FARMING WITHIN THE FENCES: AN EXPLORATION OF URBAN AGRICULTURE ZONING AND LAND SECURITY IN LONG BEACH AND LOS ANGELES, CALIFORNIA

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II. INTRODUCTION

In the ongoing pursuit of developing healthy, livable, and vibrant cities, efforts to focus on the integration of agriculture urban spaces can be seen as romantic and therefore an impractical approach. Upon closer examination into the social, environmental, and economic benefits however, the notion must be taken seriously for our modern metropolis to prosper. Foundational to providing the structural support for engaging agriculture in an urban environmen1t is a reassessment of the role that urban planning currently holds. Zoning has the potential to either significantly hinder the proliferation of urban agriculture, or be a meaningful option for aiding in the inventive emergence of growing food in the city. In investigating the relationship between zoning and urban gardening, this research explores how the Los Angeles and Long Beach zoning policies impact gardeners' land security.

III. BACKGROUND

Brief Definitions of Urban Agriculture

The term urban agriculture includes the growing, processing, and distributing of crops and livestock within an urban or peri-urban area. Four main sectors or urban agriculture are Nurseries, which focus on selling crops to grow elsewhere; School Gardens, which are primarily for educational use; Farms, which are for profit enterprises selling either wholesale or retail; and Community Gardens, which are typically non-profit, neighborhood-based agricultural sites offering plots for rent. The agricultural product of

these gardens is usually for beautification, recreation, education, donation or other personal use and consumption.

Conceptualizations of Urban Agriculture

As cities grew, drawing great populations from the countryside, urban agriculture developed as a way for the urban poor to grow food within the city. This urbanization process can blur urban and rural divisions, often resulting in cities seeing agriculture as a backwards activity, and corrosive to the modern food system, particularly in developing countries (Mougeot 2006). Agriculture in the city is conceptualized as a problem amongst the urban poor. This leads to pejorative policies predicated on the belief that agriculture is the result of cities failing to address developmental needs rather than understanding urban agriculture as a viable solution, which necessitates government support. Thus, agriculture has been heavily relegated to specific areas, historically though the use of thick walls, or modern zoning measures to regulate the perceived "untamed wilderness" of nature, a judgment that still plagues urban agriculture (Philips 2013, 7). The pace with which cities grew and changed during the Industrial Era, becoming the physical embodiment of capitalism's expansion, pushed some to reconsider this judgment. In response, utopian visionaries such as Ebenezer Howard emerged to preach the 'Garden City' in which nature was a core value, defining the livability of the city through an abundance of green space and gardens (Howard 1898). Thus one aspect of the urban agriculture narrative was born which described a utopia with nature in harmony with the urban populace, a narrative utilized as a tool to enhance the attractiveness of urban spaces. It offers residents a respite from their constructed environment with beautiful greenery. Since the early 18th century architects and city planners began to take this notion seriously, incorporating it

decoratively as an "ornamental tool to create pleasant and beautiful towns" or in larger scale constructions later in the 20th century, such as green belts ringing the cityscape (van Leeuwen, Nijkamp, and Vaz 2010, 20). In reality however, the incentive to cultivate our urban spaces is often much less about beautification and attractiveness; rather it is implemented as a food source for the urban poor (Longcore et al. 2011; "Planning and Zoning" 2013; Wortman and Lovell 2013; "An Assessment of Urban Agriculture in Los Angeles County" 2013). This aspect of urban agriculture can been seen on a national scale in the proliferation of subsistence plots during The Great Depression, or Victory Gardens during World War II.

Modern imaginings of agriculture have attempted to integrate these two sides, maintaining a discourse of beautification and attractiveness along with attempts to integrate issues of food justice and accessibility. Current catalysts for the urban agriculture movement include "making the food production system more sustainable, resilient, and socially just" (Wortman and Lovell 2013, 2). Projects can implement more mixed-use methodology, including community supported agriculture (CSA's), rooftop gardens, a return to historical civic victory gardens, edible schoolyards, corporate campuses, and integration with restaurant food sourcing, all across a demographically diverse geography (Philips 2013). Although these new conceptualizations of edible green spaces as a reasonable expectation within a city have developed amongst urban residents, the necessary regulations and institutionalization to support such endeavors however have not. This incongruity can be seen through the inconsistencies across Los Angeles County's zoning of agriculture.

Urban Agriculture Zoning In Los Angeles

The 200-mile radius of the Los Angeles foodshed is an opportunity for agriculture in the rural as well as urban sphere. The foodshed is home to 23,000 farms of diverse sizes, productivity, and specialization. These farms generated $16.1 billion of income in 2012 and employ 1.3 million people, amounting to 1 out of every 7.5 jobs in the area. LA City and Long Beach themselves account for 1,272 agricultural sites including nurseries, community gardens, farms, and school gardens ("Cultivate LA Interactive Map" n.d.). L.A. County encompasses 88 different cities, along with 76 unincorporated communities, and there is no clear nor unified governing structure on how to regulate agricultural activities whether through municipal zoning codes, or countywide city planning initiatives ("An Assessment of Urban Agriculture in Los Angeles County" 2013).

L.A.'s current body of code is 71 years old, and has not been reworked nor updated in any significant way since 1946. During the time of its original crafting, perceptions of agriculture as backwards and corrosive to the modern American city were still largely at play, resulting in a limited inscription of Greenspace or gardening into the necessary or acceptable structures of the city. The overlaying of allowable uses through decades of reactive zoning has resulted in an unclear story of what is legal in Los Angeles County. The Urban Agriculture Incentive Bill (UAIZ), AB551, has revitalized some agriculture discussions. Passed by the county in 2015, and adopted in the ensuing 2 years by L.A. City Long Beach, the bill offers tax breaks to landholders who agree to develop their parcels for urban agriculture. So far fewer than 10 farms in L.A. City are currently benefitting from the tax breaks, and more are projected to apply this year. There are no current beneficiaries in Long Beach since it was passed into city operation so recently, but Long Beach is working

to have people sign up for this next tax year**.** Through Long Beach's Sustainability office's website there are resources to help potential gardeners, and landowners connect with one another, as well as assist the landowners in applying for the tax break. As told by both cities, assessors ensure that applicant parcels are zoned for having urban agriculture as an allowable usage.

Currently, Long Beach allows urban agriculture in residential zones, and is home to 26 community gardens and farms. The City of L.A., in comparison, has a specific agricultural zone, which is rare for a dense city, as well as allowing agriculture in residential zones, and has 74 agricultural sites ("Cultivate LA Interactive Map" 2018) When looked at in proportion to the residents of each city there are 18,081 people per every farm or garden in Long Beach, and 52,702 people per farm or garden in Los Angeles. Cities such as Seattle, Washington have approached their urban agriculture regulation according to this per capita metric. In its 2005 comprehensive plan, Seattle required a community garden per every 2,500 households in urban neighborhoods (Mukherji and Morales 2010).

In the City of L.A., over 60% of the City has special zoning overlays and site-specific conditions that cause the regulation of construction uneven and unclear. These site-specific markers are made up of a designation within the code, marked by a Q for "qualified", T for "tentative", D for "development restriction"("A New Zoning Code for a 21st Century Los Angeles" 2016). All of these allow for exceptions and concessions to be made in the construction of the land outside of what the General Plan allows. This methodology of adapting the development of properties through site-specific allotments is a common practice all across cities. The Q designation specifically was adopted in the city of L.A. in 1970s following housing construction conflicts in the Chatsworth neighborhood

(Rosenberg 2013). This opened up the typically hard-lined practice of zoning to various interpretations often curtailing developments more than the original plan may have prescribed, regulating new construction to maintain aspects such as neighborhood color or style. The confusion resulting from these overlaid zoning codes and the lack of community-based zoning in general is exemplified through the struggled faced by Ron Finley.

Ron Finley, a resident of South Central L.A., started cultivating of the median strip outside his house, inspired by his frustration at the lack of adequate food in his neighborhood, and made it open to all who might need its nutrition. The median was full of grass, and as Finley himself said "we're not cows, we can't eat [...] grass" (Reschke 2018). This endeavor was against city ordinances, and he was issued a citation, a fine, and finally served an arrest warrant. Through community-based advocacy he was able to slough through the bureaucracy and successfully fight off these charges against his burgeoning garden project. Finley later purchased a property near his house as a second garden, but there too he struggled to maintain access to the land. A simple zoning ordinance criminalizing gardening on grass-covered, otherwise unutilized land, was not made easily available to Finley and could have resulted in him being fined or arrested, without the support of local activism. This exemplifies the possible consequences for not obeying regulations; regulations, which in this case, are not making efficient use of the resources within South Central to help Finley's community. There was no governmental support through land use structuring to make land available for feeding South Central's disenfranchised populous nutritious food.

Beginning in July of 2013, called 're:code LA' is a five-year project from the Los Angeles Department of City Planning to overhaul the convoluted zoning system. Through

the assemblage of a Zoning Advisory Committee of private stakeholders, community activists, architects, professors, consultants, as well as a Technical Advisory Committee of intergovernmental agencies the project hopes to achieve three main deliverables in 2020. Their goals are: 1) to implement a user-friendly zoning code balancing variety and consistency and streamlining the project review process with concise collapsible categories and flexibility for mixed-use development; 2) to display the new code in a web-based accessible format to display and compile project information and 3) to include summaries in plain language along with visuals to guide users through the code. This project provides a unique opportunity to rethink the discussion surrounding allowable agriculture activities. It can push L.A. City to create modern land use regulations, which actively assist in the proliferation of edible greenspace where it logically makes sense, particularly amongst the communities who need it most ("Zoning Code Evaluation Report" 2014).

See Appendix One for summary of relevant policies

IV. LITERATURE REVIEW

Discussion of the Observed Advantages of Urban Agriculture

There are many factors of urban agriculture that make it uniquely capable of providing benefits to the urban environment. These benefits illuminate the ways in which the incorporation of gardens into urban green space is "far more than growing vegetables on abandoned lots", despite that often being the perception (Philips 2013, 5). The extent to which gardens can offer environmental and humanitarian is still debated, and this research

seeks to outline this discussion, as well as comparisons to the lived experiences of gardeners within the cities of L.A. and Long Beach. With this in mind, the following passages review potential impacts of agriculture on an urban setting.

Environmental Implications

There are considerable environmental advantages to urban greening and the incorporation of gardens into the cityscape. The cultivation of unused properties is intrinsically a sustainable use of resource as oppose to sprawling into previously rural parts of a region (Mougeot 2006; Wakefield et al. n.d.). The usage of water in the urban context must be specifically considered. Urban water usage for irrigation is of great concern within the urban agriculture field. Some cities currently offer unrestricted access to water, but this may be challenged as it becomes an increasingly scarce commodity. The urban poor in particular can face many challenges when accessing water sources, at times turning to untreated water sources for irrigation particularly within developing nations. Agriculture currently accounts for 87% of the U.S.'s freshwater usage and 40-70% of household water is used for irrigation of gardens and lawns, after being treated according to drinking standards (Wortman and Lovell 2013). Thus, it is crucial for urban gardens to consider sustainable water practices such as rainwater harvesting, gray-water, and smarter irrigation methods in general such as drip irrigation. There is no doubt that urban agriculture will "add to the pressure on our urban water systems and the growing global water crisis" (Philips 2013). In Los Angeles County specifically, recent droughts have exacerbated water resources, pushing the county to enact restrictions.

Urban agriculture can generate resources as well, such as compost, helpful microclimates assisting in temperature control of the city, service products and ecological

diversity, as well as being a cheap storm-water management strategy (Philips 2013; Mougeot 2006). Through the cultivation of corners, rooftops, and other overlooked areas, growing in the city can improve air quality among offering other ecological benefits (Mougeot 2006; San Francisco Bay Area Planning and Urban Research Association 2012). The personal scope of urban agriculture also undermines large-scale food production and the many negative effects of such actions such as a systematic reliance on harmful pesticides (Philips 2013). The use of any pesticides or other toxic agriculture technology in the dense city atmosphere however can be much more harmful than in rural areas, thus many urban gardeners utilize organic growing practices (Mougeot 2006). From this deviation away from large scale rural food production, the ecological burden of food imports is alleviated, reducing the amount of food that needs to be trucked into the city and getting people closer to their food sources (Philips 2013; Mougeot 2006).

Human Impacts

There are many functions of urban greening, and agriculture builds upon those benefits for the residents, offering social advantages, which cannot be ignored (Deelstra, Boyd, and van den Biggelaar 2001, 22). These benefits can include: improved livability through an attractive environment, improved access to food and nutrition, physical activity due to increased space for recreation, economic growth, education, the cultivation of community, and more social capital, etc. (Wakefield et al. n.d.; Deelstra, Boyd, and van den Biggelaar 2001; San Francisco Bay Area Planning and Urban Research Association 2012, Santo, Palmer, and Kim 2016, 6). Thus, at its essence, there is a humanitarian importance to the cultivation of our cities, as they potentially "[serve] as a mechanism for education,

empowerment, and community building from its genesis" ("Cultivate Los Angeles" n.d., 3) Female empowerment specifically has been sited in areas such as Detroit where women become leaders of their communities through the cultivation of devalued spaces(Santo, Palmer, and Kim 2016, 19). Globally, urban agriculture has been offered as a viable solution to many of the United Nation's Millennium Development Goals, particularly the eradication of extreme poverty and hunger. The two main factors which drive people to urban cultivation are: 1) the "critical need for a reliable source of fresh food" and 2) a "hope of improving their precarious financial circumstances" (Mougeot 2006, 35). The benefits are hence seen most succinctly amongst the urban poor, offering nutritional benefits difficult to find elsewhere alongside the freedom to spend money on more non-food expenses such as education, and the development of much needed political and social capital. Accessing fresh foods coupled with this freed income for other expenses can be hugely impactful for low-income city residents and can even provide the "opportunity to break out of the cycle of poverty" (Mougeot 2006, 9). Even for those not directly involved in the gardening can experience financial benefits. A 2008 study by Voiku and Been ranked the quality of 636 gardens in The Bronx, New York established between 1977 and 2000 according to their basic maintenance and upkeep along with presence of social spaces. This study analyzed the changes in home values surrounding gardens of a variety of qualities and found that sales prices of home within 1,000 feet of a garden increase as much as 9.4% over a 5 year period, and continue to increase over time, especially for higher-quality of gardens. This impact was seen most clearly in poorer neighborhoods, raising concerns over the ability of gardens to contribute to the gentrification process. The increase in tax revenue generated from the impact of these gardens on the housing market was an estimated $500,000 over

20 years (Voicu and Been 2008). Findings from this research are difficult to generalize, however they can inform the potential economic incentive for government involvement and promotion of developing gardens in the city.

The multi-dimensionality of urban agriculture advantages in particular must be incorporated into effective policies. UAIZ, for example, is limited to private lots being used exclusively for agriculture, excluding the gardens used in tandem with schools that may have buildings for educational classes on a range of related topics such as botany (Havens and Roman-Alcalá 2016). By acknowledging the advantages offered by urban agriculture, and implementing gardening with attention to soil quality, water use, and the experiences of the gardener policies can be improved. Agricultural practices can be supported effectively as a valuable piece of the urban landscape and a tool for social mobility.

Urban agriculture can subvert and develop resiliency within the industrial agricultural system through its scale and utilization of resources. Our current system effectively produces a large quantity of food however its lack of resiliency could be very harmful for prosperous cities as well as those in decline. Were there to be any sudden failure, and subsequent price spike in the resources upon which it so heavily relies such as oil for machinery operation, food shortages would be disastrous (Philips 2013). Smaller-scale agriculture could be an effective tool for developing resiliency against such occurrences if given similar subsidies to large-scale operations, and the chance to proliferate.

Barriers to Proliferation

There are many challenges when trying to integrate agriculture into the metropolis, namely issues surrounding land availability, injustices of land access, zoning prohibitions on land use, and a lack of clear government support.

Land Access and Availability

Given the sprawl and lack of density of LA it appears that there is a large opportunity for urban agriculture in the region. However, steep increases in property value can place acquiring space for gardens out of reach, particularly away from socioeconomically disenfranchised populations. Between 2005 and 2009 two thirds of housing building in L.A. was urban infill showcasing the desirability of undeveloped and underdeveloped property ("Residential Construction Trends in America's Metropolitan Regions: 2012 Edition" 2012). Higher land prices "[do] not leave much land for extensive, space-consuming agricultural activities in urban areas" (Deelstra, Boyd, and van den Biggelaar 2001, 21). It is extremely difficult for urban gardeners to contend with such drastic development pressure given their limited resources and reliance on volunteer labor and grant funding as they are run predominantly by community members, NGO's and non-profits (Philips 2013; Havens and Roman-Alcalá n.d.). It is challenging for urban farms to find success from selling their products due in part to the heavy regulations on commercial activities. To make the sale of their produce profitable however, farms are faced with selling it to local restaurants and farmers markets, typically at a price point that would make it inaccessible to the lower-income residents the farm may have been originally trying to serve (Havens and Roman-Alcalá n.d.). To make urban agriculture viable and

competitive, “significant added value is required” to financially incentivize potential renters and gardeners to participate (Deelstra, Boyd, and van den Biggelaar 2001, 25). By noticing the often ignored positive externalities of urban agriculture such as improved quality of life, increased surrounding home values, and education, the true financial benefits may be more properly reflected through incentives and property value assessments. Multi-leveled government bodies could play a crucial role particularly through making public land available in bridging these two realities. Community gardens across the nation are often found on private land being rented out to different tenants. This results in short-term leases incongruent with the extended timeline of growing produce. Landowners maintain legal power to terminate any renter, evictions and relocations of gardens are inherently more difficult and frightening to gardeners than other developments, due to being physically rooted in the land. The new UAIZ bill attempts to engage with this issue through stipulating a minimum 5-year agreement, however that is still not enough to ensure a gardener’s land security (Havens and Roman-Alcalá n.d.). UAIZ is also criticized for being too market based and defined by the economics of taxation in the capitalist economy. In real estate markets with high property values and rapid growth such as in L.A. County, the tax breaks don not equal the prospective income to be made through other development such as residential or commercial building. This eliminates the intended tax-break incentive to the landowner. Given these economic factors and the lack of sufficient incentives, the reliance on private land to equitably meet the demands of urban agriculture must be rethought, and some cities have begun to do so. In Oakland, CA, groups have pushed to allow edible plants in government parks and other green or landscaped

areas (Havens and Roman-Alcalá n.d.). In this way they have modified the uses of public land to value and support agricultural pursuits

Cities with declining land value, such as Detroit stand in sharp juxtaposition to L.A. in these cases urban agriculture is utilized as a way to implement resiliency and alleviate the detrimental effect of urban decay, developing a model of mutual benefits. The low land value has allowed for experimentation of land use and the proliferation of green space, uninhibited by the effects of market pressure to develop land in other ways (Paddeu 2017). Detroit passed an ordinance in 2012 legalizing urban agriculture in the city with only a few restrictions; this was directly in response to the urban decline they had experienced over the past decade. With urban decay, the decreasing land value is beneficial to the proliferation of agriculture and subsequent pressure to ensure governmental legislative support, contrasting the Los Angeles County model.

Considerations of the opportunistic nature of urban agriculture should be made when working to develop more land for agricultural pursuits. Gardening in the city can be found in a range of spaces despite minimal, if any, support. This versatility is a benefit as seen in San Francisco's agriculture sites, which range from being 120 square feet to 3 acres in size (San Francisco Bay Area Planning and Urban Research Association 2012). With this opportunistic nature it is important to also understand the impact that city codes can have when they do allow agriculture on underdeveloped land. People growing food in any available space means that at times the soil being cultivated is undesirable and may be contaminated with lead or other harmful materials detrimental to human health (Wortman and Lovell 2013). Thus there are limits to the prudent proliferation of agriculture, and places where it may be unwise can include being near "major transportation infrastructure,

gasoline service stations, superfund sites, and toxic release inventory registered sites" (Longcore et al. 2011). Unfortunately these sites are often the only obtainable areas for hopeful urban gardeners due to land prices as well as zoning.

Community land trusts present an opportunity for making land available to potential farmers or gardeners. They develop when a charitable organization work in tandem with a property-owner to make land available for conservation purposes. These conservation purposes can include the responsible care of natural resources or the maintenance of land for agricultural purposes. This methodology of land acquisition could make land available to a wider range of income brackets. Cities such as Boston, Philadelphia, and Providence, have all utilized land trusts within their urban agriculture landscape, protecting long-term viability of community gardens ("Establishing Land Use Protections for Community Gardens" 2009). The Los Angeles Neighborhood Land Trust (LANLT), which was recently funded a $29,000 grant from the People's Gardens Grant Program of the Federal Department of Agriculture to develop and maintain more gardens in underserved areas of Los Angeles, has created 25 parks since 2002 all across L.A. City ("Los Angeles Neighborhood Land Trust" n.d.) These Land Trusts can represent significant financial and property land holdings to develop for agricultural uses.

Food Justice

Due to decades of economic and social disenfranchisement land ownership is cut not solely along income lines, but predominantly racial lines as well. Ownership has been held "disproportionately in the hands of white populations, and the historical racial hierarchies that have restricted land ownership for non-whites continue to shape structures of land ownership today" (Havens and Roman-Alcalá n.d., 5). Through de facto

as well as de jure racist regulations of loans both privately as well as from the federal Housing and Urban Development agency, restrictive covenants, and racialized real estate practices steering people of color away from certain neighborhoods, segregation has become entrenched in American cities (Rothstein 2017). Racist zoning clauses were deemed unconstitutional in 1917, but prohibitory practices continued, incessantly blocking people of color from land ownership ("Planning and Zoning" 2013). The phenomenon of food deserts is a direct result of this disenfranchisement. Food deserts are places where nutritious food is scarce due to a multitude of factors making accessing proper nutrition inaccessible (Philips 2013, 13). These inequalities within the modern food system have "enormous impacts on the people and communities of Los Angeles…disproportionately impacting low-income communities and communities of color" ("Los Angeles Food System Snapshot: Executive Summary" 2013). With the industrialization and mass-production of food, all aspects of food production have become focused on the profitability of the market rather than equality of accessibility. The economics of grocery stores do not incentivize retailers to provide fresh and healthy food in poor neighborhoods who have a lower amount of capital to spend on groceries (Wright et al. 2016). All of these processes have led to grocery stores being found predominantly within affluent neighborhoods.

The Food Justice movement emerged directly in response to this system that only serves wealthy white patrons. Urban agriculture can be put into policy and practice to offer a platform of discourse as well as impact these racialized issues of land access, and food insecurity. A key asset of the urban agriculture movement is the creation of social networks centered on reversing the effects of systemic disenfranchisement, allowing people to gain political and social power through grassroots activism. The Tenderloin People's Garden in

San Francisco has become a key organizing tool expanding far beyond problems of unjust food production, and attacking larger systemic issues surrounding justice and economic capital (Havens and Roman-Alcalá 2016). However, as higher-income Americans co-opted local food, driving price points in the market much higher, it is unclear whether urban agriculture can sustain itself as a tool within the food justice movement. While urban agriculture, with appropriate public support in place has shown the potential to alleviate food insecurity, "it does not necessarily support food justice…and may even increase patterns of … marginalization" (Havens and Roman-Alcalá n.d., 3). With UAIZ in particular there are gentrification concerns as it allows newcomers the same opportunity to garden in competition with longtime residents. Legal and financial restrictions also limit many low-income people from accessing the benefits of this ordinance. Numerous case studies of for-profit as well as non-profit farms and gardens have "been led by mostly young, white non-residents in predominately Black and/or Latino neighborhoods… excluding people of color from participating in or reaping the benefits of such efforts" (Santo, Palmer, and Kim 2016, 9). Thus, the potential benefits of urban agriculture can be the most impactful on low-income communities of color, and yet those populations are simultaneous disenfranchised from accessing said benefits. The structural issues of inequitable resource distribution are not being addressed effectively through the current policy framework.

Zoning

Land use regulations have routinely been identified as another fundamental barrier to the expansion of urban agriculture and the assurance of agricultural security ("Establishing Land Use Protections for Community Gardens" 2009). Zoning deems what

usage is appropriate for any parcel in a municipality. It is clear that urban agriculture diverges strongly from its rural counterpart due to its "assimilation into the urban context" and complexities across the regulation of agriculture in the urban sphere hinder both pursuits (Pearson, Pearson, and Pearson 2010). Urban agriculture is usually unaddressed if not outright prohibited by zoning codes ("Cultivate Los Angeles" 2018). Checking to see if a proposed garden is in agreement with legal land use for a property is often the last concern amongst potential gardeners. However, this lack of awareness can erode land security, representing a garden's vulnerability to legal intrusion ("An Assessment of Urban Agriculture in Los Angeles County" 2013). It is important for cities to take a policy stance to support or deny agriculture in a decisive way, rather than supporting agriculture through rhetoric but not in the actual city plan. Currently, "no city in [L.A. County] has developed a clear, comprehensive policy on urban agriculture which is reflected by its municipal and zoning codes" ("An Assessment of Urban Agriculture in Los Angeles County" 2013, 27). Certain zones can be harmful to urban agriculture such as residential districts that restrict any commercial activities ("Planning and Zoning" 2013). The L.A. Department of Regional Planning expresses that a preventable factor in neighborhood deterioration "is the intrusion of illegal and objectionable uses" through "vigorous zoning" they intend to inhibit such intrusions. This ideology contributes to the notion of agriculture interfering with the neighborhood's success, and relegated the exclusion of agricultural use predominantly into the process of enforcing neighborhood nuisance complaints. Comprehensive zoning change can be a foundational step in promoting and integrating urban agriculture into the physical structure of the cityscape. New zoning in districts can mark specific areas within communities for cultivation, or include gardens as admirable aspects of new developments.

Aspects of the zoning code can hinder the operations of any given garden. These aspects can include the regulation of selling produce on site due to health and sanitation implications, or denying gardens the ability to erect structure such as greenhouses or storage sheds for tools on their property.

Zones also regulate the municipal water rates, differentiating between commercial, residential and industrial pricing tiers. Since gardens in both Los Angeles City and Long Beach are found in residential zones, the water rates for those areas are of particular concern. Small spikes in residential rates, which may be faintly noticed by a small single-family household, can mean financial crises for a community garden of any size. The L.A. Department of Water and Power (DWP) has been increasing its water rates each year to fix its pipelines, 20% of which are over 100 years old ("Notice of Proposed Water Rate Restructure" 2015)Rates for the four tiers of pricing differentials between 2017 and 2018 went up between 5% and 20% ("Schedule A - Residential" 2018). Having a specific zone for urban agriculture, or an understanding of the specific burden that such water rates place on community gardens, and subsequent alteration of the rate scheme, could alleviate this massive financial pressure.

V. METHODS

Overview

Given the differences in permissible land uses between Los Angeles County's eighty-eight different cities, I chose to focus on the effects of these differing zones and how urban agriculture is implicated in land use planning. I then focused on the two most populated

cities in L.A. County: Long Beach, which allows community gardens in residential zones, and L.A. City, which permits gardens it in residential zones as well as having a distinct agricultural zone within the city. I reached out to Cultivate L.A., a research project out of the University of California Los Angeles to assess urban agriculture in L.A., which provided me with their database of urban agriculture sites across all of L.A. County. Out of this database, I excluded Nurseries due to their commercial focus, which alters their zoned locations. I further narrowed my scope by excluding school gardens due to the unique complexities of school zoning procedures, and the sensitivity of schoolchildren as interview subjects. This resulted in a total of twenty-six Long Beach farms and gardens, and seventy-four in Los Angeles City. For the interview section of my research this pool, farms were also removed due to their scale and commercial nature.

Data Collection

Utilizing the contact information contained within the Cultivate L.A. database, interviews were conducted with garden managers across L.A. City and Long Beach. One who manages eight gardens across Long Beach, and four who work in L.A. City. In addition, one expert from the Los Angeles Food Policy Council was interviewed. Interviews were either conducted through a survey questionnaire, or as schedules permitted, over the phone. The phone interviews were semi-structured. This conversational nature of the phone interviews sought to explore awareness of zoning as a factor in the manager's perceived land security as well as allow for the emergence of new information respondents felt to be crucial to their experience. Survey questions attempted to replicate this through tailoring questions dependent on the garden manager in question. Interviews explored the

impacting of zoning through the lived experience L.A. County based gardeners, hoping to bring human knowledge and expertise into the body of work and analysis on L.A.'s working land use code.

The Cultivate L.A. database included the coordinates and addresses of each farm and garden which I geocoded using Geographic Information System (GIS) software to map them across L.A. County. Land use zones from the Southern California Association of Governments GIS portal were then laid over the agriculture location's point. Following the creation of this map I spatially joined the two data layers to attach a land-use type to each farm. To simplify the uses I combined similar land uses into 6 categories: Agricultural, Industrial, Parks, Residential, Retail/Commercial, and Schools. Gardens in the Schools category are not specifically educational gardens, thus they were part of the data set after School gardens were excluded. These 6 land uses, as well as a category for the 5 sites which fall into the category of Other were mapped across the County, with other areas remaining neutral and the farm sites were then input.

Data Analysis

Following the interviews recordings were transcribed and data was analyzed with Dedoose using the following codes: zoning, water challenges, trash collection prices, private/public land issues, community benefits, apathy, membership, stealing, land security, recommendations, government attention, general expenses, and gentrification. Upon coding interviews I drew out commonality amongst respondents and studied the frequency of the codes. From there, conclusions were drawn on the perceived impacts and

disparities in the lived experiences of gardeners due to the particular set of zoning regulations in their community.

Limitations

Managers from gardens in a range of land uses were interviewed, however not all uses are represented. No gardens were sampled from land being used specifically as a park, however gardens do rent from the Parks and Recreation department, nor were any gardens on educational parcel use interviewed, similarly, no gardens were on parcels for the generalized category of 'Other'. Only managers who had time for an interview, or could be contacted, or who were interested in the research may have returned requests to be interviewed. The small sample size is not robust enough to protect against any sort of response bias from sampling methodology. For these reasons, findings should be cautiously generalized.

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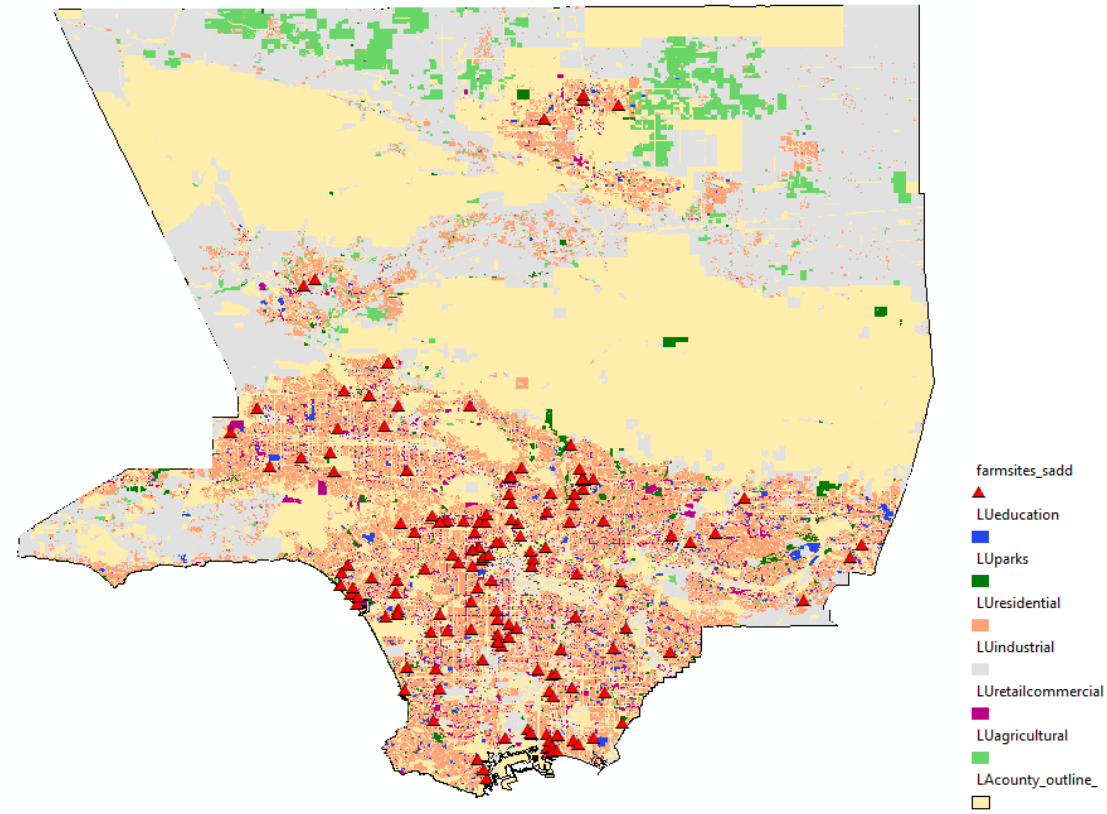
VI. FINDINGS and DISCUSSION

Farm Sites and Land Use

Community gardens are present in all six major land use categories across Los Angeles County, with the most, 54%, found in residential areas, compared to agricultural zones, which have the fewest, only 3%. This diverges from codified areas where agriculture is an allowable usage. This finding reinforces the notion of versatility and opportunism found within urban agriculture, not being too particular with regard to the type of parcel

on which is it operates. The spatial dispersion of farms sites across the County with the land use category of each parcel is displayed below in Map 1.



Map 1. Farm and Garden Sites Across L.A. County with Parcel Land Use

The dispersal of total community gardens and farms in the county, along with the gardens sampled, according to land use category is shown in Table 1 below.

Land Use Categories	Total L.A. County	Gardens Interviewed
Agriculture	6	1
Industrial	20	2
Parks	16	0
Residential	83	7
Retail/Commercial	15	2
Schools	12	0
Other	5	0

Table 1. Number of Garden Sites by Land Use Category

The Determinant of Land Security: Public vs. Private

Across twelve community gardens surveyed, in both Long Beach and Los Angeles, five were on privately owned land, and seven occupied public land. Out of the seven publicly owned sites, five were under the Parks and Recreation department, and one owned by the city following the termination of the Long Beach Redevelopment Association. This distinction between private and public land, was found to be a determining factor in what the respondents felt to be the major challenges to their gardens. Garden managers who work on privately owned land all of expressed feelings of land insecurity. One garden manager, who is also the landowner, shared her worries over "rising property values, and someone making [her] an offer [she] can't refuse". Another garden manager mentioned that he lives in constant fear of their landlord, the Los Angeles International Airport, suddenly deciding to no longer let them garden on the land. Worrying that landowners would take away their land at any time is a shared fear, as at best, respondents could hope for a one-

year warning before being evicted. No remarkable differences were found between Los Angeles and Long Beach gardens.

The mission of public land is to benefit the public good, as opposed to private land, which is bought, rented, and sold primarily for the accumulation of wealth. Thus the incentives intrinsic to these types of land implicate how they will be used and the subsequent sustainability of using them for gardening rather than for-profit endeavors such as residential or commercial development. The distinction between publicly owned and privately owned land could also be due in part to restrictions placed on publicly leased land, alongside the multitudes of programs which incentivize public land to be rented out for greenspace development. The Federal Lands to Parks Program, for example leases surplus federal land to local governments, typically at a $0 rental fee, who then rent the land to community non-profits for park and garden development ("Federal Lands To Parks" 2018). These programs may be ensuring land security through giving value and prioritization to gardens and parks, as opposed to relying on market-based solutions found within private developments. Public land usage is also inherently a more public and slow-moving affair, typically requiring public input prior to large developments, whereas private land can be sold or leased at a more rapid and independent way.

Major Challenges: Water and Trash Costs

For all gardens, the greatest threats to their cultivation included rising water and trash collection bills from the city, as well as high costs for beginning and maintaining a garden. One manager questioned the cities allowance of DWP to raise water rates, seeing it

as essentially a new tax on L.A. residents without the city having to debate it as such. He criticized DWP for mismanaging their finances and for what he saw as the city's disregard for how such increases would impact gardens in particular. Given than the majority of gardens and farms are in residential areas, they are likely being disproportionately impacted by rate increases. This experience of water as a substantial fiscal burden upholds the body of literature, which positions water resources as necessitating specific awareness.

Other challenges included feelings of apathy amongst their gardeners, a lack of security against theft, and concerns over gentrification. This last issue was typically brought up as garden managers outlined and analyzed their base. Elysian Valley Community Garden for example, rents to people across L.A, not just those in their proximal neighborhood, and struggled, particularly at their founding, to find support from their local community. This finding undermines our conceptualization of a community garden being for their actual community.

Observed Benefits from Community Gardens

Impactful social and emotional benefits alongside these challenges were expressed from all participants. Stated benefits as experienced by the respondents included increased sense of community through care and cultivation of a shared space, particularly for children in the neighborhood who may not have safe access to park space. Two gardens also rent to Girl Scout Troops, which bring the children to learn about nature, and growing your own food, both gardens had many stories about how much the children have cherished the gardens. Managers extolled the pride they had witnessed in gardeners when tasting food they had grown themselves, and how much such a feeling had percolated into

other aspects of their lives. One manager called gardening a “labor of love” since there isn’t always a clear financial incentive. All managers illustrated numerous stories of fellow gardeners being strengthened or revitalized through their work in the garden. Some gardens have developed community partnerships, such as a the Van Nuys Garden Center which has a mutually beneficial partnership with local stables, using horse manure for compost, and the stables no longer have to pay to have it removed from their property. The Elysian Valley Community Garden has become a compost hub for the area, so people can drop off their own home compost to help the plants grow. These relationships were found to be very important to farmers both in helping them achieve free or low-cost fertilizer amongst other resources, as well as integrating them within the community. The Van Nuys Garden Center at one point had a deal with their local Home Depot, receiving free or discounted seeds, however their connection had since left the farm, leaving the Garden Center manager quite disappointed. Many farm managers wished that they could cultivate more of these partnerships.

Garden managers expressed multitudes of advantages they has experienced from the process of gardening. With these many advantages felt by the gardeners themselves, it appears important to include these humanitarian benefits into assessments of the value in community gardening. A major challenge to managers were ongoing costs associated with the maintenance of their garden, thus financial incentives may be necessary. UAIZ is working to incentivize landowners to make more land available, but no respondents were aware of accessible structures to ensure financial incentives to these non-profit gardens, nor the plot-renting gardeners either, possibly contributing to the apathy within the community.

Aside from the personal gains from gardening and cultivating one's own food, the inter-garden network as well as the development of partnerships should not be ignored. Gardens offer a unique space within the urban core, as can be seen in the Elysian Valley compost hub, or the Van Nuys fertilizer agreement with stables. These community partnerships also have the opportunity to alleviate some of the expressed challenges. Through allying with for-profit companies, such as Home Depot, or stables financial burdens can be reduced. Gentrifications concerns can also be quite legitimized given the possible impact on home values when developing a garden in a low-income neighborhood. The localization of potential partnerships, such as bringing Girl Scout troops in, or being a compost hub, can have the benefit of naturally integrating the garden with their community. Hopefully reducing gentrification impacts on the area, providing the space to all.

The Minimal Implications of Zoning on Community Garden Operations

The topic of zoning only appeared in two interviews with representatives of gardens, one from each city. The L.A. respondent mentioned zoning with a limited understanding of how the topic had impacted her garden, saying they hadn't encountered any issues or blockages from the city based on land use. The fact that the majority of managers lacked awareness of zoning in general is could be due to the inaccessibility and complexities of the L.A. County zoning code. The Long Beach respondent referenced possible challenges that Long beach gardeners had faced with their body of code. He detailed a history of the Long Beach City Council's retroactive action to allow urban agriculture in residential areas following research findings that the vast majority of the city's community gardens were technically illegal according to city code. Outwardly, Long

Beach expressed committed support of urban agriculture, however the legislation was not present to support such actions. This respondent reflected that in this case:

[Zoning is an] issue we didn't know was an issue

highlighting the often unobservable implications of zoning and possible consequences from such a lack of acknowledging zoning. He feared that if city council hadn't made any alteration, he could have been easily evicted. In this case however, what could have developed into a problem for agriculture across the whole city was quickly and quietly dispelled. Thus, despite differences between L.A City and Long Beach codes, the outcome on gardens was essentially the same. Overall, zoning was not reportedly a great challenge to any of the gardens. Since the major challenges faced by garden managers are not strongly implicated by zoning codes the managers appear to have little reason to explore what their property may be zoned for.

VIII. RECOMMENDATIONS

<u>Make More Public Land Available</u>

Given the disparity between publicly owned and privately owned land in providing gardeners with land security, it is crucial for municipalities to make more public land available. Limited focus should be paid on how zoning is implicated in this process. Municipalities must have the proper legislation to allow public property to be developed for agriculture, and then economically value making such land into community spaces for cultivation. This recommendation has implications for the UAIZ, which is converting private land into urban agricultural sites, ensuring them five-year leases but no more. Private land cultivation comes with unique challenges, particularly the degradation of a

gardener's crucial sense of land security, so working through the scope of private land may not be the more beneficial methodology. If this private land avenue is to be successful, indeed even for public land leases to gardens to be success in providing land security to gardeners, they must both offer long-time and affordable leases. The timeline of these is unclear from this body of research itself, but the current metric of five-years is evidently not long enough for the nature of agriculture to prosper and provide enduring benefits to communities. Future research could explore what timeline would be most beneficial to gardeners compared to what the cities deem tenable. Explorations into how other factors of the city impact long-term land security, such as a detailed assessment of property values, fluctuations in population, or collection of actual garden rental costs compared across land-ownership could also be revealing.

Economic Incentives

The current economic framework for urban agriculture is not accurately providing incentives necessary to incorporate edible greenspace into the urban areas of L.A. City and Long Beach. The environmental, humanitarian and economic external benefits should be accounted for when developing new policies and incentives. This has implications for the current re:code L.A. City process as zoning is not an effective methodology for regulating nor enticing people to cultivate the cityscape. By acknowledging the unique benefits of agriculture on the community, lowered rates could be offered to those engaged with gardening. This would alleviate the disproportionate impact that rate increases have on garden finances and remove some of that economic burden. Finally, to buffer against urban agriculture's contributions to the gentrification process it would be prudent to ensure that

proposed gardens are effectively communicating with the community and that there is local support. Perhaps setting plot rental prices at an affordable rate for the neighborhood, or setting aside specific 'affordable plots' would be sensible to allow disenfranchised populations access to the benefits of urban agriculture.

IX. CONCLUSION

As urbanization increases, cultivating our cities has the potential to alleviate environmental and social burdens despite the lack of clear governmental support. As a key tool to urban revitalization, cities should develop structures and frameworks that encourage residents to utilize public land for gardening and properly incentivize those that desire to transform a private lot into an agricultural site. Implementations of these assistances, rather than devoting resources to a comprehensive overhaul of agricultural zoning, could increase gardener's perceived land security. Additionally, governments should allocate under-utilized public land for urban gardening, as linkages to social benefits are clear and robust.

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XI. APPENDIX

Appendix One: Policy Framework

National –

United States Department of Agriculture (USDA)
The USDA funds urban agriculture to improve welfare in communities

Community Development Block Grants (CDBG)
Grants awarded through Housing and Urban Development (HUD) and may be used by the City to fund community development project with the directive revitalization including economic development, improved community facilities and services. Priority must be given to activities that benefit low- and moderate-income persons. There are currently two CDBG projects in LA: Coronado Park, which is installing a garden, and the Easy Hollywood Gardening Achievement Center (Housing and Urban Development)

California –

Williamson Act/California Land Conservation Act of 1965
The intent of the Williamson Act was to safeguard peri-urban farms from the sprawl and development by insolating land against over-exaggerated tax assessment. This act had a large impact on rural area, protecting an estimated one third of all ranchers from losing their land. As of 2010, 16.6 million acres of farmland was held under this act. It is criticized for not addressing urban issues not effectively stifling urban sprawl. (California Legislative Information)

California Government Code 104.7 (a)
Gives the Department of Transportation the authority to rent out unoccupied or unimproved properties being held for future highway development to municipal governments on one year leases, at $1 per year. The municipal governments then must use such land for agriculture primarily, or recreational purposes as a second priority.

California Assembly Bill 2561
Ensures the right for tenants to grow edible plants for personal use or donation in portable containers as approved by their landlords. This bill also renders void any ruling in homeowners associations which may have prohibits the cultivation of a resident's front or back yard.

AB 551 Urban Agriculture Incentive Zoning (UAIZ)
Initially run in El Monte as the Urban Agriculture Initiative Program, UAIZ was promoted as a new and inventive tool for incentivizing the use of undeveloped or underdeveloped land for agricultural pursuits and advancing food justice goals. It allows landowners to enter

into a minimum five-year contract with renters for the purpose of cultivating food in exchange for a property tax break. Each County and City across California has to vote to adopt the bill before it takes effect ensuring that they develop particular plans for implementation; San Francisco was the first to do so. The proposal was passed unanimously in 2015 at the L.A. County level and has been a. (California Legislative Information)

AB 2561
The passage of this bill in 2014 legalized the cultivation of food on rented residential property by requiring landlord to permit all tenant's participation in their own personal gardening provided it is in portable containers. (California Legislative Information)

AB 1990
Passed in 2014, this piece of legislation requires the registration of community food producers to register with the city, and allows them to sell their products so long as they are in accordance with certain public health guidelines. It also stipulated the rights of legal enforcement to enter the property where such commercial activities are on going in response to food safety complaint notices. (California Legislative Information)

AB 2413: Farm to Fork
This bill identifies the disproportionate effects of healthy food insecurity on urban and rural vulnerable communities and sets a precedent of the role that government agencies must play in addressing these inequalities, particularly the Department of Food and Agriculture. Implicates the government in identifying food deserts and developing plans to make them food forests. (California Legislative Information)

<u>Los Angeles County Overview –</u>

Currently 33% of LA County cities have a designated agricultural zone, 41% are located within the San Gabriel Valley. 21 cities allow farms outright, none directly prohibit them, and 61 have no mention of farms. 51 cities permit the growing and distribution of fruits and vegetables, with agricultural activity being regulated by 44 different zoning codes overseen by the county, and 12 municipal codes across individual cities. Some noteworthy cities across LA include Beverly Hills, which does not permit any agricultural activity, and does not have any section of the city designated for agricultural pursuits. Bellflower is also phasing out their urban agriculture acceptance particularly through animal husbandry in which they do not allow the procurement of any animals to replace deceased animals which were previously legal. Avalon, Bell, Maywood and West Hollywood make no mention of most agriculture related activities. Gardena outlaws most agriculture than any other city in L.A. County, versus Rosemead, San Dimas, and San Fernando, which allow the most agriculture.

Appendix Two: Interview Questions

Garden Managers

- How long have you been involved in urban agriculture?
- What is the history of starting this garden? What is your role?
    - What challenges did you encounter at the beginning?
    - How were they resolved?
- How does your garden operate currently?
    - Do you distribute or sell any produce?
- Have you encountered zoning and/or other challenges with city ordinances?
    - How did you deal with them?
    - What was the outcome?
    - What programs do you feel the impact (good or bad) from?
- Are you aware of policies that relate to your specific garden? Can you describe them?
    - How did you learn about them aware of them? Were/are they accessible to you?
    - Do you feel any protections or assurances from the city/county/state government?
- What are the major threats to the continuation of your gaden today?
    - How much land security do you feel?
- What assistance would be the most beneficial to you and your garden?
- Are there any other issues your group is working on that I haven't mentioned?

Experts: Representatives from larger groups and organization both private and public

- What are common challenges faced by people trying to start an urban garden?
    - How do you think they could be solved?
- What is the government's responsibility in getting citizen's access to healthy food?
- What is your perception of the city government's commitment to Urban Agriculture?
- What is your opinion on the current urban agriculture zoning?
- What do you know about re:Code LA/what are you hoping to see as an outcome of that project?
- What are the major issues with agriculture zoning in LA?
    - How do you think these can be solved?