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Punam Ohri-Vachaspati
Rutgers University, pohri@ifh.rutgers.edu

Brad Masi
New Agarian Center, bradmasi@earthlinks.net

Morgan Taggart
Ohio State University, taggart.32@cfaes.osu.edu

Joe Konen
Ohio State University Extension, konen2@ag.ohio-state.edu

Jack Kerrigan
Ohio State University Extension, kerrigan.1@postoffice.ag.ohio-state.edu

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Return to Current Issue

City Fresh: A Local Collaboration for Food Equity

Punam Ohri-Vachaspati
Assistant Research Professor
Center for State Health Policy
Rutgers University
New Brunswick, New Jersey
pohri@ifh.rutgers.edu

Brad Masi
Executive Director
New Agrarian Center
Oberlin, Ohio
bradmasi@earthlink.net

Morgan Taggart
Program Specialist
Ohio State University Extension
Cleveland, Ohio
taggart.32@cfaes.osu.edu

Joe Konen
Associate Professor Emeritus
Ohio State University Extension
konen2@ag.ohio-state.edu

Jack Kerrigan
Regional Director
Ohio State University Extension
Wooster, Ohio
kerrigan.1@postoffice.ag.ohio-state.edu

Abstract: To address limited access to fresh fruits and vegetables in urban neighborhoods, a collaborative of grass-roots organizations designed City Fresh—a sustainable local food system creating new market opportunities for urban and rural growers and promoting access to and consumption of healthy foods by low-income Cleveland residents. Fresh produce is marketed through a network of Fresh Stops that obtain produce from farmers within a 70-mile radius of the city and from urban growers who are trained through the program. Evaluation results indicate increase in participation rates; growth in urban agriculture; and increase in consumption of fruits and vegetables by participants.

Introduction

The formation of the City Fresh collaborative and its work to provide local food at "Fresh Stops" in low-income neighborhoods of Cleveland and Northeast Ohio provides valuable lessons for replication. This article describes the City Fresh concept, program design, and evaluation results.

Access to healthy food at an affordable price is a challenge in many urban neighborhoods (Block & Kouba, 2006), including parts of Cleveland, Ohio. These areas, often referred to as "food deserts," lack grocery stores and other outlets for fresh produce and healthy foods (Powell, Slater, Mirtcheva, Bao, & Chaloupka, 2007). Metropolitan regions also face the challenge of poor infrastructure for local foods distribution. Growers find that access for direct marketing in urban neighborhoods comes with impractical expenditures of time and transportation costs. This, again, tends to limit urban access to healthy food items, especially fresh local produce.

The City Fresh program emerged out of collaboration between the New Agrarian Center (NAC) and Ohio State University Extension (OSUE) in Cuyahoga County. A Regional Food Congress for Northeast Ohio organized by NAC in 2003 recognized that there was a need to both increase market demand for local foods in urban neighborhoods (where population density is high and food access needs are greatest) and to increase revenue-earning opportunities for local urban and rural growers (Masi & Moore, 2003).

Objective

Based on the results of the Regional Food Congress and the poor nutritional and health status of Cleveland residents (CDPH, 2007), a steering committee comprised of representatives from Heifer International, Innovative Farmers of Ohio, the Cleveland Department of Pubic Health, OSUE, and NAC designed City Fresh with the goal of improving access to healthy local food for the residents of urban neighborhoods in Cleveland and Northeast Ohio. The main objective of the program was to create a local self-sustaining food system, connecting rural and urban growers with new markets and existing programs to help improve access to fresh locally grown produce in low-income neighborhoods.

Program Design

Through a 3-year grant from the Community Foods Project initiative of the USDA, the City Fresh program began in 2005. Three strategies were used to achieve City Fresh's goals of improving access to healthy, affordable, local food:

1. Create an infrastructure to make it practical for local growers to get their produce to markets in urban neighborhoods through creation of market clusters and for urban consumers to purchase locally grown food at "Fresh Stops";

2. Increase consumers' use of fresh fruits and vegetables through improved access to nutrition and cooking information; and

3. Train urban market gardeners and facilitate the development of entrepreneurial market gardens in urban neighborhoods.

Create an Infrastructure for Local Foods

To market and distribute local produce to urban neighborhoods, City Fresh developed the "Fresh Stop" concept. A Fresh Stop is organized like a farmers market, with open displays of produce that shareholders could individually pick based on the guidelines posted. For example, in a given week a shareholder could choose 4 tomatoes, 1 eggplant or 1 cabbage, 6 zucchinis, etc. A "learning table" is set-up next to the produce table to distribute recipes, food samples, and nutritional information. Fresh Stops are hosted by community-based organizations, including churches, schools, community centers, public libraries, health centers, and neighborhood associations. All Fresh Stops are operated by volunteer shareholders or staff from host agencies and are mostly located in predominantly low-income neighborhoods.

A community can request a Fresh Stop if they have at least 25 shareholders and volunteer capacity to run the program. Participants were recruited through fliers, community group meetings, outreach programs, and radio. Shares are available at regular price or at subsidized rates for families living at or below 185% of the poverty line and can be purchased weekly or for the entire season. Food Stamp EBT (Electronic Benefits Transfer) Cards, WIC (Women Infants and Children), and Senior Farmer's Market coupons are accepted at Fresh Stops.

The Fresh Stops are supplied through the organization of distribution hubs, which in the past years have included a school and a church. On distribution days, a variety of produce is either dropped off by rural and urban farmers at the hubs or is picked-up by City Fresh from local farms using a diesel-powered box truck converted to run on waste vegetable oil. Volunteers from the Fresh Stops converge at the hubs to sort produce and then transport produce back to their Fresh Stops. City Fresh also employs neighborhood youth to assist with distribution and urban farming initiatives.

The Market Cluster Formation is centered around two larger university food service departments and one restaurant: Oberlin College and Case Western Reserve University, both operated by Bon Appetit Management Company, and the Great Lakes Brewing Company. Oberlin and Case teamed with Bon Appetit to invest in the box truck to support distribution efforts for City Fresh and to expand connections between local farmers and the two institutions. Oberlin and Case also provided waste oil for from their dining halls to fuel the on-board vegetable oil converter for the truck.

Increasing Access to Nutrition and Cooking Information

Nutrition education is built into the program design of City Fresh to translate participants' increased access to fresh produce into increased consumption of fruits and vegetables. The Expanded Food and Nutrition Education Program (EFNEP), a federally funded nutrition education program implemented by OSUE and targeted to low-income families, is tailored to meet the nutrition education needs of City Fresh participants. Through a series of interactive mini-sessions, EFNEP outreach staff engage participants in small group discussions at the "learning table" set up at Fresh Stops. Each lesson focuses on a single message and is supplemented with tasting of a recipe using a featured vegetable of the week, a take-home recipe, and information about the nutrient content, storage and selection of the featured vegetable.

A frequent learner card was developed as a mechanism for tracking participants for EFNEP record-keeping purposes and to provide an incentive for participation. After 10 punches on the card, participants complete the EFNEP program and receive a graduation certificate, a recipe book, and a free share for that week. Given the rapid expansion of Fresh Stops, the staff constraints, and program guidelines of EFNEP, efforts are targeted to City Fresh sites with the highest low-income participation. Educational materials and recipes are available at all Fresh Stops.

Increasing Access to Urban Agriculture by Market Gardener Training

The Market Gardener Training Program offers support, resources, and technical advice for Cleveland area residents who want to start a for-profit urban agriculture enterprise. The program includes a 10-week classroom training, hands-on workshops, and ongoing resources and technical support.

The 10-week classroom training covers a wide variety of topics, including writing a business plan, intensive urban agriculture production, direct marketing, season extension, working with chefs, and selling at farmers' markets. A series of hands-on workshops are held throughout the growing season at urban and rural farms. These classes provide opportunities for the development of practical agricultural skills and a chance to build a growers network. Workshop topics include: beekeeping, greens production, pest and disease diagnosis, post-harvest handling of produce, and gardening on asphalt. Instructors for these workshops include urban and rural growers, Extension staff, and community partners at other agricultural organizations. Participants pay a nominal fee for the workshops. A sliding scale is used to charge a nominal fee from the participants.

At the conclusion of the training, participants are invited to submit their business plans with a proposal for seed grants (up to $2000) that would offset initial costs of establishing market garden enterprises. Throughout the year Extension staff provide ongoing technical support and resources to the market gardeners through site visits, one-on-one consultations, and group meetings.

Evaluation

The three components of the program were evaluated using qualitative and quantitative techniques. In addition to highlighting the impacts of the program, the evaluation process was used to continually provide input into program design, planning and implementation.

Fresh Stops and Market Clusters

Evaluation Design

The impacts of Fresh Stops and market clusters were determined through a combination of participant surveys, exit interviews with community partners, and the experiences of program planners and collaborators. Participant data were collected from the program registration forms that each participant was required to complete. Program records including financial statements were used to describe characteristics of suppliers and program implementation and to analyze fiscal aspects of the program. Stakeholder interviews were conducted with program participants, community partners, and program implementers.

Evaluation Results

Table 1 gives a "by the numbers" summary of the first 3-year progress report of the City Fresh program. At the end of 3 years, 750 families and individuals participated in the program, far exceeding the target goals of 100 participants. Based on a survey of a non-random sample described later, 65% of the participant families earned less than $50,000 per year, and 38% were at or below the 185% of poverty line (Table 2). The participants came from 17 neighborhoods in two counties. In year 3, the program distributed 7,333 share bags and operated for 28 weeks and included a network of 26 farms within a 70-mile radius (Table 1). About $18,000 of subsidies were generated for limited-income families, coming from surplus payments from higher-income shareholders, business sales, and a subsidy pool established by the original CFP grant. Overall earned income for the program increased from about $19,000 in 2006 to $112,000 in 2007. These outcomes were achieved without an increase in grant support for the program from 2006 to 2007.

Table 1.
Dashboard of Outcomes

Criteria	**2005**	**2006**	**2007**
Number of Operating Fresh Stops (#)	1	4	17
Number of Fresh Stop Participants (#)	64	185	891
Number of Regular Fresh Stop Shareholders (#)	25	88	748
Total Number of Share Bags Distributed (#)	233	950	7,333
Total Value of Share Bags ($)	4,660	20,200	110,400
Fresh Stop Revenue ($)	4,342	13,200	92,000
Total Subsidy Pool Distributed to Limited Income ($)	2,605	7,070	18,400
Market Cluster Sale Revenue ($)	1,681	5,688	21,000
Weeks for Fresh Stop Operations (#)	14	19	28
Farmers Supplying City Fresh (#)	4	16	14
Farmers that are Urban Market Gardeners (%)	0%	50%	21%
Ohio Direction Shareholders (%)	0	6	30
Overall Satisfaction of Fresh Stops (Max Score = 5)	4.5/5	4.75/5	n/c
Youth Involved in City Fresh Summer Program (#)	0	8	17

Table 2.
Demographic information

	Pre-Intervention	**Post - Intervention**
Sample	N = 148	N = 124
	%	%
Gender		
Male	15	26
Female	85	73
Age		
18-24	10	6
25-34	24	25
35-44	29	26
45-54	22	25

55-64	10	10
65 and older	6	6
Education		
<12 years	8	5
High School or GED	13	9
Some College	20	21
College graduates	27	30
Advanced degree	33	34
Race		
Black	13	13
Hispanic or Latino	12	8
Asian or Pacific Islander	1	2
White	72	75
Bi- or multi-racial	2	3
Household Income		
<$15000	20	16
$15,000 - $27,999	17	22
$28,000 - $50,000	15	19
+ $50,0000	36	35
Low-income (185% poverty line)	39	38

The program exhibited successful implementation of a collaborative process. On the delivery end, City Fresh achieved buy-in through "mission convergence" with participating agencies and organizations. City Fresh hosts saw a convergence between the constituents whom they served and the health, nutrition, and community development aims of City Fresh. City Fresh also helped to bring together agencies with existing programs and resources to complement the Fresh Stops, such as OSU Extension's EFNEP program and participating health care agencies.

In 2007, City Fresh reduced the overall distance that food travels to reach people while operating a distribution system that operated with 100% vegetable-based fuels (about 75% coming from recycled waste grease). Although not certified organic, most City Fresh farmers practiced organic growing methods, and those who did not followed low-input sustainable production methods.

In 2005 and 2006, all Fresh Stops were operated by paid staff of the City Fresh program. In 2007, staff moved from being managers to trainers, and all Fresh Stops were operated by volunteers or community hosts. This helped to transfer ownership and responsibility of the program to communities being served and greatly increased the replication potential of the program without further resources for staff support.

Involvement of other institutions both large and small in creating market clusters helped to spread out distribution costs of food for neighborhood Fresh Stops while producing surplus revenues to devote to the share subsidy fund for limited income shareholders.

Consumption of Fruits and Vegetables

Evaluation Design

Impact of City Fresh on access, availability, and consumption of fruits and vegetables was evaluated via a survey developed using questions from other tested instruments (Dibsdall, Lambert, Bobbin, & Frewer, 2003; BRFSS, 2003; Murphy, Kaiser, Townsend, & Allen, 2001). The survey was administered to an independent non-random group of participants at the beginning and end of the program. All participants were requested to fill out the survey when they registered for the program and during the last 2 weeks of the program. Data were collected on participant demographics; consumption, access, and affordability of fruits and vegetables; and nutrition knowledge. Given that the program implementation and data collection was not very consistent in the first year, we present data from years 2 and 3. This research was approved by the Ohio State University Internal Review Board.

Participants who were enrolled in the program for fewer than 4 weeks were excluded from the analysis as this was considered too short a period to bring about change in behavior and practices. Based on preliminary analysis from years 1 and 2 and in the interest of instrument brevity, it was decided to remove questions on detailed consumption and access and availability from the year 3 survey. Brief indicator questions assessing fruit and vegetable consumption were retained. The data were analyzed using SPSS software.

Evaluation Results

A total of 272 participants completed the pre- and post-surveys over the 3 years. There are no significant differences in the demographic characteristics of the two samples (Table 2). The majority of respondents were females, were 25-54 years of age, had obtained some college or higher degree, and were white, and about 65% had annual household income less than $50,000.

Table 3 shows the results of the analysis comparing fruit and vegetable consumption before and after the intervention for the entire sample and also for low-income (at or below 185% of the poverty line) and non-low-income groups. Overall, the percentage of participants eating five or more servings of fruits and vegetables increased from 36% to 56%, with the increase being of greater magnitude for low-income groups. Eating fruits and vegetables as a snack and eating more than one vegetable per day, both indicators of fruit and vegetable consumption, showed a significant increase in the low-income groups. In a qualitative survey, participants reported that they tried new recipes, introduced more vegetables at meals, and started eating a wider variety of fruits and vegetables.

More participants (64% to 78%) reported that they were able to afford fruits and vegetables after the intervention, though the change was not statistically significant. A larger increase was seen in percent of low-income participants who could afford fruits and vegetables after the intervention compared to the not-low-income group. Affordability and limited access are two of the main barriers to eating fruits and vegetables among low-income populations (Cassady, 2007). While the low-income group reported lower levels of consumption and affordability compared to the non-low-income group at pre-intervention, the differences were significantly reduced and in some cases disappeared after the intervention, thereby reducing the disparities often noted in the consumption and access to fresh produce in low-income populations (CDC, 2007).

Table 3.
Fruit and Vegetable Consumption among Program Participants

	Entire Sample (%)		Low-Income (%)		Not Low-Income (%)	
	Pre (n=115)	**Post (n=80)**	**Pre (n=41)**	**Post (n=24)**	**Pre (n=73)**	**Post (n=53)**
Eating Fruits and Vegetables as Snack	49	64**	42	67**	55	61
Eating > 1 Type of Vegetable /Day	73	78	56	79**	82	79
Eating +> 5 Fruits and Vegetables/Day#	36	56**	33	67**	41	52
% Able to afford fruits and vegetables#	64	78*	30	53	84	96

Data on these variables were collected in years 2 only
** Difference between pre and post data significant at p<.05
* Difference between pre and post data approaching significance at p < .1

Market Gardener Training Program

Evaluation Design

Evaluation of the Market Gardener Training Program was based on a comprehensive written survey implemented at the end of the training program. The final evaluation asked individual participants to provide information about their business, their experience in the training program, and barriers they experienced in the start-up of their enterprises. Twenty-nine final evaluations were received from 48 training program participants, a 60% response rate. Responses were anonymous, and quantitative responses were averaged to determine cumulative scores.

Evaluation Results

The Market Gardener Training Program targets underserved populations, including women, minorities and low- to moderate-income individuals. Program staff was successful in recruiting both African-Americans and women for the training program. USDA Census data (USDA, 2002) indicates that 12% of the farmers are women and 1% are African American. By comparison, almost three quarters of the City Fresh Market Gardener program participants are women or African-American (Table 4).

Table 4.
Market Garden Program Evaluation

	2006	**2007**

Market Gardener Program Participation		
Total Participants (#)	19	29
Gender		
Male (%)	35%	27%
Female (%)	65%	73%
Race		
Black (%)	25%	30%
White (%)	75%	70%
Market Garden Program Implementation		
Agriculture Garden Sites (#)	9	20
Market Garden Sites (#)	8	30
Acres in cultivation (acres)	3	5
Market Garden Start-up Funds Invested ($)	10,000	13,800
Market Garden Vendors Accepting WIC/Senior Coupons (#)	0	5
Produce Sold At		
Fresh Stops (#)	1	3
Farmer's Markets (#)	1	3
Farm Stands (#)	0	6
Mobile Markets (#)	0	1

Program participants rated several different elements of the training program as "very helpful" for the establishment of their enterprise. The specific aspects of the training rated highly included: the seed grant program, the summer workshop series, urban growers' network, and individual technical assistance.

By the end of the growing season in 2007, more than half of the participants had started market gardens at 30 different sites and created 20 new urban agriculture micro-enterprises. The market gardeners grew a variety of produce in their first year, including vegetables, fruit, and herbs. One partnership established an apiary in Cleveland, and another enterprise is raising a flock of chickens for egg production on an urban farm.

Individual earnings for market gardeners varied during their first and second growing seasons. Some individuals made less than $100, but the majority earned from $750 to $3,500 in year 2. Most market gardeners thought they could expand and intensify their production in the next few years and increase their profits. Central to the mission of this new class of urban growers was the partnership of social responsibility and entrepreneurship. Several urban growers accepted both Senior Farmers Market Nutrition coupons and Women, Infant and Children (WIC) Farmers Market coupons at their farm stands and markets. One collaboration of growers saw 30% of sales come from WIC and Senior Farmers Market coupons in 2007.

Market gardeners identified several barriers as they started their urban agriculture businesses. The major challenges market gardeners identified included access to land, access to water for irrigation, and start-up capital. An attempt is being made to address these barriers in the future plans for the program.

Future Plans

City Fresh is developing a business plan that projects long-term program viability. In the near future, we anticipate a continued need for grant support for community organizing both with farmers and with urban neighborhoods. As community organizing builds social capital, the program exhibits potential to be carried on by the communities involved.

A nutrition education tool kit and a training curriculum will be developed to train the Fresh Stop volunteers in basic nutrition and food safety concepts and skills. This will enable the volunteers to engage the participants in discussions on topics related to benefits of eating fruits and vegetables, safe and healthy preparation, as well as suggestions on ways to incorporate fruits and vegetables in everyday meals.

The Market Gardener Training Program will be expanded to 12 weeks to include topics requested by past participants. Sections on crop planning, bookkeeping and accounting, and marketing at farmers markets will be enhanced in the coming years. Networking meetings in the off-season and workshops during the growing season will provide opportunities for cross-learning and relationship building. Access to land was an ongoing challenge for several growers. To address this challenge, the emerging Cleveland-Cuyahoga County Food Policy Coalition created a working group to focus on land use. This coalition will continue to be used as a forum to address barriers and challenges for urban growers and general food access and nutrition in urban neighborhoods.

Conclusion and Implications for Extension Professionals

City Fresh offers a model to others interested in developing a local/regional food system to improve access of fresh, locally grown produce to low-income inner city residents. City Fresh is achieving its goals in Cleveland and Northeast Ohio by improving market opportunities for rural and urban farmers in low-income neighborhoods, mixing lower- and higher-income shareholders, and creating market clusters; by integrating nutrition and cooking information into the program to translate increased access into increased consumption; and by improving food production in urban areas through the creation of market gardens.

The program was designed as a social enterprise that will become viable over the long-term to continue to serve its community mission with limited long-term grant support. While the grant support provided through the USDA Community Foods Program was essential to the development of the program, Extension professionals working in communities where similar grant dollars are not available may be able to partner with local growers and other social entrepreneurs to tailor existing Extension programs to improve access to fresh, local, healthy, affordable food in low-income communities.

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