

The New "Victory Gardens": How Community Gardens in Western, NY Alleviate Food Insecurity



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Abstract

Food insecurity in Buffalo continues to pose a challenge, especially in low-wealth neighborhoods. Of the 32,927 households with children under the age of 18, 39% (12,842) rely on public assistance to meet their food needs [1]. Inability to access and afford healthy food forces people into making dietary choices that are detrimental to their health. Only 28.8% of adults in the city of Buffalo eat five servings of fruits and vegetables per day. Poor diet is determined by multiple factors, including economic resources and the food environment. A significant majority of low-wealth residential neighborhoods are without a supermarket or grocery store in close proximity. Instead convenience stores, gas stations, and fast-food restaurants line the streets. Community gardens are often described as a tool for reducing food insecurity. A community garden is a neighborhood space designed, developed, or managed by local residents to grow crops. The city of Buffalo allows temporary use of vacant lots for community gardens, and has about 30 community groups gardening on 90 parcels of land [2]. Community gardens are supported by Grassroots Gardens of Buffalo (GGB), a non-profit organization dedicated to assisting people in developing sustainable community gardens. This research is part of an ongoing project, the Buffalo Neighborhood Food Project, led by UB Food Systems Planning and Healthy Lab (PI: Raja) that is evaluating GGB's work in alleviating food insecurity. Data collection methods include a survey of community gardeners. Preliminary results suggest that community gardeners and GGB are contributing to increasing food security. However, results are skewed due to over-representation by respondents from wealthier neighborhoods. Survey results will be supplemented with qualitative interviews conducted this spring and summer.

Background

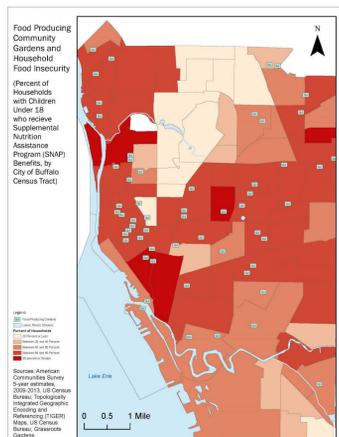
Erie County

The community gardens survey is a subset of a larger study titled the Buffalo Neighborhood Food Project (BNFP) draws data from 21 community gardens spread across Erie County. Erie County, located on the border of Western New York is home to 3 cities, 25 towns, and home to the third poorest city in the United States. The city of Buffalo, which is the second largest city in the state has a median household income of \$31,688 compared to New York State's income of \$53,482, and has a 30.9% poverty rate [3]. Low-wealth communities in the city of Buffalo lack grocery stores and fresh produce markets to provide residents with nutrient-rich foods to maintain a healthy lifestyle. About 95 percent of Erie County neighborhoods lack a fruit and vegetable market. On the contrary, there are about twenty-six restaurants available per ten thousand persons in Erie County neighborhoods, which is a higher incidence than any other food destination in the county. This food environment has caused county members to increasingly spend a bigger share of their food dollar eating out. [4] Community members took it upon themselves to start using vacant land parcels to create self-sustaining gardens to provide members lots of land to grow, harvest, and consume their produce. Transforming urban areas into green, eco-friendly places of growth and community and social engagement empowers local neighborhoods to address concerns of food insecurity. Food insecurity is defined as "all persons in a community having access to culturally acceptable, nutritionally adequate food at all times" [5]. There are many factors that play a role in determining whether a community is food insecure. For this research, we used data gathered from 21 gardens to analyze their role in providing access to healthy food within neighborhoods.

Buffalo Neighborhood Food Project

This presentation draws on data from the Community Gardens Survey, a portion of a larger project. The Buffalo Neighborhood Food Project (BNFP) is a collaborated effort with Grassroots Gardens Buffalo (GGB) and Massachusetts Avenue Project (MAP). The Food Lab team developed and piloted the Community Gardens Survey that describes the baseline conditions in all of GGB gardens in the City of Buffalo, along with developing and piloting a gardener survey as well as a student survey to gauge the impact of their workshops on attitude and behavior change. The team is using four key quantitative, qualitative, and spatial methods of data analysis:

1. **Surveys of Gardeners (Community and School Gardeners):** To document the shift in behavior, attitudes, and knowledge on growing, preserving, and cooking healthy foods.
 2. **Site Visits:** To verify how community and school gardens are growing food.
 3. **Stakeholder Interviews:** To reveal the degree of systematic policy change occurring to support an improved food system.
- Geographic Information Systems (GIS):** To assess the degree to which community gardens are located in underserved neighborhoods.



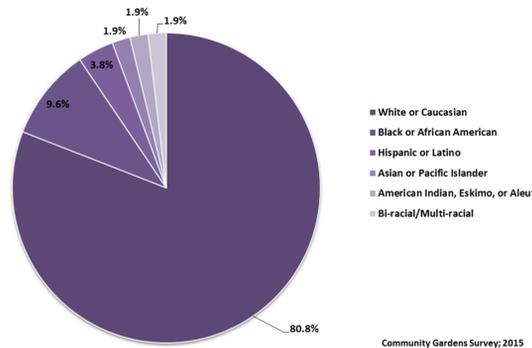
Research Questions

This research aims to analyze how effective community garden members are in addressing food needs in low wealth neighborhoods. We used three quantitative indicators along with one qualitative, open-ended response from the survey to examine how community members utilize their gardens. The four questions we analyzed from the survey are:

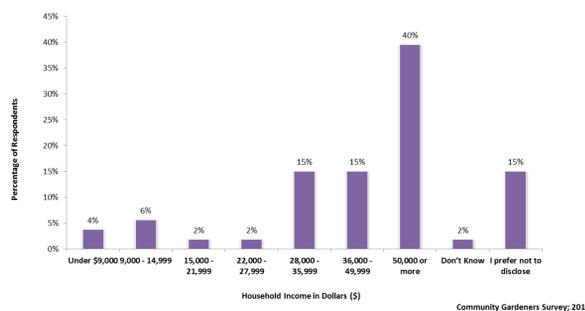
1. **Utilization:** What types of crops are being grown in these gardens? How do community gardeners utilize crops grown?
2. **Preservation:** How many community gardeners use food preservation methods? Where did they learn these methods?
3. **Consumption:** Where do community gardeners obtain their produce?
4. **Support from Gardens:** What were community gardeners thoughts on community garden initiative to support and promote sustainability in their neighborhoods?

Demographics of Survey

Community Gardeners' Profile by Race and Ethnicity, 2015

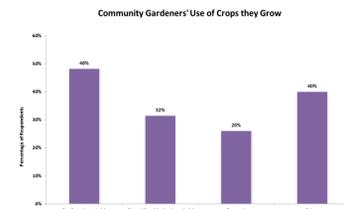


Community Gardeners' Household Income, 2015



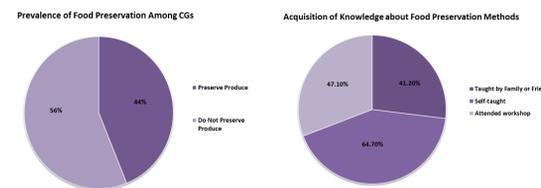
Findings

Utilization

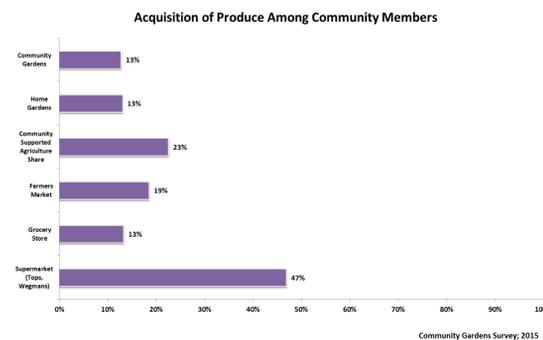


	Top 5 Fruits	Top 5 Vegetables
Top Crop #1	pears, blueberries, strawberries, tomatoes, tomatillos, raspberries, grapes, mulberries, apples, black raspberries	tomatoes, peppers, onions, lettuce, squash, zucchini, cabbage, carrots, cucumbers, kale
Crop #2	melons, cherries, tomatoes, gooseberries, rhubarb, strawberries, raspberries, pears, blackberries, black raspberries	tomatoes, kale, beans, greens, onions, peppers, squash, zucchini, potatoes, peppers, lettuce, carrots, string beans, eggplant, green beans, basil, chard, collards
Crop #3	husk cherries, ground cherries, concord grapes, tomatoes, raspberries, rhubarb, strawberries	garlic, carrots, tomatoes, leafy greens, beans, chard, rapini, peppers, lettuce, onions, squash, beans, peppers, cabbage, basil, spinach, zucchini, herbs
Crop #4	grapes, gooseberries,	kale, corn, herbs, zucchini, lettuce, beans, chard, potatoes, onions, cabbage, cucumbers, zori, zucchini, peppers, kale, okra, cilantro, beans, eggplant, asparagus
Crop #5	grapes, musk melon	warmelon, kale, onions, cucumbers, corn, squash, lettuce, chard, beans, peppers, squash, radishes, greens, potatoes, broccoli, herbs

Preservation



Consumption



Support from GGB

GGB serves as an important organization for facilitating community gardening in Buffalo. The opened ended response section of the survey illustrate how community gardeners feel about GGB's impact on their experience as gardeners.

"I love how there were plants provided for people free of charge at the west side nursery. I could afford them personally, but some really appreciated the assistance!"

"More funding for materials to help teach the students at City Honors about gardening and ensure rich programming for them. Would help support a larger variety of plants as well."
 "GG does a great job! Maybe assistance facilitating getting surplus food to an organization in need would be helpful."

"Our garden has established a sense of community and given myself a chance to get to know some of our clients on a more personal level. It has already supported us in establishing and fostering positive relationships with our population."

"Continue to facilitate volunteers and volunteer groups to help with the immense labor burden. Our lead gardener puts in 15-20 hours per week on average and we have only 2-3 other people who help very sporadically. It is very difficult in a heavy renter/elderly neighborhood to get people involved."

Summary of Findings

The Project GGB is ongoing research project with a incomplete data set. From the community gardens survey results we found:

- Utilization**
1. Slightly less than half (44%) of respondents preserve food beyond the growing season.
 2. The majority of the food grown in the community garden is used within respondent's own household or they share it with neighbors, family, and friends. Some also report using the food in schools, for nutrition workshops and demonstrations, and through church pantries.

- Preservation**
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- Consumption**
1. Over 90% of respondents report growing food crops for consumption
 2. The most common fruit crops are: pears, blueberries, strawberries, raspberries, grapes, melons, ground/husk cherries, apples.
 3. The most common vegetable crops are: tomatoes, peppers, greens, squash, zucchini, cucumbers, kale, onions, cabbage, squash, potatoes, beans, peas, collards, and herbs. Some more unusual vegetables mentioned include eggplant, asparagus, okra, rapini, and radishes.

- Satisfaction with Grassroots Garden**
1. Open-ended responses show general satisfaction with Grassroots Gardens. Overall concerns seem related to needing more volunteers, needing more garden materials, and lack of involvement from the community.

Call for Further Research

1. **Challenges with research (whose voices are being heard?)**
 1. Respondents are [overall] white, middle-class, homeowners, and car owners, with advanced degrees.
 2. Most respondents are only from three gardens: The Food Bank Garden, Trinity-Tupper Garden, and Cottage District York Garden.
 3. No limited-English-proficiency respondents
2. **Next Steps**
 1. More comprehensive study of populations in Buffalo
 2. Growing Refugee Population
 1. How do they adapt to food environments in Buffalo communities?
 2. What crops do they grow?
 3. Public Transportation
 1. Do people who rely on public transportation use their community gardens?

References

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5. United States Department of Agriculture, E.R.S. What Is Food Security?...and Food Insecurity? [cited 2016 02/17/2016]; Available from: <http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/measurement.aspx#insecurity>.

Acknowledgements

The Food Systems and Healthy Communities would like to thank Grassroots Gardens Buffalo for providing the funds and support for this research. This presentation would not be possible without the help of GGB and MAP along with a team of passionate colleagues striving for a more sustainable future for the city of Buffalo.