
Using Community Gardens To Help Solve the Hunger Crisis in San Diego County, CA

Capstone Study

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Abstract: The World Health Organization defines food security as “all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life.” The reality is that one in six Americans are not food secure, even though the US produces enough food to feed its national population many times over. Hunger is caused by poverty and inequality, not scarcity; and low-income people rarely grow their own food. In San Diego County, (SDC) CA, some 435,000 people are food insecure; they include almost 162,000 children. SDC community gardens can provide inexpensive options to help alleviate county-wide hunger: fill empty stomachs, enrich community cohesion, offer hope to many families, and facilitate long-term food sustainability.

My paper identifies several limiting factors that preclude low-income families from using community gardens to supplement their food supply although SDC has ideal climate conditions that facilitate a nearly year-round growing season. First, it explains critical steps needed to establish community gardens; these include permits, site conditions, and garden support organizations. Second, it shows that insufficient time and space are too often perceived as a major limiting factor to growing food in high-density, urban areas. Actually, the major limiting factor is organizational skills that help small communities take action to create local community gardens. Third, it emphasizes those tools necessary to make appropriate connections between people, places, environment, and timing that move a community garden from concept to fruition. Lastly, my paper offers recommendations for San Diego city and county planners that can increase number of SDC community gardens and thereby offset local food insecurity realities.

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To forget how to dig the earth and to tend the soil is to forget ourselves.

~Mahatma Gandhi

I. Introduction

A real food crisis exists in the US today. One in six Americans is not food secure; that is, they do not have a reliable source to obtain nutritious food on a daily or regular basis. Urban community gardens provide tangible community improvements by producing quality food, offering educational opportunities for youth, and facilitating community social interactions. My case study explores and describes the many advantages of growing one's own food; it also attempts to understand the most significant impediments for low-income families to use community gardens in urban areas. Additionally, this paper defines major challenges to organizing and starting urban community gardens and offers recommendations to organizations wanting to establish them.

Approximately 435,000 people live in San Diego County (SDC) (including children) who are not food secure and do not have access to food on a regular basis. County low-income families do not regularly use community gardens as a supplementary food source. Despite proven success stories in hundreds (if not thousands) of community gardens in other cities and communities and a favorable long growing season, low-income residents rarely establish or use community gardens as a nutritious food source.

This paper proposes has two research propositions. First: Lack of time, lack of gardening knowledge or skills, and/or a negative social stigma are the most significant reasons why low-

income people do not use community gardens to supplement their fresh food source. Second: Low-income and food insecure residents only consider the short term (hours to days) where their next meal comes from; they cannot generate plans or action to achieve long-term food security.

This study investigates challenges to SDC low-income residents that prevent them from growing their own food. My approach uses existing literature and, to a smaller extent, personal observations in SDC. I describe perceived challenges that prevent people from gardening today even when benefits outweigh costs associated with urban gardening. I discuss physical challenges (time & space), social challenges and mental or emotional challenges. I explain the prevalent reasons why low-income and food insecure SDC residents do not grow or use fresh produce in community gardens.

My goal is to understand the reasons why low-income people do not grow their own food, especially as more and more people are interested in organic produce. I then offer SDC city, county, and local community leadership possible options that will stimulate growth of community urban agriculture in SDC.

The end product of this report is a guide that SDC city or county managers and community leaders can use to understand perceived or real challenges to urban gardening. These challenges can then be addressed and mitigated through action by local government and interested citizens. Many vacant lots and unused land exist in SDC. They could be converted to community gardens that directly support low-income families and provide them with healthy long-term food sources.

II. History of Community Gardening in the United States

Community gardening is not a new concept in the United States. To address the poverty and unemployment problems encountered in late 1890-1900 some city governments created some of the first documented community gardens. During this time, Detroit led the urban agriculture movement when the mayor implored the owners of vacant lots to allow unemployed citizens to grow vegetables on the unoccupied land. This movement came to be known as the Potato Patch Movement (Hartsfield & Henderson, 2009).



Charles Lathrop Pack organized the National War Garden Commission under the auspices of the US Congress. The Commission called for all Americans to "put their idle land to work" and plant Liberty Gardens. Programs were set up to teach the citizens how to plant and preserve food through canning and drying. The theory was that produce from the gardens would secure our national food supply and could also be shipped to our hungry allies during the war.

In response, gardens sprung up across the United States and Canada in rural and urban areas such as parks, schoolyards, and even front yards of fashionable homes and in window boxes. The campaign mounted by the Commission used posters like the ones pictured here with catchy slogans such as, "Every War Garden is a Peace Plant", "Sow the Seeds of Victory", and "Put the Slacker Land to Work". The people realized it was their national duty to participate and by 1918, there were over 5 million Liberty Gardens planted thanks to the successful

campaign of the National War Garden Commission.

On the heels of WWI and the “Roaring 20’s”, community gardening lost popularity across the country. However, the Great Depression renewed community garden interest out of necessity to provide some relief for the lack of food for a hungry population and they were aptly referred to as Relief Gardens. As America entered the Second World War, Victory Gardens again begin to spring up in neighborhoods across the U.S. (Hartsfield & Henderson, 2009). Regardless of their naming convention, millions of Americans were growing their own food in community garden environments. In fact, during the 1940s, approximately 20 million Americans planted Victory Gardens in empty lots, back yards, and even building rooftops; yielding nine to ten million tons of fruit and vegetables annually (Hartsfield & Henderson, 2009).

In the post-WWII period of economic recovery, many community gardens were abandoned or the land repurposed for new construction and business. In the 1960s and 1970s community gardens again were revitalized, this time, however, as a result of community activism (Hartsfield & Henderson, 2009).

Most recently community gardens are making a comeback born out of the economic downturn and the housing bubble collapse of the late 2000s and the desire by many Americans to live healthier and sustainable lifestyles. This allows people to divest (at least somewhat) from the American food industry and gain a better understanding of where their food comes from with the overall endeavor to eat healthier organic produce.

III. Literature Review

My review of the existing literature focused on three main topics including a community garden's capability to 1) build community social capital, 2) better participant/resident health and 3) improve challenges to garden access. A community garden has the capability to provide food, but it also has the capacity to build so much more within a neighborhood. The garden can forge friendships, make the community more livable, and build an overall sense of worth and value to the participants – in other words, it adds to the social capital of the community.

Build Community Social Capital

A study conducted by Glover, Parry & Shinenew (2005) found that overwhelmingly, sociability was at the heart of attracting community gardening participants and sustaining their involvement. Social gardening is a medium for building social networks. The willingness of participants to share resources is enhanced by the social connections they make through the shared act of gardening. In many ways, community gardens are less about the garden and more about the social interactions that are grown as a result (Glover et al., 2005). Most of the participants in the study spoke of the garden as a place where they could meet people and forge friendships. Additionally, they commented that friendships developed in the garden led to further positive social interaction and voluntary/reciprocal activity outside of the context of the garden (Glover et al., 2005).

There has been much research in community gardening over the past few decades; however, there have been very few studies that attempt to understand the social impacts that food growing activities may have on a community (Macias, 2008). When people partake in community gardening activities and work together, there is social interaction taking place

through the sharing of knowledge and experience of growing their own food. This act builds on the human capital of the community and requires an ongoing interaction with the natural world and with other people (Macias, 2008).

Community gardening is one method that local communities can use to work together toward food security and food justice within the community. The defining factor that sets community gardening apart from individual gardening efforts is encapsulated in the term 'community' (Aftandilian & Dart, 2013). Community is an important factor in social well-being and is driven by positive social experiences between people within the community (Wilkinson, 1979). The work that a community does together in a garden can build social capital within the community that can later be spent on other efforts to strengthen the community. This combination of bonding and bridging social capital strengthens community ties regardless of the backgrounds and diversity of the gardeners (Flora, Flora & Fey, 2004). Community gardens can help lay the foundation for future community organizing efforts by connecting people to each other across the boundaries of race, class, age, etc. (Draper & Freedman, 2010).

A study conducted by Armstrong (2000), found that community gardening improves psychological well-being and social relations that, in turn, facilitate healing. A separate study by Ellis (2010), found that community gardening in Toronto, Canada reduces social isolation. Ellis also went describe what fellow researcher, David Hess, found that community gardens “developed neighborhood networks, reduced crime rates, promoted public health, provided a setting for food education and otherwise enhanced the civic culture of a neighborhood” (Ellis, 2010, 30). A community garden not only brings the neighborhood together, it also connects the residents to the community and their city. Community gardens are a tangible way to

demonstrate a city's commitment to public health through organized community-centered activities (Twiss et al., 2003). In a city organization, educating leadership and keeping them informed about the benefits of community gardens is a continuous and time intensive process (Twiss et al., 2003).

Better Participant/Resident Health

In a study conducted in Philadelphia, Blair et al. (1991) found that community gardeners have a greater consumption of fresh vegetables compared with non-gardeners, and a lower consumption of sweetened foods and drinks leading to an overall healthier diet. A study conducted in Denver, Colorado by Litt et al. (2011), found that 56% of community gardeners met the national recommendations to consume vegetables or fruits, at least, five times per day, compared to home gardeners who met that recommendation only 37% of the time and non-gardeners who achieved the recommendation only 25% of the time. In a study regarding exercise from gardening, Caspersen et al. (1991) reported that exercise (from gardening or other methods) reduces total cholesterol, HDL cholesterol, and improved systolic blood pressure.

In a survey conducted by Carney et al. (2011), 94.9% of respondents said that gardening helped improve the physical health of the family; however, comments about mental health and well-being were mentioned much less often. In that same survey, the participants also reported that the gardening efforts contributed to a sense of togetherness within the family or as a place to spend quality family time together (Carney et al., 2011).

Food sources in America today are dominated by large food consortiums, touting improved tastes, nutrition and, perhaps most importantly, convenience. The food network in

America allows users to obtain exotic food products year round, even though those products may be shipped for hundreds or even thousands of miles to reach the dinner table. One of the greater mysteries of the American food industry is uncertainty where food actually comes from or exactly what is in it. A community garden reduces much of this mystery and shortens the distance from farm to table. In a study conducted in Denver, Colorado in 2011 by Litt et al., the researchers concluded, "The qualities intrinsic to community gardens make them a unique intervention that can narrow the divide between people and places where food is grown and increase local opportunities to eat better."

Improve Challenges to Garden Access

Better access to food is grown in a garden equates to improves health for the participants. In a study set in Oregon, Carney et al. (2011) conducted a study on the food security of 42 families using a longitudinal design survey to evaluate their food consumption habits over the 2009 growing season when introduced to community gardening. Their results concluded that frequency of adult daily vegetable intake increased from 18.2% to 84.8% and the frequency of children daily vegetable intake increased from 24.0% to 64%. Also, the researchers noted that in this survey group 31.2% of the participants felt food insecure at the beginning of the test, reducing to 3.1% by the end of the study.

People growing food in community gardens have the capability to put food on the tables of food insecure people in America. In a study by Baker et al. (2013), the authors concluded, "inadequate access is increasingly recognized as a contributor to low consumption of healthy foods". They went on to surmise, "community gardens may be a viable way to increase access to and consumption of vegetables".

The biggest challenge we face with food insecurity in America is how to get food into the kitchens of the people who need most, and to understand what roadblocks prevent everyone in the US from having enough to eat. Food insecurity can be found in virtually every town and city in the US and the poor and racial minorities ultimately suffer disproportionately from lack of access to healthy food (Nord, Andrews & Carlson, 2005). Access to quality food is thus not just a matter of consumer tastes and affordability but is directly tied to deeper structures of inequality that are themselves shaping the health profile of the nation along the lines of race, gender, and socioeconomic status (Macias, 2008).

In many cases, however, community gardening fails to significantly augment food insecure families with a nutritious food source. Flanigan & Varma (2006) conducted a study on a program started by the Women, Infant, and Children (WIC) program in Albuquerque, New Mexico to encourage low-income families to utilize home or community gardens to supplement their nutritious food intake. WIC educators were directed to promote gardening during their classes; however, the study revealed that only 34 of the 257 surveyed clients reported participating in any gardening activities giving lack of knowledge about community gardening, lack of knowing where the community gardens were at, lack of time to participate or lack of transportation to get to the garden as the primary reasons they did not participate.

In a separate research study in Toronto, Canada by Kirkpatrick & Tarasuk (2009), 484 families were surveyed to determine their level of food insecurity and what community food programs that had participated in. The results indicated 66% of the survey participants were food insecure over the previous 12 months and 25% of those were determined to be severely food insecure. Despite these dismal results, they found that less than 1 in 20 families

participated in community gardening. One year after this baseline study by Kirkpatrick & Tarasuk (2009), a follow-up study was conducted by Loopstra & Tarasuk (2013). They found that of the 371 families that participated in the follow-up survey only 12 families had participated in community gardening to alleviate their food insecurity condition. Reasons are given for not participating fell into two themes: First, families said the community garden program was inaccessible or they lacked knowledge of where to go or how to participate. Second, community gardening did not fit into their busy schedules, interests or needs.

The preceding examples may cast a negative light on the community garden being a tool to help solve food insecurity in the US, but there are many success stories as well. Corrigan (2011) found that in the Broadway East neighborhood within metropolitan Baltimore, the presence of Duncan Street Miracle Garden has transformed the community from a food desert, defined as “places where people do not have access to healthy, fresh foods, particularly if they are poor or have limited mobility”, into a veritable breadbasket for the neighborhood residents. The presence of this one garden has significantly improved the food security in this community where 42% are considered below the poverty level of \$22,000 annual income (in 2007 dollars). One of the most critical elements in making any community garden successful is a group of people who are willing to invest their time and effort to work in and maintain the garden. Understanding that motivation dynamic will go far in building the idea that community gardens can truly make a difference in feeding America’s hungry.

IV. Scale Aspects

San Diego County contains a mix of urban and rural communities of vastly different terrain: miles of ocean and bay shoreline, densely forested hills, fertile valleys, and mountains, canyons, and desert. Elevations range from sea level to 1,591 feet above sea level. The county's 4526 square miles and 70 miles of beaches are contained within an area that stretches 65 miles from north to south and 86 miles from east to west and is roughly the same size of the state of Connecticut. SDC is the second most populous of California's 58 counties, and is the fifth largest county in the United States. Much of the county's land area is considered rural with agriculture being an important component of the county's economy.

The Pacific Ocean air regulates the overall climate, keeping the summers cool and the winters relatively warm. Annual countywide high temperature is 69.8°F and corresponding average low temperature is 57.5°F; hence, the San Diego climate is often described as 'Mediterranean' (U.S. Climate Data, n.d.). September and October often bring hot eastern winds from the desert, producing what are usually the hottest days of the year.

Severe weather is rare, with coastal areas averaging three thunderstorms per year and snow is found infrequently in some of the mountain areas on the eastern side of the county. Average annual precipitation varies across the county with the annual average in the city of San Diego being 10.4 inches (U.S. Climate Data, n.d.).

San Diego County is divided into four specific climate zones recognizing the diverse climates found across the county (figure 1).

Coastal Climate

The San Diego coastal area enjoys a mild marine climate because the proximity

to the Pacific Ocean. The winters are mild; the summers are cool, and the air seldom really dry, unless there is a Santa Anna wind from the east. The average high temperature range: From 65°F during the winter to 77°F in the summer. Temperatures above 90°F are rare. The lows range from 48°F in the winter to 66°F in the summer.

During May and June, a thick marine layer, known as “May Gray and June Gloom”, keeps the air cool and damp within a few miles of the coast, but yields to bright sunshine about 5 to 10 miles inland. From November to March, Coastal San Diego averages from 1 – 2 inches of rain per month, but it is rare to see rain between May and September.

Coastal Inland Climate

The average high temps range from 69°F during the winter to 88°F in the summer, with temperatures occasionally reaching 90°F or higher. Low temperatures average from 41°F in the winter to 64°F in the summer. Because temperatures rarely drop very far below 30°F, this climate is excellent for growing citrus.

Mountain Climate

In the mountains, high average temps range from 55°F in the winter to 91°F in the summer with the lows ranging from 35°F in the winter to 54°F in the summer. Snow and ice typically occurring at higher elevations in the mountains 20 to 30 miles inland, such as Alpine, Palomar or Julian.

Desert Climate

In the inland desert areas, the temperature can fluctuate as much as 30°F in one day, with temperatures in the summer over 100°F, occasionally during the spring and

fall too. High average temps from 69°F in the winter to 107°F in the summer. Lows from 43°F in the winter to 75°F in the summer.

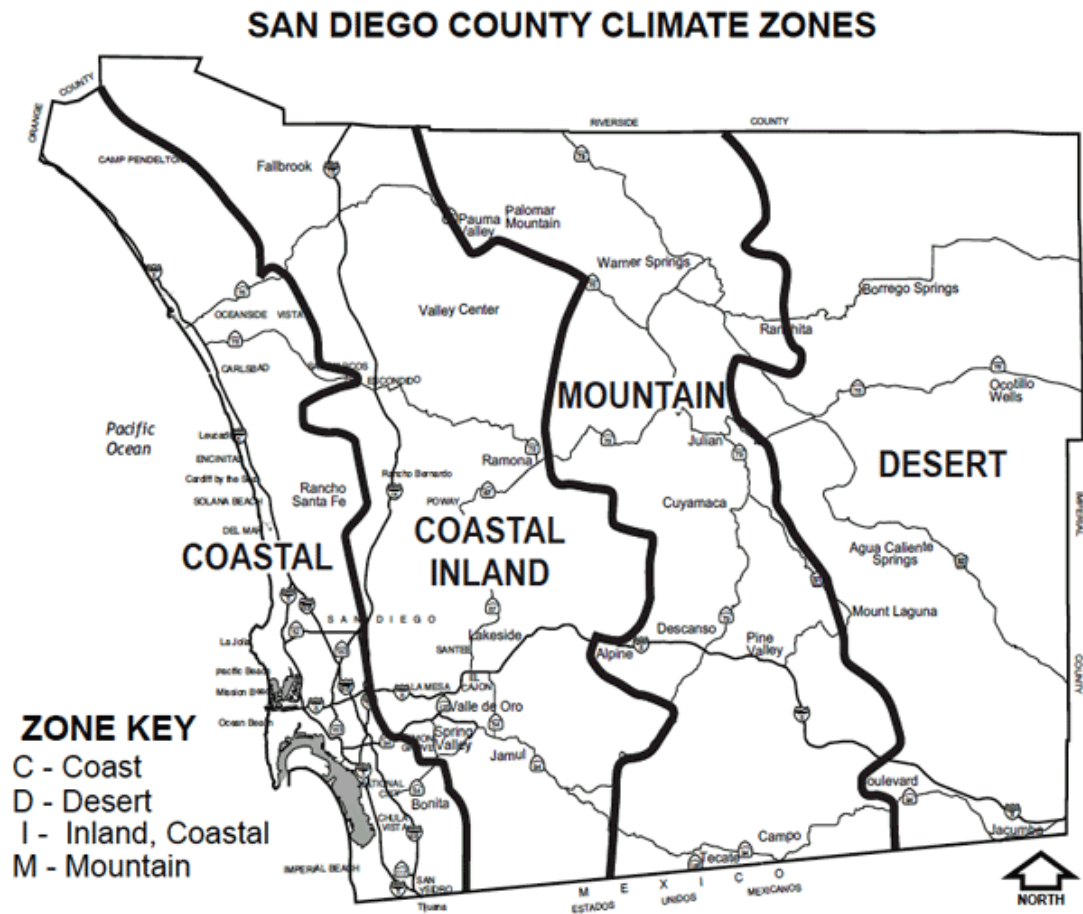


Figure 1. San Diego County Climate Zones. Retrieved from www.coastalsandiego.com.

V. Physical Challenges

Space:

Urban garden plot requirements can vary in size from a few pots or planters on a patio to tens of acres. Although a detailed plot map of vacant or otherwise potentially available land could not be located for San Diego, surveys conducted in other urban areas have revealed hundreds or even thousands of vacant plots that could be used for gardening. A New York City 1998 report identified over 11,000 vacant lots that could serve as potential garden sites (Chitov, 2006). Additionally, Jobb (1979, p. 68) stated “Vacant lots are everywhere, in every city and town. Much of this vacant land is created by the economic and tax realities of a neighborhood. Some vacant land is created by geography. Many lots are available for use as gardens”. Undoubtedly a detailed survey San Diego County urban area would likely reveal similar opportunities. Additionally, as of May 2013, the San Diego County Department of Parks & Recreation, authorized the use of city-owned public lands to be made available for urban agriculture endeavors, provided the interested party(s) followed exacting guidelines for implementation (San Diego Parks & Recreation Instruction, 2013). This effectively allows for groups of citizens to organize to start a community garden within city parks or

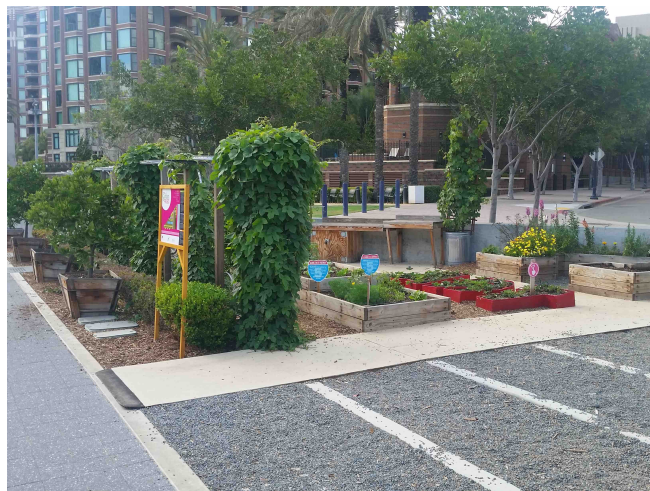


Figure 2. Community Garden at Children's Park San Diego, California. Photo by Daniel Dusek

of

other publicly held lands.

Of the myriad of administrative requirements to initiate a community garden, a significant drawback is that the citizens or organizations must fund the entire project, including startup costs for tools and equipment, fencing, and a water meter. Additionally, all maintenance costs for the garden project must be borne by the citizens group. To date, I was unable to find any reference to a community garden that has been started on public lands as a result of this easement. However, newer city parks have included small gardens as part of their design such as the Children's Park in downtown San Diego (Figure 2).

During a small random sampling of low-income people in San Diego, lack of space was a predominant issue in starting a garden especially for people living in multiple housing units such as apartment complexes or condominiums (Dusek, 2015). An encouraging sign is that many new multiple family living structures are being constructed with a community garden as part of the design such as the Potiker Family Senior Residence in downtown San Diego (Figure 3). In other urban areas where single family homes are predominate, neighbors who collectively decide to start a garden are likely to be more successful in finding an adequate space for a community garden. Yet another consideration in regards to space is the idea that urban agriculture is a temporary venture and the land could be used more "productively" once a

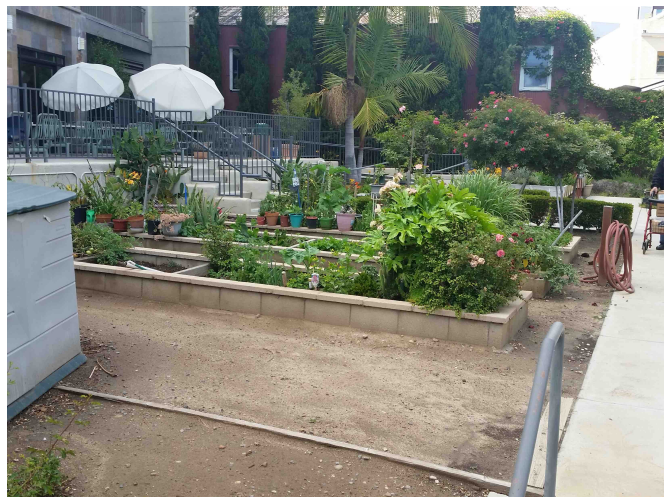


Figure 3. Community Garden at Potiker Family Senior Residence San Diego, California. Photo by Daniel Dusek

developer finds a use for it (Chitov, 2006). The issue of the expected term of lease or availability of the space for a garden must be addressed at the outset.

Time:

The American lifestyle is arguably one of the busiest in the world. Even a small garden can occupy 3-5 hours per week in order to plant and maintain it. However, I would offer that perhaps a shift of priorities for many people could allow them to participate in gardening. The average American spends five hours per day watching television (New York Daily News 2014, March 5) and another three hours per day on the Internet responding to e-mails, social media, or other online communication activities (Business News Daily 2013, July 2). In a survey conducted by Loopstra & Tarasuk (2013), lack of time was a contributing factor for low-income families not participating in gardening. In that survey, one female respondent stated the reason for non-participation was “I’m hardly at home. I work five days per week, spend one day for shopping and chores, and have one day to spend with my daughter”. This person was perhaps overlooking the enriching experience it would be to engage in gardening with her daughter. -Lombard et al. (2014) found that lack of time prevented Navajo Indians in the American Southwest from gardening. Finally, from my own research, low-income residents in San Diego expressed that lack of time was a problem in participating in community gardening (Dusek, 2015). For many people in the United States, a reprioritization of our activities could yield a few hours per week that would allow participation in gardening. Turning off the TV, getting away from the computer or smartphone, or just shifting the family discussion time from the living room to the garden may afford families time to grow their own produce and potentially build stronger a stronger family network in the process.

Capability:

Only in very few cases are people not able physically or mentally able to garden. Clearly the level of exertion varies significantly, but once a garden is created and functioning, the level of physical effort to maintain and grow produce are minimal in most cases. There are, of course, exceptions and some very aged individuals or people with significant mental or physical handicaps are not able to participate in gardening. This, however, is the exception and not the rule. There are countless examples of people continuing to garden with physical or mental handicaps and well into old age.

Knowledge:

In most cases gardening is not technically complicated, however, for people who have had no experience growing plants, the task may seem daunting. In many cases, especially in urban populations, the traditional ecological knowledge that had been passed down from generation to generation as a matter of necessity for a constant food supply, has eroded considerably or vanished completely. In the study I conducted (Dusek, 2015), many participants stated their grandparents knew how to garden, but they were not knowledgeable in gardening practices. Luckily there are many options for gardening education in San Diego County. The growth of the Internet opens a plethora of available information on how to start a garden. Web sites such as International Rescue Committee (<http://www.rescue.org/us-program/us-san-diego-ca/starting-community-garden>) and the San Diego Community Garden Network (<http://sdcgn.org>) present many ideas and tips for starting or maintaining a garden. Lack of knowledge may present some hurdles initially, these obstacles could be overcome through the many forms of education available.

Legal Issues and Local Government Support:

In recent months, San Diego County officials have made progress encouraging urban farming and eating produce that is grown locally. In January 2016 the San Diego City Council Smart Growth and Land Use Committee voted to reduce taxes on lands designated for urban agriculture. This action is an additional incentive following on a 2011 policy change in San Diego city that reduced the community garden permit fees from \$48,000 to zero (Garrick 2016). These new incentives could be especially helpful to southeastern San Diego that reflects lower incomes in the region where fresh food is limited and there is a lack of quality grocery stores and markets. Eric Larson, the executive director of San Diego County's farm bureau, said the law could also help the economy by creating interest among young farmers. "This is an opportunity to create some incubation of future farmers in San Diego," said Larson, stating, "no county in the nation has more small farms than San Diego" (Garrick, 2016).

Water considerations:

Southern California is experiencing an unprecedented drought. 2016 being an El Nino year, has brought a small amount of relief, but long-term availability of fresh water and maximizing water conservation efforts will undoubtedly present challenges for government leaders and residents for decades to come. Natural precipitation is not sufficient for most types of edible produce and irrigation options must be explored. The costs for community gardens to connect to public water systems must be borne by the organization requesting the garden. Beyond the cost to bring water to the garden, the monthly water bill can be significant. Even with water conserving measures in place, costs for water can easily run into hundreds of dollars per month depending on the size of the garden, amounts of natural precipitation, and watering

requirements for the various types of plants. For individual gardeners who have small incomes, this additional water bill may be a significant detractor to participating in gardening. If the city or county were to take a holistic perspective of the overall social value of gardening to a community, perhaps some government funding could be allocated to supplementing the costs of water for gardening. In any case, water for gardening must be an initial consideration when planning new gardens.

Funding:

One of the major challenges that must be overcome is funding to support a garden. Even if land can be made available at little to no cost, there will still be costs for starting a garden, including tapping into a water source and the ongoing water bill, equipment and materials to build the gardening plots and tools to perform the gardening. Startup funding could come from a variety of sources such as donations from various neighborhood individuals or organizations, monthly gardening dues, city or county grants, or a host of other organizations that provide support to startup gardens. There are other possible alternatives for starting the garden such as organizations like Habitat for Humanity through their Community Revitalization Program. The ongoing challenge for most gardens is to maintain the motivation of the gardeners and the streams of funding for continued operation.

VI. Social Aspects

Gardening presents a way to not only provide people with nutritious food; it also presents an excellent way to energize a community. Gardening establishes a unique identity within the community and also has the potential to be a boon for its social capital. In a recent

edition of Mother Earth News, Rebecca Solnit (2015, 54) said: “We are in an era when gardens are front and center for hopes and dreams of a better world, or just a better neighborhood – or the fertile space where the two become one.” A community garden is a public or private piece of land that is gardened by a group of people for the purpose of growing fruit, vegetables, flowers or other produce. In addition, it can also be a venue for community social interactions. Aside from the tangible benefits and the power in growing your own food, there are many less obvious but still very important benefits that are often not considered. There is strong evidence of an urban community garden’s capability to provide improvements for the community through an improved source of social interaction and improved health for the residents through increased exercise. Anecdotal evidence abounds, but important outcomes such as the physical benefits of gardening and connectedness of the community are difficult to measure (Twiss et al., 2003).

The nutritional value of growing your own food is well documented through many areas of research, but what about the other many benefits that are garnered through a community coming together and interacting on a personal level through a community garden? Gardens often provide places outside of work or home where people can gather, network and identify together as residents of a neighborhood (Glover et al., 2005). As discussed by Flora, et al. (2004), human interaction is the foundation of a community and is often explained in terms of norms of reciprocity and trust; thus building on the community social capital between the community garden members.

As the name implies, a community garden fosters a sense of community among the gardeners. Jennifer Marks, a graduate student in the College of Public Health at Kent State

University said, “There are a lot of components that go along with just growing the food and bringing people together... So now you’re helping your neighbor; you’re learning from other people. It’s very much a peer-to-peer support system that you’re not in this alone” (Myers, 2013).

For many low-income people, the idea growing their own food is completely foreign and frankly most has not even thought about where the fruit and vegetables come from that they find in the supermarket. Society now believes that food gathering takes place at the grocery store, farmer’s market, or the local food bank-for many low-income residents. Additionally, modern society is accustomed to being able to purchase most types of fruits and vegetables year round. In most cases this “fresh” produce has traveled hundreds or thousands of miles to end up on the grocery shelf. It is estimated that the average American meal travels about 1500 miles from farm to plate (CUESA, n.d.). This paradigm is starting to shift as it is becoming more popular to seek out local produce through farmers markets or other local food sources. Additionally, a casual observation in many restaurants around San Diego County one can find statements that all food is locally sourced.

Economic challenges hinder many low-income families from obtaining locally grown organic produce. For many low-income people the very thought of obtaining the most basic materials for a garden is an insurmountable task as they are literally living meal to meal. Families who are living on a very low income are concerned with putting food on the table today and cannot begin to muster the energy required to start growing something today that they will not be able to eat for several weeks or months.

There are, however, other alternatives in place in limited venues. For example, there are some churches in the San Diego area that have associated community gardens from which the produce is used to help feed low-income families. Christ Lutheran Church in Pacific Beach (a suburb of San Diego) is an example (Figure 4). From the Church website, this organic garden has 12 raised beds and is gardened collectively by people from the community on a first come first served contract basis. As with many community gardens, there is currently a small waiting list for a plot. While I am not aware of



Figure 4. Community Garden at Christ Lutheran Church Pacific Beach, California. Photo by Daniel Dusek

any church dissuading non-church members from participation in their gardening efforts, it may prove as a barrier for some who feel they will not be comfortable gardening around people of faith other than their own.

Like most other major cities in America, San Diego is quite diverse. People come from all walks of life with varying backgrounds and understandings. Walk any place that people gather you can hear conversations in many different languages. Not speaking the same language as your neighbor can sometimes be daunting when trying to work together. Getting past these barriers can prove to be a rewarding experience and gardening provides a common place to start the conversation. As discussed by Brown (2013), Fresno, California community leaders and health professionals found that gardens can help foster resiliency and a sense of purpose for ex-patriots, especially the older generation, who may feel isolated by language

barriers and stress or depression about leaving their native lands. Gardens can offer a place of healing and mutual cooperation that can potentially transcend language barriers.

Another area that was investigated through this study was to search for any success stories regarding the nation's homeless population and the effects that community gardens could have in improving their living conditions. According to the United Way of San Diego County website, there are over 8500 homeless people living in San Diego County. San Diego has the fifth highest number of homeless people in the US. Unfortunately, I have been unable to find any cities that have been able to successfully implement a program to engage the homeless population into community gardening. While opportunities do exist, for the homeless population that I informally talked to in San Diego, their situation is so dire and lifestyle so unpredictable and mobile that that idea of gardening is not realistic.

Starting and maintaining a community garden can expend considerable effort, but as with any worthy endeavor, a community garden can produce so much more than healthy food and an aesthetic green environment. Community gardens can build social capital, stimulate community engagement and understanding and enhance overall sharing of knowledge and experience.

VII. Benefits of Gardening

There is clear evidence between eating organically grown produce and improved levels of health. Most Americans do not eat enough fruits and vegetables meet the United States Department of Agriculture (USDA) recommended daily allowance. This fact resonates even truer for low-income individuals (Figure 5). These USDA findings are echoed by the Center for

Disease Control (CDC) 2013 study found that most adults consume too few fruits and vegetables (Moore & Thompson, 2015).

In addition to the potential for providing a healthy food source, community gardens offer tangible benefits to virtually every resident of a community including cleaning up trash-filled parcels, eradicating vermin from vacant lots, and eliminating gangs and drug sellers using run-down

parts of the city for nefarious activities (Hartsfield & Henderson, 2009). A community garden can add significantly to the urban green infrastructure footprint. A community garden will also provide an excellent space for a community to take back blighted lots, to promote health and wellness programs, provide a forum for constructive after-school activities, as well as a source of nutritious food and food education (Hartsfield & Henderson, 2009). There is power in growing your own food and a sense of accomplishment, and it is conceivable that engaging youth (especially those considered at risk to engage in criminal activity) to boost their self-esteem and engage them in activities to promote living a lifestyle within the law. The National Crime Prevention website (<http://www.ncpc.org/topics/home-and-neighborhood-safety/neighborhood-watch>) lists physical conditions such as overgrown vacant lots

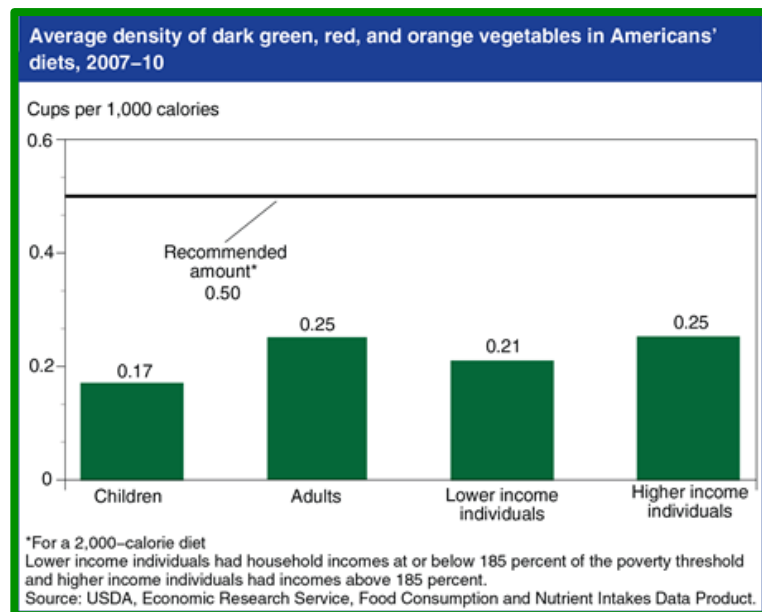


Figure 5: USDA findings of American consumption of vegetables. Retrieved from <http://www.ers.usda.gov/data-products/chart-gallery/detail.aspx?chartId=49484&ref=collection>

contributing to crime and urges communities to sponsor cleanups, encouraging residents to beautify the area which can be translated into community gardening on abandoned lots.

Additionally, leaving the house and into a garden may well improve resident awareness of events transpiring in their community. By the very nature of creating a community garden on a vacant lot, the community will almost certainly improve the aesthetics of the community making it a more enjoyable place for all residents, whether they garden or not. A community uniting under the auspices of a community garden will allow for greater understanding neighborhood issues and willingness to get involved in community decision-making. Perhaps the human interaction that would be fostered through gardening will produce the most encouraging improvements overall. People make the community and their interactions give it strength and resiliency. The community garden may just be that bridge between a disparate group of individuals and a thriving and unified community. The garden could even improve property values within the neighborhood.

There are also tangible personal and community benefits of community gardening. In addition to eating nutritious food and the gratification of growing your own fruits and vegetables, the benefits of exercise through the act of gardening are significant - especially for those with sedentary lifestyles. The level of physical exertion during gardening is a personal choice; therefore, most people who want to participate in gardening are able to do so.

The value of green spaces in the human healing process is becoming a more recognized aid in the healing of sick or injured people. In fact, many hospitals now feature gardens or green spaces as part of their design. The concept that the fresh breezes, warm sunshine and fragrant greenery of a garden can help cure people has its roots in ancient tradition and

common sense (Franklin, 2012). It stands to reason that participating in the gardening experience would yield similar results and the addition of physical exercise may improve the healing process, depending, of course, on the ambulatory capabilities of the patient. Indeed, at a recent hospital stay myself; I observed the television system in my room offered several channels and movies of nothing but scenes and sounds of nature.

In a 1984 study published in the journal of Science by the environmental psychologist Roger Ulrich, demonstrated that looking at a garden could sometimes decrease healing times from surgery, infections and other ailments. Ulrich found that “just three to five minutes spent looking at views dominated by trees, flowers or water can begin to reduce anger, anxiety and pain and to induce relaxation, according to various studies of healthy people that measured physiological changes in blood pressure, muscle tension, or heart and brain electrical activity” (Franklin, 2012). A subsequent 1993 study found that patients assigned a room with bright images of water and tree scenes were less anxious and needed fewer doses of strong pain medicine than those who looked at dark forest photographs, abstract art, or no pictures at all (Franklin, 2012). However, the landmark studies in this field are dated and newer studies should be conducted to provide empirical evidence that the presence of green spaces to indeed improve the natural human healing process.

VII. Results

Thus far I have demonstrated several advantages of growing your own food and the fact that San Diego County has ideal growing conditions to facilitate nearly year round growing of produce in many parts of the county. Why, then, are gardens not springing up on every piece of

vacant land with food aplenty for all SDC residents? This paper has discussed many of the challenges presented regarding space, time, capability, knowledge, support, water, and, of course, funding. All are challenges to address by any organization wanting to start a garden, but all can be overcome.

The vision of community gardens feeding the hungry masses is not a panacea. There are many challenges that still must be addressed before community gardening can take hold and start providing a supplementary food source for millions of hungry people across San Diego County and America. Obtaining the land, funds for startup and continued operation, and, perhaps most importantly, a community of engaged citizens who are willing to put their time and their effort into running and maintaining the community garden - perhaps this final point being the most salient. As with so many things in life, to engage in a new project takes effort and determination and both are most definitely required to start and maintain a garden. Additionally, in the modern fast paced society in Western culture, most people consider buying their food from a retail supermarket.

Above all else, a successful community garden requires a motivated and dedicated cadre of individuals who will continue to champion the garden through triumph as well as trial. Our consumer driven society has replaced the notion of growing your own food. This attitude, however, is beginning to change as more and more people across the US are seeing the value in growing their own food. There are many cities, including San Diego, that are adopting active roles in starting and supporting community gardens, but more work needs to be done to

overcome the obstacles that continue to maintain the chasm between fresh and nutritious fresh fruits and vegetable and a food insecure population.

There are several areas that require further study including the economic and social status of gardeners relating to garden success and longevity. Additionally, education levels of the garden leadership could provide interesting insight in a garden being able to flourish. I believe that many low-income and food bank users are more concerned about putting food on the table on a day to day basis rather than putting food on the table several weeks from now. The urgency of their immediate food need overrides their desires for a significant investment in their longer-term food sustainability. A future study should address this question in greater detail.

Additional research should investigate the efficacy of the various community garden support agencies. Contained within this category are the potential challenges that arise from starting a community garden. Community gardens around the US that receive support from the city or other civic organizations should be compared to community gardens that are sponsored solely by the community residents and users of the garden. This insight would allow city leaders and decision makers to assess whether or not more resources should be put toward the creation of community gardens.

San Diego County is taking some great steps forward to promote community gardens. Specifically, eliminating the costly permit fees and offering reduced property taxes on plots utilized for community gardening. More can be done, however, in terms of planting the seeds of interest in gardening. I recommend that the city of San Diego, as well as San Diego County,

hire a community garden facilitator as part of the parks & recreation staff. He or she could identify plots that would be suitable for gardens and advertise this to the local residents. He or she could also provide support through the application and permit process and potentially help identify funding streams to help get the garden started.

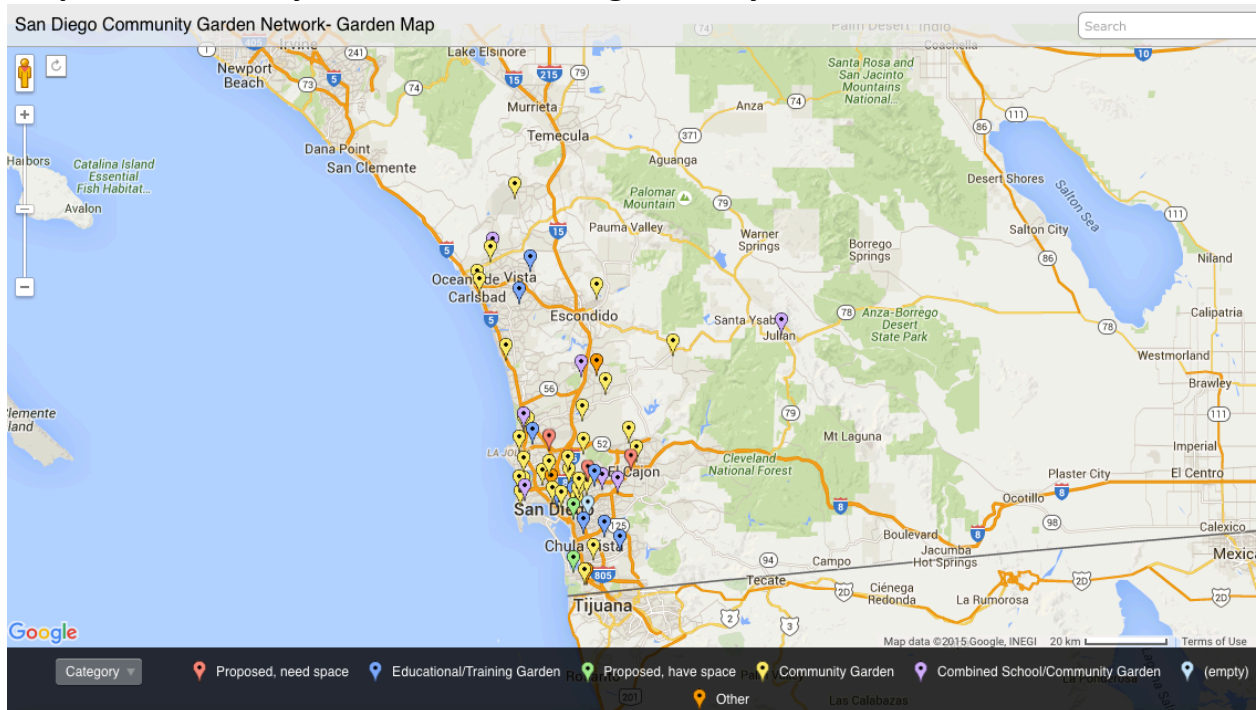
The capacity to feed the American population resides within the nation. With the resources this county possesses, there should not be a hungry mouth anywhere. However, the unfortunate reality is that nearly 1 in 6 people in this great country is not able to meet this most basic necessity on a continuous basis. There is a dire need to understand this phenomenon more thoroughly so that together, we can stem the tide of hunger in America.

Appendix:

Map of San Diego County



Map of Community Gardens in San Diego County



Map courtesy of San Diego Community Garden Network. <http://sdcgcn.org>

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