GROWING TRENDS:
SCHOOL-BASED COMMUNITY GARDENS AS A GRASSROOTS RESPONSE TO CHILDHOOD OBESITY

By
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"We have a moral obligation to teach our children how to feed themselves healthfully. We are literally feeding our children to death. To say we can't afford to feed them better is unconscionable."[2]

INTRODUCTION

A significant percentage of American children are overweight.[3] Many are obese, and suffer serious physical and mental repercussions as a result. Through years of neglect and opacity the federal standards for school nutrition have degenerated into a political battleground; our children are the walking wounded. While nutrition and activity levels at home are certainly part of the problem, focus on the personal responsibility of parents is no more than burden shifting; eventually, real action needs to be taken. As school-age children spend the vast majority of their waking life in the school environment, it seems evident that the largest impact in child wellness and nutrition could be made in the schools themselves.[4]

Complex and intersecting problems in both the school and home environments, however, have made genuine solutions practically non-existent on the national level. Yet, by using the grassroots momentum created by the recent presidential election, and increasing participation in community supported agriculture, school-run garden cooperatives could provide the answer to increased child healthfulness. Indeed, while not

[1] J.D., Loyola University Chicago, 2009.
[2] Stacy Finz, *Healthy School Lunches*, S.F. CHRON., Mar. 30, 2009, at A1 (quoting Kate Adamick of the Orfalea Fund's s'Cool Food Initiative).
[3] *See infra* note 6 and accompanying text.
[4] Although this paper focuses the public school environment, the ideas are equally relevant for private schools. However, the issues surrounding nutrition in private schools are likely to be unique to that environment and beyond the scope of this discussion.

widespread, garden co-ops have been cropping up around the country as parents, educators, nutritionists and students have collectively taken matters into their own hands (and getting them plenty dirty in the process).

REAPING WHAT WE'VE SOWN: THE CHILDHOOD OBESITY CRISIS

There is little doubt that the United States faces a serious health risk embodied, quite literally, in our children. In the last thirty years the prevalence of childhood obesity has tripled.[5] Among the 12-19 year age range alone, the Centers for Disease Control reports that the prevalence of childhood obesity has risen from 6.1% to 17.6%.[6] In May of 2008, the American Medical Association ("AMA") reported similar statistics showing that 15.5% of children between 2-19 years of age were heavy enough to be considered obese, and nearly a third (30.1%) of children in the same age range were considered overweight.[7]

For children who belong to a minority racial group, the prevalence of childhood obesity is even more startling. An AMA study released in 2008 reported that almost 20%

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[5] CTRS. FOR DISEASE CONTROL & PREVENTION, DEP'T OF HEALTH & HUMAN SERVS., CONTRIBUTING FACTORS (Jan. 28, 2009), http://www.cdc.gov/nccdphp/dnpa/obesity/childhood/contributing_factors.htm [hereinafter CDC FACTORS].

[6] CTRS. FOR DISEASE CONTROL & PREVENTION, DEP'T OF HEALTH & HUMAN SERVS., OBESITY PREVALENCE (Feb. 10, 2009), http://www.cdc.gov/nccdphp/dnpa/obesity/childhood/contributing_factors.htm [hereinafter CDC PREVALENCE] (for charts and additional statistics, see the cited CDC website).

[7] Cynthia L. Ogden, et al., *High Body Mass Index for Age Among US Children and Adolescents, 2003-2006*, 299 J. AM. MED. ASS'N 2401, 2402 (2008) (results based on BMI cut-points). BMI refers to "body mass index" and is the current method used to measure body fat in children: "[T]he 85th and 95th percentiles have been used as cut points for high BMI. The 97th percentile provides an even higher cut point to identify the heaviest children." *Id.* at 2405 (internal citations omitted).

> In 2005-2006, 10.9% (95% confidence interval [CI], 8.6%-13.2%) of children and adolescents aged 2 through 19 years were at or above the 97th percentile of the 2000 BMI-forage growth charts; 15.5% (95% CI, 12.7%-18.3%) were at or above the 95th percentile; and 30.1% (95% CI, 26.7%- 33.5%) were at or above the 85th percentile of BMI for age.

Id. at 2402. *See also* Alice Park, *Living Large*, TIME, June 23, 2008, at 90 ("About 32% of U.S. children are overweight or obese, and about 1 out of 10 of those is considered morbidly obese, or 150 lb. to 250 lb. over a healthy weight.").

of Black teenage girls between ages 12-19 were shown to be obese, compared to only 9.1% of their non-Hispanic white counterparts.[8] A similar disparity between non-Hispanic whites and non-Hispanic Black and Mexican American children was shown in almost every age range and gender category.[9]

There are any number of repercussions that flow from the childhood obesity crisis, on both the individual and the national level. Distressingly, it is now widely acknowledged that obese children are at a much higher risk for developing type 2 diabetes.[10] The rising number of children who have developed type 2 diabetes (formerly referred to as "adult-onset"[11] diabetes), "[has] become an increasingly serious health crisis, which will result in more people having and managing diabetes for most of their lives."[12] However, type 2 diabetes is far from being the only health-related concern for obese children. Health issues may also affect other areas of the body, such as the liver, joints, gallbladder, pancreas, lungs, heart, digestive system, growth plates, and the brain.[13]

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[8] *See* Ogden, et al., *supra* note 7, at 2403 and accompanying chart.
[9] *See id.*
[10] *See, e.g.*, Laura M. Segal & Emily A. Gadola, *Generation O: Addressing Childhood Overweight Before It's Too Late*, 615 ANNALS AM. ACAD. POL. & SOC. SCI. 195, 195 (2008) (discussing the link between childhood obesity and diabetes).
[11] *See* International Diabetes Federation, International Society for Pediatric and Adolescent Diabetes, *The Global Burden of Youth Diabetes: Perspectives and Potential*, 8 PEDIATRIC DIABETES (Supp. 8) 4, 13 (2007) [hereinafter IDF] (discussing trends in the age of onset for type 2 diabetes). "Although type 2 diabetes used to be a condition in those over 40 yr of age, the increase and decrease of onset-age now hits children even before their teens." *Id.*
[12] Anjali D. Deshpande et al., *Epidemiology of Diabetes and Diabetes-Related Complications*, 88 PHYSICAL THERAPY 1254, 1255 (2008).
[13] *See* Park, *supra* note 7 (discussing how obesity can affect the body). *See also* Deshpande et al., *supra* note 12, at 1254 ("Diabetes-related complications—including cardiovascular disease, kidney disease, neuropathy, blindness, and lower-extremity amputation—are a significant cause of increased morbidity and mortality among people with diabetes, and result in a heavy economic burden on the US health care system."); Segal & Gadola, *supra* note 10, at 195-96 ("Studies have documented that obesity and overweight in childhood and adolescence are often a path toward increased risk for and further development of a range of obesity-related diseases as children enter adulthood, leading to a lifetime of health problems.").

Additionally, childhood obesity has also been found to have a significant impact on a child's mental well-being.[14] Despite the increasing prevalence of obesity in the general population, one report from Rutgers University notes that "multiple studies document that children, adults, and even health care professionals who work with obese patients hold negative attitudes toward overweight and obese persons."[15] Moreover, obese children who have already developed type 2 diabetes face the increased challenge of coping with both diabetes care and with the obesity itself.[16] The International Diabetes Federation explains the problem as one of inter-related stresses, where children must take on an active role in their own disease-management as "[d]iabetes impacts every aspect of a child's life and experience."[17]

Nationally, the childhood obesity crisis also presents a significant economic problem. The CDC reports that in 1998 obesity-related treatment costs "may have reached as high as $78.5 billion ($92.6 billion in 2002 dollars)….[and] [a]pproximately half of these costs were paid by Medicaid and Medicare."[18] The average yearly cost of treatment for those with type 2 diabetes, including children, is estimated at $10,000.[19] However, statistics for 2005 show that "approximately 40% of adults with diabetes reported a family income of less than $35,000, making the burden of financial obligations

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[14] Segal & Gadola, *supra* note 10, at 196.

[15] Deborah Carr & Michael C. Friedman, *Is Obesity Stigmatizing? Body Weight, Perceived Discrimination, and Psychological Well-Being in the United States*, 46 J. HEALTH & SOC. BEHAV. 244, 244 (2005). The study concludes that obese individuals are stigmatized in the United States. *Id.* at 256.

[16] IDF, *supra* note 11, at 28 (describing the psychosocial effects of diabetes). "Psychosocial effects stem from the stresses associated with a chronic disease, especially one that is so demanding of daily vigilance for monitoring and treatment to preserve health. The heightened demands of intensive management can pose a particular challenge." *Id.*

[17] IDF, *supra* note 11, at 26. For example, "[t]eenagers with diabetes may express lower life satisfaction and health perception compared with their peers without diabetes." *Id.*

[18] CTRS. FOR DISEASE CONTROL & PREVENTION, DEP'T OF HEALTH & HUMAN SERVS., ECONOMIC CONSEQUENCES (May 22, 2007), http://www.cdc.gov/nccdphp/dnpa/obesity/economic_consequences.htm (internal citations omitted).

[19] Rhea Cohn, *Economic Realities Associated with Diabetes Care: Opportunities to Expand Delivery of Physical Therapist Services to a Vulnerable Population*, 88 PHYSICAL THERAPY 1417, 1418 (2008).

for the care of diabetes and related diseases significant and daunting."[20] Moreover, because childhood obesity has been shown to affect those from minority groups that tend to comprise the lower socioeconomic classes,[21] those children are arguably more likely to rely on government aid programs like Medicaid and Medicare for future treatment as adults.[22]

WEEDING OUT THE PROBLEM: (MAL)NUTRITION IN THE PUBLIC SCHOOLS

The vast majority of school-aged children spend the bulk of their waking life in the school environment,[23] and some of that time is necessarily spent eating meals.[24] While many children bring meals from home, over half of *all* school-aged children in the U.S. receive their meals through the National School Lunch Program ("NSLP").[25] Out of the approximately 53 million school-age children in the United States today,[26] over 30 million of those children participated in the NSLP in 2007.[27] Additionally, over 10 million children participated in the complementary USDA-run initiative, the School

[20] *Id.*. The problem of rising health costs is compounded by the difficulty in keeping or initial obtaining employer-sponsored health insurance, as diabetes "may be considered a preexisting condition." *Id.*
[21] *See* IDF, *supra* note 11, at 14 ("About 94% of children in the USA with type 2 diabetes were found in one survey to belong to minority communities...."). Additionally the IDF notes that, "[i]n the developed world, *obesity tends to be observed more frequently in low-income groups*, putting a double burden on these individuals. It is expensive to be ill, but it is also expensive to stay healthy because purchasing healthy food comes with higher costs. *Id.* at 35 (emphasis added).
[22] *See, e.g.*, Khiara M. Bridges, *Pregnancy, Medicaid, State Regulation, and the Production of Unruly Bodies*, 3 NW. J. L. & SOC. POL'Y 62, 86 (2008) (drawing a parallel between lower income individuals and persons of color and describing "how class operates to differentially produce populations").
[23] *See* Laura C. Leviton, *Children's Healthy Weight and the School Environment*, 615 ANNALS AM. ACAD. POL. & SOC. SCI. 38, 38 (2008) ("The schools seem like an obvious choice for prevention, since more than 97 percent of children five years and older spend six to eight hours a day there for nine to ten months a year.") (internal references omitted).
[24] *See* Victoria L. Brescoll et al., *Assessing the Feasibility and Impact of Federal Childhood Obesity Policies*, 615 ANNALS AM. ACAD. POL. & SOC. SCI. 178, 180-81 (2008) ("School foods are a significant source of calories and nutrition for children and adolescents as they consume a significant portion of their daily caloric intake while at school.") (internal citations omitted)).
[25] FOOD & NUTRITION SERV., U.S.D.A., NATIONAL SCHOOL LUNCH PROGRAM 3 (July 2008), *available at* http://www.fns.usda.gov/cnd/Lunch/AboutLunch/NSLPFactSheet.pdf.
[26] U.S. CENSUS BUREAU, AMERICAN COMMUNITY SURVEY 2005-2007, http://factfinder.census.gov/servlet/STTable?_bm=y&geo_id=01000US&qr_name=ACS_2007_3YR_G00_S0101&-ds_name=ACS_2007_3YR_G00_ (last visited Mar. 26, 2009).
[27] NATIONAL SCHOOL LUNCH PROGRAM, *supra* note 25.

Breakfast Program ("SBP").[28] Consequently, both the NSLP and SBP federal standards for nutrition directly affect millions of children:

> The USDA has a powerful effect on school environments through reimbursement of school breakfast and lunch: 99 percent of all public schools and 83 percent of all private and public schools participate in the program. Since 1995, school breakfasts and lunches have been required to meet the USDA dietary guidelines—yet according to the 1998 School Nutrition Dietary Assessment Study (SNDA), more than 75 percent of schools had not yet met the guidelines for fat content.[29]

In theory, this should produce the happy result of well-fed, appropriately-nourished children. However, the national statistics for childhood obesity tell a different story. Indeed, part of the challenge of developing appropriate policies to address childhood obesity demands that we recognize that our children are—paradoxically—both over-fed and under-nourished.[30] This fact inevitably begs the question—who is to blame? One answer is, of course, the schools themselves.[31]

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[28] FOOD & NUTRITION SERV., U.S.D.A., THE SCHOOL BREAKFAST PROGRAM 2 (July 2008), *available at* http://www.fns.usda.gov/cnd/Breakfast/AboutBFast/SBPFactSheet.pdf.

[29] Leviton, *supra* note 23, at 43 (internal citations omitted).

[30] Bob Casey & George McGovern, *Declare War on Hunger…Again; Hunger Still Haunts Our Nation, Even in the Face of the Obesity Epidemic*, PITTSBURGH POST-GAZETTE, July 23, 2008, at B-7 (calling on Congress to increase the funding and quality of federal nutrition programs to combat childhood obesity).

[31] *See* Ellen Fried & Michele Simon, *The Competitive Food Conundrum: Can Government Regulation Improve School Food?* 56 DUKE L.J. 1491, 1492 (2007) ("Although the public is still divided over whether obesity is a public health issue or personal problem, many people believe schools carry a substantial burden of responsibility - just behind parents and individuals - when it comes to addressing childhood obesity."). Although beyond the scope of this paper, it must be noted that the food itself is often provided via federal channels and the federal government itself certainly bears a significant amount of responsibility for providing schools with sub-standard products:

> Unfortunately, the Child Nutrition Act has been a long-standing obstacle to improved student nutrition because it is designed to benefit American agribusiness -- not our kids. Every year, spurred by legislative mandates, the USDA buys up millions of pounds of surplus beef, pork and other high-fat meat products to distribute to schools. That explains why the government's own School Nutrition Dietary Assessment Study has found that an astonishing 80 percent of schools do not comply with federal nutrition guidelines.

Kathryn Strong, *Fattening Our Kids: The Obama Administration Must Push for Healthier School Lunches*, PITTSBURGH POST-GAZETTE, Jan. 4, 2009, at G-1.

Although the USDA is responsible for NSLP and SBP funding and oversight, schools and school boards are left to implement those programs by actually purchasing food and planning meals.[32] While this cooperative structure naturally stems from the idea that "…public education in our Nation is committed to the control of state and local authorities[,]"[33] it does create potential dissonance between federal legislative goals and local execution.

Problems associated with local implementation are legion; one example of the federal-local disconnect is that, of the 100 largest school districts, the School Nutrition Association found that fewer than half "were implementing their nutrition-education guidelines and enforcing vending-machine rules."[34] Furthermore, school hiring practices indicate a lack of concern regarding the quality of those actually preparing school menus. The 2006 School Health Policies and Programs Study ("SHPPS"), a national study conducted periodically by the Centers for Disease Control ("CDC"), reported that only 3.5% of school districts required their food services director to have a graduate degree in nutrition "or a related field.".[35]

Another significant factor weighing against the efficacy of in-school nutrition programs relates to the omnipresence of so-called "competitive foods"—termed competitive because they are sold concurrently with NSLP foods. Competitive foods are

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[32] *See* Kathryn L. Plemmons, *The National School Lunch Program and USDA Dietary Guidelines: Is There Room for Reconciliation?* 33 J.L. & EDUC. 181, 186-87 (2004) ("[S]tates enter into written agreements with the USDA to undertake administration of the program in accordance with the Act's provisions, and thereby develop a plan detailing methods to expand plans to reach needy children.") (internal citations omitted)).

[33] *See, e.g.*, Epperson v. Arkansas, 393 U.S. 97, 104 (1968).

[34] *Fat and Getting Fatter; Health in the Schools*, ECONOMIST, Aug. 25, 2007. However, simply meeting the minimal federal guidelines hardly guarantees a healthful student body when under those guidelines, "…foods such as French fries, ice cream, cookies, potato chips, and snack cakes can be served in school cafeterias during lunchtime[.]" Brescoll, et al., *supra* note 24, at 181.

[35] Terrence P. O'Toole, et al., *Nutrition Services and Foods and Beverages Available at School: Results from the School Health Policies and Programs Study2006*, 77 J. SCH. HEALTH 500 (2007).

what may be commonly recognized as "junk foods"—foods that have a high-calorie/low nutritional value ratio—such as chips, sodas, and candy.[36] Competitive foods are not accounted for through the federal regulatory structure and are therefore not required to meet federal nutritional guidelines.[37] Often, schools allow the sale of competitive foods that have little nutritional value, and despite studies showing that "current offerings [of competitive foods] do not fully support a healthy diet in children and adolescents."[38]

Moreover, schools that attempt to regulate competitive foods internally—perhaps by creating school or district-wide nutritional guidelines for those foods—could face a significant financial loss: "School administrators have consistently expressed concerns that improving the nutritional quality of the competitive foods offered may negatively impact competitive food revenues. These revenues comprise a significant proportion of total food service revenues and *in many cases provide discretionary funds* for use throughout the school."[39] Faced with such economic realities many schools choose to take advantage of the benefit provided by the sale of competitive foods—albeit by effectively skirting federal nutrition guidelines—and forcing our children to pay the price.[40]

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[36] *See, e.g.*, Michele Simon & Ellen J. Fried, *State Laws on School Vending: The Need for a Public Health Approach*, 62 FOOD & DRUG L.J. 139, 139 (2007).
[37] ECONOMIST, *supra* note 34.
[38] Christopher M. Wharton et al., *Changing Nutrition Standards in Schools: The Emerging Impact on School Revenue*, 78 J. SCH. HEALTH 245 (2008).
[39] Wharton, *supra* note 38 (emphasis added). *See also* Terrence P. O'Toole, et al., *Nutrition Services and Foods and Beverages Available at School: Results from the School Health Policies and Programs Study2006*, 77 J. SCH. HEALTH 500 (2007) ("Nationwide, 64.4% of all districts received a specified percentage of the soft drink sales receipts, and 32.5% received incentives (e.g., cash awards or donations of equipment, supplies, or other items) once receipts totaled a specified amount.").
[40] *See generally* Retta R. Evans, et al., Ecological strategies to promote healthy body image among children, 78 J. SCH. HEALTH (2008) ("[The] dietary habits of elementary and middle school children have a direct impact on their physical development and academic achievement.").

BREAKING NEW GROUND: COMMUNITY GARDENS AS POTENTIAL SOLUTION

Trends from the West Coast

The emerging trend towards more nutrition-conscious school lunches began, as trends are wont to do, in Berkeley, California.[41] The renowned Chez Panisse Foundation, founded by chef Alice Waters, established the Edible Schoolyard program at Martin Luther King Jr. Middle School in Berkeley in 1996.[42] Every child in the urban middle school participates in the program where they learn "the origins of food, plant life cycles, community values, and the pleasures of work, while kitchen classes allow them to prepare and eat delicious, nutritious, seasonal dishes made from produce they have grown in the garden."[43] The Foundation also provided funding to revolutionize the entire Berkeley Unified School District school lunch program; instead of reheating chemical-laden frozen chicken nuggets, Berkeley Unified now serves fresh (and often organic) food from local farms, preparing items such as whole chickens, organic hotdogs and locally-grown rice and beans.[44]

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[41] Although the current trend can fairly be traced to Berkeley Unified, the idea of school-based gardens has been a part of the educational framework for hundreds of years:

> As far back as the seventeenth century, John Amos Comenius (1592–1670) believed that education should be universal, optimistic, practical, and innovative and should focus not only on school and family life but also on general social life. He stated "A school garden should be connected with every school, where children can have the opportunity for leisurely gazing upon trees, flowers and herbs, and are taught to appreciate them."

Aarti Subramaniam, *Garden-Based Learning in Basic Education: A Historical Review*, MONOGRAPH, UC DAVIS, Summer 2002, at 1, 2.

[42] Chez Panisse Foundation, http://www.chezpanissefoundation.org/edible-schoolyard (last visited Apr. 11, 2009).

[43] *Id.*

[44] Finz, *supra* note 2. Head school chef for Berkeley Unified, Ann Cooper, is adamant that the program is capable of paying for itself, "despite rising food costs and sizable state school budget cuts." *Id.*

The original Berkeley model is successfully replicated at Green Charter School in New Orleans.[45] There, the 98% African-American student body learns the importance of organic gardening and "…involves students in all aspects of farming the garden—along with preparing, serving and eating the food—as a means of awakening their senses and encouraging awareness and appreciation of the transformative values of nourishment, community, and stewardship of the land."[46] Even the White House is setting an example by getting into the gardening spirit—First Lady Michelle Obama recently broke ground on the south lawn for a kitchen garden that will grow over 50 varieties of vegetables and herbs that will produce enough food for both the First Family and a local homeless shelter.[47]

Local Actions

Solving the problem locally has some distinct advantages. Adjusting federal nutrition guidelines to encompass changes in the school environment, such as the explosion of competitive foods, is a quagmire of political and legal barriers.[48] Local action can avoid the larger regulatory miasma by addressing the nutrition problem at ground zero, making a direct connection between kids, dirt, and nutritious meals.

Currently, over 2,000 school districts have partnered with local farms to supply food for school meals, "although most are not offering full meals but have selective

[45] The Edible School Yard, New Orleans, http://esynola.org/ (2008).
[46] *Id.*
[47] Spring Gardening, http://www.whitehouse.gov/blog/09/03/20/Spring-Gardening/ (Mar. 20, 2009, 3:51 p.m.). *See also* Andrew Martin, *Is a Food Revolution Now in Season?*, NYT, Mar. 22, 2009, at BU-1 ("The most vocal booster so far has been the first lady, Michelle Obama, who has emphasized the need for fresh, unprocessed, locally grown food and, last week, started work on a White House vegetable garden.").
[48] *See, e.g.*, MARION NESTLE, FOOD POLITICS: HOW THE FOOD INDUSTRY INFLUENCES NUTRITION AND HEALTH 30 (2002) ("Dietary guidelines necessarily are political compromises between what science tells us about nutrition and health and what is good for the food industry.").

products in the schools or bring in food producers for education efforts."[49] A non-profit group in Houston, Texas, for example, has recently established a pilot program in five elementary schools aimed at curbing childhood obesity through hands-on gardening, cooking and nutrition instruction.[50] In Massachusetts, the Cohasset Middle/High School partnered with a local organic farm to create an on-site school garden and accompanying classroom instruction.[51] While not as comprehensive as the Berkeley and New Orleans Edible Schoolyard programs, the Texas and Massachusetts initiatives demonstrate that local action is both wanted and needed; especially for children who would not otherwise have regular access to fresh, nutritious meals.[52]

Economies of Scale

Despite the myriad benefits that flow from school-based gardens, costs associated with such programs often crop up as an argument against their implementation. After all, mass-produced, highly-processed foods are relatively inexpensive—especially when the public is encouraged to blithely ignore the "hidden costs to cheap food, from environmental damage caused by factory farms and fertilizer runoff to the health costs associated with eating highly processed, calorie-laden food."[53] Yet, school-based

[49] *Healthy Lunches Join Lessons; Farm-to-School Program Attractive in Areas*, GRAND RAPID PRESS (Mich.), Oct. 12, 2008, at A12.
[50] Jennifer Radcliff, *Culinary Curriculum*, HOUSTON CHRON., Feb. 3, 2009, at B2. The program is seen as a way to educate young taste buds and get children interested in fresh, healthy food at an early age to encourage a lifetime of healthy eating. *See id.* ("Their long list of creations includes homemade pasta, fruit salads and smoothies. Many times, the ingredients come straight from the large garden in the back of the school.").
[51] Johanna Seltz, *Community Briefing, Cohasset*, BOSTON GLOBE, June 29, 2008, at 2.
[52] *See, e.g.*, Darla Carter, *Health Kids*, COURIER-JOURNAL (Louisville, Ky.), Apr. 9, 2009, at 1D (discussing the problem of "food deserts" and lack of access to fresh foods for children in urban environments).
[53] Martin, *supra* note 47.

gardens can be sustained as a long-term solution if properly integrated into the educational infrastructure and supported by the local community.[54] For example, the "organic capital" needed to plant the 1,100 square foot White House garden equaled around $200—the "total cost of seeds, mulch and so forth."[55]

The overarching question is, of course, what price do we (as parents, educators, schools, cities) place on the health of our children? In finding the answer there likely is not a one-size-fits-all model for sustainability, and what works for some communities may not be feasible for others. Some schools may choose to bite the proverbial bullet and simply spend what it takes. For example, the John F. Kennedy Elementary School in Somerville, Massachusetts expected to spend over $50,000 on organic produce in 2008 to replace chips and sweets with fresh fruits and salads; a hefty price tag unless one takes into account that the "average youngster [in Sommerville] gained roughly 15 percent less weight than the typical peer" and constituted "a significant impact across a community where 44 percent of children are overweight or at risk of being overweight."[56]

Finding a different solution, the health department in Louisville, Kentucky won a $400,000 grant from a private New Jersey foundation, "based on its [Louisville's] success in increasing exercise and healthy eating."[57] A portion of those funds will be used to fund community gardens and to educate children about healthy food choices in order to support "the important work of reducing childhood obesity."[58] Similarly, several elementary schools in San Diego, California were able to build and operate school-based

[54] *See* Finz, *supra* note 44 (reporting that Berkeley Unified program will be able to break even through better management and partnerships with local food suppliers).
[55] Marian Burros, *Obama to Eat Local Produce (Really Local)*, NYT, Mar. 20, 2009, at A1.
[56] Irene Sege, *Fit City: How Somerville Became a National Model of Healthy Living*, BOSTON GLOBE, Dec. 2, 2008, at G10.
[57] Laura Ungar, *City Gets Grant to Fight Kids' Obesity*, COURIER-JOURNAL (Louisville, Ky.), Dec. 3, 2008, at 3B.
[58] *Id.*

gardens through a combination of grants, parental involvement, and donations from local businesses.[59]

Yet, school-based and community gardens are not necessarily the more expensive solution. With the national economy still in decline and with food prices on the rise in many areas of the country, garden co-ops can actually help reduce the direct costs of food. In Fayetteville, Arkansas, small groups of neighbors, concerned with their ability to buy fresh, nutritious foods, are working together to create and cultivate shared gardens.[60] The mayor of that Fayetteville has additional plans to create community gardens in a third of the city's parks, saving the city $30,000 a year in park maintenance costs—any extra produce "will be donated to homeless shelters and food pantries."[61]

Additionally, a recent study conducted by Ecotrust (a Portland-based environmental group), and Oregon State University shows that farm-to-school lunch programs—where schools purchase food from local farms to serve in school cafeterias—actually increases local economic activity through a "multiplier effect".[62] While limited

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[59] Linda Lou, *Science Lessons Germinating: Garden Serves as Outdoor Lab for La Costa Meadows Students*, S.D. UNION-TRIBUNE, Feb. 5, 2009, at NC-1.

[60] Evie Blad, *Gardens Sprout as Times Get Tougher*, ARK. DEMOCRAT-GAZETTE (Little Rock), Mar. 15, 2009 ("The movement, reminiscent of World War II-era victory gardens, is sparked by rising food prices, uncertain economic conditions and a desire to build relationships."). *See also* DEBORAH KANE, ECOTRUST, WHAT'S FOR LUNCH? A REVIEW OF SCHOOL FOOD AND GARDEN-BASED EDUCATION IN THE UNITED STATES USING PORTLAND PUBLIC SCHOOLS AS A MODEL FOR CHANGE 4, http://www.ecotrust.org/farmtoschool/2008_05_Whats-for-Lunch.pdf (last visited Apr. 12, 2009) (discussing the nation's history and prevalence of school-based gardens during WWI and WWII):

> By the end of WWI, the USSGA estimated that several million American youth had enlisted as soldiers of the soil. American children had answered their nation's call to service. From Portland, Oregon to Portland, Maine, children gardened. In Los Angeles alone it is estimated that children tended 13,000 different school gardens. Students in Ventura, California raised and consequently sold so many potatoes that they literally depressed the local potato market!

Id. at 5 (internal references and quotation marks omitted).

[61] Blad, *supra* note 60.

[62] MATEUSZ PERKOWSKI, ECOTRUST, STUDY: FARM-TO-SCHOOL MONEY BOOSTS ECONOMY, http://www.ecotrust.org/news/f2s-capital-press_boosts-economy_20090326.html (last visited Apr. 12,

to each respective community, these specific results certainly demonstrate the potential efficacy of school-based gardens as a solution to inadequate school meals, and therefore as a measured response to the childhood obesity crisis itself.

CONCLUSION

The seriousness of the childhood obesity crisis demands action, and the complexity of the issue requires a coordinated effort on the part of our public schools, parents and even the children themselves. Individual communities have unique challenges, and local solutions simply make sense. School-based community gardens have the potential to bring everyone to the table by addressing child healthfulness in an immediate, tangible way—after all, tomato, onion and cilantro seeds planted in May bring fresh salsa by July.

2009) ("Preliminary results show that each dollar of the $66,200 invested so far actually amounted to about $1.87 in economic activity.").