Applied to Food Systems

Systems thinking has broad appeal and has been proposed as a way to address numerous wicked problems including fisheries management, public lands management, litigation finance, international public health concerns, and pollution prevention. Systems thinking has also been offered as a solution to food related issues such as obesity and other diet-related health conditions.

132. Ozzie Mascarenhas, Innovation as Defining and Resolving Wicked Problems 22 (2009) (unpublished paper). One description that is particularly useful when thinking about the farm bill is the one put forth by Williams and Hummelbrunner in their book, Systems Concepts in Action: A Practitioner’s Toolkit. See generally WILLIAMS & HUMMELBRUNNER, supra note 116. These two organizational consultants describe systems in terms of interrelationships, perspectives, and boundaries. See id. at 18 (discussing how the best means of understanding systems thinking is through the concepts of interrelationships, perspectives, and boundaries).
133. WILLIAMS & HUMMELBRUNNER, supra note 116, at 18.
134. Id. at 20.
135. Id. at 22.
139. Hammer & Burill, supra note 130, at 568.
Just as systems thinking is actively being employed in other policy arenas, so too should federal policy makers consciously incorporate systems thinking into discussions about our food system and the farm bill.

Systems thinking lends itself to building local or community-based food systems. Numerous presentations can be found which illustrate how food systems thinking can be used to build sustainable food systems within a community. Toronto Public Health, for example, calls systems thinking “a way to see the bigger picture, of developing food solutions to food problems by seeing and leveraging their connections to other health, social, economic, and environmental issues.” Systems thinking is often included in discussions on organizing and running food policy councils, and complex adaptive systems theory, a sub-type of systems thinking, has been applied to the study of food hubs.

Many places of higher education offer courses in “food system thinking” and “agricultural system thinking.” For example, John

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142. See G.F. Combs et al., Thinking in Terms of Food Systems, DIV. OF NUTRITIONAL SCL, CORNELL UNIV., http://www.css.cornell.edu/FoodSystems/Cnc96.html (applying systems thinking to various diet-related health conditions).


Greber—a professor at the University of Massachusetts with a PhD in Agroecology—teaches a course in Agricultural System Thinking.\textsuperscript{150} He notes that Agricultural System Thinking can help leaders, advocates, and citizens:

[D]iscover the root causes of our most perplexing agricultural problems, learn how to build resilience into food and farming systems, see how our linear thinking creates our problems, and ultimately how to manage complex systems for multiple objectives (economic, environmental AND social) and thus move us toward a more sustainable and truly successful agriculture.\textsuperscript{151}

While those who research and work with food systems are familiar with the usefulness of “systems thinking,” there is no research applying systems thinking at the federal level, where the farm bill resides.\textsuperscript{152} The next section examines interrelationships, perspectives, and boundaries in more detail, and illustrates where these concepts appear within the most recent farm bill. A greater understanding of what systems thinking is, where it appears within the farm bill, and why this type of thinking is helpful when setting food and agricultural policies at the national level can guide future efforts to reform the farm bill and create a more sustainable food system.

IV. 2014 FARM BILL: BREAKING DOWN SILOS

A. Interrelationships

“Interrelationships” refers to how things are connected within a system and the consequences of these connections.\textsuperscript{153} This is in

\begin{itemize}
  \item \textsuperscript{150} See id. (listing the course and professor information).
  \item \textsuperscript{152} My search revealed only one law article using the term “system thinking” or “systems thinking” in the context of food systems. Margaret Sova McCabe & Joanne Burke, The New England Food System in 2060: Envisioning Tomorrow’s Policy Through Today’s Assessment, 65 ME. L. REV. 550, 555 (2013); see also Ellen Gustafson, Food: The Thinking Person’s Game, THE HUFFINGTON POST (Oct. 21, 2013), http://www.huffingtonpost.com/ellen-gustafson/food-the-thinking-persons_b_4111309.html (“To make those decisions and really make progress in our food system thinking, we’ll need to break down the silos between African hunger and American hamburgers.”).
  \item \textsuperscript{153} See WILLIAMS & HUMMELBRUNNER, supra note 116, at 18.
\end{itemize}
contrast to traditional compartmentalized linear cause and effect-type thinking. If interconnections are changed or strengthened, the system may change in surprising ways. In addition, interrelationships consider something called “feedback” and “feedback loops.” Feedback is the transmission or return of information, and a feedback loop is a closed sequence of causes and effects. Thus, in systems thinking, the link between input and output is not independent from the link between the output and the input; output has an effect on input, and vice versa, making the system dynamic.

Interrelationships are found two ways within the 2014 Farm Bill: through the linkages between different objectives of the farm bill, and through the formation and strengthening of partnerships at the individual and agency levels. The 2014 Farm Bill both creates new partnerships and expands existing ones between agencies, between farmers and consumers, and between novice and experienced farmers.

1. Linking Objectives

a. Nutrition Programs and Local Food

While the programmatic emphasis of the farm bill has changed with the shift in political leadership, farmer support and nutrition assistance have remained the two most heavily funded programs within the farm bill. It is therefore not surprising that programs linking these two objectives appear in the 2014 Farm Bill.

Several programs both encourage healthy options and support local farmers and farmers markets by encouraging the purchase of fruits and vegetables. Interestingly, even though the farm bill has a

154. See Aronson, supra note 7 (explaining the application of linear and systemic thinking to a pest problem).
155. WILLIAMS & HUMMELBRUNNER, supra note 116, at 35.
156. Id.
157. See id. (noting the importance of feedback loops as providing a circular relationship within systems thinking).
158. There may be additional interrelationships, but these two are the most apparent.
159. Approximately 79% of the most recent farm bill supports nutrition programs, 9.5% goes towards crop insurance, and 4.6% goes towards commodity programs. See Brad Plumer, The $956 Billion Farm Bill, In One Graph, THE WASHINGTON POST, Jan. 28, 2014, available at http://www.washingtonpost.com/blogs/wonkblog/wp/2014/01/28/the-950-billion-farm-bill-in-one-chart/.
160. See, e.g., 7 U.S.C. § 4201(b) (2012) (“The purpose of this chapter is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal programs are administered in a
title dedicated to specialty crops and organic crops, most programs supporting farmers markets and local food appear in the Nutrition Title. For example, the Food Insecurity Nutrition Incentive (FINI) program is a new program housed within the Nutrition Title of the 2014 Farm Bill. This program extends and amends the hunger-free community grants found within earlier farm bills, by shifting instead to “incentive grants” for projects that incentivize SNAP participants to buy fruits and vegetables. The program received 31.5 million dollars in funding for fiscal year 2014 and 2015. The program is a 1:1 program, so that, for every one dollar spent on fruits and vegetables, the participant receives one dollar to use towards a future purchase of a fruit or vegetable. Because priority is given to grants located in underserved communities, it also combats food deserts.

A variety of types of retail establishments, including farmers markets, can participate in the FINI program, providing an additional way to connect consumers to farmers. The USDA acknowledges that this program is innovative for bringing together diverse stakeholders within the food system.

manner that, to the extent practicable, will be compatible with State, unit of local government, and private programs and policies to protect farmland.”).

165. At least one study has shown that incentives, such as receiving a voucher after purchasing fruits and vegetables at a farmers market for future purchases, can increase the consumption of fruits and vegetables. See Shereen Lehman, Farmers Market Vouchers May Improve Access to Healthy Foods, REUTERS (Aug. 8, 2014), http://www.reuters.com/article/2014/08/08/us-food-vouchers-farmers-markets-idUSKBN0G81Z920140808 (“Vouchers for shopping at farmers markets can help families on food assistance programs consume more fruits and vegetables, new research shows.”).
166. See FINI, supra note 164, at 29. (“Operate in underserved communities, particularly Promise Zones and StrikeForce Communities.”).
167. Although priority is given to grants supporting direct-to-consumer marketing programs, large grocery stores could potentially receive FINI grants. See Cailin Kowalewski, FINI: The Greatest Little Grant You’ve Never Heard of, THE FRIEDMANSPROUT (Oct. 1, 2014), http://friedmansprout.com/2014/10/01/fini-the-greatest-little-grant-youve-never-heard-of/ (“Priority will be given to projects that maximize funds used directly for incentives, use direct-to-consumer marketing, are located in underserved communities (especially Promise Zones and StrikeForce communities), link low-income customers to farmers, and provide local produce.”).
support while consumers using SNAP have access to healthy food products.  

Another farm bill program linking nutrition and local food is the Pilot Project for Procurement of Unprocessed Fruits and Vegetables, a new program in the 2014 Farm Bill. Under this program, eight states—California, Connecticut, Michigan, New York, Oregon, Virginia, Washington, and Wisconsin—have greater flexibility in purchasing fruits and vegetables, and can therefore increase their purchases of locally-grown fruits and vegetables for their school meal programs. The pilot project allows states to inject funds into local farm economies while providing healthy meals made from local food to school children. This program is another example of systems thinking because, as one USDA representative noted, “[w]hen schools invest food dollars into local communities, all of agriculture benefits, including local farmers, ranchers, fishermen, food processors and manufacturers.”

b. Insurance and Conservation

While protecting farmers through various insurance options has been an objective of the farm bill since its creation, protecting natural resources through conservation is a more recent addition. The 2014 Farm Bill recouples conservation compliance to crop

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169. A similar increase was made available to individuals receiving WIC benefits. See Low Income Families and Produce Farmers Get a Boost Through Increased WIC Voucher Value, NAT'L SUSTAINABLE AGRIC. COAL. BLOG (Jun. 3, 2014), http://sustainableagriculture.net/blog/wic-produce-voucher-increase/ (“The increase in cash value vouchers has great potential to help not just low-income families improve their access to healthy food and overall nutrition and health, but to also boost incomes for produce farmers and increase the reach of farmers markets.”).

170. See 42 U.S.C. § 1755(f) (2012) (“The Secretary shall conduct a pilot project under which the Secretary shall facilitate the procurement of unprocessed fruits and vegetables . . . .”).


173. Id.

174. See 7 U.S.C. § 1502(a) (2012) (“It is the purpose of this subchapter to promote the national welfare by improving the economic stability of agriculture through a sound system of crop insurance and providing the means for the research and experience helpful in devising and establishing such insurance.”).
insurance premium assistance, linking two different titles and objectives of the farm bill. Specifically, the 2014 Farm Bill “relinked highly erodible land conservation and wetland conservation compliance with eligibility for premium support paid under the federal crop insurance program.” Farmers who wish to purchase insurance to grow crops on highly erodible lands must first develop conservation plans and file a Highly Erodible Land Conservation and Wetland Conservation Certification with their local Farm Service Agency. Furthermore, the new Sodsaver provision with the 2014 Farm Bill limits crop insurance to farmers who convert native grasslands to crop production. The goals of such programs are to reduce soil erosion and sediment runoff and therefore protect soil productivity.

Linking crop insurance with conservation policy exemplifies systems thinking. These provisions recognize that farmers should not just be producers, but should also be good stewards of the earth. The conservation compliance programs within the 2014 Farm Bill recognize that healthy soil is an essential part of our food system, but also acknowledge that farming is a risky enterprise. Environmental organization, agricultural associations, farmers unions, and insurance bureaus have voiced support for this move calling it a “win” for

175. See Conservation Compliance: A Key Component of the Farm Bill, WILDLIFE MANAGEMENT INSTITUTE, http://www.wildlifemanagementinstitute.org/index.php?option=com_content&view=article&id=584:conservation-compliance-a-key-component-of-the-farm-bill&catid=34:ONB%20Articles&Itemid=54 (last visited Feb. 23, 2015) (“Between 1985 and 1996, the federal crop insurance program required conservation compliance before providing funds to farmers. However, in the 1996 Farm Bill it was dropped as a requirement from the crop insurance program to attract more producers to participate. Conservation compliance was then tied to the direct payment subsidies to farmers that were initiated in the 1996 Farm Bill.”).


177. See id. (describing filing requirements); 2014 Farm Bill Drill Down: Conservation-Crop Insurance Linkages, NAT’L SUSTAINABLE AGRIC. COAL. BLOG (Feb. 10, 2014), http://sustainableagriculture.net/blog/2014-farmbill-hel-wetlands/ (“For the first time since Congress severed the link between conservation and insurance subsidies in 1996, farmers who purchase subsidized crop insurance will have to develop conservation plans when they grow crops on land subject to high rates of erosion.”) [hereinafter SUSTAINABLE AGRICULTURE, Crop Insurance].

178. See SUSTAINABLE AGRICULTURE, Crop Insurance, supra note 177 (“The 2014 Farm Bill also includes a Sodsaver provision to limit crop insurance subsidies on native grasslands that are converted to crop production.”).

179. See Subsidies with Responsibilities, supra note 16, at 521 (“Their goal is to reduce soil erosion, which in turn helps to protect soil productivity and reduce sediment runoff.”).

180. See U.S. SENATE COMM. ON AGRIC. NUTRITION & FORESTRY, AN HISTORIC AGREEMENT, LINKING CONSERVATION COMPLIANCE AND CROP INSURANCE 4, available at
conservation. \footnote{Sustainable Agriculture, Crop Insurance, supra note 177.}


The Biomass Crop Assistance Program (BCAP) in the 2014 Farm Bill seeks to offset feedstock\footnote{“Feedstock” refers to crops that are suited to be turned into energy. Id.} collection and delivery costs to biomass conversion facilities (BCFs), which can then use these residues to generate energy.\footnote{See Biomass Crop Assistance Program: Promoting the cultivation of biomass for bioenergy production, Nat’l Sustainable Agric. Coal. Blog (Oct. 2014), http://sustainableagriculture.net/publications/grassrootsguide/renewable-energy/biomass-crop-assistance-program/ (“BCAP provides . . . matching payments to assist with the collection, harvest, storage and transport of a BCAP crop or certain types of woody biomass to a biomass conversion facility.”).} While much of the feedstock is woody material from forestland, the program is also interested in agricultural or crop residues from agricultural lands.\footnote{See Mark A. McMinimy, Cong. Research Serv., R41296, Biomass Crop Assistance Program: Status and Issues 6 (Mar. 10, 2014), available at http://nationalaglawcenter.org/wp-content/uploads/assets/crs/R41296.pdf (defining biomass as including waste material such as “crop residue” and “other vegetable water material”) [hereinafter Congessional, Biomass Crop].}

This program was reauthorized as part of the 2014 Farm Bill. It provides financial assistance by matching grants to farmers and ranchers who plant and maintain new energy biomass crops, or who “harvest and deliver forest or agricultural residues” to energy facilities.\footnote{Press Release, USDA Farm Service Agency, USDA Announces Funding Availability for Turning Biomass Material into Energy (Jun. 9, 2014), http://fsa.usda.gov/FSA/newsReleases?area=newsroom&subject=landing&topic=ner&newstype=newsrel&type=detail&item=nr_20140609_rel_0115.html.} While this program is still in its infancy (making its first appearance in the 2008 Farm Bill), it demonstrates that policy makers are thinking not just about the unintended consequences of focusing solely on ethanol as a biofuel, but also about the environmental benefits of using biomass as an energy source.\footnote{For a detailed review of the most recent Biomass Crop Assistance Program, see generally Congessional, Biomass Crop, supra note 185 (outlining the status and issues of the BCAP). It also shows greater coordination between the USDA Farm Service and the USDA Forest Service, and helps reduce forest fires and disease on federal land}
while providing biomass feedstock for advanced energy facilities.\textsuperscript{188}

\section*{2. Partnerships}

In any system, strong partnerships can improve connections and feedback loops. The 2014 Farm Bill creates new, alternative partnerships and expands on existing partnerships that can support a sustainable food system.

\subsection*{a. Agency and Public-Private Partnerships}

The Health Food Financing Initiative (HFFI) is both a partnership between the USDA, the Treasury Department, and the U.S. Department of Health and Human Services, and a partnership between these federal agencies and private businesses.\textsuperscript{189} Together, these three federal agencies provide grants to full service grocery stores and farmers markets that are located in lower-income urban and rural areas.\textsuperscript{190} Although similar grants have been distributed by the federal government since 2011, the 2014 Farm Bill formally establishes this program and gives administrative responsibility to the USDA.\textsuperscript{191} The 2014 Farm Bill authorizes $125 million in federal aid to this program with the goal of improving access to healthy food in underserved areas, creating and preserving quality jobs, and revitalizing low income areas.\textsuperscript{192} As a result, HFFI is one way of

\begin{itemize}
\item \textsuperscript{188} See \textit{Press Release, USDA Farm Service Agency, USDA Improves Forest Health by Harvesting Biomass for Energy, 2014 Farm Bill Program Generates Renewable Energy, Helps Reduce Forest Fire Threats} (Dec. 17, 2014), http://content.govdelivery.com/accounts/USFSA/bulletins/e3c810 ("BCAP, reauthorized by the 2014 Farm Bill, provided incentives for the removal of dead or diseased trees from National Forests and Bureau of Land Management lands for renewable energy, while reducing the risk of forest fire.").
\item \textsuperscript{189} See \textit{ROBERT WOOD JOHNSON FOUND., THE STATE OF OBESITY: BETTER POLICIES FOR A HEALTHIER AMERICA, TRUST FOR AMERICA’S HEALTH} 50 (Sep. 2014), available at http://www.rwjf.org/content/dam/farm/reports/reports/2014/rwjf414829 ("The federal government has been funding HFFI grants through the U.S. Department of Health and Human Services and the Department of Treasury since 2011.").
\item \textsuperscript{190} See \textit{id.} ("To date, HFFI has distributed more than $109 million in grants across the country, helping to support the financing of grocery stores and other healthy food retail outlets including farmers’ markets, food hubs and urban farms.").
\item \textsuperscript{191} See \textit{2014 Farm Bill Drilldown: Local and Regional Food Systems, Healthy Food Access, and Rural Development}, NAT’L SUSTAINABLE AGRIC. COAL. BLOG (Feb. 11, 2014), http://sustainableagriculture.net/blog/2014-farmbill-local-rd-organic/ ("The bill also authorizes USDA to house a Healthy Food Financing Initiative (HFFI) to provide healthy food retailers with grants and loans to “overcome the higher costs and initial barriers to entry in underserved areas.”").
\item \textsuperscript{192} See \textit{7 U.S.C. § 6953(a) (2012)} ("The purpose of this section is to enhance the authorities of the Secretary to support efforts to provide access to healthy food by establishing an initiative to improve access to healthy foods in underserved areas, to create and preserve
addressing the issue of “food deserts.”

HFFI has received a tremendous amount of support from organizations focused on bringing healthy foods into underserved areas. For example, Dr. Oran Hesterman (CEO of the Fair Food Network) noted that, because of this program, the 2014 Farm Bill does more than previous farm bills to help low income families access healthy and affordable food in their communities. In an op-ed to The Huffington Post, Donald Hinkle-Brown (CEO of The Reinvestment Fund, Yael Lehmann, Executive Director of The Food Trust) and Judith Bell (President of PolicyLink) praised the program not just for its nutritional benefits, but also for the economic development this program fosters. They note, “[h]ealthy food retail can serve as economic anchors in a community, generating new income while attracting complementary stores and services like banks, pharmacies, and restaurants.”

The proposed Hubb 55, located in a food desert in Cleveland, is one example of a project funded through HHFI in 2014. An $800,000 grant will help fund Hubb 55, a food hub, a farmers market, café and brewery. The stated goals of Hubb 55 are to: “(1) create sustainable employment and business opportunities; (2) increase quality jobs, and to revitalize low-income communities by providing loans and grants to eligible fresh, healthy food retailers to overcome the higher costs and initial barriers to entry in underserved areas.”


194. FAIR FOOD NETWORK, supra note 91.


196. Id.

197. Thirteen similar projects were also funded. CED-HFFI Grant Awards FY 2014 U.S. DEPT OF HEALTH & HUMAN SERVS., ADMIN. FOR CHILDREN & FAMILIES, OFFICE OF CMTY. SERVS. (Sept. 29, 2014), http://www.acf.hhs.gov/programs/ocs/resource/ced-hffi-grant-awards-fy-2014 [hereinafter Grant Awards].

198. Id.
access to affordable, local, healthy food in Cleveland; (3) develop a healthy food distribution system; and, (4) implement strategies that promote and encourage healthy food education and consumption. This project is expected to create 45 jobs and bring $450,000 into the community.

HFFI is one example of the creative public-private partnerships funded through the 2014 Farm Bill. The program is system-like because, through partnerships and recognition of common objectives, it both increases access to healthy food in underserved communities, while spurring economic development and revitalization. Partnerships like these can help stakeholders and legislatures see the forest for the trees and should be further developed and encouraged.

3. Farmer-Consumer Partnerships

New partnerships do not just exist at the agency level. The Farmers’ Market and Local Food Promotion Program (FMLFPP) is an example of a 2014 Farm Bill program focused on connecting farmers to their consumers. This program, administered by the Agricultural Marketing Service (AMS) arm of the USDA, consists of two competitive grant programs: the Farmers’ Market Promotion Program (FMPP) and the Local Food Promotion Program (LFPP). Although the Farmers’ Market Promotion Program existed in prior farm bills, it was not funded as part of the one-year extension of the Farm Bill in 2013. The Local Food Promotion Program, on the


200. *Grant Awards*, supra note 197.

201. An example of a conservation partnership new to the 2014 Farm Bill is the USDA Regional Conservation Partnership Program. The USDA’s conservation agency, the Natural Resources Conservation Service (NRCS), will support cooperative projects between farmers, ranchers, and private forest landowners. These projects will receive more than $370 million in Federal funding, and leverage “an estimated $400 million in partner contributions to improve the nation’s water quality, support wildlife habitat and enhance the environment.” *RCPP – 2014/15 Final Projects Homepage*, NATURAL RES. CONSERVATION SERV., http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/farmbill/rcpp/?cid=stelprdb1264664 (last visited Apr. 1, 2015).


other hand, is a new program to the farm bill. Over $27 million in competitive grants are available through the Local Food Marketing Promotion Program (LFPP) and the Farmers Market Promotion Program (FMPP) each fiscal year.025 This new and renewed support for direct marketing and local food can further connect farmers to consumers.

The goal of FMPP is to “increase domestic consumption of, and access to, locally and regionally produced agricultural products” through grants to CSA networks and associations, local governments, non-profits, and regional farmers market authorities.026 The focus is on direct-to-consumer-marketing activities such as roadside stands and farmers markets.027 The grants do not require any matching funds.028

The goal of the LFPP is to develop and expand food businesses in order to increase domestic consumption of locally- and regionally-produced agricultural products.029 LFPP does this by matching grants to agricultural businesses, CSA networks and cooperatives, non-profits, and economic development corporations. A project qualifies as an LFPP if it involves an intermediary supply chain activity such as moving or promoting the project from the origin of the project to the distributor (e.g., food hub) or from the distributor to the retail outlet (e.g., store, CSA, or farmers market).030 Matching funds are required.031

0408.html#.VM_lETGjOM4.


206. Farmers Markets and Local Food Marketing: Farmers Market Promotion Program (FMPP), supra note 203.

207. Id.


209. Farmers Markets and Local Food Marketing: Local Food Promotion Program (LFPP), supra note 203.


211. Id.
Connecting farmers and consumers has also been a stated goal of several departments within the Department of Agriculture. In an effort to implement the goals of the 2014 Farm Bill, the Agricultural Marketing Service requested funds “to aid the development of food value chains such as food hubs and other marketing outlets for locally- and regionally-produced food where data, infrastructure and technology gaps limit producers’ marketing opportunities and consumers’ access.” In announcing the grant amount for fiscal year 2014, Secretary Vilsack explained that local and regional food systems are one of the USDA’s priorities in its efforts to revitalize rural economies. Vilsack acknowledged that investments made in local and regional food systems both support farmers and ranchers, and strengthen community economies.

4. Farmer-Farmer Partnerships

The Conservation Reserve Program-Transition Incentives Program (CRP-TIP), although not a new program, has recently received renewed support. It is commended for creating a new farmer-farmer partnership that incentivizes retiring landowners to return their land to production by using established conservation practices. It also gives economically disadvantaged farmers and ranchers the means to purchase or rent their own land. It is the addition of transferring land between veteran farmers and novice farmers and ranchers that is new and which supports strong farmer-farmer partnership.


213. Id.


215. Id.


B. Perspective

In the context of systems thinking, perspective means the consideration of alternatives. As Williams and Hummelbrunner note, thinking systematically about stakeholders’ perspectives draws the focus away from how the system exists in “real life” to consider what it could or should be like. This generates greater insight into how programs actually work in real life.

The 2014 Farm Bill is historic in its funding of alternative farming practices like organic farming. It also provides unprecedented support for farmers who grow specialty crops as opposed to commodity crops.

1. Organic Farming

Support for organic farming existed in prior farm bills but reached a new high in the 2014 Farm Bill. Commentators describe the 2014 Farm Bill’s investment in organic farming as an “historic win.” The success of organic farming is especially encouraging given that many of these programs lost funding when the previous farm bill expired in 2013. Financial support can be found in a number of programs, including cost-sharing for obtaining organic certification, research and education on organics, and the National Organic Program (NOP).

Perhaps one of the more exciting programs—and one which shows a deeper policy shift—can be found in the Crop Insurance title of the Farm Bill. The 2014 Farm Bill expanded crop insurance for organics by requiring price elections by 2015. These price elections reflect actual retail or wholesale prices of non-conventional, organic crops for all organic crops produced in compliance with federal

220. Id.
221. Id.
224. See generally FY 2015 BUDGET SUMMARY, supra note 212, at 11, 73 (describing the new programs).
standards for organics. Financial, programmatic, and research support for organic farming also grew in the 2014 Farm Bill. This support further legitimizes organic farming at the federal level as a viable alternative to conventional farming.

2. Specialty Crops

Like organics, support for specialty crops was not a new addition to the 2014 Farm Bill. But also like organics, investments in growing fruits and veggies reached a new high. The 2008 Farm Bill was the first farm bill to specifically target specialty crops. As defined in the 2008 Farm Bill, specialty crops include “fruits and vegetables, tree nuts, dried fruits, and horticulture and nursery crops (including floriculture).” Specialty crops make up approximately one-fourth of the total sales of U.S. crops, but only 3% of the harvested cropland acres in the United States.

Unlike commodity crop growers, most specialty crop farmers do not benefit from individually tailored support programs within the farm bill. Instead, organic farmers and specialty crop farmers benefit from indirect support through marketing and promotion programs, trade assistance, research and Extension, pest and disease protection, and crop insurance. Increased support for specialty crops can be found throughout the various titles of the 2014 Farm Bill including, Title XI: Crop Insurance (e.g., whole farm coverage as opposed to insuring individual crops); Title X: Horticultural (e.g., specialty crop block grants and the farmers’ market and local food promotion programs); and Title IV: Nutrition. In terms of overall spending, the greatest increases in support are found in the Nutrition Title. Such programs include the farm-to-school programs, the fresh fruit and vegetable program, the food insecurity nutrition

228. JOHNSON, SPECIALTY CROP PROVISIONS, supra note 163, at 4. Some pilot programs existed in the 2002 Farm Bill. Id.
229. 7 U.S.C. § 1621 statutory note.
230. JOHNSON, SPECIALTY CROP PROVISIONS, supra note 163, at 1.
231. Id. at 4–5.
232. Id. at 5.
233. Id. at 8.
234. Id. at 9.
incentive, and HFFI.\textsuperscript{235}

These programs not only demonstrate a commitment to supporting specialty crop growers, but they also reflect a deeper understanding by the USDA of the importance of partnerships and systems thinking in creating a sustainable food system. For example, when speaking about Whole-Farm Insurance, the Secretary of Agriculture noted that this type of insurance “gives farmers more flexibility, promotes crop diversity, and helps support the production of healthy fruits and vegetables.”\textsuperscript{236} Greater flexibility gives farmers and ranchers greater freedom in making decisions about their land, which gives them a better chance of success and thereby strengthens the national agricultural economy.\textsuperscript{237} In addition, the USDA is vocal about the connection between organics, specialty crops, and nutrition. As Secretary Vilsack noted on the USDA blog in April 2014, the USDA’s continued and increased support shows a dedication to producers’ long-term success, and to broadening the specialty crop market.\textsuperscript{238}

Despite support for alternatives such as organic crops and specialty crops, farm bill spending on commodity crops still greatly exceeds that spent on any alternatives.\textsuperscript{239} Furthermore, farmers of commodity crops are given far more individualized support through federal programs than farmers of organics or specialty crops.\textsuperscript{240} As a result, the current, limited support for alternatives is not sufficient to create a sustainable food system.

\section*{C. Boundaries}

Essential to systems thinking is recognizing what is and is not part of the system. Boundaries determine what is relevant versus irrelevant; what is important versus unimportant; who is benefitted versus disadvantaged; and who is given a resource for what purpose.\textsuperscript{241}

\begin{itemize}
\item \textsuperscript{235} \textit{Id.} at 13–14.
\item \textsuperscript{237} \textit{Id.}
\item \textsuperscript{238} Tom Vilsack, Secretary’s Column: Farm Bill Supports Specialty Crop Growers, Improves Access to Healthy Food, USDA BLOG (Apr. 18, 2014 12:00PM), http://blogs.usda.gov/2014/04/18/secretarys-column-farm-bill-supports-specialty-crop-growers-improves-access-to-healthy-food/.
\item \textsuperscript{239} JOHNSON, SPECIALTY CROP PROVISIONS, supra note 163, at 5.
\item \textsuperscript{240} \textit{Id.} at 4–5.
\item \textsuperscript{241} WILLIAMS & HUMMELBRUNNER, supra note 116, at 22.
\end{itemize}
The 2014 Farm Bill does a much better job than its predecessors of developing such “boundaries” by considering relevant and necessary parts of a sustainable food system through greater expansion of definitions and scope, and through inclusion of new terms.

1. Expanding Definitions: Retail Food Store

The 2014 Farm Bill amends the definition of retail food store by changing the “stocking requirements” of retail stores.242 The new stocking requirements would require stores wishing to serve as “retail food stores”—for purposes of accepting SNAP benefits—to sell at least seven types of items in each of four delineated categories (fruits and vegetables, grains, dairy, and meat); and to sell perishable items in at least three of these categories.243 This change has been applauded by anti-hunger advocates as creating additional opportunities for the purchase of healthful food.244

2. Expanding Scope: CSAs, Gleaners, and Physical Education

Prior to the 2014 Farm Bill, shares in Community Supported Agriculture (CSAs) could not be purchased using SNAP benefits.245 Furthering efforts to connect consumers—particularly those receiving SNAP benefits—to healthy food options, the 2014 Farm Bill expands those outlets where SNAP benefits can be redeemed to include CSAs.246 This option is another opportunity for individuals receiving assistance to purchase healthy foods, benefitting both farmers and consumers.

Community Food Projects have been further expanded to support food recovery and “gleaning” projects.247 Gleaners are


245. In a CSA, “shareholders” purchase a “share” of a farm and in return receive produced harvested from that farm later in the season. See Rachel Armstrong & Nicholas R. Johnson, Advising Farms with Community-Supported Agriculture Programs: Challenges and Changes for the Legal Practitioner, 19 AGRIC. MGMT. COMM. NEWSLETTER NO. 2 (Sept. 2014), at 13 (discussing that before the 2014 Farm Bill, “regulations implementing SNAP prohibited food retailers from accepting benefits in advance of the delivery of food. 7 C.F.R. § 278.2(e) (2007).”).


247. Community Food Projects have been in existence since the 1996 Farm Bill. USDA
defined in the farm bill as an entity that

collects edible, surplus food that would be thrown away and
distributes the food to agencies or nonprofit organizations that
feed the hungry; or . . . harvests for free distribution to the needy,
or for donation to agencies or nonprofit organizations for
ultimate distribution to the needy, an agricultural crop that has
been donated by the owner of the crop.\textsuperscript{246}

Gleaning projects present just a sample of the many programs funded
through the Community Food Programs grants.

The Community Food Programs focus on long term solutions to
food insecurity that link local food production and processing to
improving the community’s health, economy, and environment.\textsuperscript{249}
They are particularly illustrative of the innovative ways the 2014
Farm Bill chooses to address food insecurity.

Another example of how the 2014 Farm Bill has expanded its
“boundaries” by expanding its scope is by specifically referring to
physical activity.\textsuperscript{250} Education programs that are part of the nutrition
title no longer have to focus exclusively on nutrition education;
funding is now available for programs that promote physical
activity.\textsuperscript{251} Addressing obesity and nutrition concerns by incentivizing
the consumption of healthy foods, is only part of the solution.
Providing funding for physical activities is truly using a systems
thinking approach.

3. New Term: Food System

In addition to expanding the system, the text of the 2014 Farm
Bill includes for the first time the phrase “food system.”\textsuperscript{252} A new
provision of the Farm Bill requires the USDA to collect data on the

\begin{footnotesize}
\begin{itemize}
  \item NAT’L INST. OF FOOD & AGRIC., \textit{Community Food Projects Competitive Grant Program},
  writes that these grants “increase food security in communities by bringing the whole food
  system together to assess strengths, establish linkages, and create systems that improve the self-
  reliance of community members over their food needs.” \textit{Id.}
  \item 248. Agricultural Act of 2014, at § 4026.
  \item 249. USDA NAT’L INST. OF FOOD & AGRIC., \textit{Topic Areas}, http://nifa.usda.gov/topic-areas
  (last visited on Mar. 31, 2015).
  \item 250. Agricultural Act of 2014, at § 4028; \textit{FARM BILL SUMMARY}, supra note 80, at 111.
  \item 251. Agricultural Act of 2014, at § 4028; \textit{FARM BILL SUMMARY}, supra note 80, at 111.
  \item 252. JOHNSON, SPECIALTY CROP PROVISIONS, supra note 163, at 21; see, e.g., Agricultural
  Act of 2014, at § 10,016.
\end{itemize}
\end{footnotesize}
marketing and production of locally and regionally produced agricultural products and to monitor the effectiveness of programs designed to facilitate and expand local food systems. Although the phrase “food system” only appears in a limited number of places, this is an encouraging first step—similar to the inclusion of the term “local food” in the 2008 Farm Bill.

As Michael Pollan notes, labeling this piece of legislation a “farm bill” is a misnomer, it should in fact be called a “food bill.” In order to create a sustainable food system, Pollan’s suggestion should be taken one step further, addressing this legislation as a “food system bill”; one that not only recognizes the food and farm aspect of our food system, but also the energy inputs, waste outputs, urban and rural stakeholders, the producers, consumers, and everyone in between.

V. CONCLUSION

Passing a farm bill is one hurdle; implementing its programs is another. Even though the 2014 Farm Bill is now law, heated discussions about the funding and implementation of these programs continue. Take for example, the recent debate over adding white potatoes to the food items available for purchase through the WIC program, or allowing schools demonstrating revenue loss to opt out of implementing new school lunch nutrition standards. As debate over farm bill funding heightened, in June 2014, President Obama threatened to veto the House’s 2015 Agricultural spending bill.

Despite these issues, on paper the 2014 Farm Bill does a better

253. JOHNSON, SPECIALTY CROP PROVISIONS, supra note 163, at 21.
job of making interconnections, considering various perspectives, and defining our food system’s boundaries. After all, systems thinking, as applied to food policy, needs to be written into the law before it can be fully implemented on the ground. The programs highlighted in this article adopt these approaches and reflect a greater understanding of the inputs and outputs generated throughout the entire food system. These programs also show a more thoughtful consideration of the interrelationships and forces involved in our food system.

There are still shortcomings in the 2014 Farm Bill and programs that need to be fully funded. Nevertheless, policy makers should continue to build on these systems thinking approaches as they strive to create federal food and agricultural policies that are healthy and sustainable for everyone.