

Linking the Land and the Lunchroom: Lessons from the Wisconsin Homegrown Lunch Project

Jack Kloppenburg
Doug Wubben
Miriam Grunes

ABSTRACT. The experience of the Wisconsin Homegrown Lunch project is used to frame an exploration of the challenges facing the nation's proliferating farm-to-school initiatives. Prospects for connecting the land and the lunchroom are found to be constrained by structural features that include the industrialization of many school food services, inadequate supply of local produce, and the need for processing facilities. A variety of tactical choices that can be made to enhance the prospects for success are described. The authors call for wider discussion of how farm-to-school programs are performing and what contributions they are making to development of a sustainable food system.

Jack Kloppenburg is a Professor in the Department of Rural Sociology, University of Wisconsin-Madison, Madison, Wisconsin. (E-mail: jrkloppe@wisc.edu). He is also a board member of the REAP (Research, Education, Action and Policy on) Food Group, Madison, Wisconsin.

Doug Wubben is Project Coordinator of Wisconsin Homegrown Lunch, a program of the REAP Food Group.

Miriam Grunes is Executive Director of the REAP Food Group, Madison, Wisconsin.

The authors are grateful for the support of their work by the USDA's North Central Sustainable Agriculture Research and Education (SARE) program, 120 BAE, University of Minnesota, 1390 Eckles Ave., St. Paul, MN 55108.

Address correspondence to: Jack Kloppenburg, Department of Rural Sociology, 1450 Linden Dr., University of Wisconsin-Madison, Madison, Wisconsin 53706 (E-mail: jrkloppe@wisc.edu).

Journal of Hunger & Environmental Nutrition, Vol. 3(4) 2008

Available online at <http://www.haworthpress.com>

© 2008 by The Haworth Press. All rights reserved.

doi:10.1080/19320240802529300

KEYWORDS. Farm-to-school, school lunch, sustainable agriculture, food systems, institutional market, education

Americans are embedded in a food system in which what we eat too often undermines the health of our own bodies, the communities in which we live, and the natural environment on which we depend.¹ This deep, structural problem is manifested nowhere more clearly than in the lives of our children. The proportion of children in the United States who are overweight has tripled over the past 2 decades and now exceeds 17%. Only 2% of school-aged children meet the USDA's serving recommendations across all 5 food groups, and 84% eat too much fat.² Increasingly, children are developing diseases, such as type 2 diabetes, that used to occur only in adults.

Perhaps most critically, many children have limited exposure to the wide range of healthy foods that are available and frequently have no idea where food comes or how it is prepared. As a result, they are susceptible to the ubiquitous marketing and the easy availability of "junk" foods that surround them. In both classroom and cafeteria, schools have too often reproduced rather than challenged this food environment.³

Still, some parents, food activists, educators, and even some politicians retain a faith in the willingness of American children to consume and enjoy fruits and vegetables and in the capacity of schools to introduce, model, and reinforce healthy behaviors. These people have acted on their convictions by organizing what have come to be known in the United States as "farm-to-school" (FTS) programs.

In this article, we use the experience of an FTS project with which we have been involved in Madison, Wisconsin—the Wisconsin Homegrown Lunch (WHL) program—as a lens through which to explore the obstacles facing FTS initiatives. A number of publications have cited cost, procurement, and supply as the barriers to success that most FTS projects are likely to face.^{4,5} Though we certainly confronted these issues in our work with WHL, we also encountered a variety of obstacles that have not so far been raised in the FTS literature. We found that some of these obstacles were "structural" in the sense that they are a product of features of social organization operating outside of the limited domain of a particular school, food service, or farm and are therefore not amenable to solution outside of larger changes in the overarching frameworks of policy or governance. Other obstacles did have more proximate solutions and could be dealt with by WHL staff through selection of alternative, tactical actions.

In what follows, we first review the nature of FTS programs and outline the course of the Wisconsin Homegrown Lunch program. We then

critically examine our experience in WHL, organizing our commentary around the distinction between structural constraints and tactical choices. While the lessons we learned are to some degree site specific to Madison, both the structural and tactical obstacles faced by WHL have been and will be encountered by many FTS projects across the country. We hope that discussion of our experience will usefully inform the operation of those programs and stimulate additional research.

FARM-TO-SCHOOL PROGRAMS: WIN-WIN FOR CHILDREN AND FARMERS?

FTS programs derive much of their appeal from the marriage of 2 superficially unconnected core concerns: the decline of small-scale, local agriculture and the deteriorating nutritional status of the nation's children. Farm-to-school projects, which all involve sales of fresh, local foods to school food services, are thought to provide an elegant, "win-win" response to this dual problematic. In their aptly titled report, *Healthy Farms, Healthy Kids*, Azuma and Fisher⁶ provide a paradigmatic formulation of the multifunctional potential of FTS programs:

For *students*, they can provide increased access to fresh produce, a hands-on, experiential learning opportunity, a link between the cafeteria and the school garden and nutrition education, and a foundation for building life-long dietary choices. For struggling, independent *family farmers* they can be a new market and an additional source of income, a meaningful way to be part of the local community, and an outlet to educate future consumers and potential farmers about agriculture.

Further, FTS initiatives typically involve work in public school systems and can reach children of all economic and ethnic groups. FTS programs therefore bring an important equity dimension to an alternative agrifood movement that has been criticized as insufficiently engaged with issues of social justice.^{7,8}

The proliferation of FTS projects over the last decade has been remarkable. The Community Food Security Coalition now counts over 1000 school districts in 32 states with some form of FTS programming.⁵ To a considerable degree, this growth can be understood as one manifestation of the general rise in alimentary consciousness that has resulted in a 20% per year increase in the market for organic foods. (The rise in popular awareness of and concern for food is reflected in the popularity and visibility

of such books as *Fast Food Nation*, *Food Politics: How the Food Industry Influences Nutrition and Health*, and *The Omnivore's Dilemma: A Natural History of Four Meals*.)⁹⁻¹¹ Coupled with parental concern for children's well-being and the widespread perception of the low quality of school lunches, a sense that eating well and sustainably is important finds a clear outlet for expression in enthusiastic support for FTS programs. Prominent advocates such as luminary chef Alice Waters have brought FTS issues much popular attention.¹²

As a result, FTS has emerged as one of the more conspicuous features of the contemporary movement for a sustainable food system.^{13,14} Positive articles on FTS projects in such publications as *Food Service Director*, *Today's Dietician*, and *American School Board Journal* reflect an emerging recognition by school and food service administrators that developing an FTS component in their work is a realistic option.¹⁵⁻¹⁷ Senator Tom Harkin's inclusion of support for FTS projects in the 2002 and 2007 farm bills is a material indication of the range of opportunities now available to translate concern about the quality of food and education into public policy at local, state, and federal levels.

The core activity of all FTS programs involves sourcing fresh foods, usually fruits and vegetables, for school meals and snacks from local and regional farmers. An emphasis is frequently, but not always, placed on acquiring organic and sustainable produce. The foods may be incorporated into existing lunch menus, presented on a salad bar, or provided to students as part of a snack program. In addition to food procurement, most FTS programs also include a portfolio of educational activities as an integral component of their work.¹⁸ This educational programming serves the pragmatic objective of enhancing students' receptivity to the often unfamiliar fruits and vegetables they will be served in the cafeteria. It also serves the broader pedagogic objective of helping students understand, experientially as well as intellectually, the central role of food production and consumption in their own lives and in the social and biological metabolism of contemporary society.¹⁹

What many FTS advocates intend is not the simple replacement of distantly sourced/conventional vegetables by their locally sourced/sustainable counterparts but the transformation of the educational process itself. This would require significant institutional reform, and FTS programs also often cooperate with community groups in an effort to create or change food, wellness, and education policies at the school district, municipal, state, and federal levels. The Community Food Security Coalition has created a National Farm to School Network that is now providing leadership

to a coalition of over 300 organizations that are working to develop the legislative and political groundwork for extension of FTS resources to schools nationwide.²⁰

Despite its rising popularity, a variety of obstacles and constraints have so far prevented the potential of FTS from being realized as completely or as broadly as it might be. Given the real prospect that increasing quantities of human and financial resources will be applied to FTS programs in the near future, it is important that these obstacles and constraints be recognized, understood, and engaged. An analysis of our own experience with the Wisconsin Homegrown Lunch initiative can provide a useful vehicle for beginning this important discussion.

WISCONSIN HOMEGROWN LUNCH: LINKING THE LAND AND THE LUNCHROOM?

Wisconsin Homegrown Lunch (WHL) is an FTS project that has been operating in the Madison Metropolitan School District (MMSD) since September 2002. It is a joint effort of the nonprofit community organization REAP (Research, Education, Action, and Policy on Food Group) and the Center for Integrated Agricultural Systems of the University of Wisconsin.^{21,22} WHL has been supported by 2 grants from the USDA's Sustainable Agriculture Research and Education (SARE) program. The overarching goals of WHL have been to increase the amount of locally grown foods served in MMSD cafeterias while also providing meaningful educational opportunities for students.

From the MMSD's 22 elementary schools, 3 were selected as WHL pilot schools on the basis of staff receptivity, level of parent involvement, and student need. An extensive portfolio of educational activities was implemented in each of our pilot schools. Each school was linked to its "own" farmer, who was drawn from among the most community-oriented of the Madison area's many community-supported agriculture (CSA) farms. The farmers provide "farmer in the classroom" education that brings farm-fresh vegetables to children's minds and mouths. Their farms also provide sites for field trips and the critical opportunity for students to place fresh produce, to which they have been introduced in classroom tastings, in the overarching context of production and the environment. Additionally, WHL staff and volunteers assisted teachers with a variety of curricular activities including "commodity chain" exercises, worm bins, creation of a school garden, and transplanting cherry tomato seedlings.

WHL's educational component has shown teachers and parents, as well as the students themselves, that children can learn to enjoy daikon radishes and Swiss chard and raw sweet potato sticks and green and yellow striped tomatoes in addition to the ubiquitous carrot. Teachers and principals have welcomed WHL's curricular programming. Wisconsin's Department of Public Instruction is planning to distribute WHL educational modules statewide. WHL has been approached by over a dozen other MMSD elementary and middle schools that would like to receive WHL programming.

But if WHL effectively linked the land with the classroom, it has been far less successful at fulfilling its own slogan of "linking the land and the lunchroom." As WHL staff worked to implement sourcing of local, fresh vegetables to be served in school lunches, they soon came to understand that they were confronted by some very serious difficulties. The technical scale at which the MMSD food service operates is profoundly constraining. Organizing meal production for 45 schools around a single, central facility tightly couples a wide variety of food service activities and functions to logistical, procedural, and technical templates that were very difficult to alter. Having expected that the principal problematics of local sourcing would be pricing, brokering, and seasonality, WHL staff found instead that almost every mode of incorporating locally sourced foods into school meals required some, and often substantial, deviation from the food service's established parameters, practices, labor allocations, routines, and equipment usage.

Food service staff found that the changes in practices and procedures they were being asked to make were, in aggregate, more onerous than was acceptable and they became increasingly dissatisfied with the program. Mutual courtesy, and joint satisfaction with the success of the educational programming, deterred WHL staff and food service personnel from engaging this emerging fault line as directly as might have been useful. However, promulgation of a federal rule (established by the Child Nutrition and WIC Reauthorization Act of 2004)²³ requiring all school districts receiving USDA support for school lunches to formulate a "Wellness Policy" by the beginning of the 2006-2007 school year precipitated a clear acknowledgment of important differences between WHL staff and food service personnel and some MMSD administrators. WHL staff made a strategic decision to pursue passage of a strong policy regardless of the proximate effect on their relationship with the MMSD food service.²⁴ Though both parties subsequently agreed to disagree, cooperation between WHL and food service staff was substantially curtailed.

Despite the compromised relationship with the MMSD food service, WHL continues to move forward. The program is developing a fresh fruit and vegetable snack program in MMSD schools as a simpler, and more practicable, approach than transforming meals. It is developing curricular modules based on its educational activities. It is working with a prominent grocery cooperative to create a local fresh vegetable processing capacity. It is shifting its emphasis to a regional support function for the many other schools and districts in the Midwest that are interested in FTS programming. Analysis of WHL's experience provides insights into the interaction of opportunities and constraints that should prove useful to current and future FTS initiatives across the nation.

LESSONS: STRUCTURAL BARRIERS

All FTS projects encounter difficulties of one kind or another. Though a range of such impediments have been identified, they cluster around three central concerns: cost (schools are under budgetary strictures, prices of sustainable/organic produce are high), procurement (institutional buyers prefer to deal with few vendors to maximize the efficiency of ordering and delivery), and supply (farmers need to provide sufficient volumes of product consistently over the seasons in ready-to-use form).^{4,5,25,26} While WHL staff certainly encountered these issues in their work, they also confronted some obstacles that have not so far been raised in the FTS literature. The most difficult had to do with the structural conditions in which the program existed. That is, they are a product of features of social organization operating in the larger political economy and therefore require solutions outside the specific context of farm or school.

Scale/Industrialization

In the 2005–2006 school year, the price of the elementary school “hot lunch” in the MMSD was \$1.90, with the food ingredients accounting for \$.68 of that total. Maintenance of these low cost and price levels is possible because of the large scale and high degree of mechanization/routinization that characterizes the MMSD food service operation. Like many medium-sized and large school districts across the nation, the MMSD utilizes a single centralized production and distribution facility, from which approximately 18 000 meals a day (3.2 million per year) are distributed in trucks to the 45 schools in the district. The absence of in-school kitchen

facilities and the journey by truck requires meals to be “prepacked” in disposable aluminum or plastic containers. These prepacks are compiled and sealed on an assembly line each morning, trucked to schools, reheated as needed, and handed out in school cafeterias for students to unwrap, eat, and dispose of. All menu items must conform to a dual hot pack/cold pack/reheating system and all transportation and service infrastructure must be compatible with a determinate set of physical parameters. Coupled with the narrow financial parameters within which it must operate, the scale and technical organization of the MMSD food service render it such a tightly coupled system that even small changes are disproportionately perturbing to the system's operation.

A lesson from WHL is that it may be advantageous for FTS programs to be initiated in smaller rather than larger school districts and/or in districts whose production facilities and protocols are not so extensively industrialized. Discussions with a variety of smaller school district food services in our region indicate that many have retained in-school kitchens, continue to work with significant quantities of whole vegetables, and have considerable flexibility in terms of labor and food preparation and presentation. FTS projects in rural school districts in particular may also enjoy the additional advantage of a sense of commitment to purchasing from farmers who are part of the community. With most existing FTS programs being located in large, urban centers, a systematic review of the effects of scale and technical characteristics on their progress would bring some valuable perspective to the question of what kinds of school districts are most conducive to advancing such projects.

Price, Procurement, Supply

The 3 barriers to project success most commonly cited in the FTS literature are price, procurement, and supply. Of these 3 key variables, procurement proved least problematic to WHL. Like many school districts, the MMSD school food service operates under a contract that requires it to purchase approximately 80% of their food products through one of the major national food distributors. However, the additional 20% is available for local purchasing and it was not administratively difficult to add a local farmer cooperative as a vendor for MMSD. Pricing was more problematic. Most of the sales for our partner cooperative are in high-quality organic produce for high-end restaurants and farmers were used to receiving premium prices. We did find that the prices charged by the national distributor for produce items varied widely and that local produce, even

organic, was often competitively priced. Food services utilizing a broad variety of fresh fruits and vegetables are likely to find opportunities to access local produce at acceptable costs.

Our experience with WHL has been that a deeper problem than either pricing or procurement arrangements is the issue of supply. South central Wisconsin has a wealth of sustainably oriented vegetable producers. But they specialize in capturing organic, niche, and direct markets. Critically, they are almost exclusively small producers with limited production capacity who are geographically dispersed, rarely collectively organized, and often reluctant to expand their operations.²⁷ Ironically, Wisconsin is a leading producer of processing vegetables on a small number of large, conventional farms. In a classic conundrum of the "disappearing middle," the small growers are reluctant to get bigger (by expanding production) and the large growers are reluctant to get "smaller" (by planting small amounts of fresh market varieties). The problem of supply is not unique to FTS programs, for it is increasingly recognized as a significant constraint on local food initiatives across the country.²⁸ A concerted policy effort is needed, at the federal level, to provide conditions in which small and medium-sized fruit and vegetable operations can scale up to meet growing demand for locally and regionally produced foods.

Processing Facilities

One of the features of the MMSD food service operation that struck us most forcefully was the degree to which it had moved away from modes of food provisioning that involve the "cooking" of raw/whole ingredients and shifted toward the "assembling" of prepacked components. As a cost reduction measure, the food service has reduced labor wherever it can, and in the MMSD's centralized kitchen there is little latitude for hand preparation of fresh raw fruits and vegetables. This is true for many institutional food services that receive the vast majority of their fresh produce in a minimally processed form; that is, having already been washed, chopped/sliced/diced and bagged. If locally purchased produce is to be used in school meals, it must arrive ready to use. This is likely to be the case for most school food services across the country and overcoming this barrier will be a requirement for most FTS programs.

WHL staff explored the possibility of contracting with one of the few fresh processors left in Wisconsin, but even this relatively small facility was too large to undertake processing small amounts of local product at a price that farmers or the food service found acceptable. As part of a joint

initiative with other organizations to look into creation of a multifunctional "central agriculture and food facility" for the region it was learned that the cost of setting up a small but efficient processing plant would be on the order of \$1.5 million. Simple stand-alone processing equipment is available for far less, but there is very little information available on how, or even if, it is being used for FTS or similar projects. WHL has been working with a local grocery cooperative that installed some processing equipment in its commercial kitchen and is supplying the project with some product. The objective of this work is to determine technical, labor, and cost benchmarks that could illuminate the prospects for a small-scale processing enterprise. It is our experience that few farmers are themselves interested in processing. Again, if such facilities are to serve FTS programs, public policy measures are needed to underwrite their creation.

LESSONS: TACTICAL CHOICES

The foregoing section highlighted a number of structural properties that characterize the overarching socioeconomic framework within which the WHL program has been operating. While these structural features exert an immediate and powerful influence over the project, there is little that can be done to significantly alter their effects in the short term. On the other hand, project personnel were also faced with a wide range of decisions on matters that they could materially affect and that did meaningfully shape how well the project was unfolding. It was not always clear how best to proceed. Below, we report our experience with some key tactical choices that other FTS projects may well face.

Leadership

Farm-to-school initiatives involve a complex array of social actors. The different interests of students, farmers, food service staff, parents, teachers, and custodial staff must be recognized and their participation coordinated. Effective guidance from principals and from the food service director is critical. Enthusiastic teachers or food service staff find it very difficult to overcome active or passive resistance on the part of their leadership. Conversely, principals and food service directors who are active supporters of an initiative can create an attitudinal and material climate in which participation in the project is encouraged and enhanced.

Food service directors are especially pivotal inasmuch as it is the food service that is asked to make substantial changes to fundamental components of its organization and procedures. If the food service director does not want the project, it will fail. If the food service director is indifferent to the project it will most likely fail. If the food service director is enthusiastic about the project, there is a chance of progress. As WHL plans its expansion to new areas, we are choosing to work exclusively with districts in which the food service director understands the motivation of FTS advocates and is actively seeking the opportunity to make serious changes in lunchroom operations.

Incentive or Expectation?

A consistent theme in the literature on FTS is the need to develop a collegial and effective working relationship with school food service staff.⁶ A key strategy for WHL was to foster the emergence of professional, congenial, trusting, and responsive relationships with food service staff and to proceed slowly, transparently, and inclusively. WHL staff avoided encouraging parental and popular criticism of the existing lunch program in favor of an approach that emphasized constructive innovation rather than a focus on what was "wrong" with the food service. They worked successfully to generate positive media coverage of the program and took care to publicly acknowledge the difficulties faced by the food service as it implemented project activities.

This approach allowed WHL staff to establish an FTS project with a food service partner that was tolerant of, though not necessarily enthusiastic about, working with them. However, the tactic of avoiding aggressive advocacy may well have contributed to development of a climate in which the food service felt little pressure to actually alter its performance. In retrospect, it would have been useful to have arranged for external allies (parents, PTOs, school board members, etc.) to more forcefully express a set of goals and expectations complementary to those of WHL staff. Such reinforcement might have been sufficient to induce the food service to have pursued proposed changes more vigorously. In their work with food services, FTS programs need to explicitly and carefully consider how to maintain an effective balance between cooperation and advocacy and between the provision of incentives and the application of pressures.

Beyond Lunch

Over the course of the project, WHL has considered several different approaches to incorporating local, fresh foods into MMSD school

lunches. Initial efforts to develop "homegrown" lunches involving meals that were completely based on locally available fresh vegetables founded on problems of supply and the operational limitations of the MMSD food service. A "menu item substitution" approach based on replacement of specific ingredients and menu items has shown promise but is constrained by the narrow range of fresh fruits and vegetables now used in MMSD menus. Recently, we have implemented a fourth modality that sidesteps the school lunch to focus on the provision of fresh fruits and vegetables as snacks during the school day. WHL has now successfully piloted a snack program in half a dozen elementary schools and 2 middle schools.

This "beyond lunch" emphasis on snacks has a variety of advantages that should apply to most FTS programs. First, children are often hungry at times other than the lunch period and that hunger renders them maximally receptive to new or unaccustomed foods (e.g., daikon radishes, kohlrabi, cauliflower florets). Second, a snack program can provide the regular, extended exposure that behavioral research has shown is critical for children to develop a liking for a new food. Third, the relatively small quantities required for a snack program are easier to source, process, and deliver. The snack program thus provides an opportunity to develop effective ways to perform these functions at a limited and less risky scale. Fourth, the simplicity of a snack program avoids many of the technical obstacles associated with highly industrialized food services. Fifth, funding a snack program is fiscally much easier for a school district or a PTO than restructuring the financing of an entire meal program. Sixth, a wide variety of raw fruits and vegetables are useful in a snack program and are available across the seasons.

Prospective FTS programs should consider beginning their initiatives with a snack program. To the extent that a snack program is successful, it prepares children, farmers, and food service personnel for the more complex undertaking of scaling up the project to address school lunches themselves.

Lunchroom or Classroom?

Although many FTS programs incorporate a pedagogical component, they have emerged from the alternative agrifood movement principally as a vehicle for agricultural market development rather than as a mechanism for educational reform. Most of the literature on FTS reflects this derivation and concentrates mostly on the exigencies of connecting farms with

food services. That is, they concentrate on "linking the land and the lunchroom," as WHL's own motto phrases it. However, WHL staff soon realized that developing an extensive educational component was not merely a helpful adjunct to the program but a fundamental necessity. Successfully linking the land and the classroom will in many cases be a prerequisite for successfully linking the land and the lunchroom.

While the many health benefits of eating more fruits and vegetables are widely documented, few children and adolescents eat the recommended 5 servings of those foods each day. Many children are unfamiliar with and think they will not like the fresh fruits and vegetables that FTS programs propose to supply in their school meals. School food services will not be willing to serve fresh local vegetables if students will not eat them. Happily, eating preferences and behaviors are modifiable, and this is particularly true of children since their likes and dislikes are still relatively plastic. However, acceptance of a new food item is an adaptive process that is greatly facilitated by multiple exposures (10 or more are often necessary) that include tasting and presentation in a positive and engaging context.²⁹ Systematic engagement of students with a portfolio of educational activities (e.g., tasting sessions, farmer-in-the-classroom, field trips, chef-in-the-classroom, etc.) is an essential precursor to their willingness to consume more and more diverse fresh fruits and vegetables in the cafeteria.

Experience with curricular development in WHL has been overwhelmingly positive. Students enjoy the hands-on, experiential activities. Teachers appreciate the assistance and material support. A strong educational component is extremely useful as an outreach tool and is an effective vehicle for communicating to the wider community as well as for involving parents. Development and dissemination of educational modules and materials will be the cornerstone of WHL's programmatic emphasis in the future. Increasingly, FTS programs and proponents are coming to understand that in farm-to-school, "school" embraces both lunchroom and classroom. This is a tendency that should be embraced and reinforced.

CONCLUSION

Over the past decade, the proliferation of farm-to-school programs has become a prominent feature of the alternative agrifood movement. There is reason to expect that the number of such projects will continue to increase. FTS initiatives certainly have a great deal of promise. As institutions responsible for equitably providing both education and meals,

schools are key sites at which healthy eating behaviors can be introduced, modeled, and reinforced.

In a variety of ways, our experience with WHL has been most satisfactory. Teachers and administrative staff alike have welcomed WHL activities and appreciated the curricular emphasis that the project brings to the classroom. We have created an understanding of the WHL program and its objectives among a wide variety of Madison's publics and constituencies. We have received extensive and positive coverage of WHL project operations and activities in print, television, and radio outlets. We have established a climate of awareness in which our farm-to-school efforts are widely recognized and are regarded as an innovative and effective initiative.

Unfortunately, we have also found that the possibilities for connecting the land and the lunchroom are seriously constrained by a variety of structural features. These structural features—the degree of industrialization of many school food services, issues of price/procurement/supply, and the need for processing facilities—do not lend themselves to any simple or near-term resolution. Indeed, the clearest lesson to be learned from our experience with WHL is that if FTS programs are to operate effectively, public policy must provide a congenial institutional and regulatory environment for them. Advocates of FTS will need to look to political action—at local, state, and federal levels—as a prime vehicle for achieving the educational or alimentary reforms they want to see in the schools.

This is not to say that FTS programs should not be undertaken at all until structural transformations are accomplished. Local actions constitute the resource base out of which deeper and broader transformations can emerge. Pilot initiatives are also an essential means of testing strategies and institutional innovations against prevailing structural conditions. Moreover, they are often themselves direct stimuli for structural change.

In order to support and enhance the operation of current and prospective FTS projects, we have also described some of the key tactical choices made in the course of the WHL program. We have found that enthusiastic leadership from the food service director is critical to success, that a cooperative approach with food service staff needs to be complemented by judicious application of external pressures, that there are promising opportunities for students to consume fresh foods in places other than the cafeteria, and that an educational component is as important a part of an FTS program as the farmer/food service connection.

If FTS programs are to become established as an effective element of the movement to create a sustainable food system, a broad exploration of their operation among practitioners and analysts will be needed to inform

program design and to foster supportive application of public policy. We hope that our commentary contributes to and encourages a wider discussion of how FTS programs are performing and what contributions they are making to development of a sustainable food system.

REFERENCES

1. Gussow J. Reflections on nutritional health and the environment: the journey to sustainability. *J Hunger Environ Nutr.* 2006; 1:3–25.
2. American Dietetic Association. Position of the American Dietetic Association, Society for Nutrition Education, and American School Food Service Association—nutrition services: an essential component of comprehensive school health programs. *J Am Diet Assoc.* 2003; 103:505–514.
3. Brownell KD, Horgen KB. *Food Fight: The Inside Story of the Food Industry, America's Obesity Crisis, and What We Can Do About It.* New York, NY: McGraw-Hill/Contemporary Books; 2004.
4. Gregoire MB, Strohbehm CS. Benefits and obstacles to purchasing food from local growers and producers. *J Child Nutr Manage.* 2002; 25:2:62–65.
5. Kalb M, Markley K, Tedeschi S. *Linking Farms With Schools: A Guide to Farm-to-School Programs for Schools, Farmers and Organizers.* Washington, DC: Community Food Security Coalition; 2004.
6. Azuma AM, Fisher A. *Healthy Farms, Healthy Kids: Evaluating the Barriers and Opportunities for Farm-to-School Programs.* Venice, Calif: Community Food Security Coalition; 2001.
7. Allen P. *Together at the Table: Sustainability and Sustainance in the American Agrifood System.* University Park, Pa: The Pennsylvania State University Press; 2004.
8. Allen P, Kovach M. The capitalist composition of organic: the potential of markets in fulfilling the promise of organic agriculture. *Agric Hum Values.* 2000; 17:221–232.
9. Schlosser, E. *Fast Food Nation.* New York, NY: Houghton-Mifflin; 2001.
10. Nestle, M. *Food Politics: How the Food Industry Influences Nutrition and Health.* Berkeley, Calif: University of California Press; 2002.
11. Pollan, M. *The Omnivore's Dilemma: A Natural History of Four Meals.* New York, NY: The Penguin Press; 2006.
12. Waters A. Eating for credit. *New York Times.* March 24, 2006:A27.
13. Kloppenburg J, Hassanein N. From old school to reform school? *Agric Hum Values.* 2006; 23:417–421.
14. Friedmann, H. Scaling up: bringing public institutions and food service corporations into the project for a local, sustainable food system in Ontario. *Agric Hum Values.* 2007; 24:389–398.
15. Weisberg K. The farmer and your table. *Food Serv Dir.* 2005; 18(4):44–47.
16. Jackson K. The farm-to-school movement. *Today's Dietician.* 2005; 17(5): 40–43.
17. Vail K. School food revolution. *Am School Board J.* 2005; 192(1):10–15.
18. Feenstra G. School gardens produce food and lessons. *California Agric.* 2000; 54:10–11.
19. Stone MK. A food revolution in Berkeley. *Whole Earth.* 2002;107:38–48.
20. Community Food Security Coalition. CFSC's policy priorities. Available at: <http://www.foodsecurity.org/policy.html>. Accessed May 22, 2006.
21. <http://www.reapfoodgroup.org/farmentoschool/>.
22. Kloppenburg J, Wubben D, Grunes M. *If You Serve It, Will They Come?: Farm-to-School Lessons From the Wisconsin Homegrown Lunch Project.* Madison, Wis: University of Wisconsin Center for Integrated Agricultural Systems; 2007.
23. http://www.fns.usda.gov/tn/Healthy/wellness_policyrequirements.html for more information.
24. For access to the recommendations and resource materials developed by WHL staff, see <http://www.reapfoodgroup.org/farmentoschool/mmsdfoodpolicy.shtml>
25. Gregoire MB, Strohbehm CS. Benefits and obstacles to purchasing food from local growers and producers. *J Child Nutr Manage.* 2002; 25:2:62–65. SAME AS 4
26. Berkenkamp J. *Making the Farm-School Connection: Opportunities and Barriers to Greater Use of Locally-Grown Produce in Public Schools.* Unpublished consultant's report to the University of Minnesota, St. Paul, MN; 2006.
27. Hendrickson J. *Fresh Market Vegetable Farms at Three Scales of Production.* Madison, Wis: Center for Integrated Agricultural Systems; 2006.
28. Hedin A. My forbidden fruits (and vegetables). *The New York Times.* March 1, 2008:A27.
29. Birch L, Fisher J. The role of experience in the development of children's eating behavior. In Capaldi E, ed. *Why We Eat What We Eat: The Psychology of Eating.* Washington, DC: American Psychological Association; 1996:11–141.