

# Homeland Security Planning: What Victory Gardens and Fidel Castro Can Teach Us in Preparing for Food Crises in the United States

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*Those who do not remember the past are bound to repeat it.<sup>1</sup>*

*Emergencies have always been necessary to progress. It was darkness that produced the lamp. It was fog that produced the compass. It was hunger that drove us to exploration. ...<sup>2</sup>*

*To be thrown upon one's own resources is to be cast into the very lap of fortune, for our faculties then undergo a development and display an energy of which they were previously unsusceptible.<sup>3</sup>*

## I. INTRODUCTION

In an age of increased threats, the term “food security” has evolved to include the assurance that federal, state and local governments have developed plans to maintain sufficient food supplies in a time of crisis, in addition to an individual’s basic right to daily, adequate nutrition.<sup>4</sup> The September 11, 2001 and Hurricane Katrina disasters in the United States unfortunately demonstrate that poor or nonexistent government emergency preparedness spells dire consequences for unprepared local residents. Future terrorist attacks,<sup>5</sup> energy shortages, severe economic depression, and catastrophic weather or climate-related events in food producing regions could create food emergencies ranging from localized to nationwide shortages of varying duration.

Although Americans enjoy relatively low food costs compared to other developed economies,<sup>6</sup> consolidation and centralization in American production, distribution

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<sup>1</sup> Santayana, George, *THE LIFE OF REASON*, VOL. 1 284 (1905).

<sup>2</sup> Victor Hugo.

<sup>3</sup> Benjamin Franklin.

<sup>4</sup> See, e.g., International Convention on Economic, Social and Cultural Rights, (Jan. 3, 1976), Art. 11.1 (stating the signatories recognize the right of people to “adequate food”).

<sup>5</sup> World at Risk: The Report of the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism 11 (2008) (noting that “the biological threat is greater than the nuclear; the acquisition of deadly pathogens, and their weaponization and dissemination in aerosol form, would entail fewer technical hurdles than the theft or production of weapons-grade uranium or plutonium and its assembly into an improvised nuclear device”). See also, Hills, Sarah, *Food terrorism tops 2009 safety scare list*, FOOD NAVIGATOR-USA (Jan. 5, 2009) available at <http://www.foodnavigator-usa.com/content/view/print/231640> (predicting bioterrorism as one of the major challenges for food producers).

<sup>6</sup> Capehardt, Tom & Richardson, Joe, CRS Report for Congress: Food Price Inflation: Causes and Impacts 4 (Apr. 10, 2008) available at [http://assets.opencrs.com/rpts/RS22859\\_20080410.pdf](http://assets.opencrs.com/rpts/RS22859_20080410.pdf).

and processing systems has made the U.S. food system vulnerable to both accidental and intentional disruption.<sup>7</sup> Confinement of large numbers of livestock at long-distances from processing centers increases animals' susceptibility to disease,<sup>8</sup> and creates greater opportunity for its spread.<sup>9</sup> Likewise, processing large amounts of food in one location and blending content into multiple batches provides increased opportunity to harm sizeable numbers of consumers.<sup>10</sup> As a result of these production choices, food travels long distances, requiring large amounts of energy to reach the majority of consumers.<sup>11</sup> Unfortunately, the absence of a terrorist attack on the agricultural sector has been "more by luck than by design"<sup>12</sup> and the American public continues to derive a false sense of security from the "invisibility" of their complicated food supply chain.<sup>13</sup>

"Complicated" and "complex" are two similar terms with different implications in the agricultural context.<sup>14</sup> Natural systems have an evolutionary tendency to increase their complexity.<sup>15</sup> Industrial societies, on the other hand, replace structural diversity (complexity) with monocultures arranged in complicated patterns.<sup>16</sup> Professor Dahlberg uses the example of a clock to demonstrate the problems with a complicated system, in contrast to a complex system. A clock is complicated, but has a simple structure with only a few parts (e.g., gears, springs, hands, etc.). There is no redundancy—if one part fails, the clock is immobilized.<sup>17</sup> This complicated functional specialization applies to industrial agricultural systems, as well. The typical mono-cropping, coupled with reliance on fossil fuels and long range transportation networks, create a complicated and inflexible system that lacks resiliency.<sup>18</sup> The failure of one node could cripple the system, causing far reaching economic

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<sup>7</sup> PETER CHALK, HITTING AMERICA'S SOFT UNDERBELLY: THE POTENTIAL THREAT OF DELIBERATE BIOLOGICAL ATTACKS AGAINST THE U.S. AGRICULTURAL AND FOOD INDUSTRY ix, 7-18 (RAND Nat'l Def. Res. Inst. 2004). See also Rasco, Barbara A. & Bledsoe, Gleyne E., BIOTERRORISM AND FOOD SAFETY (CRC Press 2005) (stating that "the food [system] is highly vulnerable because of the diversity of sources of food, the distribution of food in global markets, and the complexity of the supply chain ...").

<sup>8</sup> Tilman, David, et al., *Agricultural Sustainability and Intensive Production Practices*, NATURE Vol. 418 (Aug. 8, 2002) at 674-675.

<sup>9</sup> Chalk, *supra* note 7, at 7; Katz, Linda B., ed., AGROTERRORISM: ANOTHER DOMINO 3 (Novinka 2005). Four firms control between 50-80 percent of the U.S. market for most of the major agricultural commodities. Hendrickson, Mary & Heffernan, William, *Concentration of Agricultural Markets*, (Apr. 2007), <http://www.nfu.org/wp-content/2007-heffernanreport.pdf>. The 2007 U.S. Agriculture Department (USDA) report on farm structure and finances clearly concludes that there is a shift to larger farms in the U.S. See USDA, STRUCTURE AND FINANCES OF U.S. FARMS: FAMILY FARM REPORT, 2007 EDITION, <http://www.ers.usda.gov/Publications/EIB24/>. Five firms control most of the genetics for the major crops grown worldwide. Hendrickson, Mary K. & James, Harvey S., Jr., *The Ethics of Constrained Choice: How the Industrialization of Agriculture Impacts Farming and Farmer Behavior*, 18 J. OF AGRIC. & ENVIRONMENTAL ETHICS 269, 271 (2005).

<sup>10</sup> Khan, Ali S., et al., *Precautions against Biological and Chemical Terrorism Directed at Food and Water Supplies*, PUBLIC HEALTH REPORTS, Vol. 116 (Jan.-Feb. 2001) at 4-6.

<sup>11</sup> Hill, Holly, *Food Miles: Background and Marketing*, U.S. Appropriate Technology Transfer for Rural Areas (ATTRA) (2008) at 2.

<sup>12</sup> Roberts, Michael T., *Role of Regulation in Minimizing Terrorist Threats Against the Food Supply: Information, Incentives, and Penalties*, 8 MINN. J. OF L. SCI. AND TECH. 199, 208 (Winter 2007) (citing the Secretary of Agriculture's comment that he is surprised the agriculture has not been the subject of a terrorist attack because it "is so easy to do").

<sup>13</sup> Chalk, *supra* note 7, at 33.

<sup>14</sup> Dahlberg, Kenneth A., *Regenerative Food Systems: Broadening the Scope and Agenda of Sustainability* in FOOD FOR THE FUTURE 78 (1993, Patricia Allen, ed.).

<sup>15</sup> *Id.* at 77.

<sup>16</sup> *Id.*

<sup>17</sup> *Id.* at 78,

<sup>18</sup> *Id.* at 79.

disruptions, loss of confidence in government institutions and social instability.<sup>19</sup> A complex system, on the other hand, consisting of multiple local/regional food systems is more resilient, as redundancies and adaptive institutions may compensate for the failure of one “gear” in the system.<sup>20</sup>

Due to the economic efficiency and pervasiveness of the national-level food supply system, few city planners have conducted “food shed”<sup>21</sup> analyses or created plans that could prepare a city for an acute or prolonged food crisis.<sup>22</sup> Food systems “can exist at a number of levels—from the household to the neighborhood, to the regional, etc.”<sup>23</sup> Within these respective systems, to a varying degree, exist several subparts, the most important of which in this context include: 1) production inputs and processes; 2) distribution; 3) food preparation and preservation; and 4) consumption.<sup>24</sup>

The federal government has not considered the role of regional and local food networks in its national homeland security planning. Instead, federal homeland security, as it relates to agriculture and food, assumes the status quo of conventional agriculture—one that heavily relies on petro-chemical inputs that continue to skyrocket in price and negatively impact the environment, concentrated production and processing markets, and transportation to service distant customers. The government relies solely on dispersed food sourcing, ignoring the threats from and to long-distance transportation of food. Authority to regulate food and security matters is scattered throughout a multitude of federal agencies, which results in an almost incomprehensible web of sub-agencies whose ability to function in an actual crisis is questionable.<sup>25</sup> Federal actions taken or proposed thus far center on identifying threats, improving mechanisms and processes to detect intentional contamination at production and processing centers, and increased scientific research relating to these methods. Such regulations are costly for all producers and processors, but likely take the greatest toll on smaller entities.<sup>26</sup>

The important role that local food systems can play in combating the chronic rise in the cost of food, even more critical during a time of severe economic recession, is not lost on U.S. leaders. In response to a question at a April 2008 White House briefing, former President Bush opined that: “[o]ne thing I think that would be—I know would be—very creative policy is if we would buy food from local farmers as a way to help deal with scarcity, but also as a way to put in place an infrastructure

<sup>19</sup> Chalk, *supra* note 7, at 19-33.

<sup>20</sup> See Dahlberg, *supra* note 14, at 98.

<sup>21</sup> Hedden, Roger, the former chief of the Bureau of Commerce for the N.Y. Port Authority, first termed the term “food shed” in 1929 in his work *How Great Cities are Fed*, See Pothukuchi, Kameshwari & Kaufman, Jerome L., *The role of municipal institutions in food systems planning*, 16 J. AG. & HUMAN VALUES 213, 215 (1999). Chalk, *supra* note 7, at 33-42.

<sup>22</sup> Pothukuchi, Kameshwari & Kaufman, Jerome L., *The Food System: A Stranger to the Planning Field*, Num. 66, Vol. 2 APA J. (113-122) (2000).

<sup>23</sup> Dahlberg, *supra* note 14, at 81.

<sup>24</sup> *Id.*

<sup>25</sup> Marcus, Erica, Burning Questions, *NEWSDAY* (Oct. 4, 2006) at B17 (quoting noted food safety scholar Marion Nestle’s position that the *e.coli* outbreak demonstrates why America’s food safety system needs an overhaul). See also, GAO Report, Federal oversight of food safety: Heightened risk designation can bring needed attention to a fragmented system, No. GAO 07-569CG (2007).

<sup>26</sup> DeLind, Laura B. & Howard, Philip H., Safe at any scale? *Food scares, food regulation, and scaled alternatives*, 25 AGRIC. & HUMAN VALUES, 301, 303-305, (2008) (arguing that responding to food safety concerns with additional scientized and highly capitalized investments only reinforces the food safety problems inherent in industrialized agriculture at the expense of a small-scale entities with a history of safe food production).

so that nations can be self-sustaining and self-supporting.”<sup>27</sup> Michelle Obama is gardening at the White House for the first time since WWII,<sup>28</sup> and the Obamas have hired a well-known local foods advocate as their personal chef.<sup>29</sup> Rising food and fuels costs, coupled with dramatic food safety lapses (e.g., the Peanut Corporation of America),<sup>30</sup> are forcing reconsideration of the current agriculture and food model reliant on imports and domestically-sourced foods from under-inspected facilities that travel long distances.<sup>31</sup> Accompanying these thoughts is the realization that regional and local systems play “a critical—and virtually unrecognized—role in reducing the vulnerability of the system” to crisis.<sup>32</sup> Smaller, diverse facilities may be better able to prevent intentional acts of sabotage because the operators are more familiar with their employees, are better able to observe the shortened chain of distribution, and do not amass large amounts of chemical inputs that could be dispersed over a broad area. Processing in smaller batches reduces the amount of food that could be contaminated and thus the public impact from a food safety incident. Customers become acquainted directly with small producers, their facilities, and methods, thus potentially serving as private food safety deterrents. Well-developed regional and local networks of food production and distribution reduce reliance on distant food sources and eliminate the risk of production and/or distribution disruption if a crisis occurs. Over the long-term, a diverse, more localized agricultural sector may be more resilient and better able to combat the more chronic threats to national security such as energy shortages and/or price escalation, genetic erosion, decreased soil fertility, obesity and related healthcare costs, antibiotic resistance, environmental contamination, and climate change.<sup>33</sup>

Two historical examples provide important insight into how federal government policies can integrate regional and local food systems to achieve food security during a time of acute crisis. During World War II, American home gardeners, through the federal government’s Victory Garden program, supplied 40 percent

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<sup>27</sup> Douaud, Clarisse, *U.S. Politicians Weigh In On Biofuels vs. Food Debate*, FOOD NAVIGATOR USA (Apr. 30, 2008), <http://www.foodnavigator-usa.com/news/ng.asp?n=85032&c=DR%2BCyxR6gls%2FrGG8u%2FhtIg%3D%3D>

<sup>28</sup> Burros, Marian, *Obamas to Plant Vegetable Garden at White House*, NY TIMES, (Mar. 19, 2009).

<sup>29</sup> Burros, Marian, *Obamas Hire Chef From Chicago*, NY TIMES, (Jan. 28, 2009).

<sup>30</sup> ASSOCIATED PRESS, *FDA finds multiple problems at peanut plant* (Jan. 28, 2009), <http://today.msnbc.msn.com/id/28897859/>.

<sup>31</sup> See Endres, A. Bryan, *United States Food Law Update: Food Safety Planning, Attribute Labeling, and the Irradiation Debate*, 4 J. FOOD L. & POLICY 129, 130-133 (2008) (discussing food safety and imports); Coit, Marne, *Jumping on the Next Bandwagon: An Overview of the Policy and Legal Aspects of the Local Food Movement*, 4 J. FOOD L. & POLICY 24, 51-54 (2008) (discussing food transportation costs).

<sup>32</sup> *New Perspectives on Food Security* at 1-5, (Nov. 12-14, 2005), <http://www.glynwood.org/programs/foodsec/FSC%20Full%20Proceedings.pdf>.

<sup>33</sup> DeLind and Howard, *supra* note 26, argue, in the context of food safety, that what is needed is not an “endless proliferation of industry-vetted standards, marks and labels” but rather the “creation of local and regional networks for food production, processing and distribution—substituting biocultural diversity for superficial variation” and “high-tech responses to common-sense, low-tech solutions.” DeLind & Howard, *supra* note 26, at 311 and 313. To that end, “regulations need to be scaled according to production volume and geographic scope—situating food safety practices within ecological contexts and market extent, and situating oversight and enforcement within differing levels of public jurisdiction.” *Id.* at 312-313. On the other hand, it is important to acknowledge, and work within the constraints of a consuming public that demands abundant, low-price food. A diverse, flexible food system, in addition to being small in scale, would necessitate considerable redundancy, *id.* at 313, and thus would not benefit from the economies of scale present in industrialized agriculture that provide low-cost food, uni-dimensional food to the masses.

of the nation's fresh produce, while simultaneously maintaining pre-war commodity production policies favoring large agricultural interests.<sup>34</sup> Today, major cities such as New York, Chicago and San Francisco have revived the concept of local gardening by promoting the development of community gardens.<sup>35</sup> The focus of these efforts, however, is on enhancing access to more nutritional food in urban centers, not in preparing for acute food emergencies. Little, if any federal leadership exists in support of urban food systems in the national security context. The recent food crisis in Cuba, precipitated by the collapse of Soviet-bloc trade in the early 1990s, is another historical example that could inform U.S. policymakers on how to achieve food self-sufficiency through reemphasis on small farmers using sustainable practices supplemented with urban gardening.<sup>36</sup>

This article aims to ignite government action to strengthen and integrate regional and local food systems into federal food security planning so that citizens can be best prepared for a food emergency. The article first examines laws, regulations and policies put in place during World War II that employed regional and local food networks to satisfy a significant amount of civilian food supply needs. The article also looks at more recent Cuban efforts to achieve forced food self-reliance when, after the end of the Cold War, Soviet subsidies and preferential trading of energy and food supplies ceased almost overnight. Drawing from these historical experiences, the article critiques current U.S. government planning for food emergencies, noting the absence of any type of food-specific plan that encourages, strengthens, and integrates regional and local food systems. The article concludes that certain aspects of these models should inform current federal government efforts to develop an effective food emergency plan, keeping in mind that a balance must be struck between keeping regional and local networks autonomous and flexible and the needs for national governmental oversight and coordination of food production and distribution during an emergency.

## II. WORLD WAR II FOOD POLICY AND FOOD SELF-RELIANCE

U.S. food policy during World War II provides an informative lesson in how to—and in some cases perhaps how *not* to—ensure food security during a national security crisis. Although the demands placed on domestic and international food production and distribution systems by World War II may not be of the same type as what could occur in the future, the degree of crisis could be similar and thus actions taken during World War II provide a useful starting point for modern food crisis planning.

One commonality between World War II policies and current plans is their lack of foresight as to the breadth of the food crisis that could occur. U.S. food policymakers prior to and during the initial stages of the war failed to adequately foresee and plan for the overwhelming demands that a large-scale war would place

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<sup>34</sup> Bentley, Amy, *EATING FOR VICTORY* 117 (Univ. of IL Press) (1998).

<sup>35</sup> See e.g., City of New York Housing Authority, <http://www.nyc.gov/html/nycha/html/community/garden.shtml>, and Department of Parks and Recreation, [http://nycgovparks.org/sub\\_about/partners/greenthumb/greenthumb.html](http://nycgovparks.org/sub_about/partners/greenthumb/greenthumb.html); Chicago Park District: Gardening in the Parks, [http://www.cpdit.com/resources/community\\_gardens/](http://www.cpdit.com/resources/community_gardens/); Victory Gardens 2007+ (San Francisco), <http://www.futurefarmers.com/victorygardens/> and [http://www.dallasnews.com/sharedcontent/dws/fea/home/stories/DN-nhg\\_wirevictorygarden\\_0229li.ART.State.Edition1.17d0d1c.html](http://www.dallasnews.com/sharedcontent/dws/fea/home/stories/DN-nhg_wirevictorygarden_0229li.ART.State.Edition1.17d0d1c.html).

<sup>36</sup> Warwick, Hugh, Cuba's Organic Revolution, *FORUM FOR APPLIED RESEARCH AND PUBLIC POLICY* (Summer 2001).

on the U.S. food system.<sup>37</sup> By focusing almost exclusively on responding to potential contamination events at the production stage, current U.S. food security planning could be making a similar mistake. Exclusive reliance on the ability of the complicated national-level agricultural and food processing system neglects the potential of local food networks to respond to chronic food shortages caused by shocks to other aspects of the system.

Food situations change quickly in times of crisis. Accordingly, food planning must be done in advance due to the time period involved in producing and delivering food into market channels. For example, in just a few short years after the food surpluses of the late 1930s, the repercussions of poor or non-existent food planning became evident. In 1939, even as war in continental Europe loomed, the U.S. government was buying surplus food, and the majority of Americans believed that guns, not butter, would be necessary in the remote chance war ever reached America's shores.<sup>38</sup> When Germany invaded the low countries in the Spring of 1940, one of Great Britain's largest sources of food was lost.<sup>39</sup> By April 1941, the United States slowly began organizing a wartime food bureaucracy<sup>40</sup> and mobilizing agricultural production to meet Britain's burgeoning food crisis under the newly passed Lend-Lease Act.<sup>41</sup> The surprise attack on Pearl Harbor in December 1941 created chaos in the U.S. wartime food bureaucracy as it struggled to reorient itself to meet increased production and procurement needs.<sup>42</sup> In mid-1942, as domestic food supplies tightened, the U.S. government implemented a series of orders to ensure "more equitable distribution."<sup>43</sup> By 1943, the specter of famine and food shortages in the United States routinely grabbed headlines.<sup>44</sup> Food requirements for the armed forces, the shift from civilian to military production, the Lend-Lease program, and increased consumer demand stemming from increased employment (and wages) combined to create a "severe imbalance in the supply and demand for food and other consumer products."<sup>45</sup>

### *A. Allocation, Food Orders, Rationing, and Price Supports*

Although World War II food planners eventually organized and achieved measurable successes—total food costs during the war decreased by four percent, and food production increased by 40 percent—these long-term accomplishments relied on increasing the productivity of large farms already producing to capacity rather

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<sup>37</sup> Nielander, William Ahlers, *WARTIME FOOD RATIONING IN THE U.S.* 21 (World Trade Relations Press) (1947) (stating that prior to the attack on Pearl Harbor "America had practically no plans and no organization to guide it through the mazes of protracted war."). See also Baker, Benjamin, *WARTIME FOOD PROCUREMENT AND PRODUCTION 1* (King's Crown Press) (1951).

<sup>38</sup> *Id.* at 2-3.

<sup>39</sup> *Id.* at 3.

<sup>40</sup> *Id.* at 10-32 (explaining the establishment of the War Food Administration and its predecessor agencies).

<sup>41</sup> *Id.* at 5.

<sup>42</sup> *Id.* at 10.

<sup>43</sup> *Id.* at 19. The Second War Powers Act of 1942 provided the President the power to allocate materials necessary for defense if the material was in short supply. Pub. L. 507, 77th Cong. (Mar. 27, 1942).

<sup>44</sup> Hendrickson, Roy F., *FOOD CRISIS 1* (Doubleday) (1943).

<sup>45</sup> Halper, Emanuel B., *Supermarket Use and Exclusive Clauses, Part Five—the Supermarket Business model is Completed as the Supers Adapt to World War II Conditions*, 42 *REAL PROP. PROB. & TR. J.* 113, 121 (Spring 2007).

than stimulating and assisting the small producer with immediate excess capacity.<sup>46</sup> As one commentator noted:

[A] fair appraisal of our production programs would have to admit that the Department of Agriculture and the War Food Administration favored the large farmer over the family size farmer. The former were already almost producing to capacity when the need was for additional production. Undoubtedly much could have been done to stimulate and assist the small producer. However, it was not done and in the spring of 1943, the Secretary of Agriculture, faced with a difficult administrative choice as to the direction of assistance to American agriculture, cast his lot with the large farmer. Much evidence could be marshaled to question the wisdom of his action.<sup>47</sup>

Even this new emphasis on large agriculture and food industries, however, did not prevent food shortages brought on by the increased demand for food to feed the war machine, the rise of a black market, and inflationary food prices. These factors forced the Roosevelt Administration to institute, over the objection and resistance of some in the food industry, allocation of available food resources, food orders, price supports and food rationing.<sup>48</sup>

Unfortunately, as described in the sections below, the federal government struggled to devise and implement a clear and efficient administrative structure to address food supply and distribution issues caused by world war. The administration's repeated programmatic starts and stops, while searching for the right policy mix, undoubtedly hampered the war effort and social sense of homeland security. Of course, it may be impossible to foresee all of the food-related issues arising from a modern-day crisis. Carefully constructed model policies and an adaptable bureaucratic structure, however, should be drafted and prepared in advance for deployment in the event of a catastrophic event impacting food production or distribution. Accordingly, today's planners should consider the policies outlined below as potential elements of a crisis management response. Although failure to adequately plan may not guarantee disaster, as the federal government's response in WWII certainly adapted over the long run, proper planning will ensure a more capable response with less disruption in a political and social environment already disrupted by an acute crisis.

### 1. *Allocation*

Because demand for food by civilians, the military, and foreign allies rapidly outstripped domestic supply, the federal government instituted a forced allocation program to apportion food among these interdependent groups.<sup>49</sup> Allocation "means the apportionment of United States supplies of food and agricultural commodities among legitimate claimants—the specific consumer, groups of consumers, individual countries, areas, uses, and program which have a 'valid' claim against

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<sup>46</sup> Jacobs, Meg, "How About Some Meat?" *The Office of Price Administration, Consumption Politics, and State Building from the Bottom Up, 1941-1946*, J. AMER. HISTORY 910, 918, Vol. 84, No. 3 (Dec. 1997).

<sup>47</sup> Baker, *supra* note 37, at 148.

<sup>48</sup> Halper, *supra* note 45, at 122.

<sup>49</sup> Baker, *supra* note 37, at 33.

that food supply.”<sup>50</sup> Allocation refers not only the total amount of food, but also when it is available for consumption.<sup>51</sup>

The war time allocation process began by ascertaining the food needs of all those claiming a share of the food supply, both domestic and international, in proportion to their contribution to the war effort.<sup>52</sup> The government adjusted requests, if necessary, based on the estimated supply for that year.<sup>53</sup> Even if supply exceeded demand, allocation remained essential as the military allocation dictated government procurement orders while rationing programs implemented the civilian allocations.<sup>54</sup>

The bureaucratic structure to achieve proper allocations shifted chaotically throughout 1942 and 1943 in response to Congressional allegations of a broken process mired in bureaucratic tangles.<sup>55</sup> Initially, the Food Requirements Committee, under the Requirements Committee of the War Production Board (WPB), made final allocation determinations. In December 1942, the President abolished the Food Requirements Committee and placed authority to allocate food with the Department of Agriculture.<sup>56</sup>

The Secretary of Agriculture formed the Food Advisory Committee to review final allocations and rationing policy. The Secretary also established the Food Distribution Administration to gather the requirements from all claimant groups, recommend an allocation plan, and resolve conflicts between interested groups.<sup>57</sup> The newly created Commodity subcommittees within the Requirements and Allocations Control Branch advised the Interagency Committee on Allocations (under the Food Distribution Administration) regarding supply demands and allocation requests.<sup>58</sup> In addition to the duties noted above, the Food Distribution Administration (later renamed the Office of Distribution) was responsible for food procurement and distribution, in coordination with the Transportation and Warehousing Branch, and through various specialized committees such as the Meat and Dairy Procurement Boards.<sup>59</sup> A separate Civilian Foods Requirements Branch formulated minimum civilian requirements and advocated these needs to the Interagency Committee.<sup>60</sup> The Chief of the Allocations Control Branch and the Director of the Production Programs Branch of the Food Production Administration held joint responsibility for planning wartime food production.<sup>61</sup> In January 1943, the Secretary of Agriculture established yet another interagency committee, the Interagency Food Procurement Committee, to develop a “more unified and efficient Governmental procurement program for food.”<sup>62</sup>

<sup>50</sup> Geissler, Gus F., *Allocations—Blueprints for Food Distribution*, THE ANNALS OF THE AMER. ACAD. OF POL & SOC. SCI., Vol. 278, No. 1, 147, 146 (1951).

<sup>51</sup> *Id.* at 148.

<sup>52</sup> Baker, *supra* note 37, at 47.

<sup>53</sup> The Supply Estimates Committees for each commodity was responsible for calculating supplies. *Id.*

<sup>54</sup> *See infra* notes 92-107 (discussing rationing policies during World War II).

<sup>55</sup> Egan, Charles E., *C. C. Davis New Food Chief, Replacing Wickard in Post*, NY TIMES (Mar. 26, 1943) at 1.

<sup>56</sup> Executive Order 9280 (Dec. 5, 1942); Baker, *supra* note 37, at 35.

<sup>57</sup> Baker, *supra* note 37, at 37.

<sup>58</sup> *Id.*

<sup>59</sup> *Id.* at 69-79. *See also* Diagram, Food Distribution Administration Organizational Structure, <http://www.sos.state.or.us/archives/exhibits/ww2/services/pdf/nut2.pdf> (last visited Jan. 11, 2008).

<sup>60</sup> Baker, *supra* note 37, at 37-38.

<sup>61</sup> *Id.* at 38.

<sup>62</sup> Secretary of Agriculture, Memorandum No. 16, Supp. E (Jan. 20, 1943); Baker, *supra* note 37, at 36.

Then, in March 1943, under pressure to streamline the allocations process, the President consolidated production and distribution functions (including Commodity Credit and Extension) by creating the Administration of Food Production and Distribution within the Department of Agriculture. The Director of the Administration of Food Production and Distribution reported directly to the President, not the Secretary of Agriculture.<sup>63</sup> A month later, the President, via executive order, renamed it the War Food Administration.<sup>64</sup> The War Food Administration abolished the Food Advisory Committee and the Interagency Committee on Allocations, replacing them with a single Food Requirements and Allocations Committee that had authority to pass on all requests for allocation.<sup>65</sup> Domestic and international allocation requests were reconciled through the Combined Food Board.<sup>66</sup>

In sum, despite the relatively long run-up to World War II capped by the events of Pearl Harbor, the government created and disbanded multiple organizations before finding a workable administrative structure to balance food allocation needs with available supplies. Given the even greater consumer reliance on a centralized food production and distribution system and less self-sufficiency today, the government probably cannot afford the luxury of so many false-starts in the event it must respond to many of the foreseeable crisis of the 21st century.

## 2. Food Orders

Minimum food requirements, however, could not be met merely through the process of assessing supply and demand, and setting a distribution allocation. Supply shortages and bottlenecks repeatedly and severely stressed the system. The Government, therefore, further intervened in food markets via a series of administrative orders “imposing a wide variety of restrictions on almost every aspect of the food industries,” including “food deliveries, inventories, sales, purchases, distribution and use.”<sup>67</sup> The Food Distribution Administration (later the Office of Distribution), with the assistance of the commodity branches and the assent of the War Food Administration, issued five types of orders: distribution economy orders, limitation orders, licensing orders, allocation orders and set-aside orders.<sup>68</sup>

Distribution economy orders sought to conserve materials used in the war effort, and manpower that was in short supply, by restricting the use of certain ingredients—e.g., by limiting the amount of fat, sugar or milk used in a processed food.<sup>69</sup> Distribution economy orders also limited the types of food that could be produced and sought to eliminate wasteful industry practices.<sup>70</sup>

Limitation orders directed production of specific commodities and restricted sale of these items.<sup>71</sup> For example, producers could not produce or sell orange juice, except unconcentrated juice, unless pursuant to a government procurement contract.<sup>72</sup> Other limitation orders sought to quash speculation by dictating how much

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<sup>63</sup> Executive Order 9233 (Mar. 26, 1943); Baker, *supra* note 37, at 38.

<sup>64</sup> Executive Order 9334 (April 19, 1943); Baker, *supra* note 37, at 38.

<sup>65</sup> War Food Administrator Memorandum No. 30; Baker, *supra* note 37, at 29.

<sup>66</sup> For a detailed historical account of the Combined Food Board, see Eric Roll, *THE COMBINED FOOD BOARD* (Stanford University Press) 1956.

<sup>67</sup> Baker, *supra* note 37, at 85.

<sup>68</sup> *Id.* at 86, 89-90.

<sup>69</sup> *Id.*

<sup>70</sup> *Id.*

<sup>71</sup> *Id.*

<sup>72</sup> *Id.* at 86-87.

inventory could be withheld from the market.<sup>73</sup> Some limitation orders directed the cessation of certain types of food manufacturing such as chocolate and confectionary.<sup>74</sup> Licensing orders functioned in the same way, except that a producer would have to seek a license to produce a certain product under threat of criminal and civil penalties.<sup>75</sup> Product standards often were prerequisites to securing a license.<sup>76</sup> When supplies of a given commodity were low, license-based shipping permits restricted interstate shipment of goods not related to the food program.<sup>77</sup>

Allocation orders were put in place when the demand for a commodity outstripped its supply, thus requiring allocation. An allocation order, for example, could assume complete control of production and distribution.<sup>78</sup> Similarly, set-aside orders ensured that manufacturers would reserve designated percentages of food supplies for the military.<sup>79</sup>

With the exception of set-aside orders, the Department of Agriculture and its War Food Administration consulted with private industry, through advisory committees, prior to issuing food orders.<sup>80</sup> Post-order appeal procedures were established, as well as administrative procedures for enforcement.<sup>81</sup> In 1944, the Department of Justice revoked 223 licenses and permits while prosecuting 86 cases—a rather small non-compliance rate in light of the number and scope of orders.<sup>82</sup>

The federal government's market-distorting system of setting allocations for military or civilian use also required extensive, direct intervention via a variety of orders to control almost all aspects of the food processing system. The need for rapid redirection of supplies from civilian to military use required this primary level of government control. In addition to the command and control efforts discussed above, the government also implemented various market-based schemes such as price supports and rationing.

### 3. Price Supports

In addition to food orders, the Department of Agriculture adopted production goals and price support programs to stimulate the production of various commodities to meet war needs. The Production Goals Program set state and national production goals for certain commodities<sup>83</sup> to inform producers what would be necessary to support the war effort for the coming year.<sup>84</sup> The commodity committees of the Bureau of Agricultural Economics set state-level targets after consultation with state leaders, USDA's local war boards,<sup>85</sup> and land-grant university specialists.<sup>86</sup> Once finalized, the goals were "broken down to the county and local

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<sup>73</sup> *Id.* at 87.

<sup>74</sup> *Id.*

<sup>75</sup> *Id.*

<sup>76</sup> *Id.*

<sup>77</sup> *Id.* at 88.

<sup>78</sup> *Id.*

<sup>79</sup> *Id.*

<sup>80</sup> *Id.* at 92.

<sup>81</sup> *Id.* at 93-98.

<sup>82</sup> *Id.* at 99.

<sup>83</sup> Commodity goals were grouped into the following categories: meat, oils and fats, milk, eggs and poultry, fruits and vegetables, feed grains and hay, and wheat. Call, L.E., *Food in the War Effort*, TRANSACTIONS OF THE KANSAS ACADEMY OF SCIENCES, Vol. 46 (Apr. 10, 1943) at 268.

<sup>84</sup> Baker, *supra* note 37, at 138.

<sup>85</sup> *Id.* at 118-133. The Extension Service, Bureau of Agricultural Economics, and other community committees were consolidated into War Boards in 1943 to aid in the production planning process at the local level. *Id.*

<sup>86</sup> *Id.* at 138.

basis,<sup>87</sup> with each farmer receiving a worksheet of individual production goals.<sup>88</sup> A farmer that met 90 percent of the goal received benefit payments.<sup>89</sup> Production goals worked in conjunction with price supports, which the government prepared well in advance of the next planting season.<sup>90</sup> Price supports could be in the form of loans, purchases, guaranteed prices, subsidies, or purchase and resale.<sup>91</sup>

#### 4. Rationing

A detailed discussion of the rationing program is beyond the scope of this article.<sup>92</sup> A basic understanding of point rationing, however, is helpful to inform current food security planning.

The President established the Office of Price Administration (OPA) in 1941, which became an independent agency in 1942. Although OPA participated in allocation decisions through its committee memberships within the War Production Board, it did not have independent authority to set allocations. Rather, its primary task was to establish and administer a ration program for those commodities found to be in short supply. Beginning in 1942, OPA issued ration books containing coupons that the consumer would surrender in order to purchase specific food items.<sup>93</sup> OPA indirectly regulated the demand for items by adjusting the points required to purchase a particular food.<sup>94</sup> OPA allotted suppliers a set inventory of food, which they in turn purchased from wholesalers using banked ration coupons.<sup>95</sup> Local OPA offices organized the distribution of ration books to consumers through local schools. In addition to a well-orchestrated appeal to patriotism and equitable distribution principles, OPA's Department of Information enticed the American public to participate in food rationing with the post-war promise of increased consumerism.<sup>96</sup>

OPA also controlled consumer prices through informal guidance and formal policies.<sup>97</sup> The Emergency Price Control Act of 1942 gave OPA the authority to establish maximum prices for most commodities. The Act, however, exempted agricultural commodities unless the price reached certain levels.<sup>98</sup> In April 1942, the President

<sup>87</sup> *Id.*

<sup>88</sup> *Id.*

<sup>89</sup> *Id.*

<sup>90</sup> *Id.* at 139-141.

<sup>91</sup> *Id.* at 141.

<sup>92</sup> For an in-depth discussion of the U.S. rationing system during World War II, see Nielander, *supra* note 34; Russell, Judith & Rantin, Renee, *STUDIES IN FOOD RATIONING (OPA) (1947)*; and, Office of Information, *INFORMATION PROGRAM FOR POINT RATIONING AND CANNED AND PROCESSED FOODS (OPA) (1943)*.

<sup>93</sup> Halper, *supra* note 45, at 134. Among the items subject to a rationed point-system were sugar, coffee, meat, fish, cheese, and canned and other processed food. *Id.*

<sup>94</sup> *Id.* at 135.

<sup>95</sup> *Id.* at 136.

<sup>96</sup> Office Price Administration, *Information Program for Point Rationing of Canned and Processed Foods* (Jan. 1943) (stating that “no one can chisel your share—and you can’t chisel on theirs,” and “the patriotic citizen buys only what he actually needs.”); Jacobs, *supra* note 46, at 920. Although perhaps too soon forgotten amid the consumerism at the end of the century and the rise in obesity-related illnesses, one indirect benefit from the rationing program was that Americans increased their knowledge of what constituted a healthy diet. Clive M. McCay, *America Is Learning What to Eat*, N.Y. TIMES (Mar. 28, 1943) at SM10.

<sup>97</sup> Nielander, *supra* note 37, at 27.

<sup>98</sup> Agricultural commodity prices could be capped under the Act if prices reached: (1) 110 percent parity; (2) the market price prevailing on October 1, 1941; (3) the market price prevailing on December 15, 1941; or, (4) the average price during the period between July 1, 1919 and June 30, 1929. Nielander, *supra* note 34, at 28. Parity is “the restoration and maintenance of the ‘balance between production and consumption of agricultural commodities. . . as will reestablish prices to the farmer at a level that will give agricultural prices a purchasing power with respect to articles that farmers buy, equivalent to the purchasing power of agricultural commodities during the base period.’” Baker, *supra* note 37, at 134.

issued the General Maximum Price Regulation. The regulation, however, failed to control escalating food prices because of the Price Control Act's agricultural commodity exemption.<sup>99</sup> The subsequent Economic Stabilization Act of October 1942 ended the exemption for 90 percent of food products.<sup>100</sup>

Despite these efforts, the black market trade of food products continued to flourish while quality declined.<sup>101</sup> The price for a market basket of typical foods rose 32 percent between 1941 and 1943.<sup>102</sup> The tide turned, however, in 1943 when the President ordered the OPA to set "standardized dollars-and-cents community ceiling prices for food."<sup>103</sup> This "Hold the Line" order fortified the consumer's ability to check prices.<sup>104</sup> To bolster enforcement, OPA also increased its local presence through War Price and Rationing Boards.<sup>105</sup>

Although food allocation, food orders, price supports and rationing are anathema to neoclassical economic theory, food security planners should at least contemplate whether these measures would be necessary in a modern-day food emergency scenario. Moreover, planners should consider whether, and to what extent, partial reliance on local and regional food networks during a food emergency may alter the formulation, functioning, and results of allocation, food orders, price supports, and food rationing. Although these measures either withstood or remained free of successful constitutional challenge at the time, it is unclear whether they would withstand scrutiny under modern Supreme Court jurisprudence regarding the war and commerce powers, and the spending, due process and takings clauses.<sup>106</sup> From an administrative perspective, food security planners also should evaluate what governmental organization would be necessary to implement these controls from the start to preclude the succession of ineffective agencies that finally resulted in creation of the War Food Administration.<sup>107</sup>

## B. *Victory Gardens*

In addition to the market intervention and direct coordination of the food and agriculture industry discussed above, the government sought the assistance of private

<sup>99</sup> Jacobs, *supra* note 46, at 917.

<sup>100</sup> *Id.*

<sup>101</sup> *Id.* at 917-918.

<sup>102</sup> Bentley, *supra* note 34, at 19.

<sup>103</sup> Jacobs, *supra* note 46, at 918.

<sup>104</sup> *Id.*

<sup>105</sup> *Id.*

<sup>106</sup> For example, would the war powers provision of the Constitution support an agency order dictating the type and amount of production in response to a terrorist act involving the food supply? Has a federal police power evolved in constitutional jurisprudence to allow the federal government to commandeer a food crisis response that arguably is the prerogative of the state(s) involved? See generally Kahan, Rebecca M., Comment, *Constitutional Stretch, Snap-Back and Sag: Why Blaisdell Was a Sharper Blow to Liberty Than Korematsu*, 99 N.W. U. L. R. 1279 (2005) (describing generally crisis governance under the U.S. Constitution, including economic and violent crisis); McMillan, Christine M., Comment, *Federal Flood Insurance Policy: Making Matters Worse*, 44 Hous. L.R. 471 (2007) (addressing constitutional management of natural disasters); Riley, Sarah M., Comment, *Constitutional Crisis or Déjà Vu? The War Power, the Bush Administration and the War on Terror*, 45 DUQ. L. REV. 701, 725-730 (2007) (discussing *Youngstown Sheet & Tube v. Sawyer*, 343 U.S. 579 (1953) and the power of the executive to justify actions under the war powers provision of the Constitution); Devins, Neal and Fisher, Louis, *The Steel Seizure Case: One of a Kind?* 19 CONST. COMMENTARY 63 (2002) (analyzing whether the case reconciled executive actions under the war powers act with the takings clause).

<sup>107</sup> No comprehensive planning occurred prior to the attack on Pearl Harbor as to how the federal government bureaucracy would respond to the food demands of a greatly-expanded military. As a result, the bureaucratic structure to achieve allocations shifted chaotically throughout 1942 and 1943 in response to Congressional allegations that the allocation process was broken down and mired in bureaucratic tangles. Egan, Charles E., *C.C. Davis New Food Chief, Replacing Wickard in Post*, NY TIMES (Mar. 26, 1943) at 1.

citizens to meet the wartime demand for food. This was not the first time the public heeded the call to supplement national food production in aid of an American war effort. The National War Garden Commission, established during World War I, was successful in freeing up domestic labor, transportation systems and food for the war front, and providing a valuable food source at home.<sup>108</sup> This was achieved by a massive public information campaign that appealed to American patriotism to “put all idle land to work.” Along with identifying idle land with the potential for food production, the National War Garden Commission implemented programs that educated Americans how to grow and process food.<sup>109</sup>

In December 1941, the Secretary of Agriculture and the Director of the Office of Defense, Health and Welfare Services (DHWS) convened the National Garden Conference in Washington, D.C.<sup>110</sup> Among those attending the conference were the USDA, Office of Civilian Defense, the Work Projects Administration (WPA), the Federal Security Agency, garden associations and clubs, seed and horticultural trade associations, and the farm press.<sup>111</sup> The Conference concluded that the home gardening program should be expanded to increase total food production.<sup>112</sup> On January 11, 1942, the Office of Civilian Defense (OCD) announced that Local Defense Councils would start community Victory Garden Programs.<sup>113</sup> The Secretaries of Agriculture and DHWS appointed a National Garden Advisory Committee to lead the Victory Garden program.<sup>114</sup> The Committee included members from industry, extension, home-making, garden clubs, and garden publications.<sup>115</sup>

Extension agents held state-level conferences to set up state committees under the auspices of state defense councils.<sup>116</sup> Coordination also occurred at the county level, or if the county was too large, county sectors or precincts.<sup>117</sup> At the local level, Local Defense Councils appointed experienced gardeners to chair garden advisory committees.<sup>118</sup> The chairperson selected five subcommittee chairs: 1) land, equipment, and supplies for gardening; 2) equipment and supplies for storage; 3) personnel and training; 4) publicity and information; and 5) transportation.<sup>119</sup> The national committee required its local counterparts to first survey potential resources within the community, including available and suitable land, persons with expertise in gardening and processing who could supervise and educate members, media resources, transportation nodes, and potential workers.<sup>120</sup> After the survey, local committees classified specific land as home, school, or community gardens.<sup>121</sup>

<sup>108</sup> Pack, Charles Lathrop, *THE WAR GARDEN VICTORIOUS* 24-34 (Lippincott) 1919.

<sup>109</sup> *Id.* at 9-10.

<sup>110</sup> U.S. Office of Civilian Defense, *GUIDE FOR PLANNING THE LOCAL VICTORY GARDEN PROGRAM* 3 (Mar. 25, 1942).

<sup>111</sup> *Id.* at 3.

<sup>112</sup> *Id.*

<sup>113</sup> *Victory Gardens to Bloom in the U.S.*, *NY TIMES* (Jan. 12, 1942) at 19.

<sup>114</sup> *To Push “Victory Garden”: National Committee Is Headed by Tennessee Governor*, *NY TIMES* (Jan. 23, 1943) at 22.

<sup>115</sup> *Id.*

<sup>116</sup> E.L.D. Seymour, ed., *THE NEW GARDEN ENCYCLOPEDIA: THE VICTORY GARDEN EDITION* 1358 (Wm. H. Wise & Co. 1943).

<sup>117</sup> *Id.* at 1360.

<sup>118</sup> U.S. Office of Civilian Defense, *GUIDE FOR PLANNING THE LOCAL VICTORY GARDEN PROGRAM* 5 (Mar. 25, 1942).

<sup>119</sup> *Id.*

<sup>120</sup> *Id.* at 6.

<sup>121</sup> *Id.* The committee also was in charge of planning, supervising and working of the gardens and processing projects, offering training courses, procurement and/or organization of shared equipment and supplies, distributing information developed by the Government, publicizing the program, and raising funds for the program. *Id.* Records were kept for each volunteer member, including information such as their level of expertise in gardening and processing, the type of garden owned, and whether or not the volunteer could provide transportation, equipment or supplies to others. *Id.* at 6-7.

The purpose of the program was fivefold: 1) better the health and nutrition of Americans by increasing the consumption of fresh fruits and vegetables, 2) encourage the proper storage and preservation of food, 3) provide money savings to be applied to foods that had to be purchased, 4) assist urban gardeners in obtaining communal property in which to grow fruits and vegetables, and 5) “maintain the morale and spiritual well-being of the individual, family, and Nation.”<sup>122</sup> Just as the War Garden Commission during WWI, the U.S. Food Administration recruited gardeners by appealing to Americans’ patriotism.<sup>123</sup> Extension services played a large role in teaching victory gardening.<sup>124</sup>

Unused land was lent to those wishing to victory garden.<sup>125</sup> For example, Chicago protected victory gardens from trespass by a special city ordinance imposing a \$50 fine for unlawfully entering or damaging a victory garden.<sup>126</sup> Some victory gardeners, however, violated city zoning ordinances when they started raising small flocks of chickens within city limits.<sup>127</sup> In addition to land use questions, victory gardeners feared the lack of processing supplies, particularly ones made from materials used in the war effort. If large amounts of garden produce could not be preserved, food that otherwise could help people supplement their ration would be wasted. The War Production Board assured home gardeners that enough pressure cookers would be produced to process harvests.<sup>128</sup> To further stretch scarce processing supplies and minimize individual costs, the federal government published guidelines on how to create community food processing centers, many of which were sponsored by local boards of education.<sup>129</sup> State Departments of Agriculture set up canning competitions at county fairs to publicize food production and preservation efforts.

The government, however, placed some limits on the distribution of Victory Garden production. Home canners who sold their food to third parties had to register with the national OPA office and collect ration points from purchasers.<sup>130</sup> Some gardeners worried that participation in the program and providing information about gardening activities to the government could result in the later government appropriation of their harvests.<sup>131</sup>

In addition to home production, the Food Distribution Administration of the USDA called on State Defense Councils to coordinate efforts with victory garden programs to establish school gardens to supplement the school lunch program. Without such an effort, USDA officials feared discontinuation of school lunch programs. The USDA suggested the appointment of parent-teacher organization members to lead special subcommittees on school lunch programs within local victory garden programs.<sup>132</sup>

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<sup>122</sup> *Id.* at 3. Americans did learn through victory gardening that fresh food can provide a more balanced and complete diet than processed food. McCay, *supra* note 86, at SM10.

<sup>123</sup> This strategy is depicted clearly in Government posters published during World War II. *See e.g.*, Posters, National Archives and Records Administration, Records of the U.S. Food Administration, <http://www.archives.gov/education/lessons/sow-seeds/#documents>.

<sup>124</sup> For example, the University of Illinois at Champaign Urbana Extension Service provided a weekly seasonal broadcast on victory gardening. *See* Illinois University Extension Service in Agricultural and Home Economics, VICTORY GARDEN RADIO PROGRAM TRANSCRIPTS, 1943.

<sup>125</sup> *Will Lend Land for Gardeners*, NY TIMES (Feb. 27, 1943) at 16 (noting that the Baltimore & Ohio Railroad was lending unused parts of its right-of-way to gardeners); *Builders to Give Idle Home Plots for War Gardens*, NY TIMES (Feb. 28, 1943) at RE1.

<sup>126</sup> Seymour, *supra* note 116, at 1356.

<sup>127</sup> *Women Fight Curb on Chicken Raising*, NY TIMES (Jan. 1, 1943) at 18.

<sup>128</sup> *More Cookers Set for Home Canning*, NY TIMES (Mar. 24, 1943) at 26.

<sup>129</sup> Chapman, Paul W., VICTORY BARNYARD 190 (McGraw Hill 1943).

<sup>130</sup> OPA Information Program, *supra* note 96, at 24.

<sup>131</sup> Seymour, *supra* note 116, at 1356.

<sup>132</sup> Illinois State Council of Defense, letter to local victory garden committees (June 9, 1943).

In 1943, as the Victory Garden Program entered its second year, the Chairman of the Victory Garden Committee warned that over half of the supply of canned goods for the coming year were allotted for military use and urged every urban and suburban family with sunny and fertile ground to grow as large a garden as possible.<sup>133</sup> USDA's goal for 1943 was 18,000,000 victory gardens, with three-fourths of those in urban areas.<sup>134</sup> Nearly one out of every two families planted a victory garden in 1943, producing approximately 125 pounds of food for each civilian man, woman, and child in the U.S.<sup>135</sup> In a radio broadcast the next year, OPA Administrator Chester Bowles called on families to plant two million more "Victory Gardens" in 1944 as a "home front necessity."<sup>136</sup>

The diversity of agricultural production achieved via the Victory Garden program ensured the resiliency of the World War II food supply system to meet the needs of civilians and the military during a time of crisis. Ecosystem resiliency carries buffering capacity (i.e., the ability to absorb shocks without structural change).<sup>137</sup> Another measure of resiliency is the speed at which the system recovers from a disturbance.<sup>138</sup> Just as biological ecosystems are resilient, "social resiliency" enables communities to withstand external shocks to their social infrastructure."<sup>139</sup>

It cannot be said that any region of the United States is even substantially self-sufficient in food production, as American consumers depend on imported products produced only in climates and soils outside their respective regions.<sup>140</sup> In many areas, existing food supply chains contain little or no locally produced products despite the historical presence of "truck farms" in the peri-urban areas surrounding many large cities.<sup>141</sup> Rather, these large population centers "are tethered to food pipelines that extend around the globe."<sup>142</sup> The continued viability of many of these supply chains, however, depends on a stable set of political, economic and environmental conditions, coupled with low-cost fuel that enables the transport of food great distances at little cost.<sup>143</sup> The more complex the food supply system, the more vulnerable it may be to external shocks, as each additional node presents a potential disruption to the overall system. Accordingly, the ability of the individual links in the chain to respond to change in variable ways, a concept referred to as "response diversity" in ecological literature,<sup>144</sup> also applies in the food security context. Victory Garden programs tailored at the county level provided a key measure of response diversity and attendant food chain resilience in the later stages of World War II to supplement traditional supply channels.

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<sup>133</sup> Hochbaum, H.W., *Uncle Sam Sets the Goal for 1943 Victory Gardens*, NY TIMES (Jan. 17, 1943) at D9.

<sup>134</sup> 18,000,000 Gardens Urged for Victory, NY TIMES (Jan. 22, 1943) at 23.

<sup>135</sup> *Id.*

<sup>136</sup> Jacobs, Meg, *POCKETBOOK POLITICS: ECONOMIC CITIZENSHIP IN TWENTIETH CENTURY AMERICA* 200 (Princeton University Press 2005).

<sup>137</sup> See Adger, W. Neil, *Social and ecological resilience: are they related?* 24 *PROGRESS IN HUMAN GEOGRAPHY* 347, 349 (2000); Elmquist, Thomas, et al., *Response Diversity, ecosystem change, and resilience*, 1 *FRONTIERS IN ECOLOGY AND THE ENVIRONMENT* 488, 488 (2003).

<sup>138</sup> *Id.*

<sup>139</sup> *Id.* at 361.

<sup>140</sup> THOMAS A. LYSON, *CIVIL AGRICULTURE: RECONNECTING FARM, FOOD AND COMMUNITY* 4 (2004).

<sup>141</sup> *Id.* at 4-5.

<sup>142</sup> *Id.* at 5.

<sup>143</sup> *Id.* at 5.

<sup>144</sup> Elmquist, *supra* note 137, at 488 (defining "response diversity" as the "diversity of responses to environmental change among species that contribute to the same ecosystem function").

In sum, World War II food policy and self-reliance was multi-faceted, comprising a variety of administrative structures, several types of government action (allocation, food orders, food rationing, and price control) and supplemented with non-traditional agricultural production via the Victory Garden Program. Forty-five years later, Cuba adopted many of the same strategies to confront the food shortages precipitated by the collapse of the Soviet Union. A discussion of these measures follows.

### III. THE CUBAN SYSTEM OF ACHIEVING FOOD SECURITY DURING A TIME OF CRISIS

Between 1959 and 1989, Cuba took several steps to eliminate hunger and ensure food security. In the beginning years of the Castro revolution, Cuba put land in the hands of small farmers, placed ceilings on food prices, and instituted a rationing program for basic foods. With the onset of the U.S. embargo and the Cold War, however, Cuba traded its early idealistic efforts of food self-sufficiency for valuable chemical and mechanical inputs from the Soviet Union. By the mid-1970s, Cuba achieved its goal of feeding its people through conventional, large-scale agriculture. With the collapse of the Soviet Union in 1989, however, Cuba's food and energy imports disappeared instantaneously, requiring drastic measures to avoid starvation. Although many doubted the post-Soviet survival of communist Cuba's agriculture, it has achieved a level of food self-sufficiency. Cuba accomplished this goal, in no small part, through the efforts of individual gardeners and the adoption of farming practices that do not rely on petroleum and petrochemical inputs.

The following sections briefly describe initial Castro agricultural reforms of the 1950s and 1960s, the nation's evolutionary dependence on the Soviet Union for agricultural inputs, and the country's subsequent response to the abrupt withdrawal of Soviet aid. Special attention is paid to areas in which Cuba's agricultural strategy paralleled U.S. efforts at food production during a similar period of food crisis—World War II.

#### A. 1959-1989: Revolutionary Reforms, Growing Dependence on the Soviet Union, and Consumer Dissatisfaction

When Fidel Castro came to power in 1959, he sought to eliminate inequality in Cuban society, particularly the hunger and malnutrition especially prevalent in rural areas. Although over 60 percent of Cuba's land is tillable, prior to the revolution, Cuba depended on imports from the United States for 80 percent of its food supply.<sup>145</sup> The new regime's first agrarian reform set out to nationalize large estates and create state-owned farms.<sup>146</sup> Although two-thirds of Cuban farmers were given title to land through this program,<sup>147</sup> the second agrarian reform in 1963 resulted in the further expropriation of land from farms larger than 165 acres.<sup>148</sup> Remaining independent farmers were private in name only, as the government, to control escalating food prices, dictated what to grow and what price to charge.<sup>149</sup> By the

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<sup>145</sup> MEDEA BENJAMIN, ET AL., EDS., *NO FREE LUNCH: FOOD AND REVOLUTION IN CUBA TODAY* 8 (Institute for Food and Development Policy 1989)

<sup>146</sup> *Id.* at 162-163.

<sup>147</sup> *Id.* at 166.

<sup>148</sup> *Id.* at 168.

<sup>149</sup> *Id.* at 169.

mid-1970s, private farmers either had been pushed into joining cooperatives or sold their farms to the government.<sup>150</sup>

In response to skyrocketing food prices, the new government also set prices for various agricultural commodities, which retailers ignored.<sup>151</sup> The government shut down offending retailers<sup>152</sup> and eventually nationalized wholesale food distribution.<sup>153</sup> Further exacerbating food distribution and inflation, the United States imposed an embargo in 1960, shutting the nation off from its primary food source.<sup>154</sup> In 1961, the government outlawed the resale of basic goods to curtail black market food sales.<sup>155</sup> By 1968, the government owned all retail food stores.<sup>156</sup>

None of these actions ended speculation or the poor's desperate food situation.<sup>157</sup> In March 1962, the government instituted rationing of basic food items. The government set ration levels for all Cubans, regardless of income.<sup>158</sup> Although expected to be temporary, rationing continues today.<sup>159</sup> The Castro regime also created a National Board for the Distribution of Foodstuffs to implement a rationing scheme based on food product and location.<sup>160</sup> Cubans registered with the National Rationing Board at a retail store near their home, from which they would receive their monthly ration "food basket."<sup>161</sup> People with special needs, such as the elderly, children, and those who work at strenuous jobs received an extra ration.<sup>162</sup> The government did provide reduced price meals at the workplace, hospitals, and schools.<sup>163</sup> Despite these efforts, black and gray markets were prevalent.<sup>164</sup>

With the start of the Cold War in the 1960s, Cuba forged a trade relationship with the Soviet bloc that eventually constituted 85 percent of its foreign trade.<sup>165</sup> Through this relationship, Cuba became the most mechanized agricultural country in Latin America.<sup>166</sup> It also grew heavily dependent on petrochemicals, oil, hybrid seeds and machinery.<sup>167</sup> Even though it had tried in the early days of the revolution to diversify the agricultural sector, by the mid-1960s, three times more land was devoted to sugar production than food as a way to finance further industrialization of the economy.<sup>168</sup> As a result, imports comprised 57 percent of the average Cuban's calorie intake during the time of Cuba-Soviet trade relations.<sup>169</sup>

By the late 1970s, Cubans' nutritional needs were being met, but many felt that their lives were "austere and drab by comparison" to their Miami counterparts.<sup>170</sup>

<sup>150</sup> *Id.* at 179. By 1980, over 80 percent of farms were owned by the state. LAURA ENRÍQUEZ, *THE QUESTION OF FOOD SECURITY IN CUBAN SOCIALISM* 20 (Univ. of Calif. 1994).

<sup>151</sup> *Id.* at 21.

<sup>152</sup> *Id.* at 22.

<sup>153</sup> *Id.* at 22-23.

<sup>154</sup> *Id.* at 18-19.

<sup>155</sup> *Id.* at 22.

<sup>156</sup> *Id.* at 26.

<sup>157</sup> *Id.* at 22.

<sup>158</sup> *Id.*

<sup>159</sup> *Id.* at 22-23.

<sup>160</sup> *Id.* at 22.

<sup>161</sup> *Id.* at 26.

<sup>162</sup> *Id.* at 27.

<sup>163</sup> *Id.* at 47.

<sup>164</sup> *Id.* at 45.

<sup>165</sup> Warwick, *supra* note 36, at 54.

<sup>166</sup> Rosset, Peter M., *Alternative Agriculture and Crisis in Cuba*, *IEEE TECHNOLOGY AND SOCIETY MAGAZINE* (Summer 1997) at 19.

<sup>167</sup> *Id.*

<sup>168</sup> *Id.* at 20; ENRÍQUEZ, *supra* note 150, at 15.

<sup>169</sup> Rosset, *supra* note 166, at 19.

<sup>170</sup> BENJAMIN, *supra* note 145, at 60.

The government responded with a series of reforms to increase food self-sufficiency. In a step away from the nationalized wholesale food distribution system, the government decreed in 1980 that farmers and producers could sell directly to customers at the nearest farmers' market, at no set price.<sup>171</sup> Prices at the markets were high, and only those few who could afford it would buy food at the farmers' market.<sup>172</sup> In true capitalist form, farmers withheld their best produce from the state distribution system, and reserved it for the market and its exorbitant prices.<sup>173</sup> The government subsequently limited who could sell at the markets, and opened government counterparts to compete with the private sector.<sup>174</sup> To increase overall supply, the government began paying farmers for amounts produced in excess of their respective quotas,<sup>175</sup> and encouraged sugar farmers to divert some effort to the production of food crops.<sup>176</sup>

Unable to control prices and obtain food self-sufficiency, in 1986, Castro announced that the farmers' markets would close as part of a "rectification of errors" campaign to increase food security and encourage peasants to join cooperatives.<sup>177</sup> Real efforts to reform production stalled until the late 1980s, but by that time it was too late.<sup>178</sup> The "very success of the Cuban Revolution in the agricultural sector (if defined in terms of modernization) [now] constitute[d] its biggest albatross,"<sup>179</sup> as mechanization and cash-crop (i.e., sugar) production resulted in food shortages and import dependence.

### B. "The Special Period of Peacetime": Cuba's Food Crisis and Recovery

With the fall of the Berlin Wall and the collapse of the Soviet Union in 1989, Cuba lost its primary, preferential trading partners almost overnight. Russia began demanding that Cuba pay for oil imports at the market rate and in hard currency. Between 1989 and 1992, oil imports fell 53 percent.<sup>180</sup> The importation of fertilizer and chemical inputs for agriculture declined almost 80 percent.<sup>181</sup> Wheat and other grain imports dropped by 50 percent, and other imports of food declined even more.<sup>182</sup> The government added more foods to the ration list, and eliminated some rationed foods entirely.<sup>183</sup> Between 1989 and 1993, caloric intake of the Cuban people dropped by almost 30 percent.<sup>184</sup> On September 26, 1990, the government

<sup>171</sup> *Id.* at 60-61.

<sup>172</sup> *Id.* at 64.

<sup>173</sup> *Id.* at 71.

<sup>174</sup> *Id.* at 74-75.

<sup>175</sup> *Id.* at 75.

<sup>176</sup> ENRIQUEZ, *supra* note 150, at 21-22.

<sup>177</sup> Carmen Diana Deere, *Socialism on One Island? Cuba's National Prospects for Food Security* (Working Paper Series No. 124) (June 1992) at 4.

<sup>178</sup> *Id.* at 22.

<sup>179</sup> *Id.* at 2.

<sup>180</sup> Trimiño, Gilberto J. Cabrera, *Challenges For Cuban Cooperativism: Organic Farming and the Environment* 89, in CUBA IN THE SPECIAL PERIOD: CUBAN PERSPECTIVES (Vinson Sutlive, et al., eds.) (Wm. & Mary College) (June 1997); French, Howard W., *Cuba, Hurt by Falling Soviet Imports, Makes Field Hands of Office Workers*, NY TIMES (Dec. 1, 1990) at 3.

<sup>181</sup> Rosset, Peter M., *Cuba: A Successful Case Study of Sustainable Agriculture*, at 204 in HUNGRY FOR PROFIT: THE AGRIBUSINESS THREAT TO FARMERS, FOOD AND THE ENVIRONMENT (Fred Magdoff, et al., eds.) (Monthly Review Press 2000).

<sup>182</sup> Rosset, *supra* note 166, at 21.

<sup>183</sup> French, Howard W., *With No Chickens in the Pot, Cubans' Faith in Castro's Revolution is Waning*, NY TIMES (Oct. 10, 1991) at A3.

<sup>184</sup> Rosset, *supra* note 166, at 21.

declared that the country was in a “Special Period of Peacetime” and that austerity measures equal to being at war would be instituted.<sup>185</sup> On the supply side, Cuba announced a multi-faceted new food program aimed at increasing domestic production to achieve food self-sufficiency.

### 1. *State-Run Farms*

To increase the productivity of larger state farms, the government converted 60 percent of state farms into new entities called Unidades Basicas de Producción Cooperativa (UBPCs) that would own both the means and fruits of their production.<sup>186</sup> After allocating a certain amount to the state, UBPCs could distribute the remainder privately at market prices.<sup>187</sup> In 2002, the government switched production on 50 percent of its state sugar cane estates to food crops and reforestation.<sup>188</sup>

### 2. *Farm Labor Initiatives*

Because farm labor was in short supply, the government deployed urban workers to the countryside for two-week periods every year.<sup>189</sup> Workers also could volunteer for two-year stints on farms in exchange for better housing and higher wages.<sup>190</sup> As an alternative to compulsory military service, youth could spend one year on a state farm producing food.<sup>191</sup> As a further incentive to increase the farm labor supply, the government restricted new housing permits to buildings intended for agricultural workers.<sup>192</sup>

### 3. *Farmers’ Markets*

In the post-Soviet era, Cuba also instituted some free market reforms to stimulate food production. In 1994, Cuba decided to reopen the farmers’ markets, allowing any person, from backyard gardener to cooperative, to sell produce at the free market price.<sup>193</sup> To compete with the higher-priced markets, the Government also opened its own “limited price” produce markets.<sup>194</sup>

### 4. *Land Re-Utilization & Small-Scale Gardens*

The government also sought to create “new land” to increase production.<sup>195</sup> Similar to the Victory Garden program in the United States, production began on

<sup>185</sup> *Id.*

<sup>186</sup> Campbell, Al, *The Cuban Economy has Turned the Corner: The Question now is Where is it Going?* in CUBAN TRANSITIONS AT THE MILLENNIUM 180-181 (Eloise Linger, et al., eds) (Intl’ Dev. Options 2000).

<sup>187</sup> *Id.*

<sup>188</sup> Koont, Sinan, *Food Security in Cuba*, MONTHLY REVIEW (Dec. 9, 2003) at 19.

<sup>189</sup> Deere, *supra* note 177, at 6; French, Howard W., *Cuba Hurt by Falling Soviet Imports, Makes Field hands of Office Workers*, NY TIMES (Dec. 1, 1990) at 3.

<sup>190</sup> Deere, *supra* note 177 at 6.

<sup>191</sup> Murphy, Catherine, *Cultivating Havana: Urban Agriculture and Food Security in the Years of Crisis*, Development Report No. 12 (Inst. for Food and Devel. Policy) at 10.

<sup>192</sup> Deere, *supra* note 177, at 6.

<sup>193</sup> Golden, Tim, *Cuba to Allow All Farmers to Sell Some Food on the Open Market*, NY TIMES (Sep. 18, 1994) at 2.

<sup>194</sup> Koont, *supra* note 188, at 18.

<sup>195</sup> *Id.* at 12.

under- and un-utilized land, such as vacant land, parks and sugar cane estates.<sup>196</sup> The Cuban government particularly emphasized the development of urban agriculture. The City of Havana created an urban department of agriculture with satellite offices throughout the city for extension agents.<sup>197</sup> The government set incremental goals of devoting a certain amount of square meters per person in urban areas to food production. For example, the goal for 2002 was 10 square meters per capita, which, assuming a yield of 20 kilograms per square meter, would amount to 200 kilograms of food per year per person.<sup>198</sup> Cubans began erecting raised bed gardens, or *organoponicos*, filled with composted soil on otherwise unusable or paved-over land.<sup>199</sup> Urban backyard and patio gardens emerged, using intensive methods of vegetable gardening.<sup>200</sup> The government relaxed laws restricting urban food production to backyards,<sup>201</sup> and entered into contracts with growers to raise animals within the city limits.<sup>202</sup> In addition, the government began re-distributing private land to individuals in exchange for the promise of food production.<sup>203</sup> Local governments can appropriate fallow private land and assign production rights to those who agree to produce food.<sup>204</sup> Finally, local "Committees for the Defense of the Revolution" achieved their promise of communal gardens for every locality with over twelve houses.<sup>205</sup> In return for free use of land, some communities expect surpluses to be shared with local schools and hospitals.<sup>206</sup> Schools and hospitals also have their own gardens.<sup>207</sup> By 1998, 30,000 people in Havana were cultivating 30 percent of the city's available land.<sup>208</sup> In sum, these new, local gardens are responsible for providing up to 50 percent of caloric intake<sup>209</sup> and reduced the need for imported fuel to distribute food and generate electricity for refrigeration.

### 5. *Agricultural Extension*

Another weapon in Cuba's arsenal to achieve food self-sufficiency is its army of agricultural scientists, some of whom were quick to criticize Cuba's heavy reliance on environmentally destructive, imported, petrochemical inputs once the new food program was announced in 1990.<sup>210</sup> Even prior to the Special Period, agronomists successfully developed alternative pest management and soil improvement techniques.<sup>211</sup> To increase soil productivity and reduce degradation, agricultural scientists also reassessed soil and conservation practices.<sup>212</sup> The government opened centers throughout the country where extension agents advise

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<sup>196</sup> ENRÍQUEZ, *supra* note 150, at 24; Koont, *supra* note 188, at 13.

<sup>197</sup> Murphy, *supra* note 191, at 13.

<sup>198</sup> Altieri, Miguel, et al., *The Greening of the "Barrios": Urban Agriculture for Food Security in Cuba*, 16 J. AGRIC. & HUMAN VALUES 131, 139 (1999); Murphy, *supra* note 191 at 21.

<sup>199</sup> Koont, *supra* note 188, at 13.

<sup>200</sup> *Id.*

<sup>201</sup> Altieri, *supra* note 198 at 134.

<sup>202</sup> Murphy, *supra* note 191, at 24.

<sup>203</sup> Koont, *supra* note 188, at 13.

<sup>204</sup> *Id.* The private owner has the option of placing the land in production within six months to avoid appropriation. *Id.*

<sup>205</sup> *Id.* at 13.

<sup>206</sup> *Id.* at 18.

<sup>207</sup> Warwick, *supra* note 36, at 55.

<sup>208</sup> *Id.*

<sup>209</sup> *Id.*

<sup>210</sup> Rosset, *supra* note 166, at 21.

<sup>211</sup> Trimiño, *supra* note 180, at 90-92.

<sup>212</sup> *Id.* at 92-93.

gardeners and other food producers on biological pest control methods.<sup>213</sup> Seed stores offer seeds, soil improvers, and pest control substances.<sup>214</sup> The government also opened hundreds of composting and vermicomposting centers.<sup>215</sup> Finally, the country reduced its energy dependence by reverting to animal power, such as oxen, for field work.<sup>216</sup>

By 2000, Cuba surpassed pre-crisis levels of food production,<sup>217</sup> in large part through one of the “largest conversion[s] from conventional agriculture to organic and semi-organic farming that the world has ever known.”<sup>218</sup> Gardening has increased Cubans’ nutritional awareness and improved the quality and variety of Cubans’ diet beyond pre-1989 levels.<sup>219</sup> And Cuba is now, for the first time since its revolution, food self-sufficient.

Most modern industrialized countries, either due to political opposition or production rigidity, could not adopt Cuba’s unique command and control government structure, as applied to food production. However, the nation’s success in achieving food self-sufficiency warrants careful consideration as some elements of the government programs described above could fit within a democratic, capitalistic economy, especially in response to a food crisis.

#### IV. THE POST-9/11 CONCEPT OF FOOD SECURITY PLANNING IN THE UNITED STATES

In the aftermath of the September 11, 2001 terrorist attacks on the United States, the federal government issued a series of statutes, regulations, orders, directives and other documents aimed at preventing and reacting to future attacks. Some of these relate specifically to food security threats. Other government efforts establish generic procedures for intergovernmental coordination that could be applicable, in theory, to a food-related incident. The following sections examine these provisions only to the extent necessary to expose gaps in food-specific planning related to integrating regional and local food capabilities into a federal response plan.

##### A. *Federal-Level Policies Directed by DHS*

The Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (2002 Bioterrorism Act) is the cornerstone post-9/11 federal act related to increasing food security. The Act directs the Secretary of the Department of Homeland Security (DHS) to develop a coordinated strategy with the states to address the public health implications of bioterrorism and other public health emergencies.<sup>220</sup> The strategy must achieve effective surveillance and reporting mechanisms, ensure hospital and laboratory readiness, properly train personnel, prevent bureaucratic overlap, and establish effective communication networks.<sup>221</sup>

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<sup>213</sup> Koont, *supra* note 188, at 15-16.

<sup>214</sup> Murphy, *supra* note 191, at 31-33.

<sup>215</sup> Koont, *supra* note 188, at 15.

<sup>216</sup> ENRIQUEZ, *supra* note 150 at 41.

<sup>217</sup> Koont, *supra* note 188, at 19.

<sup>218</sup> Murphy, *supra* note 191, at 10.

<sup>219</sup> *Id.* at 44-45.

<sup>220</sup> Public Health Security and 2002 Bioterrorism Act, Pub. L. No. 107-188 § 101 (2002).

<sup>221</sup> *Id.*

Title III of the Act deals specifically with the safety and security of the food supply. It directs the President's Council on Food Safety,<sup>222</sup> in cooperation with the Secretaries of Transportation, Treasury, other relevant agencies, and other stakeholders, to develop an education and communication strategy to: 1) assess threats to the food supply, 2) secure food processing and manufacturing facilities and transportation modes, 3) improve contamination detection measures, and 4) establish procedures for notification and response measures.<sup>223</sup> The 2002 Bioterrorism Act also places emphasis on improving the safety of imported food, including increased inspections, enhanced information management systems and better coordination among agencies and states, and increased research on detection technology.<sup>224</sup>

In addition to legislation, President Bush issued 21 Homeland Security Presidential Directives (HSPDs) designed to implement national security objectives,<sup>225</sup> some of which implicate food security. The DHS has taken the lead in developing broader, generic organizational plans to deal with national emergencies, parts of which are relevant to food security preparedness. The Food and Drug Administration (FDA) and U.S. Department of Agriculture (USDA) are the two agencies with primary responsibility for carrying out security mandates related to food. In addition, all three agencies (DHS, FDA, USDA) participate in several cooperative initiatives. The following sections analyze the four most important DHS actions directed to food security programs.

### 1. *The National Incident Management System (NIMS) and the National Response Framework (NRF)*

Homeland Security Presidential Directives, HSPD-5<sup>226</sup> orders the DHS to develop plans to manage a domestic security incident. Specifically, HSPD-5 requires DHS to establish a National Incident Management System (NIMS) that provides for a standardized, coordinated response to a national incident.<sup>227</sup> NIMS is not "an operational incident management or resource allocation plan."<sup>228</sup> Rather, it emphasizes the interoperability of response between and within levels of government through the establishment of an incident command system (ICS), multia-

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<sup>222</sup> President Clinton established the Council through Executive Order in 1998. See 63 Fed. Reg. 45661 (Aug. 25, 1998). The Council initially consisted of the Secretaries of Agriculture, Commerce, and HHS, the Director of the Office of Management and Budget (OMB), the Administrator of the Environmental Protection Agency (EPA), the Assistant to the President for Science and Technology/Director of the Office of Science and Technology Policy, the Assistant to the President for Domestic Policy, and the Director of the National Partnership for Reinventing Government. Although the Council issued a strategic plan for food safety, it did not address food security in the plan issued prior to the September 11 attacks. President Bush added the Secretary of the DHS through Executive Order in 2003. See 68 Fed. Reg. 10,619 (Mar. 5, 2003).

<sup>223</sup> Public Health Security and 2002 Bioterrorism Act, Pub. L. No. 107-188 § 301 (2002). Title III of the Act deals with the safety and security of the food supply.

<sup>224</sup> *Id.* § 302, codified at 21, U.S.C. § 381(h).

<sup>225</sup> HSPDs are available at the DHS website, [http://www.dhs.gov/xabout/laws/editorial\\_0607.shtm](http://www.dhs.gov/xabout/laws/editorial_0607.shtm).

<sup>226</sup> The White House, Homeland Security Presidential Directive/HSPD-5 (Feb. 28, 2003), <http://www.whitehouse.gov/news/releases/2003/02/20030228-9.html>.

<sup>227</sup> Federal Emergency Management Administration (FEMA), NATIONAL INCIDENT MANAGEMENT SYSTEM 3 (Draft) (Aug. 2007), <http://www.fema.gov/library/viewRecord.do?id=2961> ("NIMS Draft") at (15) (stating that NIMS is a "consistent nationwide template to enable federal, state, tribal, and local governments, the private sector, and non-governmental organizations to work together to prepare for, prevent, respond to, recover from, and mitigate the effects of incidents regardless of cause, size, location, or complexity").

<sup>228</sup> *Id.* at 3.

agency coordination systems, and public information systems. Specific components include management and responder preparedness, communications and information management, resource management, command and management, and ongoing management and maintenance. HSPD-5 requires all federal agencies to adopt NIMS.<sup>229</sup> In addition, localities must adopt NIMS as a prerequisite to receiving federal preparedness assistance.<sup>230</sup>

HSPD-5 also requires DHS to establish a National Response Framework (NRF).<sup>231</sup> The NRF builds on NIMS by creating multi-tiered structures and mechanisms to coordinate agency participation in incident management with states, localities, non-governmental organizations (NGOs) and the private sector, regardless of the scale or type of hazard involved.<sup>232</sup> The NRF contains a core document and three annexes: support, emergency support function (ESF) and incident.

ESF-11 contains planning mechanisms for food supply security to ensure adequate nutrition in a time of crisis.<sup>233</sup> Nutrition assistance includes “determining nutrition assistance needs, obtaining appropriate food supplies, arranging for delivery of supplies, and authorizing disaster food stamps.”<sup>234</sup> USDA’s Food and Nutrition Service (FNS) is responsible for coordinating and executing assistance, including determining nutritional assistance needs, obtaining and transporting appropriate food supplies, authorizing a disaster food stamp assistance program<sup>235</sup> and working with state and voluntary agencies to develop an operational plan that assures delivery of wholesome food to the correct location.<sup>236</sup> In the event commercial

<sup>229</sup> *Id.*

<sup>230</sup> *Id.*

<sup>231</sup> *Id.* at 16. See also FEMA, *National Response Framework* (Jan. 2008) (NRF Document), <http://www.fema.gov/pdf/emergency/nrf/nrf-core.pdf>.

<sup>232</sup> NIMS Draft, *supra* note 227, at 12.

<sup>233</sup> *Id.*

<sup>234</sup> FEMA, *ESF-11* (Jan. 2008), <http://www.fema.gov/pdf/emergency/nrf/nrf-esf-11.pdf>, at 1.

<sup>235</sup> *Id.* at 4. See also USDA Food and Nutrition Service, <http://www.fns.usda.gov/disasters/disaster.htm>. The USDA’s critical infrastructure and key resources protection plan, states that the Farm Services Administration (FSA) and Agricultural Marketing Service (AMS), also contribute to coordination and deliverance of assistance. See USDA, et al., *Agriculture and Food, Critical Infrastructure and Key Resources Sector-Specific Plan as input to the national infrastructure protection plan* (May 2007) <http://www.dhs.gov/xlibrary/assets/nipp-ssp-ag-food.pdf> at 60.

<sup>236</sup> ESF-11, *supra* note 234, at 10. ESF-11 also delineates functions of other supporting agencies for food provision. For example, the Department of Defense (DOD) must assess its available food and food storage capabilities. *Id.* at 13. DHS “[c]oordinates with the Infrastructure Liaison concerning all issues regarding recovery and restoration of the associated critical infrastructure sector [agriculture], including the allocation of resources ... and private sources of food.” *Id.* at 14. The Department of Justice (DOJ), DHS, and Department of Transportation will control movement of people and things. *Id.* at 16. Most states and some localities have prepared an ESF -11 for food and agriculture pursuant to the NRF. See, e.g., Colorado State Emergency Operations Plan, *Agriculture and Natural Resources Annex, Emergency Support Function #11*, at [http://dola.colorado.gov/dem/operations/seop2007/esf11\\_ag&naturalresources.pdf](http://dola.colorado.gov/dem/operations/seop2007/esf11_ag&naturalresources.pdf); Georgia Emergency Management Agency, *Emergency Support Function #11, Agriculture and Natural Resources (Draft)*, at [http://www.agrosecurity.uga.edu/annexes/Annex02\\_ESF11.pdf](http://www.agrosecurity.uga.edu/annexes/Annex02_ESF11.pdf); South Carolina, *Annex 11 (ESF-11): Food Services*, at [http://www.scemd.org/Plans/SCEOP07/21-Annex-11\(FoodServices\).pdf](http://www.scemd.org/Plans/SCEOP07/21-Annex-11(FoodServices).pdf); Florida Department of Agriculture and Consumer Services, *ESF-11*, at <http://www.floridaagemergencies.org/>; Ohio Emergency Operations Plan, *Emergency Support Function #11*, at [http://74.125.95.132/search?q=cache:FJZgVd\\_x-sJ:www.ema.ohio.gov/Ohio\\_EOP/s\\_ESF\\_11\\_Agriculture.pdf+Ohio+ESF-11&hl=en&ct=clnk&cd=1&gl=us](http://74.125.95.132/search?q=cache:FJZgVd_x-sJ:www.ema.ohio.gov/Ohio_EOP/s_ESF_11_Agriculture.pdf+Ohio+ESF-11&hl=en&ct=clnk&cd=1&gl=us); Santa Cruz County, *Emergency Response and Recovery Plan, Essential Support Function #11, Food Annex*, at [http://www.co.santa-cruz.az.us/admin\\_services/ESF%2011.pdf](http://www.co.santa-cruz.az.us/admin_services/ESF%2011.pdf); Thurston County, *Emergency Support Function #11, Food, Water and Donated Goods*, at [http://www.co.thurston.wa.us/em/esfs/ESF\\_11\\_Food\\_Water.pdf](http://www.co.thurston.wa.us/em/esfs/ESF_11_Food_Water.pdf). The D.C. metro region also has prepared an ESF-11. *District Response Plan, Emergency Support Function #11, Food*, at <http://74.125.95.132/search?q=cache:fHvctwCe9dMJ:dcema.dc.gov/dcema/cwp/view,A,1226,Q,537120.asp+D.C.+Metro+ESF-11&hl=en&ct=clnk&cd=1&gl=us>. Although all state ESF’s identified by the authors contemplate a role for the state in food procurement, none consider the role of regional or local food infrastructure in responding to either an acute or chronic food crisis.

channels are disabled, the FNS contemplates both individual and congregate meal service, except in cases where pandemic flu would make congregate feeding unwise.<sup>237</sup> Accordingly, the FNS must establish logistical links with long-term congregate meal services.<sup>238</sup> Although not entirely clear from available documents, it appears that the FNS plans to distribute food through existing commodity distribution channels.<sup>239</sup> Although certainly the most efficient method in light of our nation's current food distribution system, terrorist or other disruptions to the commodity distribution system could foil existing FNS emergency plans and would require implementation of alternative food distribution channels. The FNS, however, has not disclosed contingencies acknowledging the need to develop or encourage use of these non-traditional channels.

At the local level, there is no evidence that the FNS has devised any educational programs as part of ESF-11, or other parts of the NRF, to teach individuals and families about food self-sufficiency, such as gardening or home processing of food (e.g., canning, dehydrating).<sup>240</sup> Furthermore, the ESF does not discuss the role or functioning of local and regional food networks in a time of crisis. It is in these areas where states and localities have the opportunity to make a significant contribution to crisis response. The political and social climate is ripe for states and localities to start local food planning and incorporate plans into the ESF-11.

For example, as of this writing, the 2009 world economic crisis shows no sign of abating, and has forced families to look hard for ways to save money. A family garden can return \$25 for every \$1 invested.<sup>241</sup> Hit hard by recession, many communities, particularly urban ones, would benefit greatly by individual food production, but lack the necessary gardening skills.<sup>242</sup> First Lady Michelle Obama is preparing the first White House vegetable garden since Eleanor Roosevelt's Victory Garden, which will elevate the importance and stature of family food production and healthful eating.<sup>243</sup> Although tragic, the world's economic and nation's obesity crises actually can strengthen domestic national security preparedness to the extent it stimulates localized food production—and nothing is more local than a backyard garden.

In addition to education efforts aimed at the individual, states and localities could strengthen local and regional food networks as part of a resilient food supply system. In the event of a national or otherwise large catastrophe, it is likely that the source of the contamination/food channel disruption would have little direct effect on local production efforts nationwide. In the event of a localized event of animal disease and subsequent quarantine from a bioterrorism incident, states could implement a distribution plan to assist the disrupted local food supplies.

The authors emphasize that they do not contend that local food should or could supplant entirely the current food system. Rather, support to develop and enhance efficiency of local and regional networks could and should supplement traditional food supply channels prior to a crisis event. This will increase system resiliency and, at the time of crisis, allow the government to devote resources to other issues.

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<sup>237</sup> ESF-11, *supra* note 234, at 2; FNS, <http://www.fns.usda.gov/disasters/pandemic/default.htm>.

<sup>238</sup> ESF-11, *supra* note 234, at 8.

<sup>239</sup> FNS, <http://www.fns.usda.gov/disasters/pandemic/default.htm>.

<sup>240</sup> The current household-level food system has tremendous potential. For example, households and community gardens generated roughly \$18 billion worth of fruit and vegetables in 1989. Dahlberg, *supra* note 14, at 82.

<sup>241</sup> John D. Sutter, *Recession gardens trim grocery bills, teach lessons*, CNN ONLINE, <http://www.cnn.com/2009/LIVING/01/01/recession.garden/>.

<sup>242</sup> *Id.*

<sup>243</sup> Marian Burros, *supra* note 28.

Development of supplementary food supply chains that incorporate local/regional production requires prior planning and government support. For example, the Illinois Food, Farms and Jobs Act<sup>244</sup> established a task force to examine steps the government could take to encourage development of local food systems. The intent of this act, however, was not food security planning, but rather economic development. The issues identified by the task force to encourage local food networks from the economic development perspective could apply in the food security context. In other words, improving food security via development of local food supply chains will not *a priori* have a negative effect on the economy. Rather, a well designed system can benefit the local/regional economy, while simultaneously improving the resiliency of the food supply.

A functioning regional food system in a time of national crisis can also mitigate potential failures of the national distribution system—an event none of the NIMS or NRF planning mechanisms fully contemplates. Current planning focuses on reaction to an isolated event and assumes a relatively rapid resumption of status quo in the food distribution system. Planners, however, should at least consider the possibility of long-term food shortages, perhaps even those as extensive as in World War II, as well as a general failure of transportation networks. In such extreme instances, the FNS could consider even the possibility of requisitioning items from intact local food systems. Moreover, FNS contingency plans might resurrect frameworks for food coupons/rationing, communal feeding (e.g., modify the school lunch program—de-linking it from commodity agriculture), and implement educational programs for “victory gardening.”

In sum, a functioning local/regional food system creates valuable options for government responses to food emergencies. Government planners must identify the gaps in organization and execution, as identified above, and put programs and structure in place well before the crisis-causing event.

## 2. *Critical Infrastructure and Key Resources (CIKR) Protection*

Building on HSPD-5, the President issued HSPD-7 (Critical Infrastructure, Identification, Prioritization and Protection) in December 2003.<sup>245</sup> Under the directive, DHS must prepare a national plan for critical infrastructure and key resources protection (CIKR).<sup>246</sup> In 2006, DHS issued the National Infrastructure Protection Program (NIPP) to guide a unified federal effort in protecting CIKR.<sup>247</sup> CIKR protection and restoration also is integrated into the NRF.<sup>248</sup>

The NIPP contains non-sector specific, general guidelines for CIKR protection. The NIPP recognizes that in order to ensure an effective program over the long-term, localities also must develop CIKR protection and recovery plans across sectors (e.g., transportation, food and agriculture).<sup>249</sup>

HSPD-7 designates USDA and HHS (FDA) as sector-specific agencies (SSA's) responsible for protection of critical agricultural and food resources.<sup>250</sup> USDA and

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<sup>244</sup> Illinois Public Act 095-0145 (Aug. 14, 2007).

<sup>245</sup> The White House, HSPD/HSPD-7 (Dec. 17, 2003), <http://www.whitehouse.gov/news/releases/2003/12/20031217-5.html>.

<sup>246</sup> *Id.* at (27)

<sup>247</sup> DHS, NIPP (2006) (NIPP), [http://www.dhs.gov/xlibrary/assets/NIPP\\_Plan.pdf](http://www.dhs.gov/xlibrary/assets/NIPP_Plan.pdf).

<sup>248</sup> NRF, *supra* note 231, at 2; *Critical Infrastructure and Key Resources Support Annex*, <http://www.fema.gov/pdf/emergency/nrf/nrf-support-cikr.pdf>, at 2.

<sup>249</sup> NIPP, *supra* note 247, at 80.

<sup>250</sup> HSPD-7, *supra* note 245, at (18)(a)-(b).

FDA must identify, prioritize, assess, remediate, and protect the critical infrastructure for which they are responsible, in coordination with the private sector.<sup>251</sup> To accomplish this, sector-specific agencies must create sector-specific plans (SSPs), which become part of the NIPP.

USDA and FDA issued the joint agriculture and food sector-specific plan (USDA AF-SSP, FDA AF-SSP) in May 2007, covering resources “from field to table.”<sup>252</sup> The AF-SSPs conclude that the “extensive, open, interconnected, diverse and complex” nature of the U.S. food and agricultural system make it difficult to protect.<sup>253</sup> Moreover, the complexities of food processing and technologies add to the challenge.<sup>254</sup> The plan is divided into two parts: the USDA portion (meat, poultry and eggs) first, followed by the FDA portion (all other food).<sup>255</sup> The USDA’s AF-SSP makes the assumption that the sector cannot “feed the nation” without a functioning chemical input and transportation services industry—a troubling proposition in light of some potential terrorist threats.<sup>256</sup>

In order to coordinate the AF-SSP between levels of federal, state and local governments, and within the federal government, the agencies created a Government Coordinating Council (GCC).<sup>257</sup> The GCC consists of officials from DHS, FDA, USDA, DOD, the EPA, national associations of state health, agriculture, and animal health officials, the National Association of County and City Health Officials, and the Intertribal Agriculture Council.<sup>258</sup> The sector coordinating council (SCC) coordinates private policies between sectors that relate to agriculture and food, and is divided into seven sub-councils: producers/plants; producers/animals; processors/manufacturers; restaurant/food service; retail; warehousing/logistics; agricultural inputs and services.<sup>259</sup> One of the goals of the SCC is to ensure that state and localities can react effectively to a crisis.<sup>260</sup>

The first task of USDA and FDA in their respective SSPs is to identify agriculture and food assets.<sup>261</sup> Once identified, the responsible agencies use the CARVER+shock method to calculate risk.<sup>262</sup> CARVER is an acronym used to ascertain the appeal of a certain target: criticality, assessability, recuperability, vulnerability, effect, and recognizability.<sup>263</sup> “Shock” is a measure of the combined health, economic and psychological impacts from an attack.<sup>264</sup> The responsible agencies, after asset

<sup>251</sup> *Id.* at (24)-(35).

<sup>252</sup> USDA, et al., *Agriculture and Food, Critical Infrastructure and Key Resources Sector-Specific Plan as input to the national infrastructure protection plan* (May 2007) (USDA AF-SSP and FDA AF-SSP) <http://www.dhs.gov/xlibrary/assets/nipp-ssp-ag-food.pdf>, at 12.

<sup>253</sup> USDA-AF-SSP, *supra* note 252, at 2, 20.

<sup>254</sup> FDA AF-SSP, *supra* note 252, at 11.

<sup>255</sup> This division conforms to the agencies’ traditional jurisdictional division between food, meat, poultry and egg products. *See generally*, Degnan, Frederick H., *The Regulation of Food Safety*, in 1 FUNDAMENTALS OF LAW AND REGULATION 161-203 (1997) (describing the role of the FDA in food safety regulation); Olsson, Philip C. & Johnson, Dennis R., *Meat and Poultry Inspection: Wholesomeness, Integrity, and Productivity*, in 1 FUNDAMENTALS OF LAW AND REGULATION 205-236 (1997) (describing the role of the USDA in food safety regulation).

<sup>256</sup> USDA AF-SSP at 252.

<sup>257</sup> *Id.* at 15-16.

<sup>258</sup> *Id.* at 16.

<sup>259</sup> *Id.*

<sup>260</sup> *Id.* at 23. FDA AF-SPP, *supra* note 252, at 16.

<sup>261</sup> Agricultural and food assets identified under the USDA’s AF-SSPs are compiled in the National Asset Database (NADB). *See* USDA AF-SPP, *supra* note 252. FDA uses other databases to collect information on assets within its regulatory jurisdiction. *See* FDA AF-SSP, *supra* note 252, at 24-26.

<sup>262</sup> USDA AF-SSP, *supra* note 252, at 3 and Appendix 5; FDA AF-SSP, *supra* note 252, at 35.

<sup>263</sup> USDA AF-SSP, *supra* note 252, at 3. FDA AF-SSP, *supra* note 252, at 43.

<sup>264</sup> USDA AF-SSP, *supra* note 252, at 3.

identification and risk assessment, must prioritize protection.<sup>265</sup> The Agriculture and Food Criticality Project, comprised of subject matter experts across disciplines and overseen by the SCC and GCC, calculates criticality as part of the prioritization process.<sup>266</sup> How states prioritize assets varies, but is guided by the DHS Grants and Training Program.<sup>267</sup> While some of these grants deal with food issues (e.g., community feeding centers for the homeless), none appear to address agriculture and food asset prioritization.<sup>268</sup>

The USDA's AF-SSP clearly identified food distribution as a potentially vulnerable asset.<sup>269</sup> The plan, however, makes no reference to the role of regional and local food systems in distributing food. Rather, the agency contemplates that:

[i]n the event of a disaster declared by the President and as part of the [ESF] 11, AMS, FSA, and FNS collaborate with the private sector—including the commercial market, commercial distributors, and warehouse owners—as a part of the commodity procurement and distribution process to manage and coordinate the delivery of commodities to organizations such as the American Red Cross or the Salvation Army. These charitable and private voluntary organizations distribute the food to disaster victims.<sup>270</sup>

In neglecting to identify local and regional food system capabilities in their respective SSPs, the agencies missed an opportunity to bring together DHS, USDA, FDA and the states to plan how regional and local food networks could be activated in an effort to support an area hard-hit by acute crisis. Moreover, if states were to assess their local and regional capabilities, planners could integrate the results into a broader response plan. One interesting concept (in need of further discussion) could be the development of interstate compacts for the provision of food. For example, a Florida/Illinois Compact, whereby Florida agrees to provide produce in return for grain and animal products.

One possible avenue to address this planning deficiency is the annual requirement to submit food security research and development (R&D) plans. HSPD-7 requires the SSAs to submit yearly R&D plans for increasing food security,<sup>271</sup> and DHS maintains a National Center for Food Protection and Defense to conduct research that includes food supply chain and economic analysis.<sup>272</sup> Future R&D

<sup>265</sup> *Id.* at 27; FDA AF-SSP, *supra* note 252, at 45-46. How much at-risk these identified assets are is often confidential. USDA AF-SSP, *supra* note 252, at 22.

<sup>266</sup> *Id.* at 28. FDA AF-SPP, *supra* note 252, at 17.

<sup>267</sup> USDA AF-SSP, *supra* note 252, at 28.

<sup>268</sup> DHS Grants (<http://www.dhs.gov/xgovt/grants/index.shtm>); FEMA grants (<http://www.fema.gov/government/grant/index.shtm>). Both the USDA and FDA have implemented the ALERT food defense awareness initiative, which can apply at all stages of the food chain. *See* FDA AF-SSP, *supra* note 252 at 47. Components of ALERT include: assure, look, employees, reports and threat. ALERT advises food suppliers to assure themselves that they source supplies and ingredients from safe and secure sources, and to look after the security of the ingredients and products within the facility. It further requires that food suppliers know the persons who go in and out of the facility, to be ready to report on the security of the facility, and to know how to report security threats. *Id.*

<sup>269</sup> USDA AF-SSP, *supra* note 252, at 59.

<sup>270</sup> *Id.* at 60 (emphasis added).

<sup>271</sup> *Id.* at 63.

<sup>272</sup> *Id.* at 67. For a list of projects on systems analysis, *see* [http://www.ncfpd.umn.edu/research/systems\\_strategies.cfm](http://www.ncfpd.umn.edu/research/systems_strategies.cfm). The food and agriculture SSAs have organized their R & D into specific areas, including response and recovery, and advanced design of infrastructure and systems. USDA AF-SSP, *supra* note 252, at 64. In addition, FDA's CFSAN conducts scientific research relates to prevention and mitigation strategies, and testing in conjunction with its Food Defense Research Initiative, providing another opportunity for food system research. *Id.* at 72, 75.

efforts could investigate the local/regional food system capabilities.<sup>273</sup> The Food, Conservation and Energy Act of 2008 authorizes the USDA to establish grant and loan programs to assist localities in biosecurity planning, preparedness and planning through 2012.<sup>274</sup>

### 3. HSPD-8

A third directive, HSPD-8, ordered DHS to set national preparedness goals and to develop preparedness assistance programs for state and local governments.<sup>275</sup> DHS finalized its HSPD-8 Guidelines in September 2007,<sup>276</sup> describing them as “umbrella documents that collate many plans, strategies, and systems into an overarching framework” referred to as the National Preparedness System.<sup>277</sup> The National Preparedness System includes the NIMS, NIPP, and the NRF discussed in previous sections.<sup>278</sup>

The Guidelines encourage localities to engage civic organizations in preparing for, among other things, distribution of goods.<sup>279</sup> The DHS guidelines set planning priorities, one of which is citizen preparedness.<sup>280</sup>

Within the Guideline framework, DHS has identified 15 scenarios, some of which could create regional and/or national disruptions in food supply and distribution, including pandemic influenza, natural disaster (e.g., hurricane, earthquake), foreign animal disease, and food contamination.<sup>281</sup> Unfortunately, DHS does not consider acute drought or flooding, which could drastically curtail food production and subsequent national distribution of staple food, as one of the national planning scenarios.

Within the context of the identified scenarios, a parallel planning priority is citizen preparedness. The Guidelines encourage localities to engage civil organizations in preparing for, among other things, distribution of goods.<sup>282</sup> The Guidelines provide a skeleton diagram for assessing preparedness based on capabilities, which localities and regions could use to evaluate and plan for food security.<sup>283</sup> Preparedness is measured by “capabilities,” which consists of National Planning Scenarios, Targeted Capabilities List (TCL), and Universal Task List (UTL).<sup>284</sup> The TCL contains tasks that governments can use in general planning, whereas the UTL contains tasks that, if achieved, can be used to respond to any of the 15 scenarios.<sup>285</sup>

### 4. Citizen Preparedness

FEMA issued an in-depth guide to citizen preparedness in 2004. Unfortunately, the only guidance related to food recommends that citizens keep a three-day supply

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<sup>273</sup> *Id.* at 64.

<sup>274</sup> Food, Conservation and Energy Act of 2008, Pub. L. No. 110-234, § 14113, 122 Stat. 923 (2008).

<sup>275</sup> The White House, HSPD/HSPD-8 (Dec. 17, 2003), <http://www.whitehouse.gov/news/releases/2003/12/20031217-6.html>. For a summary of the directive and how it has been implemented, see DHS, *HSPD-8 Overview*, <http://www.ojp.usdoj.gov/odp/assessments/hspd8.htm>.

<sup>276</sup> DHS, *National Preparedness Guidelines* (Sept. 2007), [http://www.dhs.gov/xlibrary/assets/National\\_Preparedness\\_Guidelines.pdf](http://www.dhs.gov/xlibrary/assets/National_Preparedness_Guidelines.pdf).

<sup>277</sup> *Id.* at 2.

<sup>278</sup> *Id.*

<sup>279</sup> *Id.* at 4.

<sup>280</sup> *Id.* at 20-21.

<sup>281</sup> *Id.* at 31-32.

<sup>282</sup> *Id.* at 4.

<sup>283</sup> *Id.* at 33.

<sup>284</sup> *Id.* at 10, 20.

<sup>285</sup> *Id.* at 31-32.

on hand.<sup>286</sup> In fiscal year 2008, DHS issued guidance under the Homeland Security Grant Program that included \$14.5 million directed to states for their Citizen Preparedness Programs (CPPs).<sup>287</sup> Citizen Corps and local Citizen Corps Councils (CCCs) implement CPPs.<sup>288</sup>

The Corporation for National and Community Service (CNCS), an independent federal agency, assists local CCCs in developing programs and preparedness training.<sup>289</sup> Neither the CPPs, nor CNCS, have programs dedicated specifically to achieving individual or local food self sufficiency. CDP planning bodies, however, could and should look back to the Victory Garden Program's coordination of structures and educational efforts to improve household food security preparedness.<sup>290</sup> Under the Victory Garden Program, Local Defense Councils charged Garden Advisory Committees to improve citizen preparedness and training.<sup>291</sup> In an era where an increasing number of citizens rely on pre-packaged food and restaurants,<sup>292</sup> training in even basic fresh food preparation takes on an even higher degree of importance and should be a part of current citizen preparedness efforts.

## B. *FDA and USDA Policies*

FDA has regulatory authority over approximately 80 percent of the food sold in the United States<sup>293</sup> while the USDA's jurisdiction extends to the production and processing of meat, poultry and egg products.<sup>294</sup> FDA's food security programs, unlike the proliferation of USDA sub-agencies dealing with food security post-9/11, have been placed solely within the Center for Food Safety and Applied Nutrition (CFSAN), Office of Food Defense, Safety and Outreach.<sup>295</sup> A brief discussion of the respective agency initiatives, as well as opportunities for collaborative efforts follows.

In 2003, FDA issued a food supply threat assessment, focusing on types of contaminants that terrorists could introduce into agricultural and food systems.<sup>296</sup> With these threats in mind, and in light of the 2002 Bioterrorism Act's requirements, FDA took four courses of regulatory action to deal with terrorist threats—facility registration, recordkeeping, prior notice of imports, and administrative detention.<sup>297</sup> Domestic and foreign<sup>298</sup> facilities that manufacture, process, produce, pack or hold

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<sup>286</sup> FEMA, *Are You Ready? An In-Depth Guide to Citizen Preparedness* (Aug. 2004), [http://www.fema.gov/pdf/areyouready/areyouready\\_full.pdf](http://www.fema.gov/pdf/areyouready/areyouready_full.pdf), at 35.

<sup>287</sup> DHS, DHS Announces Release of Application Guidance for over \$3 Billion in Grant Programs (Feb. 1, 2008), [http://www.dhs.gov/xnews/releases/pr\\_1201882070387.shtm](http://www.dhs.gov/xnews/releases/pr_1201882070387.shtm).

<sup>288</sup> <http://www.citizencorps.gov/programs/>.

<sup>289</sup> <http://www.cns.gov/>.

<sup>290</sup> See Section II.B., *supra*, discussing the Victory Garden Program.

<sup>291</sup> See *supra* note 119-120 and accompanying text.

<sup>292</sup> See Joanne F. Guthrie et. al., *Role of Food Prepared Away from Home in the American Diet, 1977-78 versus 1994-96: Changes and Consequences*, 34 J. NUTRITION EDUCATION & BEHAVIOR 140 (2004).

<sup>293</sup> FDA, *Food Protection Plan: An Integrated Strategy for Protecting the Nation's Food Supply 4* (Nov. 2007), <http://www.fda.gov/oc/initiatives/advance/food/plan.pdf>. [hereinafter FDA, *Food Protection Plan*].

<sup>294</sup> See The Federal Meat Inspection Act (FMIA), 21 U.S.C. §§ 601-691; Poultry Products Inspection Act (PPIA), 21 U.S.C. §§ 451-471; and Egg Products Inspection Act (EPIA), 21 U.S.C. §§ 1031-1056.

<sup>295</sup> See <http://www.cfsan.fda.gov/~dms/defterr.html>.

<sup>296</sup> FDA, *Risk Assessment for Food Terrorism and Other Food Safety Concerns* (Oct. 7 2003) (FDA Risk Assessment), <http://www.cfsan.fda.gov/~dms/rabtact.html>.

<sup>297</sup> Roberts, *supra* note 12, at 208. See also Endres, *supra* note 31, at 130-135 (discussing recent FDA food safety response plans).

<sup>298</sup> Foreign facilities must only register if no further processing or packaging is done outside the U.S. 21 U.S.C. § 350d(b)(3)(A).

food for human or animal consumption in the United States must register with FDA.<sup>299</sup> Prior notification of imported food must be made electronically to FDA within a certain time period depending on the mode of entry.<sup>300</sup> When inspectors suspect contamination that poses a serious threat of harm or death to humans or animals, FDA now immediately detains suspect food. In the past, FDA would request that a state place a temporary hold on distribution until FDA sought "court authority to deal with it."<sup>301</sup>

In addition to actions taken under the 2002 Bioterrorism Act, FDA issued a Food Protection Plan in November 2007 as part of its Import Safety Plan.<sup>302</sup> Likely issued in response to melamine contamination of pet food traced to Chinese raw materials, and highly-publicized *E. coli* outbreaks originating from raw spinach that ended in several illnesses and deaths, the Plan aims to better prevent, intervene, and respond to food emergencies related to both intentional "food defense" and unintentional "food safety" contamination.<sup>303</sup> Noting that food imports have risen dramatically, and that ready-to-eat, processed foods account for a growing percentage of these imports,<sup>304</sup> FDA proposed "building safety in from the start," working more closely with industry, state, local and foreign governments to "further develop the tools and science needed to identify vulnerabilities and determine the most effective approaches."<sup>305</sup> It admits in the Plan, however, that the agency "has limited information regarding conditions under which most food is produced in foreign countries."<sup>306</sup> Accordingly, FDA has emphasized increased corporate responsibility for the food and food ingredients imported.<sup>307</sup>

Domestically, FDA indicated that it will seek additional regulatory authority to require food handlers to take specific steps to prevent intentional contamination (e.g., locks on tanker trucks) and to implement food safety procedures for high-risk foods (e.g., HACCP),<sup>308</sup> as well as to create new food categories within the regis-

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<sup>299</sup> 2002 Bioterrorism Act § 305, codified at 21 U.S.C. § 350d; 70 Fed. Reg. 57505 (Oct. 3, 2005) (FDA's implementing regulations), codified at 21 C.F.R. § 1.25-1.406. This includes facilities jointly registered with FDA and USDA. 21 C.F.R. § 1.226(g). Farms are not subject to the registration requirement unless food that is stored or processed on site is under different ownership (such as a cooperative or food processing company). 21 C.F.R. § 1.227(3)(i). Retail establishments and restaurants are not subject to registration if its primary function is to sell food directly to consumers. 21 C.F.R. § 1.226(c)-(d); 21 C.F.R. § 1.227 (10)-(11). Central kitchens and commissaries, therefore, are not exempt. The registration contains basic information regarding ownership, contact information, and product type. Facilities also must maintain certain records. 2002 Bioterrorism Act § 306, codified at 21 U.S.C. § 350c; 21 C.F.R. § 1.326-1.368.

<sup>300</sup> 2002 Bioterrorism Act §307, codified at 21 U.S.C. § 381(m); 21 C.F.R. § 1.276-1.285.

<sup>301</sup> 2002 Bioterrorism Act § 303, codified at 21 U.S.C. § 334; implementing regulations at 69 Fed. Reg. 31659-31705 (Jun. 4, 2004) (codified in parts 1, 10 and 16 of 21 C.F.R.). See also Center for Infectious Disease Research and Policy (CIDRAP), *FDA sets procedures for detaining contaminated food* (May 24, 2004).

<sup>302</sup> FDA, *Food Protection Plan*, *supra* note 293.

<sup>303</sup> *Id.* at 1. See also Endres, A. Bryan, *United States Food Law Update*, 3 J. FOOD L. & POLICY 253, 276-280 (2007) (discussing FDA responses to *E. coli* and melamine).

<sup>304</sup> FDA, *Food protection plan*, *supra* note 293, at 8.

<sup>305</sup> *Id.* at 11. FDA hopes to shift some of the inspection burden to regulatory authorities in exporting countries by requiring electronic import certificates for high-risk foods. *Id.* at 19-20. FDA will seek authority from Congress to prohibit food imports when its access to the foreign facility for inspection has been denied, limited, or delayed. *Id.* at 20. In order to detect contamination earlier, FDA will improve reporting systems and deploy improved screening tools. *Id.*

<sup>306</sup> *Id.* at 11.

<sup>307</sup> See Letter from FDA to Food Manufacturers Regarding Legal Responsibilities for the Safety of Food Ingredients (May 4, 2007), at <http://www.cfsan.fda.gov/~dms/proltr.html>.

<sup>308</sup> HACCP refers to the preferred food safety measure using science-based controls from raw material to finished product. See FDA, *HACCP: A State-of-the-Art Approach to Food Safety*, <http://www.cfsan.fda.gov/~lrd/bghaccp.html>. See also Fortin, Neil, *The Hang-up with HACCP: The Resistance to Translating Science into Food Safety Law*, 58 FOOD & DRUG L. J. 565 (2003), (describing industry disincentives to adopting HACCP).

tration system to better tailor registration with hazard risk.<sup>309</sup> In addition, FDA proposals contained in the Food Protection Plan indicate that the agency will seek additional authority to certify third parties as food inspectors and to require food manufacturers that fail to meet current good manufacturing practices (GMPs) to reapply, and pay for re-inspections.<sup>310</sup>

Finally, when prevention and intervention fail, FDA seeks to improve its response to food emergencies by seeking authority to issue mandatory food recalls and to gain increased access to safety and security records during the emergency.<sup>311</sup> Unfortunately, FDA's reliance on third party inspection, increased fees, and increased technology may have negative consequences for smaller, locally-oriented growers and processors.<sup>312</sup> Although regulatory requirements, such as registration, food defense plan, etc., may have a relatively small cost, the marginal value with respect to food security is questionable. More importantly, new technological requirements may have a disproportionate impact on the small farmer and a corresponding negative effect on the development of regional food networks. It is hard to imagine a successful Victory Garden Program bound by 21st century best available technology requirements.

The bulk of USDA's food and agriculture crisis response planning derives from the NRF and Emergency Support Function 11 (EFS-11) (Agriculture and Natural Resources), as previously explained.<sup>313</sup> However, the USDA's Cooperative State Research, Education and Extension Service (CSREES) and the USDA's Agricultural Marketing Service (AMS) have untapped potential to improve security planning efforts to incorporate local food system networks. CSREES' role in developing agricultural and food biosecurity education programs could, if properly focused, significantly improve the ability of regions, localities and individuals to provide their own food security in a time of crisis.<sup>314</sup> CSREES funds the Extension Disaster Education Network (EDEN)—the land grant universities' effort to collaboratively develop educational resources for disaster preparedness.<sup>315</sup> Part of this work should include coordination with DHS Citizen Preparedness Programs (CCPs).<sup>316</sup>

Three other CSREES divisions—Rural Development, Nutrition and Urban—have programs that could support food system resiliency for disaster preparedness. Rural Development efforts aim to strengthen the capacity and security of communities, including educating decision makers to play an active role in regional and national issues. As described in section IV.A.1, *supra*, local food systems not only help localities become food secure, but also improve their economic well-being. CSREES' Nutrition division provides educational programs to encourage informed choices “about food and lifestyles that support their physiological health, economic, and social well-being.” DHS CPPs could work with the Nutritional division to design programs aimed at food self-sufficiency through gardening and home processing. Lastly, CSREES' urban programs that foster community development could be used to promote food

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<sup>309</sup> FDA, *Food Protection Plan*, *supra* note 293 at 15.

<sup>310</sup> *Id.* at 18.

<sup>311</sup> *Id.* at 22. FDA proposes eliminating the need to show adulteration. It must currently demonstrate both threat and adulteration. *Id.* For a critical discussion of FDA's current recall authority, see Roberts, Michael T., *Mandatory Recall Authority: A Sensible and Minimalist Approach to Improving Food Safety*, 59 *FOOD & DRUG L.J.* 563 (2004).

<sup>312</sup> See Rasco, *supra* note 7, at 89 (noting that FDA regulations promulgated pursuant to the 2002 Bioterrorism Act require companies to “establish new and relatively complicated procedures”).

<sup>313</sup> See *supra* notes 233-244.

<sup>314</sup> [http://www.csrees.usda.gov/nea/ag\\_biosecurity/ag\\_biosecurity.cfm](http://www.csrees.usda.gov/nea/ag_biosecurity/ag_biosecurity.cfm).

<sup>315</sup> See Extension Disaster Education Network, <http://www.eden.lsu.edu/>.

<sup>316</sup> See *supra* note 287-288 and accompanying text (discussing CPPs).

self-sufficiency, particularly because urban residents may be the most vulnerable in a time of food crisis. It is in this respect that many of the techniques to encourage urban food production in post-soviet Cuba could translate to the domestic urban environment.

Specific Cuban programs with translation potential include production incentives, land reutilization, relaxation of legal rules (e.g., zoning) and creation of a city-level "department of agriculture."<sup>317</sup> Prior to the collapse of Soviet aid, Cuban diets relied on imports for 57 percent of their daily caloric intake.<sup>318</sup> As an incentive to divert production of cash crops in favor of food crops, Cuba offered direct payments to farmers.<sup>319</sup> Similar programs in the United States could encourage farmers on the urban fringe to switch from corn/soybean or other regionally grown cash crops to food staples. Land reutilization and promotion of small-scale gardens provided dramatic improvements to the food self-sufficiency of Havana. Production from vacant land, parks, raised beds on paved-over land, and school and hospital gardens, with the support of the newly created Havana Department of Agriculture (including extension agents), now comprise 50 percent of Havana resident's caloric intake.<sup>320</sup> Similar land re-purposing is ongoing in some urban areas in the United States,<sup>321</sup> but these scattered efforts require institutional support and coordination to reach their full food producing potential. In sum, urban and peri-urban agriculture has an untapped potential to supplement the food security requirements of most urban area.

USDA's Agricultural Marketing Service (AMS) "is responsible for developing quality grade standards for agricultural commodities, administering marketing regulatory programs, marketing agreements and orders, and making food purchases for USDA food assistance programs."<sup>322</sup> Under this authority, AMS administers programs such as the National Organic Program, food marketing agreements, product grading, and promotion of food products. Product labels may have a powerful effect in the market, stimulating demand for desired traits and motivating supply chain transformation to extract additional revenues. To this end, AMS, in possible conjunction with the FDA, could devise a standard, mark or voluntary certification program that allows the producer or processor to represent itself as participating in a local or regionally secure food system. This would provide the private sector with incentives to develop and enhance local and regional food systems and communicate to the public the positive externalities of selecting local food. DHS could participate in developing program criteria by using the information and strategies gathered from NIMS, NRF and SIPP efforts. In the absence of AMS action, states could devise a state-level version of this program. The \$38 billion organic food industry<sup>323</sup> developed under similar state level programs, and later codified at the national level in the 1990 Organic Food Production Act.<sup>324</sup>

<sup>317</sup> Of course, some of the Cuban initiatives, such as redistribution of privately-owned fallow land to those willing to engage in agricultural production, would violate numerous Constitutional principles. Other legal issues, such as relaxation of zoning measures to encourage (or even allow) agricultural production within urban/suburban areas, are a relatively simple matter of amending city/county ordinances. Changing restrictive covenants within many planned suburban communities, may require more legal finesse, but remain a feasible option.

<sup>318</sup> See Benjamin, *supra* note 145, at 60.

<sup>319</sup> See *supra* note 175 and accompanying text.

<sup>320</sup> See *supra* notes 197-211 and accompanying text.

<sup>321</sup> See, e.g., *Rutgers Urban Gardening Program*, <http://essex.njaes.rutgers.edu/ug/>.

<sup>322</sup> USDA, AMS Overview, [http://www.usda.gov/wps/portal/!ut/pl\\_s.7\\_0\\_A/7\\_0\\_1OB?contentidonly=true&contentid=AMS\\_Agency\\_Splash.xml&x=13&y=10](http://www.usda.gov/wps/portal/!ut/pl_s.7_0_A/7_0_1OB?contentidonly=true&contentid=AMS_Agency_Splash.xml&x=13&y=10).

<sup>323</sup> See IFOAM, *THE WORLD OF ORGANIC AGRICULTURE: STATISTICS AND EMERGING TRENDS* 16 (2008).

<sup>324</sup> See Endres, A. Bryan, *An Awkward Adolescence in the Organics Industry: Coming to Terms with Big Organic and Other Legal Challenges for the Industry's Next Ten Years*, 12 *DRAKE J. AGRIC.* 17 (Spring 2007) (discussing history of the organic industry).

Two food crisis responses not addressed in current planning documents are price controls and rationing. Although anathema to capitalistic societies, this country previously has adopted these strategies to meet pressing situational needs. In fact, price manipulation in the agricultural production market is an accepted government practice. Although the authors do not argue that the government should adopt rationing and price controls, planners should at least anticipate their possibility. Price controls and rationing most likely would be initiated at the federal level. State and local governments, however, should include the possibility of such programs in their respective plans. Local authorities down to the school board level, during both World War II and Cuba's struggle for food self-sufficiency, administered federally mandated price controls and rationing.<sup>325</sup> A truly comprehensive national food security strategy should at least plan for these relatively drastic measures.

### C. *Multi-Agency Cooperative Initiatives and State Actions*

#### 1. *Strategic Partnership Program Agroterrorism Initiative*

The Strategic Partnership Program Agroterrorism Initiative (SPPA) was developed by the Federal Bureau of Investigation (FBI),<sup>326</sup> FDA, USDA and DHS, in partnership with states and industry, as the primary vehicle to conduct vulnerability assessments of the food and agriculture sector to terrorist attack and to identify gaps and further research needs.<sup>327</sup> After an assessment was conducted within various sectors of the production and processing food chain,<sup>328</sup> the SPAA identified large-batch processing and animal production under crowded conditions as nodes of highest concern.<sup>329</sup> As part of the mitigation strategies, SPAA encouraged industries to develop food defense plans.<sup>330</sup> Regional and locally-oriented food supplies, due to their smaller scale, may be better suited to avoid the higher-risks identified in large-batch processing and animal confinement.

#### 2. *State –Level Policies: NRF and Food Emergency Response Plans (FERPs)*

The National Association of State Departments of Agriculture has developed a template for state and localities to use in drafting food emergency response plans (FERP) for integration into the NRF.<sup>331</sup> A food emergency, as addressed by the plan, can involve several people over a small area, or a larger area spanning several localities or states.<sup>332</sup>

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<sup>325</sup> See *supra* note 93-96 and accompanying text discussing rationing implementation during World War II and *supra* note 158-163 and accompanying text discussing rationing implementing in Cuba.

<sup>326</sup> The FBI is an agency within the Department of Justice (DOJ).

<sup>327</sup> SPPA Initiative, Second Year Status Report, (July 2006 to Sept. 2007), <http://www.cfsan.fda.gov/~acrobat/agroter6.pdf>, at 4.

<sup>328</sup> *Id.* at 5.

<sup>329</sup> *Id.* at 7-8.

<sup>330</sup> *Id.* at 9. FSIS has issued a series of guidance to various industries under its jurisdiction for the development of such plans. See FSIS Guidance Materials, [http://www.fsis.usda.gov/Food\\_Defense\\_&\\_Emergency\\_Response/Guidance\\_Materials/index.asp](http://www.fsis.usda.gov/Food_Defense_&_Emergency_Response/Guidance_Materials/index.asp); see e.g., FSIS, *Elements of a Functional Food Defense Plan*, [http://www.fsis.usda.gov/pdf/Elements\\_of\\_a\\_Food\\_Defense\\_Plan.pdf](http://www.fsis.usda.gov/pdf/Elements_of_a_Food_Defense_Plan.pdf).

<sup>331</sup> National Association of State Departments of Agriculture and SES, Inc., *Emergency Response Plan, Food Emergency Template, Version 1.0* (Feb. 9, 2006) (NASDA Template), <http://www.nasda.org/File.aspx?id=11167>.

<sup>332</sup> *Id.* at v. A food emergency can result from natural disaster or man-made events, or intentional or unintentional contamination of food. *Id.*

One step the template recommends is for states to form emergency management assistance compacts (EMAC) with other states.<sup>333</sup> If a state belongs to an EMAC, that state can request support packages.<sup>334</sup> The Cooperative Extension Disaster Support Package, which provides education/instruction on food and crops, is one such package.<sup>335</sup> Conceivably, additional support packages could include instruction on food self-sufficiency in both near- and long-term scenarios.

As part of the planning process recommended by the template, states should assess various aspects of their food systems (situations and assumptions).<sup>336</sup> Aspects that would coincide with local food system organization and planning for food self-sufficiency include: the level of local planning and preparedness; rivers and waterways; the depth to groundwater sources; concentration of croplands, livestock, poultry, and food processing; major population centers; and areas prone to natural disaster.<sup>337</sup>

Although the majority of this article discusses the role of the federal government, states and localities must play the lead role in assessing and implementing resilient, regionally-based food systems. Due to geographic and climatic variations, a one-size-fits-all federal program would be doomed to failure. Federal programs, therefore, must support state and local initiatives via direct monetary support or at least regulatory flexibility to scale requirements for regional food supply systems.

## V. CONCLUSION

The extent of food shortages surprised World War II policymakers. Although a federal food bureaucracy surfaced quickly, it took two critical years to develop a functioning food security system. Based on the Roosevelt Administration's mistakes, today's federal government planners must consider the structures that would be necessary if a national security or other crisis rose to a level that required government controls on the production, distribution and consumption of food. Current policymakers also should recognize the value in Victory Gardens planted during WWII, which provided an essential supplement to the nationalized food distribution system, supplying 125 pounds of food for every person.<sup>338</sup> In light of the government's conclusion that Victory Gardens were "a home front necessity,"<sup>339</sup> planners should not be dismissive of individual efforts in crisis response. Cuba's food supply system underwent a similar reorganization in the post-soviet era—privatizing some state-owned farms, deploying urban residents to farms to assist harvesting and, most importantly, creating "new farmland" in urban areas.<sup>340</sup> By 2000, Cuba surpassed pre-crisis levels of food production and achieved food self-sufficiency.<sup>341</sup> Although Cuba's authoritarian regime is an anathema from Americans' democratic perspective, Americans should not stubbornly ignore, to their own peril, some of the valuable food security lessons Cubans learned only after great suffering.

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<sup>333</sup> *Id.* at Appendix B-5. See generally, Emergency Management Assistance Compact, *How Does EMAC Work?* <http://www.emacweb.org/?142>.

<sup>334</sup> National Emergency Management Association, *2008 Disaster Response Mission Packages*, <http://www.emacweb.org/?1589>.

<sup>335</sup> *Id.* at 71.

<sup>336</sup> NASDA Template, *supra* note 331 at Appendix B-3.

<sup>337</sup> *Id.*

<sup>338</sup> See *supra* note 135 and accompanying text.

<sup>339</sup> See *supra* note 136 and accompanying text.

<sup>340</sup> See *supra* note 195-209 and accompanying text.

<sup>341</sup> See *supra* note 217-219 and accompanying text.

Modern-day planners need to anticipate potential food shortages arising from a variety of crises and draw upon the lessons learned from World War II and Post-Soviet Cuba. The Public Health Security and Bioterrorism Act of 2002, coupled with multiple Homeland Security Presidential Directives, provide an outline for government structure and emergency planning. Current plans, however, astonishingly rely exclusively on the existing national/international food supply chain and ignore completely the potential of regional and local food systems. As outlined in this article, several existing government programs could, without the need for additional statutory authority, modify current plans to provide support for localized food networks that can fortify significantly the existing food supply chain. Specific national food security enhancing examples include: encouragement and elimination of barriers to urban food production, implementation of a “food secure” labeling program for use by regional or local food systems, development of interstate food compacts along regional food sheds, and support for capacity development. In sum, government national security planners at every level hold a great and pressing responsibility to their constituents to review current comprehensive crisis contingencies, identify gaps and vulnerabilities in the commoditized national-level food system, and incorporate and carry-out plans for a more diverse, resilient food supply chain that recognizes regional and local food stakeholders.

