

Secure Food, Secure Community: An Analysis of Food Security and Community Gardens in Los Angeles County

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Abstract

The term *food insecurity* is generally used to describe a condition experienced by an individual that doesn't know where their next meal is coming from and has little to no nearby access to healthy foods. Today 1.5 million people in Los Angeles County experience this condition, making it the largest population of food insecure people in the United States. To address and alleviate food insecurity both policy and community based approaches are used in Los Angeles County. Community gardens have been cited as a tool to create a fresh food source for people in food insecure areas that have little to no access to healthy food.

These factors led to the research question *how do community gardens affect access and availability of fresh produce for community gardeners in food insecure Los Angeles County neighborhoods?* To analyze the relationship between community gardens and food insecurity in Los Angeles County a mixed methods approach was used which includes surveys completed by community gardeners from four different L.A. County gardens in addition to interviews with community gardening experts from various organizations that work on food issues in L.A. County. The survey results revealed that community gardeners who are considered food insecure are more likely than their food secure counterparts to: a) consider the garden as supplementing their food needs b) work in the garden on a frequent basis c) and use produce from the garden in their meals at home. The expert interviews highlighted the importance of community gardens in food insecure communities as a tool to alleviate food insecurity because they promote education and equity around food access in addition to serving as a space to engage with healthy food. Additionally, experts expressed several setbacks to community gardens serving as a food source. These setbacks include member turn out, paying for resources like water, issues over garden land and leases, and lack of technical garden knowledge.

These findings highlight the importance of recognizing community gardens as important food sources for gardeners that are food insecure. Community gardeners who are food insecure are more reliant on the garden than their food insecure counterparts. Community gardens allow food insecure communities to transform their food options and should be supported by policy, non-profit partners, and the community as a whole.

Introduction

Food insecurity remains at the forefront of public health, social, and environmental justice issues faced by today's urban and underserved populations. Food insecurity is defined as a household-level economic and social condition of limited or uncertain access to adequate food (USDA, 2015). An estimated fourteen percent of Americans were considered food insecure in 2014 by the United States Department of Agriculture (USDA, 2014). On a county level, nearly 1.5 million people in Los Angeles County are food insecure, making it the largest population of food insecure people in the U.S., at a 14.7% food-insecurity rate (Feeding America, 2015). Additionally, the Los Angeles County Health Survey revealed that household food insecurity has increased 40.4% overall between 2002-2011 (County of Los Angeles Department of Public Health, 2015). In recent years there have been grassroots efforts and policy changes aimed at alleviating food insecurity across the County and the nation. From the policy level Los Angeles County has increased support of food banks, has promoted the acceptance of EBT (SNAP) at farmer's markets, and passed the Surplus Food Ordinance which requires all edible surplus food from city facilities to be donated to local food pantries (County of Los Angeles Department of Public Health, 2015)

In contrast to top-down solutions to food insecurity by policy-makers, community gardens are a grassroots, collaborative efforts to grow food in a given community (Okvat 2011). Participating in a community garden has the potential to positively affect the wellbeing and food security of community gardeners and their families. In a community-based participatory research study of Hispanic migrant farmworkers and their families in the Oregon valley, a community garden project resulted in a four-fold increase of vegetable

intake among adults and three-fold intake among children. In addition, the rate of food insecurity dropped from thirty-one percent of respondents before participation in the community garden to three percent after participating (Carney et al., 2011). Along with the findings of this study, the overall rate of community garden participation has increased in recent years. On a national level, the American Community Gardens Association reports the participation of households with incomes under \$35,000 in community gardens has grown to 11 million, which is a 38% increase from 2008-2014 (ACGA, 2014). Additionally while the Los Angeles Garden Council reports approximately 125 gardens in their network, little research has been done to examine the affect community gardens have in alleviating food insecurity in Los Angeles County.

This is an important relationship to examine because the literature on community gardens consistently cites access to healthy food as a major benefit of garden participation (Wakefield, et al. 2007; Corrigan, 2011; Carney et al. 2012). Although various researchers have made this claim, the relationship between garden participation and access to healthy food has not been systematically examined in the context of Los Angeles County. Los Angeles County is a crucial place to analyze the relationship between food insecurity and community gardening because it is both the largest population of food insecure people in the country and has a strong grassroots culture actively attempting to alleviate this problem (Geller, 2016). In this study of fruit and vegetable producing community gardens in food insecure neighborhoods of the city, I collect novel data from community garden members and community gardening experts about their perceptions and experiences of community gardens as a source of fresh produce in food insecure communities. The researcher is aware of the literature that examines how community gardens have co-

benefits such as access to green space, reducing heat island effect, and others (Barnidge et al., 2013; Wang, Qiu, and Swallow 2014; Irvine, Johnson, & Peters 1999; Saldivar-tanaka & Krasny, 2004; Kirkpatrick & Tarasuk, 2009). However, the literature also continuously cites providing a fresh and healthy food source as one of many benefits of community gardening. This research further examines this benefit and whether or not community gardens can be a tool to alleviate factors of food insecurity. This relationship is critical to examine in order to understand how food insecure communities can transform their food landscape by increasing their access to healthy foods. It is my goal as the researcher to use the findings of this research to analyze the ways community gardens improve food security and point to ways that community activism, ally ship from nonprofit partners, and policy can further support community gardens in food insecure communities. *My research question is: how do community gardens affect access and availability of fresh produce for community gardeners in food insecure Los Angeles County neighborhoods?*

Literature Review

This research question sits at an intersection of two bodies of literature. The first is the extensive community gardening literature, which examines the benefits of gardens to communities as well as individuals' motivations for joining a garden. This literature makes the claim that community gardens are spaces for increasing healthy produce intake (Ohri-Vachaspati et al., 2011; Kamphuis et al., 2006) yet provides little evidence that communities are less food insecure when a community garden is utilized. The second body of literature is the food insecurity literature, which examines the systematic factors that create communities with little or no access to healthy food, in addition to evaluating the

effectiveness of federal food assistance programs. This review of the food insecurity literature will examine solutions at the federal, state, and community levels.

Despite the rise of community gardens being cited as a tool to alleviate food insecurity (Wang, Qiu, & Swallow, 2014; Hayes, 2010; Baker et al. 2011) there is very little literature that directly examines the effect community gardens have in addressing food insecurity. The goal of this literature review is to outline the research on the singular topics of community gardening and food insecurity, followed by linking of the two themes, and finally situating them in the context of Los Angeles County.

Community Gardens

Community level gardening to produce food in the U.S. is historically rooted as a response to a negative change in socioeconomic climate. In addition, the migration of many Americans into cities and an economic depression at the end of the 19th century led to a rapid demand for cheap food. As a solution, municipal leaders of the time offered poor residents the chance to grow food on vacant lots. Additionally, key moments in U.S. history, such as the World Wars and the Great Depression, catapulted the nation into a shortage of a basic food supply. In response to these crises, people started *liberty gardens* and *relief gardens* as a means to ease the demand for food. Following the Second World War, however, interest in community based food growing declined among the populations and the government (Draper and Freedman, 2010). This shift most likely occurred along with the country's move to large-scale agriculture and passing of the first Farm Bill. There was also a culture shift around this time to value personal ownership of material goods such as cars and homes around the 1950s that has been linked to a decrease in interest to share a community project such as garden (Saldivar-Tanaka, 2003).

Nevertheless, community scale gardening reached a lull until the late 1960s and early 1970s when urban areas began to organize efforts to beautify their communities through increasing the amount of green spaces in their neighborhoods (Irvine et al., 1999, Hanna and Oh, 2000). In the twentieth century and on, community gardening, while also present in affluent communities, has been a response to urban crises present in American cities. Gardens have been used as a community based tool to respond to issues of economic instability, youth education, crime prevention, and neighborhood beautification (Agustina and Beilin, 2012). The history of community gardening reveals the relationship between continued economic crisis in the U.S. and the fluctuation of cultural attitudes towards community-based food growing. As these attitudes changed, the definition of a community garden changed as well.

A community garden is currently defined as a plot of land cultivated by multiple people, either collectively or in individual plots (Teig et al., 2009). Community gardens have evolved from merely responses to a food shortage, to a way for communities to reconnect to nature and the environment, and then back to a way to fill a gap in community needs such as green spaces, community centers, and healthy food sources (Poulsen et al., 2014). While it is important to note the multi-functionality of gardens that is cited in the literature, the present study will focus on the benefit of gardens as a food source.

Benefits

There is a substantial body of place based literature on the benefits community gardens have for the communities in which they are located. These studies investigate the small-scale changes that occur in communities by having a community garden. These studies outline benefits such as physical activity, social exchange, education, and connection to

nature. Additionally there is a focus on researching community gardening programs in underserved urban areas (Draper & Freedman, 2010). Poulsen et al. (2014) used in depth interviews and focus groups to assess the perceived benefits of participating in an inner city Baltimore community garden. Benefits of community gardens identified include enhancing bodily health and physiological wellbeing, greater social ties, connecting with the larger community, and changing the food environment. Poulsen et al. promotes the idea that community gardens revitalize the urban environment by creating an “urban oases”, or a space that provides refuge from urban decay while revitalizing city neighborhoods. Additionally they cite the physiological benefits of gardening to be the most salient among participants.

The findings of this study are parallel to a study conducted in Latino neighborhoods in New York City. Researchers Saldivar-Tanaka & Krasny (2003) sought to describe the history and current problems of the Latino gardens. Additionally, they interviewed the staff of the main organization working with the gardeners to assess resources available to gardeners. Similar to the “urban oases”, researchers conclude that community gardens for the Latino communities can be viewed as “participatory landscapes”, or spaces that combine advocacy, organizing, and horticultural practices to provide a connection between immigrants and their cultural heritage. This study is different from that of Poulsen et al. (2004) however because it concludes that Latino gardens may be similar to many gardens in other poor and immigrant communities. However, they cite the Latino gardens as differing from gardens in more gentrified communities where enjoying nature and production of fresh produce are most important. The researchers’ conclusion that food production is most important to more gentrified communities is contrary to several other

place based studies that indicate the importance of community gardens as an important food source in food insecure communities (Baker et al. 2013;; Carnet et al., 2011; Corrigan, 2011).

Food Insecurity

In order to examine food insecurity in relation to community gardens it is important to analyze the literature on the complexities of food insecurity. The definition of the term *food security* has undergone many changes since the term first emerged as a concept in the 1970s (FAO, 2003). Additionally there are over 200 different definitions of the term cited in the literature today. For the purposes of this research food security will be defined as, a household-level economic and social condition of limited or uncertain access to adequate food (USDA, 2015). Reversely, *food insecurity* refers to a condition that exists when people do not have adequate physical, social, or economic access to food as defined above. The term food insecurity is significant for this research because it is both a widely accepted concept and there are existing metrics to consistently survey and assess food insecurity.

Food insecurity is a systematic disparity disproportionately affecting low-income communities of color because food insecurity is empirically linked to health problems and chronic illnesses such as obesity and diabetes (Corrigan, 2011). Getting to the root of the reasons food insecurity exists is both complex and interdisciplinary. The lack of full service food markets with affordable fresh food within walking distance have been documented in low-income communities in both urban and rural areas (Hanna & Oh, 2000; Wakefield et al., 2007; Baker et al., 2013). Since 2002, these trends continued to increase in communities where healthy food choices are low and poor food choices such as fast food are high.

Additionally communities such as these contain an abundant number of liquor and

convenience stores or “food marts”, which sell mostly packaged and processed foods. Systematic outcomes across both race and socioeconomic status are characterized by poor access to fresh food and a greater presence of fast food vendors. The inability of these communities to access fresh foods is both an equity problem and a systematic failure that can be traced to the food retail industry (Gottlieb & Fisher, 2010).

Gottlieb & Fisher (1996) argue that food insecurity represents a community need rather than an individual’s condition associated with hunger. Food security, in contrast to hunger policies expands its breadth to propose potential strategies for intervention with a focus on preventing the food insecurity of a community. It can be helpful to approach food insecurity as a more nuanced assessment of hunger, and should be made clear that food insecurity can exist without hunger. The USDA provides a definition of *low food security* as, “Reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake” and *very low food insecurity* as, “Reports of multiple indications of disrupted eating patterns and reduced food intake” (USDA Economic Research Service, 2015).

Federal and State Food Assistance Programs

A top down method to alleviate food insecurity in the U.S. and L.A. County are federal and state food assistance programs. The Supplemental Nutrition Assistance Program (SNAP, formerly called the Food Stamp Program) is the largest U.S. food assistance program, serving over 40 million people per month in 2010. Households can qualify for SNAP if they have the required level of income and assets (Nord, 2011). A study that examined the effectiveness of SNAP on food insecurity revealed that the odds of very low food security among households that continued on SNAP through the end of a survey year were 28% lower than among those that left SNAP (Nord, 2011). Along with this

finding, participation in SNAP is associated with the consumption of lower quality foods (Leung et al., 2012) and doesn't ensure that recipients have a nutritionally sound diet (Dinour, Bergen, and Yeh, 2007). It should be noted that the basis of nutritionally sound is biased and does not take into account cultural foods.

Despite these shortcomings these findings suggest food assistance programs such as such as SNAP, which are meant to improve household's abilities to meet their family's food needs, often fall short in providing adequate and healthy food for families in the programs. There is research to demonstrate how people that are eligible for and utilize federal food assistance programs have lower rates of food insecurity (Nord, 2011). In addition there is also evidence that the people who use SNAP buy low quality and less nutritious foods (Leung et al., 2012), yet there is no research to show if SNAP dependent individuals supplement their SNAP foods with foods from other sources such as community gardens.

A response to this association between food stamps and poor quality foods has been the push for programs that direct and incentivize the spending of federal and state assistance dollars on healthy and fresh foods. One California specific effort is the Market Match program, which matches customer's nutrition assistance benefits including CalFresh and WIC at farmers' markets. In areas where it has been implemented, Market Match has had a visible impact on food security and viability of local growers (Tamborello, 2016). This program allows people with nutrition assistance to access better quality fresh foods at farmers markets because their benefits are being doubled which allows them to afford the higher priced farmers' market produce. In 2014, 61% of customers surveyed reported that Market Match was a very important consideration in their decision to spend their benefits

at the farmer's market instead of elsewhere and 79% reported that their consumption of fruits and vegetables increased as a result of Market Match.

Community Based Methods to Alleviate Food Insecurity

Community based food assistance measures including farmers' markets, community supported agriculture (CSA), urban farms, and community gardens (Gottlieb & Fisher, 2010) can boost the effectiveness of federal and state food assistance, however, this research will focus on community gardening. The community gardening literature makes the claim that community gardens bring a host of community benefits including providing a fresh and healthy food source for gardening members. There is little evidence as to what extent community gardeners are more food secure when they have access to community garden produce. Beyond this, there is even less data that examines the role a community garden can play in supplementing the nutritional needs of a food insecure person.

A subset of the community gardening literature attempts to analyze the link between community gardens and increased consumption of fresh produce. Carney et al. (2011) examined the impact of community gardening and vegetable intake in a Community Based Participatory Research Study with Hispanic farmworker families. They used a pre and post-test verbal survey with the female adult of the household. Their results revealed a decrease in measures of food insecurity and an increase of vegetable intake for both children and adults. These findings differ from those of Kirkpatrick et al. (2009) that stated community gardening as an underutilized option for a community of urban low-income food insecure families.

Researchers Baker et al (2013) examined the effect on fresh produce access a community garden had on a rural majority black community in Missouri. They used

surveys and focus groups and found an increased consumption of vegetables and fruit, decrease in consumption of fast food, and decrease in amount of money spent on food. This study was limited only to post test data and used a relatively small sample. Similarly, a different study in a more mixed race setting also conducted in rural Missouri, revealed that participation in a community garden was associated with higher fruit and vegetable consumption. The gardens were established as an intervention to determine whether frequency participating in the garden affected fruit and vegetable consumption. Furthermore those who worked in the garden at least once a week were more likely to report eating fruits and vegetables because of their community garden membership. The researchers assert that their study provides evidence that community gardens are a promising strategy for promoting fruit and vegetable consumption in rural communities (Barnidge et al., 2013).

The findings of these studies are significant, however researchers do not address the income level of the participants in the studies and do not provide information on whether the participants were food insecure and had low levels of vegetable consumption or had low vegetable consumption despite being food secure. Establishing a link between these two variables would have been helpful in determining if the food insecurity levels of the participants were the factor influencing low vegetable consumption before the studies took place.

In contrast to the rural setting of the aforementioned studies, research by Litt et al. (2011) studied the relationship between garden participation and vegetable consumption in the urban setting of Denver, Colorado. Researchers used a population-based survey that revealed community gardeners consumed fruits and vegetables 5.7 times per day

compared to non-gardeners at a rate of 3.9 times per day. Similar to the Barnidge et al. (2013) study, income was not included in this study, however a neighborhood socioeconomic status variable was included. Approximately half of participants had a college degree, and approximately 40% of respondents reported receiving some public assistance during the past year. It was unclear however what type of public assistance it was and if it was food assistance specifically.

What is missing from the literature is a focused examination of the benefits of community gardens as a fresh food source for people who are food insecure. There are studies of community gardens that are situated in communities with a lack of economic and natural resources (Barnidge et al. ,2013; Wang, Qiu, and Swallow 2014; Irvine, Johnson, & Peters 1999; Saldivar-tanaka & Krasny, 2004; Kirkpatrick & Tarasuk, 2009) however their methodologies do not include an evaluation of participants' history with food insecurity. There is evidence to support the claim that community garden participation increases fresh produce intake for community gardeners overall, drawing from a broad range of participants with varying socioeconomic status level (Litt et al., 2011; Poulsen et al., 2014). Additionally, present research affirms that vulnerable populations such as urban, low-income, and immigrant participants participating in community gardening are positively benefited in several ways including increased access to healthy food (Wakefield, et al. 2007; Corrigan, 2011; Carney et al. 2012). These studies do not quantify, however the extent to which food insecurity was a factor to the community or participants. It is the interest of this researcher to narrow this focus to people who are food insecure based on the definitions and assessment methods used by the USDA. The USDA's metrics will be used in this study because they have been used to assess food insecurity on a national and

countywide level. This research is urgent and pressing to promote and provide recommendations for community gardens in Los Angeles County as the largest food insecure population in the U.S.

Background

Los Angeles County has the largest population of food insecure people in the country (Feeding America, 2014). The prevalence of food insecurity among Los Angeles County households with incomes less than 300% Federal Poverty Level in LA County increased from 21.8% to 30.6%, a relative increase of 40.0% (Los Angeles Department of Public Health, 2015). This increase in food insecurity among Los Angeles County households is consistent with increases observed at the national and state levels. While there are 125 reported community gardens in the L.A. County area (LACGC, 2016), there is little evidence to demonstrate if these gardens are addressing a need for a fresh food source in communities that are food insecure.

Some city policies may support efforts to *build* community gardens in food insecure areas, but the actual sustainability of the garden has become a challenge. It is common for garden land to not have secure status for permanent use as a community garden, which is the case for one of the gardens in this study. In addition, some of the lands these community gardens now sit on have important histories in the community. One Los Angeles County garden is on land that was converted from a drug house. A member of this garden noted how at first it was hard to get many volunteers out to the garden because the space still has a painful history for some of the community. This garden was ultimately not