Farm-to-School: Strategies for Urban Health, Combating Sprawl, and Establishing a Community Food Systems Approach
Mark Vallianatos, Robert Gottlieb and Margaret Ann Haase
Journal of Planning Education and Research 2004; 23; 414
DOI: 10.1177/0739456X04264765

The online version of this article can be found at:
http://jpe.sagepub.com/cgi/content/abstract/23/4/414
Farm-to-School
Strategies for Urban Health, Combating Sprawl, and Establishing a Community Food Systems Approach

Mark Vallianatos, Robert Gottlieb, & Margaret Ann Haase

Abstract
Farm-to-school is a new, innovative strategy with multiple planning-related objectives. The article evaluates the significance of farm-to-school in relation to improving the health and nutrition of school-age children, particularly low-income youth; strengthening the capacity of local farmers, particularly those engaged in sustainable practices; adding to the toolkit of strategies designed to contain and ultimately reduce sprawl-inducing developments by helping preserve farmland; and helping establish a community food systems approach no longer entirely dependent on the global food system that has come to dominate food growing, processing, distribution, and consumption patterns around the world.

Keywords: farm-to-school; nutrition; farmland loss; sprawl; community food systems

Mark Vallianatos is the research coordinator of the Urban and Environmental Policy Institute, Occidental College.

Robert Gottlieb is the Henry R. Luce Professor of Urban Environmental Studies and the director of the Urban and Environmental Policy Institute, Occidental College.

Margaret Ann Haase is the director of the Center for Food and Justice at the Urban and Environmental Policy Institute, Occidental College.

On a morning in late April 2003, the students in Widney High School in Los Angeles were ready to hear a class presentation in nutrition education. Instead of the classic lecture on why students should eat five fruits and vegetables a day, the students were presented with a box of fruits and vegetables that had been delivered that morning from a farm at the urban edge of the huge Southern California metropolitan region. The fruits and vegetables had been picked the previous day and dropped off at the classroom by the farmer. A lesson had been prepared by the teacher that included not only an understanding of where the food came from but also the value of farm-fresh food. Tasting the food was part of the lesson, providing a way to talk about the benefits of fresh fruits and vegetables. The students marveled at the strawberries, for example, sweeter than any they had ever tasted. Some students had never previously seen some of the greens that were provided. The students made a salad with the greens, then added the carrots and tasted the strawberries. They compared what they made favorably to salad bars they had seen at restaurants and began to discuss the nutritional value of all the foods from the box. Teachers from some of the other participating schools also described how students tried foods they “wouldn’t normally try” and how the class was “much better than just talking about what healthy is” (Center for Food and Justice 2003).

What the students might not have known was that while learning about nutrition and farming, and eating food fresh from the field, they were on the cutting edge of a new farm-to-school movement. In low-income schools like Widney that participated in this program, where in some of those schools more than 90 percent of the students qualify for a free or reduced-price school lunch, health and nutrition were the immediate benefits of this specific farm-school connection. But the importance of this new farm-to-school movement also extends to a wide range of other issues. These include the viability of small farms, including those at the urban edge, innovative strategies to preserve farmland and combat sprawl, and a “food systems” approach that emphasizes local and seasonal as opposed to food that is produced anywhere and that is highly processed: the very opposite of “fresh and seasonal.”
The Widney high school classroom was one of nearly 1,000 classrooms in the huge Los Angeles Unified School District that was part of an experimental, innovative program called “CSA in the Classroom.” A CSA, or Community Supported Agriculture program, has generally been characterized as an arrangement in which a local-area farmer sells subscriptions to urban residents who periodically receive a box of farm items based on what has been harvested that week. To participate, these subscribers are willing to pay six months or even a year in advance, a strategy that can provide a crucial source of revenue for the local farmer. The CSA in the Classroom program varies insofar as the “subscriber” is the school district and the box is delivered to different schools and classrooms each week. Payment for the boxes is provided through nutrition education funding. This in turn has provided CSA-like revenues for the Tierra Miguel Foundation, operator of an 87-acre organic farm located at the urban edge in nearby San Diego County. Tierra Miguel’s CSA sales have been an important component of its goal of purchasing the land that it is currently leasing to preserve it permanently for agricultural use (Tierra Miguel Foundation 2002).

Tierra Miguel’s efforts run counter to prevailing trends. The remaining rural areas of San Diego County, like much land on the fringes of the Los Angeles and San Diego regions, are under continuous pressure from development. Between 1990 and 2000, over 36,000 acres in San Diego County were converted to urban uses, the second most of any California county. Over 8,000 of those acres converted to new subdivisions and golf courses had been croplands, with the loss of important farmlands in the county jumping dramatically at the end of the decade (California Department of Conservation 2003; Kelley 2003).

But the CSA-type boxes of produce that provide an innovative teaching tool and engage students in Los Angeles (as program surveys of participating teachers in the first year of the program overwhelmingly indicated) may also symbolize a new hope for small farms in urbanizing areas. Farm-to-school programs, like CSA in the Classroom, can play a role in influencing food choices, including for low-income students and adults who have limited access to sources of fresh food. Changing diets in turn can play a role in addressing what has come to be characterized as a national obesity crisis. Ultimately, CSA in the Classroom in the Los Angeles school district, like other farm-to-school programs and local and regional farm-based direct-marketing programs around the country, can be the leading example of efforts to establish a change in the food system as a whole.

This article evaluates the significance of farm-to-school as an innovative strategy in relation to four key planning objectives:

- improving the health and nutrition of school-age children, particularly low-income youth;
- helping strengthen the capacity of local and regional farmers, particularly those engaged in more sustainable farming practices;
- providing an important and innovative addition to the toolkit of strategies designed to contain and ultimately reduce sprawl-inducing developments by helping preserve farmland;
- establishing an important component of a community food systems approach whose goal is to develop a viable regional food system no longer entirely dependent on the global food system that has come to dominate food growing, processing, distribution, and consumption patterns around the world.

What is Farm-to-School?

Farm-to-school can be broadly defined as the ability to connect schools with local and regional farmers to benefit both sets of participants. In a school food system that embraced this approach, schools would be able to buy a significant portion of the food they serve as breakfasts, lunches, and snacks directly from local farmers. Schools would thus become a new, institutional-scale market for those local farmers. The school food service is, in fact, a potentially huge market for farmers, with more than 25.4 million school lunches served to children each day and current commodity purchases by school food service operations in the billions of dollars (Food and Nutrition Service 2003). While farmers could benefit from increased sales to nearby school districts as a result of both the volume of sales and the higher dollar value of each item sold, the students and staff of these schools could enjoy more nutritious and appealing meals with the inclusion of fresh, local ingredients.

Healthier school food could help address dietary factors related to the rise in obesity, early onset diabetes, and other diet-related conditions that have become major health risks for America’s youth.

Currently, farm-to-school programs designed to increase the amount of food that schools procure from local and regional farms can be found in a variety of forms in a number of states. Several school districts in California, where fruits and vegetables can be grown year round, have launched salad bars featuring local produce purchased directly from local and regional farmers or via arrangements through farmers markets. On days when the salad bar is operational, typically once or twice a week, students can choose a salad with other items including milk, bread, and protein sources such as tuna or beans as an alternative to the traditional hot lunch.

In the Northeast, where the full range of local produce is available to schools during a more limited window in the late...
spring and fall, other approaches such as the use of winter vegetables or canning and value added are used during the rest of the year. Schools in these locations have also featured in meals a single fruit or vegetable prominent in the area, such as apples, during their peak season. School districts in the South have teamed up with the Department of Defense, which buys local produce as part of its extensive procurement programs and then distributes them to schools for use in breakfasts, lunches, and snacks.

In the Midwest, a provision in the 2002 Farm Bill that provided seed funding for farm-to-school has led to some successful pilot programs, including one in Des Moines, Iowa. In testimony before Congress, Ms. Teresa Nece, the Des Moines school food service director, detailed the results of her pilot program that was undertaken in one elementary, middle, and high school in her district. The program featured a selection of fruits, vegetables, and dried fruits made available each day to the students from local and regional farmers. Each elementary school class received a basket of fruit at the beginning of the day, and according to Ms. Nece, it was usually empty at day’s end. High school students could pick up their snacks at the school cafeteria during passing periods, which led to, among other benefits, a decrease in school vending-machine sales, which typically feature foods and drinks that are calorie-dense with little nutritional value. Similar to the Los Angeles experience, students tried fruits and vegetables they had never tasted before (Nece 2003). In Kentucky, the state’s Department of Agriculture, in conjunction with local grower and school food service organizations, publishes a list of the growing seasons of thirteen different fruits and twenty-three different vegetables available for the more than fifteen districtwide farm-to-school programs in that state. Not only do Kentucky farmers offer a wide variety of choices, but seasons for some fruits (e.g., pears and grapes) and vegetables (e.g., pumpkins, sweet potatoes, and carrots) extend well into the fall semester of the school year (Kentucky Department of Agriculture n.d.).

Furthermore, the farm-to-school approach has multiple goals and benefits that extend beyond this central aim of getting locally and regionally grown food into school cafeterias. Farm-to-school connections can contribute to a school’s educational mission, particularly in the areas of nutrition and agriculture. Farm-to-school programs have included student field trips to farms and farmers markets, school visits by farmers, and the development of school gardens where students can grow (and taste) their own food. Each of these is designed to provide hands-on or “learning by doing” educational lessons regarding where food comes from, how it is grown, and the value and joy of eating fresh fruits and vegetables. These learning-by-doing components of farm-to-school have in some cases been incorporated into a curricular strategy that includes science-, nutrition-, and environmental-based lessons, among other topics, as well as an overall approach to the learning process itself. Finally, farm-to-school programs can lower barriers that industrial scale agriculture has placed between farmers and consumers, of crucial significance when addressing the place of agriculture within a regional planning framework. When students visit a farm or when local farmers, school staff, and PTA members collaborate to launch a farm-to-school program, a broader-based constituency can be established for understanding the importance of local and regional farming within the region as a whole.

► Farm-to-School: A Growing Movement

The farm-to-school concept was developed in the 1990s, springing initially from two different sources. The first was an initiative, started by a USDA consultant in Florida, designed to support local farmers, particularly minority farmers, by establishing school districts as a potential market source for certain crops. The program soon expanded to Georgia and North Carolina. Although some of the results from that early initiative were uneven (particularly logistical and quality control issues), it represented an important breakthrough for USDA itself in considering schools as a direct-marketing outlet (Food and Nutrition Service 1999). The second initiative, launched as a pilot at a low-income school in the Santa Monica, California, school district, focused on school food issues as well as support for local-area farmers. The Santa Monica program, a fruit and vegetable salad bar offered as an option in place of the standard hot meal offered at the school lunch, was enormously successful and was ultimately expanded to every school in the district by its third year of operation (Gottlieb 1999; Mascarenhas and Gottlieb 2000). The Santa Monica program also received a number of awards (e.g., “best lunch menu” by the California School Boards Association and the sustainable city program award by the U.S. League of Cities) and emerged as the flagship of the new farm-to-school movement (on the awards, see Santa Monica Mirror 2000; and U.S. Conference of Mayors 2003).

From these beginnings, farm-to-school programs began to spread throughout the nation. A December 1999 workshop convened by the USDA, Community Food Security Coalition (CFSC), and the Center for Food and Justice (CFJ) became a pivotal moment in helping identify the national reach of this new movement. By 2002, more than 250 advocates and participants gathered at the first “Farm-to-Cafeteria” conference, cohosted by the CFSC and CFJ, demonstrating the increasing
breadth of the movement and an emerging national network. Dozens of workshops and technical assistance gatherings that brought together school food-service directors, parents and community advocates, and farmers have been held across the country. As of 2003, at least 400 school districts in twenty-two states were purchasing food from local farmers, providing fresh food to more than a half million students each day. These figures did not count purely educational farm-school connections (e.g., farm tours) or programs like school gardens that often serve as a prelude to a full-blown cafeteria/school-lunch-based initiative. A number of new farm-to-school policy initiatives at the state and federal levels have been introduced, most recently legislation proposed as part of the 2004 reauthorization of Child Nutrition Programs that provides for a $10 million grant program to support the start of farm-to-school projects.4

**Opportunities and Barriers**

The first generation of farm-to-school programs has demonstrated significant potential in meeting farm-to-school’s various objectives. Information about successful pilot programs, innovative projects at the design or early implementation stage, and other farm-to-school activities have been made available through conferences and workshops. The information gathered through the networking activities of the CFJ based at Occidental College and the CFSC—the two lead organizations that have been monitoring farm-to-school programs at the national level—also points to a growing movement. However, only a limited number of studies have assessed key indicators over time, such as cost, changes in participation rates in the school lunch program when farm-to-school programs are introduced, farmer revenues, or changes in the amount of fruits and vegetables consumed each day. Most programs are at the design or pilot stage and have not included formal evaluations. One of the few evaluations has been of the Santa Monica–Malibu Unified School District (SMMUSD) program, the longest running farm-to-school program that is currently in its seventh year of operation. The overall cost figures for the SMMUSD farmers market salad bar have compared favorably to the cost of the hot meal, although not necessarily in relation to each item purchased. Salad bar participation rates have increased, as have overall participation rates in the school lunch program itself (i.e., the combination of salad bar and hot meal participation). These increases, in turn, have also provided an additional source of revenue for school food services since the USDA reimburses each meal. Similarly, increases in participation of adults (i.e., teachers, staff, or parents), who pay a higher price than the students and have been primarily attracted to the salad bar, has both increased revenues and provided a signal to the students about the quality of the salad bar. Purchases from farmers at first were modest, partly a reflection of the number of farmers (as many as twenty-five) from whom the food-service director purchased specific items. By the third year, however, the school food-service director decided to purchase primarily from only a handful of farmers, limiting further the revenues of most of the farmer participants but significantly increasing revenues for the primary group (Mascarenhas and Gottlieb 2000; Gottlieb and Shaffer 2002; Santa Monica–Malibu Unified School District 2002).

Assessments of two other California farm-to-school salad bar programs—the Ventura and Davis Unified school districts—parallel the results in Santa Monica: increased participation rates, comparable costs (depending also on what is compared), and modest revenues for participating farmers. The Ventura assessment also included a food-waste analysis, based on preweighing and postweighing of the trays of a randomly selected group of students from grades 2 to 5. Results indicated that students selecting the salad bar ate an average of 74 percent of their food by weight, while students choosing a hot meal ate only 49 percent (for the Ventura results, see Bow- ers and Adams 2002; for information on the Davis program, see Brillinger, Ohmart, and Feenstra 2002).

Information on changing diets, specifically whether students have increased their daily consumption of fruits and vegetables, has also pointed to positive results, although largely anecdotal in nature. High participation rates in farm-to-school programs, including those programs where students are offered a choice, provide one indication of possible increased fruit and vegetable consumption. The Ventura food-waste analysis is also striking in this regard since the Ventura program, similar to other California salad bar programs, allows a student to take as much quantity as desired, similar to any restaurant salad bar. A study by the University of California Los Angeles (UCLA) School of Public Health also indicated impressive results that included a twenty-four-hour food-recall analysis. In 1999, the UCLA team evaluated fourteen low-income schools in the Los Angeles Unified School District and found a high percentage of overweight and obese students and a small amount of fruits and vegetables consumed each day. Two years later, the UCLA team evaluated a group of students from three of the fourteen schools who had participated in the original study. The three schools had, in the previous year, developed farm-to-school salad bar programs as part of an intervention related to the study. Evaluating the same group of students, UCLA researchers identified a significant increase in consumption of fruits.
and vegetables (from an average of 2.8 to 4.2 per day) that researchers traced specifically to the salad bar programs (Slusser and Neumann 2001).

Despite these positive results and the importance of the objectives associated with farm-to-school, significant persistent barriers will need to be addressed prior to any full-scale institutionalization of the program. Some of the programmatic barriers include the following:

- School food-service operations are under tremendous pressure to produce standardized meals at a low price. Price, predictability, and convenience greatly influence their purchasing decisions. Participation in the National School Lunch Program allows a school food-service operation to purchase commodity meats, cheese, eggs, and processed fruits and vegetables at below market levels, thus disadvantaging direct purchases from local farmers. In addition, many school districts have limited capacity for processing and storing fresh foods. Kitchen facilities are frequently inadequate, and staff often require training in the techniques of handling and storing fresh produce. Many kitchen facilities at individual school sites have been eliminated. Community members who advocate for change in the school lunch program without understanding the restrictions under which school food-service directors work are often met with resistance. For this reason, school food advocates have come to recognize the importance of offering a financial, organizational, procurement, and delivery plan that can ease the transition to inclusion of fresh food in school menus. Small grants can also be helpful to acquire needed equipment and additional staff time necessary to process fresh foods.

- The logistics of ordering, billing, and delivery have been an obstacle in nearly every pilot program developed across the nation. It has also become clear to school food advocates that procurement and distribution systems that meet the needs of both school food services and small-scale local farmers need to be developed. School food services commonly receive precut, prepackaged produce from distributors who provide nearly any product in nearly any form at any time of year. Although taste and nutritional value suffer in storage, shipping, and processing, the product delivered to the kitchen door is predictable, convenient, easy to use, and inexpensive. Small-scale farmers, who have had limited access to institutional markets, are unaccustomed to the invoicing, packing, and delivery needs of school districts. School food-service directors have also identified problems associated with working with multiple farmers (often the case with a farm-to-school program), given the added time and paperwork required. Assisting farmers to modify practices to meet the needs of school food service and assisting school food service to understand the constraints under which farmers work benefits both constituencies. Encouraging distributors to purchase from local farmers has also been very effective in some areas.

Aside from these kinds of programmatic issues, farm-to-school can meet its key objectives only if it is supported through policy instruments and institutional support, whether at the school district, local government, state government, or federal level. Such a commitment is likely to become available when such objectives as health promotion, farmland preservation, and urban-edge land-use strategies, and the development of a community food systems approach also come to be directly associated with support for farm-to-school.

### The Obesity Factor: Changing Diets

The rise of farm-to-school has in fact paralleled the increased attention by the media, the public, researchers, and policy makers to the issue of obesity and diet-related health problems. Overweight and obesity are considered today to rival smoking as the nation’s leading cause of preventable death (for the Surgeon General’s views on this point, see Gupta 2001). The prevalence of overweight among U.S. adults rose 2 percent between 1980 and 1999, from 33 to 35 percent. Rates of obesity nearly doubled over the same period, rising from 15 to 27 percent (Centers for Disease Control 2003).

Over the last few decades, there has also been a dramatic increase in the prevalence of overweight among children and adolescents. In the 1960s and 1970s, around 5 percent of young people age six to nineteen were obese. In 1999 to 2000, that figure had tripled to 15 percent. This increase was largest among Mexican American and non-Hispanic black adolescents (National Center for Health Statistics 2002; Ogden et al. 2002).

Among different health impacts, the current epidemic of overweight among children and adolescents is seen as an important risk factor for the onset of type 2 diabetes. The U.S. Centers for Disease Controls and Prevention has estimated that upward of one in three Americans born in 2000 will contract diabetes unless the public begins to eat more healthfully and exercise more (American Diabetes Association 2003). Rates of diabetes and diabetes mortality are disproportionately high and rising among ethnic minorities in the United States, including African American, some Latino, Asian, and Native American Indian populations. Until recently, type 2 diabetes was considered rare in children. However, type 2 diabetes is increasing among children and adolescents in populations with high rates of type 2 diabetes in adults (Ogden et al. 2002).

Dietary factors have long been associated with the onset of type 2 diabetes. Dietary behaviors of many communities have changed dramatically over the years. These in part are food system issues associated with profound changes in food production, processing, storage, and distribution that in turn have led to major changes in dietary preferences. Fast foods and sodas as well as portion sizes of those foods and drinks have become...
both the symbol and substance of this dietary shift (Nestle 2002). The changes in dietary behaviors have in turn resulted in increased energy intake, including energy-dense foods high in fat and an abundance of simple carbohydrates. Reported associations of food groups with childhood overweight from cross-sectional and longitudinal studies of children include low intake of fruit and vegetables, high intake of fast foods and sweets, and high intake of sugar-sweetened beverages such as soft drinks (Neumark-Sztainer et al. 1996; Public Health Institute 2001; Ludwig 2000). These dietary changes have been directly associated with the onset of both type 2 diabetes and overweight (Zounas-Morse et al. 2001).

Researchers have increasingly focused on activities that lead to health-promoting dietary changes (decreased caloric intake, decreased carbohydrate intake, decreased soda consumption, and increased fresh fruit and vegetable consumption) as one of the most effective strategies to prevent overweight and to help protect against the development of overweight and subsequent type 2 diabetes. However, research has shown that such dietary choices are influenced by environmental factors such as cost, accessibility, and availability of foods (Select Committee on Hunger 1992; Cade et al. 1999). One does not eat five fruits and vegetables a day if access to fruits and vegetables is limited, and lack of freshness represents a barrier associated with the quality of the produce. These issues are compounded by the frequent consumption of foods away from home or school that represents another important outcome of a changing food system (Daush et al. 1995). The number of fast food restaurants is increasing at an annual rate of 7 percent, compared with 3 percent for the restaurant industry as a whole (Pernar 1998). American children eat one-third of their meals outside the home, where foods are higher in calories, fat, saturated fat, and sodium and are lower in other nutrients (Cavadini, Siega-Riz, and Popkin 2000; Lin, Guthrie, and Frazao 1999).

While a substantial percentage of away-from-home food comes from fast food restaurants, foods available in schools represents another major away-from-home source for school-age children (Lin, Guthrie, and Blaylock 1996). These include the meals available through the school lunch and school breakfast programs. But they also, increasingly, include food sold in vending machines or through a-la-carte vendors. These “competitive foods,” as they are called, are exempt from regulations requiring school meals to be balanced and nutritious. According to California school district food-service directors who responded to a mail survey, 90 percent of high schools sold these competitive foods and 72 percent permitted advertising of brand-name fast foods and beverages on campus. In California, 16 percent and 18 percent of nine- to eleven-year-olds reported having access to vending machines selling either soda or candy, chips, and cookies, respectively, and 24 percent reported that their school cafeterias also served fast food. Compared with children not at risk, at-risk or overweight children were twice as likely to attend a school with vending machines selling chips and candy and reported eating more fast food (Public Health Institute 2001).

In low-income communities, positive dietary changes have been facilitated by local food environments that provide a wider variety of healthy, affordable foods. In a 2002 study of the association between the local food environment and residents’ report of recommended dietary intake, African Americans’ fruit and vegetable intake increased by 32 percent for each additional supermarket in their census tract that often represented the only source of fresh produce (Morland, Wing, and Roux 2002). School nutrition environments have also been shown to exert strong influence on student eating patterns (Contento et al. 1995).

One of the strongest arguments for the development of farm-to-school programs has been their association with these obesity and dietary issues. While the school lunch program provides a far more balanced and nutritious meal than the competitive foods sold in vending machines or the fast food restaurants that surround many school campuses, the trend until recently of the school food-service industry has been to mimic rather than to challenge the onslaught of fast food. In a review by CFJ researchers of the primary school food-service trade publication Food Service Director, between 1997 and 2000, numerous articles described efforts to use “branding” techniques and other fast food–related strategies to help maintain participation levels for school lunch (Gottlieb 2001). However, where data are available, such as the programs in Santa Monica, Ventura, and Davis, California, overall school lunch participation rates have increased when farm-to-school options are made part of the lunch offerings. Moreover, the UCLA Public Health study that indicated an increased intake of fruits and vegetables as a direct result of participation in the farm-to-school pilots in Los Angeles also identified student interest in having their families explore other farm-direct options such as farmers markets.

With schools and health and nutrition advocates exploring ways to improve student’s eating habits, farm-to-school programs can play a key role in tipping the balance of the school food environment. Alarmed by the epidemic of obesity and other diet-related diseases among young people, an increasing number of school districts are moving to restrict sales of sodas and junk food on campus. These moves are significant advances and long overdue. In essence, they help “get the bad out” of the school food environment. Restrictions on
unhealthy beverages and snacks are most likely to have an impact if paired with policies and practices to “get the good in.” This is where farm-to-school plays such an important role. Providing new eating options in the form of salad bars and other choices can help students learn to like fruits and vegetables. Farm-to-school in this context can be seen as health promotion (and disease prevention) in the policy discussions about obesity, school food, and the future of government school-nutrition programs.

A corollary to the health impacts of farm-to-school connections is the safety of the food served in these programs. Food safety issues, from such major topics as food-borne contaminants and pesticide residues to uncertainties about new technologies like food irradiation, are a concern for parents and school food-service personnel regardless of the source of any food served in school. However, the food made available through farm-to-school programs is often grown with less pesticides than the same fruits and vegetables acquired through standard produce-procurement channels. These tend to provide food items grown using large-scale industrial agriculture practices, such as the items made available through government commodity programs. Although some farm-to-school programs have produce that is entirely or largely organic, this has not been taken as a core requirement for most programs. Farm-to-school programs around the country emphasize buying food that is locally produced, since without a local farm presence, the full educational and community benefits of farm-to-school cannot be realized. Other criteria (how the food is grown; whether the supplying farms are family owned) can of course be added to the local focus. A second point regarding food safety is that regardless of how food is purchased or where it comes from, food service personnel still have an obligation to ensure that the food is safe for students to eat.

▶ How to Fight Sprawl:
Farm-to-School as a New Focus

While farm-to-school programs have been recognized for their significant value concerning health, nutrition, and diet issues, they have been a less visible player in the efforts to prevent farmland loss and slow down or halt urban-edge sprawling development, an issue of considerable interest to planners. The relationship of farmland loss to sprawl, however, is widely recognized.

According to the American Farmland Trust, the United States lost 6 million acres of agricultural land to development between 1992 and 1997. This loss occurred at a rate that was 51 percent higher than during the previous ten-year period (American Farmland Trust 2002). Poor planning and sprawling land-use choices are driving much of the loss of farmland. From 1982 to 1997, the amount of land devoted to urban uses grew nearly three times as fast as did the U.S. population.

Farms are vulnerable to sprawl because the agricultural economy fails to provide most farmers with a sustainable livelihood. A number of decades-long trends, from consolidation in the food-processing industry to unbalanced federal farm-payment programs, have stacked the deck against smaller farms, making it harder for them to thrive.

Nationwide, there were 300,000 fewer farmers in 1997 (the date of the last agricultural census) than in 1979. About 94 percent of the nation’s farms are small, family-owned farms, defined as having less than $250,000 in annual sales, but this large majority of small farms receives only 41 percent of all farm income (Commission on Small Farms 1998). A relatively small number of large farms, many of them corporate owned, also receive the majority of governmental commodity payments (USDA 2000).

As a result, small farmers lack markets where they can receive a reasonable price for their produce. In 1997, over 70 percent of farms had annual sales of less than $50,000. Half of the nation’s farms had sales of less than $10,000 (U.S. Census Bureau 1997). Most small farmers survive on income earned outside of the farm (USDA 2000). It is no surprise that many farmers, thousands each year, reluctantly give up their livelihood and sell their land, sometimes to developers.

The correlation of the conversion of land to urban uses and the conversion of farmland to those same urban uses is striking. In a study of changing land uses in California counties between 1990 and 2000, it was noted that nearly 50 percent of the converted land in Riverside County (which had the largest amount of acreage, more than 47,000 acres, converted to urban uses) was farmland. In the increasingly urbanized (and sprawling) Central Valley of California, farmland in many of the counties, such as Fresno, Stanislaus, and San Joaquin, constituted far more than 50 percent of the converted land (nearly 90 percent in the case of San Joaquin County; Kelley 2003).

It has become clear to researchers and policy makers alike that unless small farm economies are improved and development channeled into denser, smarter patterns, sprawl will continue to transform family farms into suburban outposts. In fact, 86 percent of the nation’s fruits and vegetables and 63 percent of dairy products come from farms near urban areas, putting some of the country’s most vital farmlands directly in sprawl’s path.

In the past several decades, as sprawl and farmland-loss trends became magnified, a number of strategies and policy initiatives were developed to slow down or reverse these trends. These include land trust purchases, habitat protection...
measures, urban growth boundaries, purchase or transfer of development rights, property tax relief, creating agricultural districts, and developing strategies to compensate farmers for the loss of their right to develop their properties (American Farmland Trust 1998). Although much of the antisprawl literature includes language concerning the need to enhance farm income at the urban edge, there often has been a disconnect between understanding the value of urban-edge farming both as a vocation and for its contribution to an alternative community-based and community-oriented food system approach. By placing urban-edge farming in a food system context, land-use-related strategies become more available. Too often, however, urban edge farmers are seen as part of the problem by antisprawl activists when the significance of the value of the farming is not made apparent. This is due in part to the hostility of farmers to any land-use controls or tax measures that appear to limit future choices about what to do with their land and the feeling of farmers that the land-use issues rather than the farming itself is what is at stake.

By placing urban-edge farming in a food system context, the issue of farm income and the centrality of local and regional farmers in the development of an alternative, community food system approach becomes more apparent. Urban-edge farmers, as well as small farm operators in general, have increasingly relied on income from direct sales to consumers or institutions. This trend is reflected in the recent growth of urban farmers markets whose sales have passed the $1 billion range and are now located in all fifty states (Agricultural Marketing Service 1999). Farm-to-school is an extension of that direct-marketing approach and ultimately represents a far more substantial source of income for urban edge farmers.

▶ A Community Food Systems Approach

The rise of farm-to-school has been part of an emerging discourse around food that has challenged the dominant trends of an increasingly globalized food production and distribution system, the increase in fast food consumption and its health and diet impacts, and the squeeze on small local and regional farmers. This community food systems approach defines itself in part as a synthesis of health, environmental, social and economic justice, and sustainable agriculture ideas. It also references a new type of social movement that seeks to empower its participants, whether farmers, farm workers, community residents, or students, parents, teachers, and school food staff. It is a movement of producers and eaters, as the Community Alliance with Family Farmers has put it, producing a new food ethic while seeking to shorten the distance between food produced and food consumed (Redmond 2002). Farm-to-school is the newest and perhaps most promising of these new ideas and alliances, indicating that change in school food operations is capable of extending far beyond the school cafeteria itself.

With farm-to-school programs moving from the pilot-project stage to become part of the food and education landscape in state after state, the time is right for planners and policy makers to utilize farm-school connections and to promote a policy environment where these linkages can expand and deepen. Farm-to-school programs can help schools address the nation’s epidemic of childhood obesity. Farm-to-school has a hands-on educational component that teaches children about nutrition by showing that fresh, seasonal fruits and vegetables can taste great. Featuring fresh, local produce in the cafeteria also helps transform the school food environment itself. It is an alternative to the branding and vending strategies that expose students to junk food and zero-nutrition snacks, and it counters student prejudices about bland, mushy cafeteria fare.

On the agricultural side of the equation, farm-to-school programs can support farmers and local agriculture, contributing to farmland preservation efforts. School districts are a potentially significant market for local farmers, especially those engaged in urban-edge agriculture. Because farm-to-school programs boost farm incomes and teach urban constituents to value farming as a good in itself, farm-to-school connections represent the kind of antisprawl efforts that open space advocates and farmers can jointly embrace.

There are a number of ways that planners and policy makers can help ensure that their communities take advantage of the promise of farm-to-school connections. They can look for—and learn from—farm-to-school programs in their areas or work with schools, farmers, and community members to launch new linkages. Decision makers should also explore policy changes to foster an up-scaling of farm-to-school programs. These policies range from seed grants helping schools upgrade the infrastructure needed to prepare and serve fresh, local food, to school food-procurement guidelines and practices that emphasize buying locally, to curriculums that link farm-fresh food, school gardens, and nutrition education.

With policies in place to support the efforts of farmers and educators, farm-to-school connections will continue to grow, with expanding benefits for children, small farmers, health, and the environment.

▶ Notes

1. Among the teachers participating in the program, 105 completed surveys about the program. The surveys were part of the evaluation by the Center for Food and Justice of the first year of the program. Of the 105 surveys completed, 97 of the teachers found the CSA in the Classroom box to be very useful in nutrition education.
tion activities, and 99 were very satisfied with the contents of the Tierra Miguel produce box. “Thank you for this experience,” the Widney teacher stated in her evaluation.

2. The question of what constitutes a “local” farmer has been an important issue facing farm-to-school advocates. Definitions have varied from state to state as well as areas that are within the “footshed” of several states. We have introduced the term regional farmer to broaden the notion of local, defining a local or regional farmer as one who is located within a day’s drive from the farm to the school.

3. Estimate based on contacts and information gathered by staff of the Community Food Security Coalition and Center for Food and Justice.


References


Center for Food and Justice. 2003. CSA in the Classroom: An evaluation of the first year of the program. Los Angeles: Center for Food and Justice, Urban and Environmental Policy Institute, Occidental College.


Gottlieb, R. 1999. Author’s notes. Presentations at the “school food workshop,” cosponsored by the USDA Food and Nutrition Service, USDA, Community Food Security Coalition, and Center for Food and Justice (formerly Occidental Community Food Security Project), Chicago.


Ogden, C. L., K. M. Flegal, M. D. Carroll, and C. L. Johnson. 2002. Prevalence and trends in overweight among US children and...


