

Preliminary Outcomes of a Community Garden in Small Town Appalachia

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Teaching individuals and families how to attain food security has been a goal for many members of the American Association of Family and Consumer Sciences (AAFCS), yet many people still struggle with food insecurity, particularly in the Appalachian basin. Several negative physical health and psychosocial outcomes have been attributed to food insecurity among children and adults. Recognizing that food insecurity is problematic in their community, a local branch campus of a large university began a sustainability project by building a community garden on campus grounds. The primary aim of the project was to grow fruits and vegetables to be able to donate to the local food pantry. However, the campus garden provided more than just the fruits and vegetables it produced. The therapeutic benefits of gardening helped faculty, students, and community members increased their sense of well-being, and the garden provided an unconventional classroom, in which each gardener learned about beautification, composting and biofuels, and human nutrition. Because of its success, the community garden maybe considered a “Promising Practice” for FCS educators.

Food security for all people has been a common goal shared by many organizations. Educators in Family and Consumers Sciences have the unique opportunity to teach families about food security, and develop programs to strengthen food security within communities in need. The World Health Organization (WHO) posits that there are three facets of food security. First is food availability, which means that there are sufficient quantities of food readily available at all times. Second is food access, in that there are enough resources available for people to obtain the foods necessary for a nutritious diet. Third, food usage means that individuals have a basic knowledge of nutrition, understand how to use foods, and have access to clean water and sanitation (WHO/ICCIDD/UNICEF, 2007). Unfortunately for 870 million people around the globe, one or more of the facets are missing, resulting in a state of food insecurity (Food and Agriculture Organization of the United Nations, 2012).

Food Insecurity

Several negative physical health and psychosocial outcomes have been attributed to food insecurity among children and adults. Increased incidences of cardiovascular disease, type 2 diabetes, chronic fatigue syndrome, anemia, and iodine deficiency have all been found among people who are food insecure (Eicher-Miller, Mason, Weaver, McCabe, & Boushey, 2009; Fuller-Thomson & Nimigon, 2008; Holben & Pheley, 2006; Seligman, Bindman, Vittinghoff, Kanaya, & Kushel, 2007; WHO/ICCIDD/UNICEF, 2007). Hamelin, Habicht, and Beaudry (1999) found that families reported an increase in fatigue and illness related to food insecurity,

which resulted in a lack of concentration at school and low motivation to complete tasks either in the home or at work. Depression and anxiety have both been attributed to food insecurity. Whitaker and Phillips (2006) studied mother-child dyads and found that mothers who indicated food insecurity had higher rates of depression and anxiety than mothers who were food secure. Also, as mothers became more food insecure, their children engaged in more frequent problem behaviors (Alaimo, Olson, & Frongillo, 2001). Murphy, Wehler, Pagano, Little, Kleinman (1998) reported that children with food insecurity are twice as likely as their food secure peers to be absent from or tardy to school, and to be considered hyperactive by their teachers.

Outcomes Related to Living in Appalachia

In the Appalachian basin of northwestern Pennsylvania there lies a pocket of impoverished neighborhoods where food insecurity remains troublesome. In one small community of 14,000 residents, almost 30% of residents live below the poverty line, 500 people are homeless, and over 70% of the children are eligible for the free lunch program provided by the federal government (Pennsylvania Partnerships for Children, 2012; United States Census Bureau, n.d.). Research has shown that living in the Appalachian basin, individuals tend to experience more depression and psychological distress than others who do not live in Appalachian areas (Costello, Farmer, Angold, Burns, & Erkanli, 1997; McCulloch, 1995; Zullig & Hendryx, 2011). Substance abuse in Appalachia also occurs at a higher rate than it does in non-Appalachian areas (Johnston, O'Malley, Bachman, & Schulenberg, 2009; Pruitt, 2009; Spoth, Goldberg, Neppel, Trudeau, & Ramisetty-Mikler, 2001). Pettigrew, Miller-Day, Krieger, & Hecht (2012) interviewed 118 adolescents from schools within an Appalachian region. They found that 65% of the youth reported receiving explicit or implicit offers of illicit substances, and 39% had smoked tobacco, 37% had consumed alcohol, and 22% had smoked marijuana. Substance abuse is also correlated with suicide (Substance Abuse and Mental Health Services Administration, 2002; Rowan, 2001). In a study of 1330 adolescents, Beautrais, Joyce, and Mulder (2012) found that the adolescents who attempted suicide had significantly higher rates of marijuana use than adolescents with no suicidal ideations.

Benefits of a Garden

Wanting to make an impact in their community, faculty members researched the benefits of gardens and found that similar communities experienced a myriad of positive outcomes on both community members' physical and mental health. A study by Van Den Burg and Custers (2010) suggests that brief periods of gardening may be effective in relieving stress. Respondents in a study by Kingsley, Townsend, and Henderson-Wilson (2009) perceived a sense of social and spiritual connectedness as well as increased physical fitness as a result of their involvement in a community garden. D'Abundo and Carden (2008) interviewed members of 35 families from an impoverished area of eastern North Carolina who participated in a Community Garden Education Program. Participants in the program reported increased consumption of fruits and vegetables, and they also expressed a sense of pride in growing food that they could consume and share with neighbors and family members.

Purpose of the Project

Recognizing that food insecurity is problematic in their community, and the potential benefits of creating a garden, a local branch campus of a large university began a sustainability project by building a community garden on campus grounds. The primary purpose of the building the garden was to harvest produce to donate to the local food bank, but as the project

progressed, the team members realized that the garden was yielding much more than food. The project resulted in campus beautification, a greater sense of well-being among students, faculty, and community members, and a feeling of personal accomplishment by all.

Project Details

Approximately 20 faculty members and staff from Family and Consumer Sciences, Biology, and others reached out to community members for donations. Fortunately, two community gardening associations were willing to contribute to the project. The associations donated the initial supplies, and pledged to continue supporting the garden indefinitely. Students were made aware of the project and were encouraged to participate in the building and maintenance of the garden. A core group of 10 students regularly participated in tending to the garden, while approximately 10 others would participate sporadically. For the initial season, three permanent beds were made, and a fencing structure was built. Both faculty and staff, and students participated in the planting, maintenance, and harvesting of the various fruits and vegetables that the garden produced. As the season progressed, approximately 15 community members, especially its more senior members, began to walk to the campus to tend to the garden.

Project Outcomes

The Harvest

The garden flourished and produced more fruits and vegetables than anticipated. Almost 180 pounds of zucchini were grown, along with full-size tomatoes, cucumbers, eggplant, mixed hot peppers, yellow pear tomatoes, bell peppers, lemon drop tomatoes, beans, lettuce, cabbage, basil, cubanelle peppers, and arugula. In total, the garden yielded over 500 pounds of food.

Throughout the season, 363 pounds of the produce was donated to a community food warehouse, where it was distributed to others in need through local food pantries. The local food pantries serve a number of social services agencies in the area including homeless shelters, centers for domestic violence, and family supportive services. Nearly 100 pounds of produce went to residents who live in neighborhoods that border the campus. These neighborhoods are part of the community housing authority, which provides or supplements housing for the elderly, individuals with disabilities, and individuals who are not able to leave their homes.

Well-Being and Personal Accomplishments

The campus garden provided more than just the fruits and vegetables it produced. The therapeutic benefits of gardening helped faculty, students, and community members increase their sense of well-being. Some gardeners reported feeling less stress after they had tended to the garden. One faculty member shared that she “felt ready to go back into the classroom after taking a break and tending to the plants.” A student shared that “the garden was a quiet place to study,” and she “enjoyed being near nature.” Others felt a sense of renewal and peace by simply sitting near the garden, and acknowledged the value of having a quiet, peaceful place on campus where they could retreat for a few minutes of their day in order to tend to the plants. Many expressed that they made positive new social connections from working in the garden with other students, faculty, staff, and community members. An elderly gentleman said that he “enjoyed watching the progress of the garden,” and “liked talking with other people.” Another student shared that he enjoyed working alongside his professor in a project outside of the classroom.

Faculty and students also conveyed pride in taking part in growing a sizeable amount of produce in a small space that would be given to agencies that feed hungry people in their

community. Several gardeners mentioned the sense of accomplishment they received from helping with garden maintenance and seeing how large, healthy plants grew from small seeds.

Campus Beautification

Another outcome of the garden is that it served as a campus beautification project. The crime rate in the areas surrounding the community is much higher than the state average crime rate and is higher than the national average crime rate (PA Commission of Crime Prevention and Delinquency, 2012). Crowe (2000) suggests that clean, well-kept areas are a deterrent to crime, and Murphy (1999) suggests that community gardens have the potential to reduce area crime rates.

Experiential Learning

The garden also provided a conduit for students to learn about sustainability through agriculture. Most students involved in the project were unaware of the “gardening” process, including the planting, care, and harvesting of the produce. Mini science lessons about plant biology, soil ecology, drainage, organic and conventional gardening, and plant and human nutrition were informally taught during gardening times. Newer gardeners became familiar with fruits and vegetables that they had never been exposed to before, and learned how to prepare, eat, and properly store them for use when they are not in season. Gardeners learned about composting and biofuels, and how food they grow and garden waste, can be converted into usable energy. Gardeners discussed soil fertilization, plant diseases, and pest control, with emphasis on the benefits and disadvantages of both organic and conventional methods.

Conclusion

Yielding much more than fruits and vegetables, the garden provided an unconventional classroom, in which each gardener contributed their experiences and expertise regardless of their rank or position in the University and the community. The original aim of the project was to simply grow produce to donate to the local food bank. Not only was that aim achieved, but several other outcomes were noted. These included campus beautification, well-being, experiential learning, and personal accomplishment.

Future research projects may include collecting quantitative data on well-being, as well as student engagement. As the garden becomes more fruitful, it is anticipated that additional funding will be secured to grow the project. Faculty and students would like to add more vegetation, and be able to include other learning experiences such as cooking classes for students and the community members to demonstrate how to prepare the produce for snacks and meals. Another long term goal would be to have the resources available so that children would be included in tending to the garden. For the present, however, faculty, staff, students, and community members are enjoying the garden, and anticipate many more seasons of learning, growing and sharing together in this small Appalachian town.

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