Title
Field Hand Labor in the Cybershire Imaginary and Urban Agrarian Questions Beyond the Metabolic Rift

Author
Williamson, Jesse Daniel

Publication Date
2023

Peer reviewed|Thesis/dissertation

Field Hand Labor in the Cybershire Imaginary and Urban Agrarian Questions Beyond the Metabolic Rift

By

Jesse Daniel Williamson

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Doctor of Philosophy

in

Environmental Science, Policy, and Management

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Alastair Iles, Chair
Professor Charisma Acey
Professor Michael Mascarenhas

Fall 2022

Abstract

Field Hand Labor in the Cybershire Imaginary
and Urban Agrarian Questions Beyond the Metabolic Rift

by

Jesse Daniel Williamson

Doctor of Philosophy in Environmental Science, Policy, and Management

University of California, Berkeley

Professor Alastair Iles, Chair

Early hopes for the dramatic and significant expansion of Urban Agriculture (UA) in the East Bay Area to help mitigate the metropolitan metabolic rift were not borne out. Using Critical Race Theory, Industrial Ecology, and Urban Political Ecology, I explore this phenomenon by examining the operations of four nonprofit UA organizations: Spiral Gardens, City Slicker Farms, Urban Adamah, and Urban Tilth. I conclude that a simultaneous valorization and stigmatization of farm work (Field Hand Labor) and the absence of engineered municipal material support infrastructure for agroecological urbanism (the Cybershire Imaginary) curtail food sovereignty, and yet these organizations nonetheless perpetuate politics and moral economies that suggest Chayanovian differentiation and repeasantization based partly in a legacy of Black Agrarianism (the Urban Agrarian Question).

Table of Contents

Table of Figures

Chapter 1 (Introduction): Rifts Beyond the Metabolic

Urban agriculture (UA) has been defined as "the growing of plants and the raising of animals for food and other uses within and around cities and towns, and related activities such as the production and delivery of inputs, and the processing and marketing of products."[1] UA has also been praised as having the potential to address a lack of access to healthy food, reclaim blighted land, catalyze the creation of various kinds of capital (both social and economic), and provide alternative employment opportunities.[2,3] As UA has become more mainstream in the United States, its scale has become more extensive - not just in the size of cultivated plots, but in the scope of inputs, infrastructure, and level of integration into city institutions. Early proponents framed UA as an attempt to bridge the "metabolic rift," a term originally used by John Bellamy Foster drawing from Marxian ecological analysis to refer to the linear, extractive nature of the relationship between cities and rural areas, as well as more broadly to combine "political economy, urban geography, agroecology, and public health"[4] into a single concept useful for analyzing the holistic impacts of UA on urban systems. Many UA advocates hoped that by localizing agricultural production and perhaps food processing, they could diminish this rift and increase awareness of related environmental, health, and social justice issues.

Thus, the expansion of UA found a ready vehicle in the rise of food politics in the US during the mid-2000s. Michael Pollan's Omnivore's Dilemma (published in 2006)[5] popularized what was already a growing social and political awareness related to the inadequacy of our food systems, and some actors looked to local sustainable agriculture to remedy them. When Michelle Obama planted a vegetable garden at the White House South Lawn in 2009 and subsequently declared in 2010 a goal to "eliminate food deserts in America completely in seven years,"[6] interest in, and funding for, locally produced food soared – and UA appeared poised to develop rapidly in the US.

In the San Francisco Bay Area alone, UA advocates imagined a thriving future production system if they could secure the two main needs identified: land access and policy support such as ag-friendly zoning and tax incentives. For example, UC Berkeley geographer Nathan McClintock published the report "Cultivating the Commons" in cooperation with food justice organizations HOPE Collaborative and City Slicker Farms, identifying "approximately 1,200 acres of undeveloped open space at 495 sites," of which at least 828 could be immediately cultivated.[7] There was excitement about the possibilities: the much-circulated study estimated these parcels could provide "up to 5 percent of the City's vegetable needs or 6 percent of its fruit

---

[1] René van Veenhuizen et al., eds., *Cities Farming for the Future: Urban Agriculture for Green and Productive Cities* (Silang, Philippines : Ottawa: RUAF Foundation : International Institute of Rural Reconstruction ; International Development Research Centre, 2006).

[2] Nathan McClintock, "From Industrial Garden to Food Desert: Unearthing the Root Structure of Urban Agriculture in Oakland, California," 2008.

[3] Jac Smit, Joe Nasr, and Annu Ratta, "Urban Agriculture: Food, Jobs and Sustainable Cities," *New York, USA* 2 (1996): 35–37.

[4] N. McClintock, "Why Farm the City? Theorizing Urban Agriculture through a Lens of Metabolic Rift," *Cambridge Journal of Regions, Economy and Society* 3, no. 2 (July 1, 2010): 191–207, https://doi.org/10.1093/cjres/rsq005.

[5] Michael Pollan, *The Omnivore's Dilemma: A Natural History of Four Meals* (New York: Penguin Press, 2006).

[6] "'You All Took a Stand,'" whitehouse.gov, February 20, 2010, https://obamawhitehouse.archives.gov/blog/2010/02/19/you-all-took-a-stand.

[7] Nathan McClintock and Jenny Cooper, "Cultivating the Commons an Assessment of the Potential for Urban Agriculture on Oakland's Public Land," 2010.

needs."[8] UC Berkeley agroecologist Miguel Altieri, highlighting production statistics such as those found in Cuban organoponicos,[9] projected an even higher proportion: "Consider Oakland, where an estimated 1,200 acres of land could feasibly be brought into production. 'Assuming a productivity of 5 kilos per square meter – one quarter of Cuban productivity – we could make 25 million kilos of food,' Altieri says. 'That's enough to feed 125,000 people.'"[10]

Food Policy Councils, like the one founded in Oakland in 2008, recognized barriers to the upscaling of UA such as access to such land, and in 2014 the California legislature responded by passing AB551, the Urban Agriculture Incentive Zones Act, which created a tax benefit for landowners to help free up the fallows. Multiple East Bay UA organizations found money available to buy their own farm sites around 2015, some with government assistance and massive budgets, and they trumpeted their plans for expanding local agriculture, including one organization that proclaimed a goal of making West Oakland completely self-sufficient in vegetable production. With a local 'commons,' municipal policy support, tax incentives, and organizational structures, a steady rise in the replication of this model and significant East Bay local food production was expected. Some began to talk seriously of "food sovereignty," community self-sufficiency via control of socially just and environmentally sustainable local food systems, and they linked their activities to La Via Campesina, a global movement for repeasantization.

However, a decade later, the hoped-for boom in local food production has not occurred, and the need for UA services from the local community still greatly overwhelms availability. Waiting lists for community garden spaces and CSA boxes are typically long, and the acres identified by McClintock et al. (2010) are still overwhelmingly not cultivated. On the large sites acquired by nonprofits, only a fraction is used for crop production, with the rest dedicated to facilities and recreation or beautification-oriented park infrastructure. A 2020 paper produced by an UC Berkeley research team that surveyed UA in the East Bay described one stakeholder who "suggested considering urban farms as museums, providing essential cultural and educational offerings to city residents (in addition to the important but relatively small total percentage of food delivered from urban farms to food insecure urban residents)."[11] Despite the same paper finding that "food security" was by far the top priority among the UA respondents they surveyed, there simultaneously seemed wide agreement that scaling up local food production to a significant proportion of needs that could be defined as "sovereignty" by local criteria[12] was not feasible.

As Tornaghi et al. (2021) found regarding Global North UA in general, "Urban agriculture was more distinctively a community-building experience, a health promotion strategy, or a form of leisurely reconnection with nature, rather than a way to produce substantial amounts of ecologically sustainable, and socially just, food capable of breaking the dependency

[8] McClintock and Cooper.
[9] Miguel A. Altieri et al., "The Greening of the 'Barrios': Urban Agriculture for Food Security in Cuba," *Agriculture and Human Values* 16, no. 2 (June 1, 1999): 131–40, https://doi.org/10.1023/A:1007545304561.
[10] "Urban Agroecology: A Lighthouse of Sustainability," Earth Island Journal, accessed October 26, 2022, https://www.earthisland.org/journal/index.php/articles/entry/urban_agroecology_a_lighthouse_of_sustainability/.
[11] Alana Bowen Siegner, Charisma Acey, and Jennifer Sowerwine, "Producing Urban Agroecology in the East Bay: From Soil Health to Community Empowerment," *Agroecology and Sustainable Food Systems* 44, no. 5 (May 27, 2020): 566–93, https://doi.org/10.1080/21683565.2019.1690615.
[12] Ana García-Sempere et al., "Food Sovereignty in the City?: A Methodological Proposal for Evaluating Food Sovereignty in Urban Settings," *Agroecology and Sustainable Food Systems* 43, no. 10 (November 26, 2019): 1145–73, https://doi.org/10.1080/21683565.2019.1578719.

from the 'food regime' (Friedmann and McMichael, 1989)."[13] The radical reframing of UA — from logistically viable farm sites creating community food sovereignty capable of replacing the corporate food regime, to "museums" where urban residents (a phrase that no longer reads as black and/or poor) can "enjoy their time digging in the dirt"[14] as a form of recreation — is a profound pivot away from the stated food sovereignty goals the UA sites were often explicitly founded to achieve. This shift, sometimes known in the nonprofit industry as "mission drift,"[15] begs further exploration. What happened, and what does it portend for the future of UA and food sovereignty?

Rifts as roadblocks: my research question via three lenses

Despite their superficial commonalities, deep rifts exist within food justice movements that they struggle to transcend. McClintock (2010) expanded upon the idea of the metabolic rift to argue that within the realm of food production and consumption, there are

> "three interdependent yet distinct forms or dimensions of metabolic rift: (i) ecological rift, which includes both the rift in a particular biophysical metabolic relationship (such as nutrient cycling) and the spatio-temporal rescaling of production that follows in its wake; (ii) social rift, arising from the commodification of land, labour and food at various scales and (iii) individual rift, the alienation of humans from nature and from the products of our labour."[16]

UA, it was hoped, would help ameliorate rifts in all three areas, but I maintain that in the East Bay UA context McClintock studied and that I describe, conflicts and contradictions respectively (i) inhibit the ability of UA to integrate fully with regional urban ecologies and material flow infrastructures, (ii) render the dominant model economically difficult to upscale without massive external funding via nonprofit development which (iii) (re)creates racial labor hierarchies as well as perpetuates labor shortages that inhibit the growth of UA. Without addressing these critical issues, scaling up production to provide a substantial portion of urban food needs in the US seems unlikely, and some urban farms may even be codifying or reproducing the very social inequities they are working to ameliorate. In the three chapters that follow, I use three fields, one for each issue respectively, to explore these questions, albeit in a slightly different order: Chapter 2 will address rift (iii), Chapter 3 will address rift (i), and Chapter 4 will address rift (ii).

Chapter 2 (Critical Race Theory) Field Hand Labor (FHL).

Critical Race Theory is a body of work that examines the racial structures of power, policy, and social institutions, and is appropriate for this dissertation because racial politics are deeply entwined into UA and its labor. One of the defining characteristics of most UA is high hand labor intensity; the dominant agroecological model requires several times the manual labor that mechanized conventional agriculture demands. However, the United States has a long history of

---

[13] Chiara Tornaghi and Michiel Dehaene, *Resourcing an Agroecological Urbanism: Political, Transformational and Territorial Dimensions* (Routledge, 2021).
[14] Siegner, Acey, and Sowerwine, "Producing Urban Agroecology in the East Bay."
[15] Peter Greer and Chris Horst, *Mission Drift: The Unspoken Crisis Facing Leaders, Charities, and Churches* (Baker Books, 2014).
[16] McClintock, "Why Farm the City?"

stigmatizing agrarian field labor, or placing it at the bottom of a labor, class, and skill hierarchy, while UA is simultaneously carried out by nonprofit organizations with their own "professionalized" labor hierarchies. Given this history, Chapter 1 explores how the racialized divisions of labor develop in East Bay UA and perpetuate the simultaneous valorization of UA hand labor and yet stigmatization of field labor, a concept connected to DuBoisian double-consciousness that I call "Field Hand Labor."

Chapter 3 (Industrial Ecology) - The Cybershire Imaginary (CSI).

Industrial Ecology (IE) is the application of closed-loop ecological models and processes to production systems. There has been little examination of how municipal infrastructure can be leveraged to support UA and its inputs (e.g. energy, water, nutrients) or how such expanded urban production in the East Bay would integrate into the municipal networks of resource distribution, or planning of urban and neighborhood design, which have their own developing political economies. Chapter 2 explores the material flows of local UA sites, how these connect to the ideal of self-sufficiency, and how these flows fit into the municipal material flows that surround them. I employ the concept of the "Cybershire Imaginary" to describe a new vision of urbanity that fully integrates agroecology into metropolitan institutions and structures.

Chapter 4 (Urban Political Ecology) - the Urban Agrarian Question (UAQ).

Urban Political Ecology (UPE) is a field that examines urbanization as a process with political, economic, ecological, and social dimensions. It has become common within social science examinations of agriculture to use such a political economy lens, grounded in Marxist theory heralding back to the original agrarian question, dealing with the role of the peasantry in agriculture. Contemporary UA is full of contradictions and Chayanovian differentiation; those who engage in it do so for reasons that span a wide ideological range. Some intend it as de-accumulation or cultivating of the commons that directly counters the capitalist accumulation of land and food; others operate within a capitalist framework, generating business profit. Many more, perhaps most, operate somewhere in between, in a moral economy that by urban necessity intersects with capitalism, but also works in various ways to ignore and even subvert market logic. This has been the case with the global food sovereignty movement and advocacy for repeasantization, as well as the history and legacy of Black agrarianism that is carried forward in many UA projects. They all become subject to this long running agrarian question regarding the nature of agriculture under capitalism, and so in Chapter 3, I explore the intersection of these issues, a phenomenon I term the "Urban Agrarian Question."

Methods

All three chapters examine these dynamics at the following East Bay Area UA sites:

- **Spiral Gardens Food Security Project (Spiral)** was originally founded in 1993 as a project of the Agape Foundation for Nonviolent Social Change and in 2003 and licensed

with the City of Berkeley to steward 0.5 acres of land comprised of "two vacant city-owned lots on the former Santa Fe Railroad line."[17]

- **City Slicker Farms** was founded in 2001 to "empower West Oakland community members to meet the basic need for fresh, healthy food by creating sustainable, high-yield urban farms and backyard gardens." After operating for years on several sites, they consolidated at the 1.4-acre West Oakland Farm Park.
- **Urban Tilth**, founded in 2005 and located in Richmond, endeavors to use "agriculture in west Contra Costa County to help our community build a more sustainable, healthy, and just food system."[18] Operating for years at several schools and on City of Richmond parkland, in 2016 they leased and then in 2021 bought a 3.13-acre site that became the North Richmond Farm and their headquarters.
- **Urban Adamah**, founded in 2010 and located in Berkeley, is an "educational farm and community center" that "integrates the practices of Jewish tradition, mindfulness, sustainable agriculture, and social action to build loving, just, and sustainable communities."[19] Beginning at a donated 1.5-acre West Berkeley site, they bought and moved onto a 2.2 acre site in North Berkeley in 2016.

Initially, I contemplated research in the Midwest, a region with particular geographies and racial political economies that I thought made UA an intriguing possibility. I visited Will Allen's Growing Power operations in both Milwaukee and Chicago, as well as D-Town Farms in Detroit, already now the subject of excellent scholarship.[20] I instead settled on the Bay Area, in part because I grew up here, and wanted to better understand the processes that shaped my hometown. What the initial informational research between these two regions made clear is that while both areas struggled with food apartheid in their own ways, there were also innumerable differences that made comparison difficult. While some of the findings may translate and be generally applicable – as with the role of nonprofits in UA growth – others, such as material flows in places with vastly different weather, or racial dynamics in cities with very different demographic patterns, may not be as generalizable.

I began with informational scouting at various sites, including volunteer farm labor at the People's Grocery Sunol Ag Park in 2009. While taking classes at UC Berkeley over the next few years, I performed similar volunteer work and took tours at various East Bay area and San Francisco UA operations, to get a sense of their work, participants, and politics. From 2014-2015, I consulted for a small grant writing group exploring the possibilities of starting a nonprofit called CityFarmshare, which would network East Bay UA people and resources. During this time, we met biweekly with various UA stakeholders, including funder foundations. During Fall and Spring of 2015 and 2016, I spent several hours per week at the Spiral Gardens as well as the original City Slicker and Urban Adamah sites, varying the site by week. The advent of the COVID-19 pandemic decreased this access substantially. Sites still had volunteer processes, but with restrictions that in some cases made the opportunity cost higher, or restricted participation entirely. Examples include a supposedly mandatory volunteer orientation at City

[17] "Spiral Gardens Community Food Security Project, Berkeley, CA," accessed October 26, 2022, http://www.spiralgardens.org/about.html.
[18] "Urban Tilth," accessed February 15, 2018, http://www.urbantilth.org/.
[19] "Urban Adamah: Website," accessed February 15, 2018, https://urbanadamah.org/.
[20] Monica M. White, "Environmental Reviews & Case Studies: D-Town Farm: African American Resistance to Food Insecurity and the Transformation of Detroit," *Environmental Practice* 13, no. 4 (2011): 406–17.

Slicker (held only once per month) before being able to volunteer on the farm—both to address COVID policies and give people a primer on the organization's role in "Food Justice,"[21] or a cap on the number of volunteers allowed at Urban Tilth's North Richmond Farm which uses Eventbrite to register volunteer help and prohibits drop-ins (thus rendering online access a perceived requirement). Urban Adamah, during one summer where a youth summer camp was operating, required background checks for prospective volunteers – a bar that practically guaranteed minimal outside participation.

I have spent the majority of the time gathering data at Spiral Gardens, the smallest in both spatial and budget size and most in need of labor, as well as the one most rooted in "my" current local community of Southwest Berkeley, spending hundreds of hours at the site over the course of approximately five years and gathering field data primarily as a participant observer. I spent several weekends volunteering for Urban Tilth at their Richmond Greenway site, and several more as labor at their recently acquired North Richmond Farm. I spent two summers as part time volunteer labor at Urban Adamah's West Berkeley site (see above), and several weekday volunteer sessions at their newer North Berkeley Site in 2022. I have also made ad hoc visits over the years to take photos and get a feel for the changes since my absence. Far from an intensive and short-lived snapshot approach to data gathering, as is typical in fieldwork, I have used a longitudinal analysis, gathering snippets of data over a long period of time, and watching the organizations and their sites morph and/or change leadership. This has given me a more in depth understanding of organizational lifespans and expansion/contraction phases, as well as how they multiply their paid hand labor positions (or do not), and how they respond to the dramatically shifting demographics gentrification has produced in some of their communities. Given that each study uses a different theoretical foundation as a lens, the methods vary slightly, and so will be discussed further briefly within each Chapter.

[21] "Volunteer – City Slicker Farms," accessed February 20, 2022, https://www.cityslickerfarms.org/volunteer/.

Chapter 2 (Critical Race Theory): Field Hand Labor.

Introduction

The dissertation introduction discussed the altered and scaled down expectations regarding the rise of East Bay Area Urban Agriculture (UA). In this chapter, extending Critical Race Theory work focused on food activism generally and UA specifically, I argue that UA in the East San Francisco Bay Area has stagnated in part because of the intersection between a persistent racialized hierarchy of agricultural labor roles, and the nonprofit organizational culture and social service modality that urban farms have increasingly adopted. (In my other chapters, I investigate missing resource flows and lack of material and technical infrastructure for large-scale production, as well as a weakly supportive political economy for urban peasantization, as additional explanations). Together, historical labor hierarchies and organizational cultures define who works at urban farms, what kinds of labor they do, and the value attributed to labor for production purposes. As a result, there is now increased access to land and expertise, as well as supportive policy gains – but a shortage of a very particular kind of labor prevails, hampering the ability of farms to expand food production. I therefore ask in this chapter: how are UA labor roles and practices racialized and invisibilized, valorized and stigmatized in the East Bay, and how do these phenomena shape the development of UA as a vehicle for food sovereignty?

UA organizations rely largely on volunteer workers for their agroecological, exclusively hand-labor ground operations. Moreover, in some UA research and practice that quantifies sovereignty, labor is subsumed within an energy category, which includes people, animals, and energy capture. That the people who provide the labor have been reduced to an energy source suggests how invisibilized and depoliticized the labor is assumed to be – in some ways, taken for granted – as people formulate such models. In turn, the management structure of farms — namely their institutional modalities and goals — have been framed as formations of whiteness, often even when staffed by people of color.[22] They mostly follow a typical nonprofit corporate hierarchy borrowed from capitalist organizations: an executive director and board of directors, assisted by 'managers' and 'associates,' with work on the ground carried out by 'coordinators'.

These titles and organizational hierarchies suggest that farms privilege and valorize the creation of "white collar"[23] non-manual labor positions as manifestations of social justice, over those engaged in field work. To explore this intersection of farming labor, nonprofits, and whiteness, I conduct a comparative analysis of four UA sites in the East San Francisco-Oakland Bay Area. This region has a long history of activism, farmworker organizing, pioneering food institutions and policies, and a plethora of UA gardens and organizations of varying sizes and constituencies. Many have extensive connections to local community and professional groups, businesses, K-12 schools, and academia. I have chosen four cases of UA/Food Justice nonprofits that have all grown and developed in this local context, and yet differ in fundamental ways.

---

[22] Nuri Heckler, "Whiteness and Masculinity in Nonprofit Organizations: Law, Money, and Institutional Race and Gender," *Administrative Theory & Praxis* 41, no. 3 (July 3, 2019): 266–85, https://doi.org/10.1080/10841806.2019.1621659.

[23] Jacquelyn Southern, "Blue Collar, White Collar: Deconstructing Classification," *Class and Its Others*, 2000, 191–224.

- **Spiral Gardens Food Security Project (Spiral)** was originally founded in 1993 as a project of the Agape Foundation for Nonviolent Social Change and in 2003, settled in South Berkeley on "two vacant city-owned lots on the former Santa Fe Railroad line."[24]
- **City Slicker Farms** was founded in 2001 to "empower West Oakland community members to meet the basic need for fresh, healthy food by creating sustainable, high-yield urban farms and backyard gardens."
- **Urban Tilth**, founded in 2005 and located in Richmond, endeavors to use "agriculture in west Contra Costa County to help our community build a more sustainable, healthy, and just food system."[25]
- **Urban Adamah**, founded in 2010 and located in Berkeley, is an "educational farm and community center" that "integrates the practices of Jewish tradition, mindfulness, sustainable agriculture, and social action to build loving, just, and sustainable communities."

Methods

I used a mixed methods approach combining ethnographic analysis via direct participant observation alongside semi-structured interviews with participants at each site, supplemented by archival records such as organizational annual reports, municipal meeting minutes and documents, promotional materials, emails, news articles, and a large corpus of social media postings, web pages, and digital web archives. From 2010 up to the present, I have conducted multiple site visits in an ad hoc process through volunteering as labor, and connecting via panels, public meetings, and social networking.

Notes on researcher positionality

Standpoint theory tells us our own positionalities are the lenses through which we parse the world, and as researchers affect our place in the process itself. My own personal, internal identity as the son of a self-identifying Black man and white woman has changed over the years, beginning with 'mixed' as a child, and shifting to Black for my college and early adult life. As my political knowledge and sense of self evolved, my identity now hovers at something that transcends census categories but intersects with political strategy drawing from Malcolm X post-Hajj and Frantz Fanon in later years. Because of my lighter skin (which would once have been called 'high yellow'), my public racial identity can be nebulous, depending on both observer bias and choices or mannerisms on my part such as verbal and physical code switching. I have been seen as unquestionably Black by many (e.g. as president of my undergraduate Pan African Student Union), but also Latinx, and apparently even once passed as Caucasian, based on what was checked off without my knowledge on my card by the phlebotomist at a blood drive. This malleable and somewhat uncategorizable positionality not only affects my own personal attitudes about reifying identity, but also obviously affects people's reactions to me as a data gatherer, based on their own perceptions.[26] When I first contacted the main office of one UA site where I

[24] "Spiral Gardens Community Food Security Project, Berkeley, CA."
[25] "Urban Tilth."
[26] H. Richard Milner, "Race, Culture, and Researcher Positionality: Working Through Dangers Seen, Unseen, and Unforeseen," *Educational Researcher* 36, no. 7 (October 1, 2007): 388–400, https://doi.org/10.3102/0013189X07309471.

had spent a number of weeks volunteering, their office manager told me that unless I was taking on one of the research projects they had designated as their "needs," they did not have time to indulge my questions. Another, when asked what their research needs were and how I could help, laughed and responded: "I'll have to research that." This was in contrast to the extremely welcoming response from a manager at another farm, who thought what I was examining was important data, and expressed a desire to make it a more regular form of their own analysis - and allowed me the use of their office copier and run of their files to collect records. I may never know what factors led to this disparate response: my positionality, theirs, the organizational cultures, the individuals I interacted with, or as is likely, some combination of them all. Nonetheless, it highlights how the research process itself is as much a socio-political endeavor as an academic one. In the end, the categories that the communities themselves identify with, and as, are my guiding framework, since they create the cultural fabric in which UA operates. In this milieu, UA locations may be deemed "appropriate" or not depending on their demographics, white volunteers were offered training on "how to be a white ally," and racial optics are important in funding and legitimacy.

In the literature review section, I will first recount a history of double-consciousness and its expression as valorization/stigmatization within the racialized farm field labor of the US. I will then highlight literature concerning the expanding world of nonprofit organizations, and their furtherance of whiteness both in structure and function. Lastly, I will review domestic UA literature as the intersection between farming and nonprofits. Here, in recent years, Critical Race Theory has been applied to food scholarship through discussions of whiteness and how it shapes the economics and activities within the "alternative food system," but with a relative absence of the issue of labor. This is a notable void in the literature, considering that without the labor to put sovereignty into practice, the food justice it intends to deliver will remain aspirational and theoretical.

Critical Race Theory: A Guide out of Triple-Stage Whiteness

"Though he occasionally associated with more militant Negroes at home and overseas, he so thoroughly subscribed to the 'White Man's Burden' of leadership and authority that, in seeming forgetfulness that he was Negro, he actually took up the burden himself."[27]

–Louis Harlan, "Booker T. Washington and the White Man's Burden"

"Guide you out of triple-stage darkness
When it get dark again, then I'ma spark this
microphone, 'cause the heat is on, you see smoke
And I'm finished when the beat is gone— I'm no joke"

–Rakim, "I Ain't no Joke"

Critical Race Theory arose from a set of Critical Legal Theory scholars who were exhausted with White legal progressivism based in 'reformist' civil rights era equal access doctrine, and in general "liberal legal thinkers' failure to address the constrictive role that racial ideology plays in the composition and culture of American institutions."[28] Those scholars began a loosely defined academic movement "committed to a program of scholarly resistance"[29] against such constriction, producing a body of scholarship that branched out into many areas. CRT has since been described as a movement, as its expansion into a variety of academic disciplines, and connections to and presence in education theory in particular, has received national attention in recent years. Like "BLM" (Black Lives Matter), for right wing ideologues CRT became almost meaningless political shorthand to encapsulate everything they feared or opposed regarding racial issues in general.[30]

CRT theorists maintain that racialized structures of power are ubiquitous and pervasive, inform the truisms around which much of civic life is oriented - and are therefore naturalized, accepted by most as quotidian and perhaps even inevitable. As Rollock framed it, "CRT theorists endeavour to expose the way in which racial inequality is maintained through the operation of structures and assumptions that appear normal and unremarkable."[31] I center this definition because it describes very well the racialized social positioning of field labor, which is naturalized in that it has become seen as mundane and normal, even inevitable. This inevitability has been framed in a Social Darwinian sense, as with Herbert Spencer's writings about the inevitability of class stratification, or Charles Murray's "Bell Curve" screed about the futility of programs of social uplift. It has been framed in the historical materialistic sense, with Marx's "Agrarian Question" arising only when the expected extinction of the peasant farmers he likened

[27] Louis R. Harlan, "Booker T. Washington and the White Man's Burden," *The American Historical Review* 71, no. 2 (1966): 441–67.
[28] Kimberlé Crenshaw, *Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory, and Antiracist Politics [1989]* (Routledge, 2018).
[29] Derrick A. Bell, "Who's Afraid of Critical Race Theory," *University of Illinois Law Review* 1995, no. 4 (1995): 893–910.
[30] Chelsey Cox, "Critical Race Theory: The Narrative Winning Local Elections for Conservatives," USA TODAY, accessed March 23, 2022, https://www.usatoday.com/story/news/politics/2022/02/12/critical-race-theory-local-elections/6519348001/.
[31] Nicola Rollock and David Gillborn, "Critical Race Theory (CRT)," *British Educational Research Association*, 2011.

to "sacks of potatoes" failed to occur as predicted, or when mechanization and collectivization did not fully subsume small scale agroecological practice, led in the Black Agrarian sense by DuBois's "talented tenth." It has been framed in the capitalist economic sense, with the codification into law separate (and unequal) sets of rules for farm labor specifically, the economist's hegemonic classification of such work as either low or unskilled, and thus its placement at the bottom of both a theoretical and brutally reified scale of worker rights and human-generated value.

My conclusion is that the undesirable nature of field labor as an occupation (whiteness in farming), white-collar-valorizing "skill" hierarchies and nonprofit structures (whiteness in nonprofits), and their combination/intersection in urban food system activism spaces (whiteness in UA) are hegemonic and largely unchallenged, thus producing cognitive dissonance within a great many of those engaged in UA who struggle with the ensuing double consciousness of this simultaneous valorization and denigration.

> ***"It is a peculiar sensation, this double-consciousness, this sense of always looking at one's self through the eyes of others, of measuring one's soul by the tape of a world that looks on in amused contempt and pity."***[32]

W.E.B. DuBois famously coined the phrase 'double-consciousness' to communicate the precarious, torn psychology Black Americans experience as they view their own undeniable worth and value simultaneously through the hegemonic and belittling gaze of the oppressor. I posit that manual labor on farms occupies an analogous, racialized duality within the collective US psyche; it is simultaneously valorized and stigmatized in terms of its skill, status, and value.

Multiple cultural narratives have long valorized manual farm labor as not just morally, environmentally, and socially valuable, but revolutionary. While servitude-based and manifest destiny-driven, Jeffersonian Agrarianists valorized the bucolic farm life as an antidote to, as they framed it, the vice and miasma of the increasingly crowded, industrial, mercantilist cities. "Cultivators of the earth are the most valuable citizens," Jefferson argued in a 1795 letter to John Jay. "They are the most vigorous, the most independent, the most virtuous, and they are tied to their country and wedded to its liberty and interests by the most lasting bonds."[33] Agrarian geographer Adam Calo shows how these idealized 'yeomen' are "the moral protagonists of such key narratives as American agrarianism, the rural idyll, and the heroism of westward expansionism."[34] A critical part of this yeoman ideal was "the yeoman farmers' ability to freehold: 'The crux of the matter is the ownership of land, which constitutes independence.'"[35] This was due not only to having a source of self-sufficiency, but also being considered a full civic actor in the US context as a White male landowner. Agrarian economist Chayanov noted that Russian small farmers would self-exploit to maintain their family land, driven in part by their love of the freedom and self-sufficiency their land provided.[36] This sentiment was also exalted in the US from the 18th century onward; today some academics are even referred to as

---

[32] W. E. B. DuBois, *The Souls of Black Folk* (Arc Manor LLC, 2008).
[33] "Founders Online: From Thomas Jefferson to John Jay, 23 August 1785" (University of Virginia Press), accessed October 17, 2022, http://founders.archives.gov/documents/Jefferson/01-08-02-0333.
[34] Adam Calo, "The Yeoman Myth: A Troubling Foundation of the Beginning Farmer Movement," *Gastronomica* 20, no. 2 (May 1, 2020): 12–29, https://doi.org/10.1525/gfc.2020.20.2.12.
[35] Calo.
[36] Alexander V. Chayanov, "The Theory of Peasant Economy, D. Thorner, B. Kerblay and REF Smith" (Manchester University Press, Manchester, 1986).

"'neo-Chayanovians,' who see the potential power of the smallholder's moral economy and yield efficiency to stabilize food production and resist class differentiation (van der Ploeg 2014)."[37]

The valorization of farm labor is not limited to white agrarians. Fannie Lou Hamer and the Freedom Farmers exemplified a long history of cooperative Black Agrarianism that provided food, resources, income, and community solidarity as an alternative to the deprivation and discrimination of the white economy.[38,39] The United Farm Workers movement changed the face of agricultural production in California during the 1960s and 1970s, and Cesar Chavez in particular gained new recognition and respect for the lives and labor conditions of California farmworkers. Since the 1990s, La Via Campesina, a global peasant farmer movement, has organized around a proud identity as the labor that feeds the planet, given "more than 70 percent of the world's food is produced by small family farms on less than 25 percent of the world's arable land,"[40] and has been closely associated with movements to redistribute land to the world's farmworkers. La Via Campesina calls for 'food sovereignty'—a concept that, while shifting over time[41], has always revolved around creating local food systems based in seeking social and ecological justice, and promotes agroecological forms of agriculture that almost exclusively use hand labor in a rejection of the capitalization, mechanization, and chemical intensification that constitute the "input treadmill."[42],[43] Even Urban Tilth, a local manifestation of the food sovereignty movement with its mission of fostering a "sustainable, healthy, and just food system" in West Contra Costa county communities of color, included the Jefferson quote about cultivators of the earth on its webpage in 2012, under the title "Food for Thought."[44]

Yet from the beginnings of settler colonialist capitalism in the 1600s to the present, agricultural field workers have also been among the most exploited and denigrated of all labor. Not only has field work been typically performed by those at the bottom of a social caste system (including US chattel slavery)[45] but it is also placed at the bottom of a contrived and racialized skill hierarchy that serves as a flimsy euphemism for intelligence, and by extension labor value.[46] This discourse valorizes even the most menial 'white collar' or non-manual (more recently 'knowledge economy'[47]) workers as 'skilled labor,' and trained 'blue collar' or manual labor as

---

[37] Adam Calo, "Who Will Do the Labor in an Agroecological Transition?," *Agroecology and Sustainable Food Systems* 45, no. 10 (November 26, 2021): 1582–85, https://doi.org/10.1080/21683565.2021.1952364.
[38] Monica M. White, *Freedom Farmers: Agricultural Resistance and the Black Freedom Movement*, Justice, Power, and Politics (Chapel Hill: University of North Carolina Press, 2018).
[39] Priscilla McCutcheon, "Fannie Lou Hamer's Freedom Farms and Black Agrarian Geographies," *Antipode* 51, no. 1 (2019): 207–24, https://doi.org/10.1111/anti.12500.
[40] Eric Holt-Giménez, *A Foodie's Guide to Capitalism: Understanding the Political Economy of What We Eat* (NYU Press, 2017).
[41] Raj Patel, "Food Sovereignty," *The Journal of Peasant Studies* 36, no. 3 (July 2009): 663–706, https://doi.org/10.1080/03066150903143079.
[42] Steve Gliessman, Harriet Friedmann, and Philip H. Howard, "Agroecology and Food Sovereignty," July 30, 2019, https://doi.org/10.19088/1968-2019.120.
[43] Miguel A. Altieri and Peter Rosset, "Agroecology and the Conversion of Large-Scale Conventional Systems to Sustainable Management," *International Journal of Environmental Studies* 50, no. 3–4 (1996): 165–85.
[44] "About Us | Urban Tilth," May 2, 2012, https://web.archive.org/web/20120502075419/http://www.urbantilth.org/aboutus/.
[45] Martin Ruef and Ben Fletcher, "Legacies of American Slavery: Status Attainment among Southern Blacks after Emancipation*," *Social Forces* 82, no. 2 (December 1, 2003): 445–80, https://doi.org/10.1353/sof.2004.0024.
[46] Samuel Bowles, Herbert Gintis, and Peter Meyer, "EDUCATION, IQ, AND THE LEGITIMATION OF THE SOCIAL DIVISION OF LABOR," *Berkeley Journal of Sociology* 20 (1975): 233–64.
[47] Steven Brint, "Professionals and the Knowledge Economy': Rethinking the Theory of Postindustrial Society," *Current Sociology* 49, no. 4 (2001): 101–32.

either 'skilled' or 'semi-skilled' - but even when skilled, still managed by white collar workers in a labor hierarchy. At the bottom are some forms of manual labor and the people who perform it, field labor in particular, which are designated low-skilled or even, amazingly, "unskilled."[48,49]

Examples of this dualistic mindset can be found throughout the colonized Western hemisphere. In Chiapas, Mexico, conquistador-descended Ladino farm owners eschew farm labor and do not desire that their children follow in their footsteps, preferring that they move to cities for white collar jobs because most manual labor is carried out by Indigenas, darker-skinned descendants of indigenous Americans.[50] A similar issue exists in Cuba, which has recently reorganized agricultural production from conventional to agroecological, involving rural agroforestry and urban organoponicos. The stigma attached to a life of field labor in a country which, pre-revolution, served as a plantation state for the United Fruit Company is such an obstacle that youth in general shun the work for much lower paying urban white-collar positions. This hierarchy maps to race as well, with the lighter-skinned Cubanos, much like the lighter-skinned Ladinos, overwhelmingly represented among the ranks of managerial work and farm ownership[51], but discouraging their children from engaging in farming as a profession, with the actual planters and harvesters much more likely to be Afro-Cubanos.[52,53] Holmes (2007) found similar hierarchies among fruit pickers in Washington State, so rigidly and socially enforced that he recalls that "several people, including town officials, threatened to put me in jail or kidnap me because I must be a spy or simply because "no deben estar gabachos aquí (white Americans should not be here)"."[54] He concludes US agriculture is built on "the segregation of labouring bodies by perceived ethnicity and legality into a hierarchy that, in turn, produces correlated suffering. Such inequalities are effectively naturalized through the symbolic violence enacted by discrepant hiddenness of bodies, perceived bodily differences, ethnic concepts of pride, and imputed humanity based on body position."[55]

This long history of analogous double-consciousness in field labor, to be explored in more depth below, shapes the development of local UA. The manual labor itself – tilling, planting, harvesting – is strongly valorized as a component of realizing food justice, if not food sovereignty — and yet operations are still organized so that aspects of old hierarchies persist, such as UA nonprofit organizational growth prioritizing the creation of non-manual administrative jobs and titles. This situation might not be surprising, even naturalized, to some given the long-standing valorization and racialization of skilled white-collar work over 'unskilled' manual labor and naturalization of this hierarchy in practically every sector of the economy. But these framings raise the question of how UA labor hierarchies are structured and racialized, and how furthering food sovereignty will be achieved when few actually want to perform field labor as a career.

---

[48] Marcelo Mello, "Skilled Labor, Unskilled Labor, and Economic Growth," *Economics Letters* 100, no. 3 (2008): 428–31.
[49] Southern, "Blue Collar, White Collar."
[50] Aaron Bobrow-Strain, *Intimate Enemies* (Duke University Press, 2007).
[51] Alejandro De la Fuente, "Recreating Racism: Race and Discrimination in Cuba's 'Special Period,'" *Socialism and Democracy* 15, no. 1 (2001): 65–91.
[52] De la Fuente.
[53] "Notes from Cuban Field Research," 2010.
[54] Seth M. Holmes, "'Oaxacans like to Work Bent over': The Naturalization of Social Suffering among Berry Farm Workers," *International Migration* 45, no. 3 (2007): 39–68.
[55] Holmes.

Whiteness and Farming Part 1: Slavery and Black perceptions of field labor

"Picking cotton requires skill and experience and great powers of endurance."[56]

An interesting difference exists between the UK and US definitions of the term 'field-hand' on the Oxford online dictionary "Lexico."

> *UK: A person, especially a US slave, employed as a farm labourer.*
> *US: A person employed as a farm laborer.*

While one can speculate as to why the US definition does not include the reference to US slavery, what it reinforces is that the term 'field-hand,' used commonly in the US to refer to agricultural labor, is associated very closely—indeed, "especially"—with the Peculiar Institution, and has a particularly perverse resonance in African American history as representing a social nadir, even among the oppressed.

The social formation of the US colonies placed manual labor at the bottom of the hierarchy, with poor/convicted whites and the first Africans to come to Jamestown in 1619 legally in the realm of indentured servitude.[57] Treatment of the two groups immediately diverged, both legally and socially, with white manual laborers still an underclass (the Irish in particular, owing to a longstanding history of Anglo Saxon colonization and racialization under early capitalism)[58], but worlds above the dehumanized 'property' that Africans would become under chattel slavery.[59] Both populated not just the ranks of domestic servants, but also the majority of field labor, or anything considered 'beneath' the time and effort of more 'skilled' workers, namely 'tradesmen' or 'craftsmen,' such as carpenters, blacksmiths, and engineers. Thus, the rise of US South agrarian plantation farming that would come to dominate both economic formation and the nature of farm labor in the US social hierarchy over the next two centuries was, from the beginning, built on racialized power relationships via violent subjugation. Field labor was a social role designated for Black workers, in part because it was considered 'unskilled,' and thus most fit for those whose intelligence, and indeed very, humanity was disputed by those exploiting their purportedly nonexistent agricultural skills.

Galenson (1981) clearly articulates this typical framing: "Both in the West Indies and to a lesser extent the southern mainland colonies a demand arose for white workers not only to perform skilled artisanal jobs, but also to work as estate managers and overseers of the slaves," and "as the demand for labor grew in the staple-producing colonies of the late seventeenth and eighteenth centuries, their unskilled labor forces tended increasingly to be made up of black slaves, while white workers performed the skilled trades."[60] We can also see, in the emergence of

---

[56] Carey McWilliams, *Factories in the Field: The Story of Migratory Farm Labor in California* (University of California Press, 2000).
[57] Matthew Desmond, "In Order to Understand the Brutality of American Capitalism, You Have to Start on the Plantation," *New York Times* 1619 (2019).
[58] Cedric J. Robinson, *Black Marxism: The Making of the Black Radical Tradition* (Chapel Hill, N.C: University of North Carolina Press, 2000).
[59] Cheryl I. Harris, "Whiteness as Property," *Harvard Law Review* 106, no. 8 (1993): 1707–91, https://doi.org/10.2307/1341787.
[60] David W. Galenson, "White Servitude and the Growth of Black Slavery in Colonial America," *The Journal of Economic History* 41, no. 1 (1981): 39–47.

this new subaltern class, the cultural repositioning of farm field labor as beneath white workers, fit only for those at the bottom of the social ladder. Isenberg recounts how:

> "William Byrd weighed in on the ban against slavery in Georgia in a letter to a Georgia trustee. He saw how slavery had sparked discontent among poor whites in Virginia, who routinely refused to 'dirty their hands with Labour of any kind," preferring to steal or starve rather than work in the fields. Slavery ruined the "industry of our White People," he confessed, for they saw a "Rank of Poor Creatures below them," and detested the thought of work out of a perverse pride, lest they might "look like slaves." A North Carolina proprietor, John Colleton, observed in Barbados that poor whites were called "white slaves" by black slaves; it struck him that the same contempt for white field hands prevailed in the southern colonies in North America."[61]

Even some Native American groups - themselves subjected to enslavement by Spanish colonists (and later to be forced onto reservations as manifest destiny marched westward) engaged in Black slavery to provide farm labor, producing events such as the Cherokee slave revolt of 1842.[62]

Despite this profound stigma, we can also see an early form of the valorization duality of farm labor, as the enslaved cultivated their own gardens as a form of self-sufficiency and as expression of African foodways,[63,64,65] encouraged even by the plantation owners as a buffer against malnutrition. C.L.R. James notes that while the work of slaves in Caribbean plantations was unceasing, some was directed towards themselves:

> "Even the two hours they were given in the middle of the day, and the holidays on Sundays and feast-days, were not for rest, but in order that they might cultivate a small piece of land to supplement their regular rations. Hard-working slaves cultivated vegetables and raised chickens to sell in the towns to make a little in order to buy rum and tobacco; and here and there a Napoleon of finance, by luck and industry, could make enough to purchase his freedom. Their masters encouraged them in this practice of cultivation, for in years of scarcity the Negroes died in thousands, epidemics broke out, the slaves fled into the woods and plantations were ruined."[66]

Because of the radical potential for independence and freedom that cultivating one's own food presented, the amount enslaved workers could produce this way was often strictly limited by enslavers, and in some places prohibited by law altogether.

US slavery, and the "peculiar institution" it created, was thus not just an agricultural economic engine based on human chattel and forced free labor, but also a deeply ingrained social caste

---

[61] Nancy Isenberg, *White Trash: The 400-Year Untold History of Class in America* (Penguin, 2017).
[62] Daniel F. Littlefield and Lonnie E. Underhill, "Slave 'Revolt' in the Cherokee Nation, 1842," *American Indian Quarterly* 3, no. 2 (1977): 121–31, https://doi.org/10.2307/1184177.
[63] Judith Carney, "The African Origins of Carolina Rice Culture," *Ecumene* 7, no. 2 (April 1, 2000): 125–49, https://doi.org/10.1177/096746080000700201.
[64] Judith Ann Carney, "Black Rice," in *Black Rice* (Harvard University Press, 2001).
[65] Judith Carney and Richard Nicholas Rosomoff, *In the Shadow of Slavery: Africa's Botanical Legacy in the Atlantic World* (Univ of California Press, 2011).
[66] C. L. R. James, *The Black Jacobins: Toussaint l'Ouverture and the San Domingo Revolution*, 2. ed., rev (New York: Vintage Books, 1989).

system and reification of white supremacist ideology.[67] Marxist sociologist Cedric Robinson outlines the ways capitalism was racialized from its inception, even within Europe, and how in the US colonies, the "invention of the Negro was proceeding apace with the growth of slave labor. Somewhat paradoxically, the more that Africans and their descendants assimilated cultural materials from colonial society, the less human they became in the minds of the colonists."[68] Field labor became so connected in the collective mind to blackness and slavery that within this caste system, white sharecroppers and fieldworkers would be known as "white slaves,"[69] and over a century later, an organizer at a nationally recognized Black UA and Afrocentric educational organization in Detroit[70] related struggling against the discomfort among many black youth that they will "look like slaves" when tilling fields.[71] In sum, field labor has been deeply linked with servitude and racial subjugation, both in fact and perception, and among Black folks in the US in particular.

After emancipation in 1865, the early promise of Black financial independence through a grant of land and the labor to work it (i.e. 40 acres and a mule) was unsurprisingly broken during the Reconstruction era. As the decades wore on, the continuation of the slave labor caste was perpetuated through other institutional, legal means, like imprisonment or revolving debt from which it was impossible to escape. As DuBois put it, "with the carrying out of the crop-lien system, the deterioration of the land, and the slavery of debt, the position of the metayers [those who work someone else's land for a share of the harvest] has sunk to a dead level of practically unrewarded toil."[72] Different racial and ethnic groups, placed into a hierarchy of purported intelligence, ability, and trustworthiness, were assigned by the dominant white society to various roles within farming and industry. Whites who still engaged in farming aspired to own their farms, perhaps on an absentee basis, and to use nonwhites or if need be, nearly equivalent "white trash" or "white slaves" as field labor.

This disdain for field labor as unskilled, and an admiration for the industrial revolution's large-scale collectivization and mechanization and its application to agriculture, also shaped contemporary Black political activism. Booker T. Washington, renowned founder of the Tuskegee Institute and tireless advocate of African American industrialism, furthered the "unskilled" field-hand narrative when he argued that a Black worker coming from the plantation to the city "[learns] there is a great deal of difference between skilled and unskilled labor, and that the man who has learned to do some one thing well, no matter how small it may be, is looked upon with a certain respect, whether he has a white skin or a black skin: while the man who has never learned to do anything well simply does not count in the industrial world."[73]

Similarly, W.E.B. DuBois, founder of the Niagara movement, communist organizer against racial capitalism, and advocate of Black farming cooperatives and collectives, still placed the "dissatisfied and shiftless field-hand" (presumably those that did not become the aforementioned "Napoleon of finance") at the bottom of a social and economic ladder, from which only training and education could elevate them. While he made it clear that the field-

---

[67] Kenneth M. (Kenneth Milton) Stampp, *The Peculiar Institution : Slavery in the Ante-Bellum South* (New York : Vintage, 1956), http://archive.org/details/peculiarinstitut00kenn.
[68] Robinson, *Black Marxism*.
[69] Isenberg, *White Trash*.
[70] White, "Environmental Reviews & Case Studies," 2011.
[71] "Field Notes from D-Town Farms," 2012.
[72] DuBois, *The Souls of Black Folk*.
[73] Booker T. Washington, "The Negro and the Labor Unions," The Atlantic, June 1, 1913, https://www.theatlantic.com/magazine/archive/1913/06/the-negro-and-the-labor-unions/529524/.

hand's "shiftless" disposition was a rational response to laboring for white profit in a rigged system with little hope of social mobility, at the time he adhered to the idea that the college-educated "talented tenth" of the Black population would carry forward the political and intellectual agenda on their behalf. DuBois, like Marx when considering the original Agrarian Question, had little initial hope in the revolutionary capacity of the non-industrialized peasant farmers Marx likened to "sacks of potatoes," though Dubois reconsidered his stance later in life as he felt it too dismissive of the wisdom and knowledge of the still largely agrarian masses. These observations show the casual disdain in which even these revered Black farmer advocates held "unskilled" manual laborers in general, and field labor in particular.[74]

Simultaneously, and echoing the duality (in parallel here with a DuBoisian double consciousness) with which such labor occupies the American psyche, farm labor has been imbued with the revolutionary, subversive potential for self-sufficiency. As with the gardens of the enslaved antebellum Africans, there is a vast difference between the perception and valuation of labor put into a personal garden to sustain one's family or community with foods and herbs with which one is familiar versus that put into picking the "master's" cotton fields, or today, lettuce and tomatoes for suburban shoppers, or – some would argue – UA sites for white nonprofit funders. Slaves would not have been restricted by law from growing their own food if it did not challenge the very bedrock of forced dependence that bolstered the "white man's burden" narrative. Booker T. is in part known for the industriousness—and some even maintain, revolutionary sovereignty-rooted subversiveness—of designing and constructing the Tuskegee Institute from the ground up with bricks fired from locally dug clay. He did so in concert with farmer education and collaborations with George Washington Carver, whose contributions to agricultural knowledge and Black farming cooperatives are legendary. Communist organizing among the Black agrarian South focused on the power of farmers to create local structures of mutual self-sufficiency that challenged the hegemony of racial capitalism as well as white and exclusionary union organizing,[75,76] and Fannie Lou Hamer's Freedom Farming collectives were likewise antecedents of the modern food sovereignty movement.[77] In all such cases, farm labor is seen as arduous, but elevated in its social stature by contributing to a community-centered and even revolutionary framework.

Whiteness and Farming Part 2: Racialized California Field Labor

California, as with the rest of the country, relied on such racialized agrarian work hierarchies, both based on and generating racial and cultural hierarchies that linger today. During the mid-19th century, White farmers, like the railroad developers, relied largely on Chinese workers, who had replaced the Indigenous population used as slaves and subsequently decimated under Spanish colonialism. Historian Celia Tsu notes how "Whites consistently referred to the agricultural work that "Orientals did" using terms that delineated racial boundaries to maintain the family farm ideal. They called the labor that the Chinese performed "exacting," "careful,"

[74] DuBois, *The Souls of Black Folk*.
[75] Robert L. Allen and Pamela P. Allen, *Reluctant Reformers: Racism and Social Reform Movements in the United States* (Anchor Press, 1975).
[76] Robin D. G. Kelley, *Hammer and Hoe: Alabama Communists during the Great Depression* (University of North Carolina Press, 1990).
[77] Monica M. White, "'A Pig and a Garden': Fannie Lou Hamer and the Freedom Farms Cooperative," *Food and Foodways* 25, no. 1 (2017): 20–39, https://doi.org/10.1080/07409710.2017.1270647.

"particular," and "hand work," meaning the work was tedious, menial, and white men refused to do it, thus implying that Chinese labor was insufficiently masculine."[78] Those workers were resented by the white working population, many of which were jobless men drawn by the Gold Rush and farmers competing with their labor, and Chinese immigration was eventually halted nationwide by the clearly named Chinese Exclusion Act of 1882.

For a time, imported Japanese labor replaced some of the banned Chinese workers, but they were soon resented by the White population as well, in particular because they aspired to farm ownership rather than being content with "their place" as field labor, making them a threatening source of competition. The expansion of successful Japanese farm ownership in California—a worthy tale in itself that I lack space for here—was largely halted by the state government passing the Alien Land Law of 1913 prohibiting Asians from owning land, and then many of these farms were seized during World War 2 when Japanese Americans were forced into internment camps. Thus, for the decades between the Chinese Exclusion Act in 1882 and 1920, European immigrants comprised much of California farm labor, as did Hindus during the "Tide of Turbans" between 1907-1910. After 1920, Filipinos (spared from the 1917 Immigration Act that banned Asian migrants in general) and Mexicans replaced them[79], though for a time after the Great Depression, a nativist surge brought on by the influx of "Okies" from the Dustbowl also filled the ranks of field laborers, many of them the displaced former farmers and sharecroppers so famously described in Steinbeck's classic novel *The Grapes of Wrath*.

However, this brief period of resurgent white presence in the lowest caste position would not last, as during World War II, much of what remained of the white field workers were sent "over there." This created a labor crisis that was temporarily filled by high school students and other stopgap measures, until under the Bracero program, the void was filled by migrant men from throughout Mexico and Central America. In the subsequent decades as rapid urbanization further depleted the rural worker population, and US coups and interventions across Central America and the Caribbean stemming from the longstanding Monroe Doctrine of hemispheric domination created waves of refugees[80], these 'guest' workers were supplemented by many undocumented immigrants as well, who - due to their precarious legal status and isolation from systems of social support - found exploitation even more rife in California's fields.[81] Their predicament was compounded by the exponential growth of pesticides and herbicides during the rise of 'Green Revolution'' agriculture, with predictably horrific impacts on worker health.[82,83]

Under the leadership of Larry Itliong, Cesar Chavez and Dolores Huerta during the 1960s and early 1970s, the United Farm Workers union highlighted the plight of migrant labor in California. While some policy gains were made and conditions improved compared to the Bracero program, California farm labor – organic farms included – is still overwhelmingly

[78] Cecilia Tsu, "'Independent of the Unskilled Chinaman': Race, Labor, and Family Farming in California's Santa Clara Valley," *Western Historical Quarterly* 37, no. 4 (2006): 474–95.
[79] Holt-Giménez, *A Foodie's Guide to Capitalism*.
[80] Gretchen Murphy, *Hemispheric Imaginings: The Monroe Doctrine and Narratives of US Empire* (Duke University Press, 2005).
[81] *Harvest of Loneliness*, Documentary, 2010.
[82] Marion Moses, "Pesticide-Related Health Problems and Farmworkers," *AAOHN Journal* 37, no. 3 (March 1, 1989): 115–30, https://doi.org/10.1177/216507998903700304.
[83] Dvera I. Saxton, "Strawberry Fields as Extreme Environments: The Ecobiopolitics of Farmworker Health," *Medical Anthropology* 34, no. 2 (March 4, 2015): 166–83, https://doi.org/10.1080/01459740.2014.959167.

performed by the same populations, under conditions that are still very exploitative.[84] For example, field workers "on large farms constitute the only numerically significant group of adult minimum-wage workers wholly excluded from the maximum hours and overtime provision of the Fair Labor Standards Act (FLSA) for a reason other than the size of the employing firm."[85] Not only are farmworkers "excluded from the basic labor and safety standards firmly established in other employment sectors," but "farm work has little or no overtime limits, child labor restrictions, collective bargaining rights, or workers' compensation insurance, although agriculture is considered to be one of the most hazardous industries in the U.S."[86] It is under such a system that even modern US field workers operate, in some states, under literal slavery due to the exception in the 13th Amendment of the US Constitution allowing for forced incarcerated labor, as well as abuses on farms that go unregulated and unpunished due to lack of oversight, whether neglectful, intentional, or both.[87]

Agricultural sociologist Carey McWilliams quotes California grower C.W. Thomas, who is fearful of the burgeoning progressive era Union movement organizing white farmworkers, as "the conditions which are forced on white migratory workers have a tendency to degenerate the man." In a parallel to the slave labor dependence-subsistence systems mentioned by C.L.R. James, Thomas argues "workers should be colonized so that they would be docile; they could, moreover, supplement their meager earnings by doing gardening on 'waste' lands." McWilliams also notes that Thomas "warned his colleagues against permitting farm workers to have direct contact with city workers. City workers, he said, do not at present respect farm workers; and thus one group can be played off against the other to the advantage of the farmer. To this end, 'some effort should be made to protect unorganized farm labor against organized skilled labor.'"[88]

Thomas's observations echo and summarize three persistent themes regarding stigmatization: (1) the perennial, hegemonic framing of field labor as 'unskilled,' (2) the great disdain that blue collar, white collar, and urban workers in particular have for this unskilled field labor, and (3) the perceived necessity of a "colonized," racialized subaltern class to carry it out. "We have so degraded a certain class of labor," states H.P. Stabler in a 1902 report to the California State Fruit-Growers Convention, "that there is not a man who lives in any agricultural locality who wants to get in and do this work."[89] This holds true right up to the present day. In the 2020s, California fields full of crops waiting to be harvested would lie rotting in the middle of a US job crisis, in part because American workers in general simply refused to do the labor, despite farmworker wages "rising faster than the state average."[90,91,92]

---

[84] Julie Guthman, *Agrarian Dreams: The Paradox of Organic Farming in California*, California Studies in Critical Human Geography (Berkeley: University of California Press, 2004).
[85] Autumn L. Canny, "Lost in a Loophole: The Fair Labor Standards Act's Exemption of Agricultural Workers from Overtime Compensation Protection," *Drake J. Agric. L.* 10 (2005): 355.
[86] Carolina Fojo, Dayna Burtness, and Vera Chang, "Inventory of Farmworker Issues and Protections in the United States," *Palo Alto, CA: Bon Appétit Management Company Foundation and The United Farmworkers*, 2011.
[87] Fojo, Burtness, and Chang.
[88] McWilliams, *Factories in the Field*.
[89] McWilliams.
[90] Gary Coronado, "To Keep Crops from Rotting in the Field, Farmers Say They Need Trump to Let in More Temporary Workers," www.latimes.com, accessed January 24, 2022, http://www.latimes.com/projects/la-fi-farm-labor-guestworkers/.
[91] Garance Burke, "Despite Economy, Americans Don't Want Farm Work" (Associated Press. Available online: https://www. cbsnews. com/news/despite …, 2010).
[92] Natalie Kitroeff and Geoffrey Mohan, "Wages Rise on California Farms. Americans Still Don't Want the Job," *Los Angeles Times* 17 (2017).

Whiteness and Non-profit Organizations: The Non-Profit Industrial Complex

In general, organized urban agriculture in in the US focused on food justice is run by nonprofit organizations (NPOs), and this is the case with all four sites I studied. In order for an organization to legally receive donations, corporate or foundation funding, or government grants without paying income taxes, it must register as a federal 501(c)(3) nonprofit, and according to the Internal Revenue Service, this designates groups that are "charitable, religious, educational, scientific, literary, testing for public safety, fostering national or international amateur sports competition, and preventing cruelty to children or animals." The IRS further states that 'charitable' is:

> "used in its generally accepted legal sense and includes relief of the poor, the distressed, or the underprivileged; advancement of religion; advancement of education or science; erecting or maintaining public buildings, monuments, or works; lessening the burdens of government; lessening neighborhood tensions; eliminating prejudice and discrimination; defending human and civil rights secured by law; and combating community deterioration and juvenile delinquency."[93]

All of these social service-oriented criteria defining both nonprofits and charities have been used in one form or another as arguments by – and at times explicitly in the mission statements of – urban agriculture NPCs. Their models of governance, funding, and expansion (i.e. "development") are rooted in this sector, and so it is important to understand in even a condensed way the history of its origins and development, with all of the benefits and shortcomings therein, as well as the current theory grappling with organizations that are in many ways structured and funded in a manner incommensurate with the grassroots, egalitarian community ethics in which they are enmeshed.

While there is no single definition of what constitutes a nonprofit, Hammack outlines a broad set of unifying principles derived from Salamon (1999)[94]:

> 1. They are formal organizations operating under relevant law, legally distinct from their officers, capable of holding property, engaging in contracts, and persisting over time.
> 2. They are "private," institutionally separate from government (though government officials may appoint some members of their governing boards).
> 3. They are nonprofit distributing (though they may sell services, pay high salaries, and accumulate surpluses).
> 4. They are self-governing (though they must obey relevant general laws).
> 5. They are voluntary in the sense that participation on their boards or in providing them with support is not required by law.
> 6. They serve some "public benefit."

[93] "Exempt Purposes - Internal Revenue Code Section 501(c)(3) | Internal Revenue Service," accessed April 1, 2022, https://www.irs.gov/charities-non-profits/charitable-organizations/exempt-purposes-internal-revenue-code-section-501c3.
[94] David C. Hammack, "Nonprofit Organizations in American History: Research Opportunities and Sources," *American Behavioral Scientist* 45, no. 11 (July 1, 2002): 1638–74, https://doi.org/10.1177/0002764202045011004.

Nonprofits in the US originated in the colonial period, and up until the 20th century were typically religious groups and not federally recognized; their legal status was left up to localities to determine and so marginalized populations would often be denied legal nonprofit status "in an effort to maintain religious, racial, and gender norms."[95] Indeed, It is only in the last decade that NPO elites and the funding apparatus that support them have even begun to diversify. According to author and journalist Ryan Grim, as far as "major nonprofit advocacy organizations" are concerned, "Pre-2011, pre-2012 a lot of these institutions and a lot of the media [was] just completely white dominated — to a degree that is striking, if you go back and look at the staff photos or anything like that…"[96] The changes are still marginal; even today, this whiteness not only dominates the personnel and priorities that constitute the funding pipelines, but also affects the funding outcomes, with groups run by people of color not only getting less funding in general, but receiving it with more conditions and oversight. A 2020 study from the Bridgespan Group, in a section titled "Racial Inequity Is Built into Philanthropic Norms," notes that "Black-led organizations are 24 percent smaller than the revenues of their white-led counterparts, and the unrestricted net assets of the Black-led organizations are 76 percent smaller than their white-led counterparts," and that "Disparities by the race of the leader repeatedly persist even when taking into account factors like issue area and education levels."[97]

Heckler (2019) argues that Whiteness and Masculinity (as institutional frameworks) are "embedded in American NPOs" in part because institutional norms – both "intuitive," such as the association of certain positions with more intelligence or skill – and structural, such as the corporate hierarchy and tax code, force NPOs to "professionalize." In the first case, "the majority of the economy is controlled by White men, and professionalization enables NPOs to become isomorphic with the race and gender institutions dominant in that economy, thereby helping NPOs secure resources and networking opportunities."[98] UA organizations may be better positioned, for example, to gather financial support from major funders if they can convince dominant institutions they are teaching youth of color "hard skills" relevant to business and industry as "coordinators" and "managers" than creating radical food sovereignty focused generators of "farmworkers." This dynamic is a hallmark of what has come to be known as the Non-Profit Industrial Complex (NPIC), a system which relies on connections to large scale capital expenditure and formation of a hierarchical structure and organizational culture patterned after the corporate model.

Second, the "1969 Tax Reform Act pressured NPOs to professionalize by instituting complex reporting requirements,"[99] as did the 2002 Sarbanes-Oxley Law, which was instituted to increase corporate accountability and while it has only limited applicability to NPOs has come to be considered a set of managerial "best practices," with versions even adopted at the state level (including in California). Thus "NPOs with employees who were trained in, previously worked in, or were trained by managers who worked in any of these states are even more likely to adopt Sarbanes-Oxley practices as a result of institutional isomorphism."[100] As a result of this

[95] Hammack.
[96] Deconstructed The Intercept, "Deconstructed: The Implosion of Progressive Organizing," The Intercept, accessed September 17, 2022, https://theintercept.com/2022/06/14/deconstructed-podcast-progressive-organizing-callout-culture/.
[97] Cheryl Dorsey, Jeff Bradach, and Peter Kim, "Racial Equity and Philanthropy," May 2020, 19.
[98] Heckler, "Whiteness and Masculinity in Nonprofit Organizations."
[99] Heckler.
[100] Heckler.

cultural shift towards "managerialism," people of color and women will tend to replicate practices, structures, and identities crafted by and for the white male dominated corporate world within their own "alternative" institutions. Mascarenhas outlines how the managerialism trend has only strengthened the NPIC, and that "far from contributing to transparency or reform in humanitarian policy or practice," it has fueled the "growth of an army of humanitarian bureaucrats required to keep the emerging global market of civic virtue working."[101] This, he argues, has led to the expansion in the NPO realm what David Graeber has called bullshit jobs – "chief program officer, monitoring and evaluation manager, private sector alliances advisor, community development specialist; the list goes on."[102]

In the United States, and at all the farm sites I examined, the NPOs normally have an "Executive Director" (ED) which is analogous to the Chief Executive Officer (CEO) of a for-profit corporation, except that whereas the prime directive of a CEO is to maximize the profit return to shareholders, the EDs of NPOs are charged with furthering the goals of the organization's mandate, and measuring/communicating their impact in a way that attracts further support – or "telling their story" in local NPO terminology. Return on investment for NPO funders and grant givers is not measured in profit margins, but rather whatever indicators, typically quantifiable, that the mission statement prioritizes. Reductions in poverty or improvements in public health are common examples, but in the world of UA organizations, often includes such things as pounds of food or compost generated, though these are often presented without context (e.g. as compared to relative need). As a result, a chasm can develop between the priorities and goals of the executive staff in charge of maintaining this NPO structure and funding pipeline, and those of the NPO workers who carry out the agenda on the ground. As Wright (2013) found: "This relationship pits categories of employees against one another: high-ranking "administrative" staff must track and report program information to funders; "programming" staff are responsible for implementing these systems."[103]

This structure shifts the relationships and balance of power between the board, the ED, various levels of staff, and the community. Oyakawa (2017) found that it "distorts accountability, making organizers beholden to elite funders instead of grassroots leaders. Issue-based funding and short-term grants make it difficult for organizers to focus on their primary mission, which involves recruiting and mentoring community members…"[104] Increasingly, NPO development and what activities support that goal becomes the prime directive, with the assumption that the work the NPO accomplishes can only be continued as a result of that process. In other words, as Samimi (2010) argues, it "forces nonprofits to professionalize, wherein they must focus on maintaining their funding sources rather than fulfilling their mission."[105] The conflict between the mission and that funding priority thus applies tremendous pressure to "mission drift" into a form that is more palatable to funder priorities, while still staying connected thematically to the original goal.

---

[101] Michael Mascarenhas, *New Humanitarianism and the Crisis of Charity: Good Intentions on the Road to Help*, Global Research Studies (Bloomington: Indiana University Press, 2017).
[102] Mascarenhas.
[103] Rachel Wright, "When More Is Less: Contradictions of Nonprofit Work," *Anthropology of Work Review* 34, no. 2 (2013): 80–90, https://doi.org/10.1111/awr.12012.
[104] Michelle Oyakawa, "Building a Movement in the Non-Profit Industrial Complex" (PhD Thesis, The Ohio State University, 2017).
[105] Jennifer Ceema Samimi, "Funding America's Nonprofits: The Nonprofit Industrial Complex's Hold on Social Justice" 1, no. 1 (2010): 17–25, https://doi.org/10.7916/D8QC0DC7.

Whiteness, Farming, and the NPIC: Urban Agriculture

As with the NPIC, urban agriculture in the United States and the discourse that examines it has gone through a racially reflective process over the last twenty years or so, concurrent with a plethora of factors simultaneously crafting the UA landscape. One is a long-term, slow cultural shaping of mainstream and academic awareness of the food system, such as with Michael Pollan's NYT bestseller "Omnivore's Dilemma," and Michelle Obama's White House vegetable garden[106], the rapid formation of Food Policy Councils nationwide around 2010, or during a huge increase of home gardening during the stay-at-home period of the Covid pandemic. Another has been a reversal of white flight from urban areas over the last two decades, gentrification of formerly poor neighborhoods, and subsequent demographic redefinition of urban residents and their needs. Yet another is the growth of NPOs replacing functions previously carried out by public agencies (such as park maintenance and activity programming) to fill gaps left by shrinking municipal budgets, which has the effect of privatizing those functions and often their associated spaces, as well as drawing philanthro-capitalist interest. Additionally, the murder of George Floyd at the hands of police and a moment of national racial introspection led many academics to assess the role of race in their structures and scholarship, adopting JEDI (Justice, Equity, Diversity, and Inclusion) departmental statements and plans, which brought many social advocacy organizations to a point of internal crisis as they questioned their leadership, power structures, and theories of social change.[107] As these overlapping and interacting academic and historical developments may suggest, UA literature has race at its center, even – and perhaps especially – when it is not mentioned. A brief recounting of the evolution of various food-related terms can help illustrate this pattern.

Food deserts or Food Apartheid, Food Security or Food Justice?

The first use of the term 'food desert' has been attributed to "a resident of a public sector housing scheme in west Scotland in the early 1990s."[108] It first appeared in a government publication in a 1995 document from a policy working group of the Low Income Project Team of the then Conservative government's Nutrition Task Force. References to the concept, especially outside the UK, were scant[109,110] until the late 1990s, when – concurrent with the increasing number of studies using GIS technology in planning and other disciplines to examine urban land use patterns in general and environmental justice issues in particular – researchers began quantitatively highlighting the disproportionate struggles communities of color face in

[106] Marian Burros, "Obamas to Plant Vegetable Garden at White House," *The New York Times*, March 20, 2009, sec. Food, https://www.nytimes.com/2009/03/20/dining/20garden.html.
[107] The Intercept, "Deconstructed."
[108] Cummins, S. "'Food Deserts'---Evidence and Assumption in Health Policy Making." *BMJ* 325, no. 7361 (August 24, 2002): 436–38. https://doi.org/10.1136/bmj.325.7361.436.
[109] Elliott, V. "Food Deserts Threaten Health of Poor and Old." *The Times* 5, no. 97 (1997): 5.
[110] Enquiry, Foodworks. "From Food Deserts to Food Security; An Alternative Vision." *Glasgow: The Poverty Alliance1997*, 1997.

accessing food. After some initial academic skepticism,[111,112] researchers began producing a large body of studies that outlined the various manifestations of food deserts in the US, with a spectrum of definitions.[113,114] The general consensus was that eliminating or at least mitigating food deserts by reducing 'food miles'[115] (or the distance that food travels from the source of production to where it is consumed), such as through farmers markets,[116] was a way to confront social justice issues (at least in terms of geographic proximity to distribution) [117,118] and environmental issues at the same time.

However, the term met some resistance. There were those who took exception to the idea that their communities were "deserts," with the barren, (inaccurately) lifeless connotations the word carries. Some argued that the term was misleading in that there were in fact food options in the so-called deserts such as corner stores and fast food, but that they were nutritionally inferior ones that had a strong negative public health effect. Thus, some scholars offered "food swamp"[119] as an alternative. Another objection was that often where there were healthy options available, they could be unaffordable to those living nearby (some have dubbed the Whole Foods franchise "Whole Paycheck,"[120] due to the perception of high prices). That healthy food could be not just beyond walking distance, but beyond the economic means of living in them, added a class analysis to what had been one considering only distance. When one considers that class is intertwined with race in racial capitalism, and that historically, racially redlined neighborhoods suffered from a nexus of these issues, some suggested the term "food apartheid" to be more apropos. This is a term often attributed to New York urban farmer Karen Washington,[121] but has been used in community food justice discourse for years.

The term "food security," implying secure access to a source of nutrition, was similarly critiqued by scholar theorists and many in the food activism community as lacking a holistic

---

[111] Strugnell, Christopher J. "Applied Consumer Science: Food Deserts–Fact or Fiction?" *Nutrition and Food Science*, 1998.
[112] White, Martin, Jane Bunting, Liz Williams, Simon Raybould, Ashley Adamson, and John Mathers. "Do 'Food Deserts' Exist? A Multi-Level, Geographical Analysis of the Relationship between Retail Food Access, Socio-Economic Position and Dietary Intake." *Food Standards Agency*, no. 09010 (2004).
[113] Walker, Renee E., Christopher R. Keane, and Jessica G. Burke. "Disparities and Access to Healthy Food in the United States: A Review of Food Deserts Literature." *Health & Place* 16, no. 5 (September 2010): 876–84. https://doi.org/10.1016/j.healthplace.2010.04.013.
[114] Gatrell, Jay D., Neil Reid, and Paula Ross. "Local Food Systems, Deserts, and Maps: The Spatial Dynamics and Policy Implications of Food Geography." *Local Food Systems and the Applied Geography of Food* 31, no. 4 (October 2011): 1195–96. https://doi.org/10.1016/j.apgeog.2011.01.013.
[115] Iles, Alastair. "Learning in Sustainable Agriculture: Food Miles and Missing Objects." *Environmental Values* 14(2) (2005): 163.
[116] Larsen, K., and J. Gilliland. "A Farmers' Market in a Food Desert: Evaluating Impacts on the Price and Availability of Healthy Food." *Health & Place* 15, no. 4 (2009): 1158–62.
[117] McIlveen-Farley, Heather, and C. J. Strugnell. "Food Deserts: An Issue of Social Justice." *Journal of Media and Culture* 2, no. 6 (1999).
[118] Bedore, Melanie. "Just Urban Food Systems: A New Direction for Food Access and Urban Social Justice." *Geography Compass* 4, no. 9 (September 1, 2010): 1418–32. https://doi.org/10.1111/j.1749-8198.2010.00383.x.
[119] Kristen Cooksey-Stowers, Marlene B. Schwartz, and Kelly D. Brownell, "Food Swamps Predict Obesity Rates Better Than Food Deserts in the United States," *International Journal of Environmental Research and Public Health* 14, no. 11 (November 2017): 1366, https://doi.org/10.3390/ijerph14111366.
[120] Cale Guthrie Weissman, "Whole Foods Is Becoming 'Whole Paycheck' Once Again," Fast Company, February 12, 2019, https://www.fastcompany.com/90305918/whole-foods-is-becoming-whole-paycheck-once-again.
[121] Anna Brones, "Food Apartheid: The Root of the Problem with America's Groceries," *The Guardian*, May 15, 2018, sec. Society, https://www.theguardian.com/society/2018/may/15/food-apartheid-food-deserts-racism-inequality-america-karen-washington-interview.

appraisal of the food system. One could be food secure and still not have access to culturally relevant foods or could be benefitting from a food system/regime that is environmentally and socially problematic. De-fetishizing the food commodity by considering not just access, but also the racialized environmental and social injustices inherent in production and processing as well, as with the ecological devastation of conventional agriculture and widespread exploitation and debilitation of food and farmworkers, calls for reconstruction of the entire food regime. Eventually, the term "food justice" was developed to capture this intersectional view. While the definition of food justice is very situated and contingent on local conditions, Alkon & Agyeman (2011) writing during the term's early years of usage stated: "Essential to the food justice movement is an analysis that recognizes the food system itself as a racial project and problematizes the influence of race and class on the production, distribution, and consumption of food."[122]

Reynolds (2015) notes that "recently, critical food scholars have begun to examine the food system through the lens of critical race theory (CRT) (see Alkon and Agyeman 2011; Harper 2011; Hoover 2013; Slocum 2010)."[123] Indeed, many prolific writers of CRT analysis began pushing back against a mainstream, colorblind "food security" framing almost immediately after the publication of Michael Pollan's 2006 book "The Omnivore's Dilemma," which was widely popular and championed a consumer-choice model to changing the food system which Pollan summed up as "voting with your fork." Guthman, whose 2004 book "Agrarian Dreams" highlighted problematic, racialized labor problems within California agriculture, quickly responded with "Can't Stomach It: How Michael Pollan et al. Made Me Want to Eat Cheetos." The piece argued that Pollan's book "reinforces this highly privileged and apolitical idea" that "if people only knew where their food came from" the food system would evolve towards justice, and that it ignored deep structural and political inequities within the food system.[124] This "if only they knew" framing is something Guthman explored in more detail with subsequent research, showing how it – along with colorblind and universalist framings - reinforced the whiteness of alternative food practices and institutions.[125] Calo (2020) summarizes this story well:

> "The heroes and heroines of these farmer narratives embrace farming as a social change mechanism. With a focus on alterity in relation to the industrial agriculture system, they aim to create self-sufficient foodsheds that do not rely on mechanization, synthetic inputs, or long-distance trade. They are characterized as carrying out innovative farming mechanisms, like the planting of perennials, intercropping, and animal crop rotations. Importantly, the farmers profiled in these popular narratives are often young, white, and well resourced."[126]

---

[122] Alkon, Alison Hope, and Julian Agyeman, eds. *Cultivating Food Justice: Race, Class, and Sustainability*. Food, Health, and the Environment. Cambridge, Mass: MIT Press, 2011.
[123] Reynolds, Kristin. "Disparity despite Diversity: Social Injustice in New York City's Urban Agriculture System." *Antipode* 47, no. 1 (2015): 240–59.
[124] J. Guthman, "Can't Stomach It: How Michael Pollan et al. Made Me Want to Eat Cheetos," *Gastronomica* 7, no. 3 (2007): 75–79.
[125] Guthman, Julie. "'If They Only Knew': Co eetlor Blindness and Universalism in California Alternative Food Institutions." *The Professional Geographer* 60, no. 3 (August 2008): 387–97. https://doi.org/10.1080/00330120802013679.
[126] Calo, Adam. "The Yeoman Myth: A Troubling Foundation of the Beginning Farmer Movement." *Gastronomica* 20, no. 2 (May 1, 2020): 12–29. https://doi.org/10.1525/gfc.2020.20.2.12.

Slocum explained how unacknowledged racism in the "community food movement reproduces white privilege" (2006)[127], and how "whiteness is produced in progressive non-profit efforts to promote sustainable farming and food security" (2007).[128] Slocum produced a number of works on the intersections of race, space, and food justice practice,[129] also highlighting how racialized trauma and iniquity shape food justice organizing.[130] Alkon et al. (2011) examined whiteness in farmers markets[131,132] and described how "US based projects were constrained by broader forces of neoliberalism that remained unrecognized by local activists. In Oakland, despite a desire to create a local food system led by marginalized African Americans, the emphasis on providing green jobs in agriculture led activists to take a market-based approach that kept local food out of the economic grasp of food-insecure neighborhood residents."[133] As Roman-Alcala (2015) observes, "it seems like an increasingly unfunny joke to note that most people working in the sustainable /fair/ green/organic/ local/urban food production world are white."[134]

This CRT analysis extended even more specifically to UA. Hoover (2010) noted that the recent surge of interest in farmers markets and UA was "largely championed by a middle-class white populace as part of the alternative food movement, rather than being understood as having historical roots in predominantly black and/or Latino neighborhoods. As a result, urban agriculture generally creates white spaces in otherwise black or Latino places." He concludes: "Understanding UA from a critical race theory framework will be useful in helping the UA movement talk about food sovereignty rather than food insecurity in urban communities."[135] I have found that the CRT literature to date that focuses on UA nonetheless largely ignores these labor hierarchies, despite their centrality to UA production (or lack of it) and their impacts on the goal of food sovereignty. The real of academia itself – while highlighting the inequities in the food justice world "space" generally and the organizations more specifically – largely maintains the mundane agnosticism applied to our unquestioned reliance on subaltern field labor.

Theory/History Summary: Double consciousness and UA: "Field-Hand-Labor"

---

[127] Rachel Slocum, "Anti-Racist Practice and the Work of Community Food Organizations," *Antipode* 38, no. 2 (March 2006): 327–49, https://doi.org/10.1111/j.1467-8330.2006.00582.x.
[128] Rachel Slocum, "Whiteness, Space and Alternative Food Practice," *Geoforum* 38, no. 3 (2007): 520–33.
[129] Rachel Slocum and Kirsten Cadieux, "Notes on the Practice of Food Justice in the U.S.: Understanding and Confronting Trauma and Inequity" (Minneapolis, MN: University of Minnesota, 2015), http://jpe.library.arizona.edu/volume_22/Slocumcadieux.pdf.
[130] K. Valentine Cadieux and Rachel Slocum, "What Does It Mean to Do Food Justice?," *Journal of Political Ecology* 22 (2015): 1.
[131] Alkon, Alison Hope, and Christie Grace McCullen. "Whiteness and Farmers Markets: Performances, Perpetuations… Contestations?" *Antipode* 43, no. 4 (2011): 937–59.
[132] Alkon, Alison Hope. *Black, White, and Green: Farmers Markets, Race, and the Green Economy*. Vol. 13. University of Georgia Press, 2012.
[133] Alkon, Alison Hope, and Teresa Marie Mares. "Food Sovereignty in US Food Movements: Radical Visions and Neoliberal Constraints." *Agriculture and Human Values* 29, no. 3 (September 2012): 347–59. https://doi.org/10.1007/s10460-012-9356-z.
[134] Roman-Alcalá, Antonio. "Concerning the Unbearable Whiteness of Urban Farming." *Journal of Agriculture, Food Systems, and Community Development* 5, no. 4 (2015): 179–81.
[135] Hoover, Brandon. "White Spaces in Black and Latino Places: Urban Agriculture and Food Sovereignty." *Journal of Agriculture, Food Systems, and Community Development* 3, no. 4 (2013): 109–15.

Drawing together all of the above literature review material, I argue field-hands are simultaneously stigmatized as unskilled and occupying the bottom rung of a social status ladder, and under US racial capitalism, a level of continuous exploitation is thus possible that white workers would not accept. Yet, such labor is valorized when focused on family independence or community empowerment and food sovereignty, and this contradictory dual narrative around agricultural field work is a phenomenon that I have not found adequately captured in the literature. The intersection between the economic stigmatization of field labor as low (to no) paying and low or even unskilled, and the cultural association with being a 'Field-Hand' under slavery as felt and embodied by African-Americans in particular, *combined* with the simultaneous valorization of Hand-Labor under specific circumstances - i.e. for family or community sovereignty, or as the mission statement and "story" of an urban agriculture NPO - has created a complicated, cognitively dissonant, double-consciousness perception of such work among UA practitioners that I term '**Field Hand Labor**.'

The "story" urban agriculture NPOs tell is one of educating and training people to engage in producing a socially just food system, requiring a revolutionary transformation, not just in terms of farming practices (ecologically regenerative methods rather than unsustainable conventional ones) but also the elimination of the subaltern labor caste that the conventional system has used as its engine. In other words, those who perform the hand-labor in food-justice-rooted system that those such as La Via Campesina promote are valorized, not stigmatized, and would have democratic control over the system itself. However, NPOs, and their culture of professionalization and managerialism in pursuit of grants and donor funding, are not themselves structured this way. Urban agriculture NPOs as they grow in size have generally moved *away* from, not towards, democratic governance and transparency, and when they expand in their organizations, the hand-labor positions are still generally at the bottom of a status hierarchy, in that they are either paid the lowest in the NPO, or in the case of volunteers, not at all.

This Field-Hand-Labor phenomenon constrains UA from actually making the farms they manage function as significant, expanding production nodes. Those whose job descriptions contain nothing but full-time field labor are practically nonexistent in these organizations. There may be coordinators, managers, assistants, or apprentices, but no one is a paid field-hand. I argue this deep internal contradiction – attempting to catalyze the expansion of an alternative food system based in field labor by NPOs that expand by creating a variety of "professional" non-manual positions – is at the heart of why such expansion has not taken place in the San Francisco Bay Area.

Setting the Stage: The East Bay, Food Activism, and Urban Agriculture

The East Bay Area, with its long and storied history of activism of all kinds, is known for its food-justice related activism and institutions, and the tensions that often revolve around race and economics. On one hand, for years the racial capitalism that undergirds "food apartheid" has been highlighted and fought by Bay Area activists. For example in the late 1960's, Oakland's Black Panther party confronted the epidemic of childhood hunger in poor Black communities with a free breakfast program; "Started in January 1969, the Panthers cooked and served full breakfasts to school-aged children at St. Augustine's Episcopal Church in Oakland. The program became a central organizing event for the party."[136] Like the freedom farmers and Southern

[136] Wood, Cirrus. "East Bay Food-Justice Movement Has Deep Roots in Black Panther Party." *Berkeleyside* (blog), August 24, 2017.

cooperatives, they were creating an alternative, locally controlled food infrastructure to support social reproduction in a society that was systematically excluding them: in today's terms, food sovereignty.

The East Bay is simultaneously also the home of the Chez Panisse restaurant in Berkeley, founded in 1971 by Alice Waters, now a prominent healthy food advocate and author. The Alice Waters Foundation began the Edible Schoolyard at Martin Luther King Junior High School in Berkeley in 1997, and is credited as inspiration for Michelle Obama's White House vegetable garden program in 2009.[137] Waters is seen as more broadly representing the white "slow food" movement, exemplified by the book Omnivore's Dilemma and Michael Pollan's suggestion that you "vote with your fork."[138] Her upscale restaurant is situated in a largely white north Berkeley neighborhood many called the "Gourmet Ghetto," a moniker actually used by the local business board to promote the neighborhood until tensions around the word led to a push to change the name.[139]

Indeed, both the Black Panthers free breakfast program and Alice Waters edible schoolyard would be considered transformational alternatives to "business as usual" by the corporate food regime, yet there is obviously a wide chasm between a Black communist organization organizing for neighborhood food sovereignty, and a wealthy white restaurateur advising that people who can afford to do so buy fresh, healthy food locally. This tension around more "radical" food sovereignty movements like the Panthers that represent people of color creating alternatives to a market that has failed them, and largely white, market-based "food reformers" like Pollan and Waters who advocate consumer choice as a solution, is a local manifestation of the broader schism in UA and food activism described above. It is within this complex and racially bifurcated historical activist milieu that the East Bay, during the last decade in particular, has seen an upsurge in food related activism and UA organizations. In 2015, former Food First executive director Eric Holt-Gimenez said, "There [are] a lot of reasons why the East Bay is out in the forefront of changing this food system… communities in the East Bay are probably those who are most negatively impacted by the food system we have today."[140]

[137] eastbaytimes.com/2009/03/23/editorial-alice-waters-dream-realized-with-white-house-garden-2/

[138] Blog, Michael Pollan The New York Times "On the Table," May 7, and 2006. "Voting With Your Fork." Michael Pollan, May 7, 2006. https://michaelpollan.com/articles-archive/voting-with-your-fork/.

[139]https://www.berkeleyside.org/2019/09/26/after-ruckus-business-association-votes-to-drop-gourmet-ghetto-moniker-others-say-name-should-stay

[140] source - talk at La Pena.

"Telling Our Story": Race, Nonprofits and UA Labor Structure in the East Bay area

Drake (2019) argues the labor performed by UA workers falls generally into one of three categories – "harvesting surplus food, doing manual labor such as site maintenance outside of their plots, and doing administrative or advocacy work."[141] This labor division aptly describes the overall spectrum of labor tasks on my case sites, and also constitutes multiple overlapping labor hierarchies in terms of pay and task desirability.

First, at the pinnacle of the pyramidal urban agriculture NPO, with the highest pay and authority to hire and fire, is the Executive Director. EDs are theoretically answerable to a board of directors, though because these positions are often filled with professional colleagues and even friends, the presence of actual accountability can be questionable. Depending on the focus of the organization, inclination of the ED, and funding available, they may bring other "skilled," "white collar" staff in to assist in their primary goal of nonprofit growth and development, including consultants, accountants, grant writers, project managers, communications professionals (community outreach and website content), and others. Occupying the bottom of the administrative hierarchy in terms of pay, authority, and status are positions such as program/administrative assistants, who handle the clerical "grunt" tasks that are considered too mundane for those above them – answering phones, filing documents, data entry. It is the kind of office labor – designated "low skilled" – that temp employees are typically assigned to, and in a large firm, the tale of a plucky employee who works their way up from the depths of the clerical pool or the mail room to the rarified corner offices of the Executive team is the modern version of a Horatio Algerian rags-to-riches story. Nonetheless, despite its low status in the organization compared to other positions, such clerical work is still seen as more desirable and economically valuable than manual labor designated "low skilled."

A second hierarchy is comprised of the site and farm management professionals, those who possess training in relevant UA skills (e.g. agroecology, horticulture, carpentry, animal husbandry) and whose jobs typically require administrative elements as well: developing site plans and planting schedules, overseeing management and procurement of materiel such as tools, construction materials, soil amendments, or seeds. They may also train a number of people at the bottom of the second hierarchy, variably termed coordinators, apprentices, interns, fellows, or assistants, most of whom are expected to be acquiring skills and knowledge in the process of providing their manual farm labor so that they can move on to a different job; they are very often recent high school/college graduates. Farm Managers and their subordinates (e.g., coordinators) often direct and supervise the work of the pool of volunteers that replaces the third labor hierarchy, to be discussed below – and in so doing, function as one of the main points of contact between the public and the organization. An experienced farm site manager can command a similar income as a nonprofit ED, in part because the confluence of skills required is increasingly uncommon in de-agrarianizing economies; thus, despite the hard physical labor inherent in their job, they still make more money and have more responsibility than those at the bottom of the first hierarchy. In other words, a competent farm manager that spends most of their time engaged in hand labor is far more difficult to replace than an entry level administrative assistant.

In production farming, i.e. one in which maximizing crop output is the main priority, a third familiar hierarchy exists comprised of those workers engaged purely in paid manual farming labor – planting, harvesting, and preparing new growing beds. In US farms, as

[141] Luke Drake, "Surplus Labor and Subjectivity in Urban Agriculture: Embodied Work, Contested Work," *Economic Geography* 95, no. 2 (March 15, 2019): 179–200, https://doi.org/10.1080/00130095.2018.1492875.

discussed, this labor is typically classified as "no" or "low" skill, today usually performed by migrant workers, often undocumented, and often under conditions of terrible exploitation and racialized degradation. It is labor in which American workers in general – due to the long history of stigmatization – refuse to engage, and so as UA ascended in popularity, this begged the question: who would fill the ranks of field workers necessary to drive the oft touted, revolutionary expansion of food sovereignty UA activity? How would the long history of US social denigration of this labor, including associated trauma in the African American and Latinx communities in particular, be socially addressed? In short – how would the social and psychic tension of *field-hand-labor* be navigated in upscaling UA food production?

The answer quickly became clear: In all the UA sites I have examined, this third hierarchy is essentially nonexistent. Because there is no population of paid "field workers" as such, the bulk of this labor is performed by those in the second (farm management) hierarchy, supported by an alternate source of labor for the third: a supply of largely white, almost entirely food-secure volunteers who engage in farm work as a type of recreation, education, and/or community support. Because volunteers are so often unused to farm labor, and because they tend to partake in the simplest and least arduous/repellent tasks (i.e., those most "fun"), the duties, production expectations, and even site structure are built around this reality. Their numbers do not translate into productivity comparable to that of professional farm workers, and their presence is insufficient to support anywhere near what a commercial farm of a similar size would produce when optimizing the same acreage.[142] Thus, while the four UA organizations I studied share a general mandate to increase marginalized communities' access to healthy food, none have expanded their farming production to have a statistically significant impact on local food supply, though at least two began with that explicitly stated aim.

Through the course of my research, some of the organizations have seen dramatic rises and falls in annual funding and staffing, have changed sites and/or mission statements, and have also seen the communities in which they are embedded gentrify, with lower income people of color (typically the focus population for food justice organizations) moving out and being replaced by whiter and more privileged residents. Both the absence of upscaled production and the perceived constituency being served complicate the framing that some UA organizations use to attract funding – namely, that they are substantially addressing the food access issues of a marginalized local community. Those organizations have increasingly struggled to "tell their story" (a phrase I heard multiple times from top UA administrators) to donors and grantmakers in a way that garners philanthropic or municipal support. Those that have expanded have thus done so not by prioritizing a functional route towards achievable food sovereignty, but rather by focusing on the farm park model, NPIC development practices, and community services other than food production, such as park management. Their success as organizations has varied depending on how it is defined, their missions have changed over the years, and some have questionable longevity in the very near term. But that they are in existence after over a decade provides a significant piece of organizational lifespan to examine. I now present the four farm sites in the form of case studies.

[142] Interview with Former NRF Council member, July 22, 2022.

Spiral Gardens Community Food Security Project

In 1977, residents of the City of Berkeley approved a $500,000 bond to buy a 3.1 mile-long stretch of contaminated land from the Santa Fe Railroad company which had owned the rights since connecting Richmond to Oakland with a rail line from its completion in 1904 until decommission in the 1960s. In 1979, the city council "determined that it should be developed for a combination of housing and parkland,"[143] and a few such projects were built, such as Cedar Rose Park on the north end (1980), Strawberry Creek Park on the south (1983), and the Berkeley Youth Alternatives community garden on Bancroft Avenue (1994).

In 1993, Spiral Gardens (Spiral) was founded as a "project of the Agape Foundation for Nonviolent Social Change by a handful of individuals dedicated to urban greening, innovative organic farming methods, food security, and environmental justice issues."[144] In 1997, it began merging activities with the Building Opportunities for Self-Sufficiency Urban Gardening Institute (BUGI), and in in 2003, incorporated as a 510(c)(3) nonprofit to oversee the development of a 0.5-acre triangular wedge of the former railroad land in West Berkeley into "a community garden, a retail nursery, and an outdoor community classroom."[145] The land was leased by the city to BUGI for a century, at the nominal cost of $100 per year. Spiral's mission is "to improve community health and sustainability by providing access to nutritious and affordable produce, promoting a strong local food system, and encouraging productive use of urban soil."[146]

Since its inception, Daniel Miller has been the nominal Executive Director, but in practice, the site was functionally run by a partner team consisting of Miller and his partner, Kanchan Dawn Hunter, along with a small, stable, unpaid five-member board consisting of a president, treasurer, secretary, and two directors. Miller, who is responsible for much of the logistics and planning around site operations, prefers "Caucasian mutt" as a descriptive over "white," but says projections of whiteness on him by people of color are based on "fair perceptions." He entered the urban agriculture world because he felt it "addressed the maximum number of social issues possible. Pretty much every issue you can think of, urban gardening can be a core solution to."[147] Hunter, a Black woman, split her time between cultivating and community organizing work on the garden site as well as sales at the nursery, and in her view, performed an important role as the public face of Spiral, thereby underlining the representation of women of color.

[143] "Group Aims to 'green' South Berkeley by Transforming Old Railroad Right-of-Way," *Berkeleyside* (blog), January 6, 2020, https://www.berkeleyside.org/2020/01/06/group-aims-to-make-south-berkeley-greener-by-transforming-the-old-railroad-right-of-way.
[144] "Spiral Gardens Community Food Security Project, Berkeley, CA."
[145] "City of Berkeley Revenue Contract, 8/12/2003," August 2003.
[146] "Spiral Gardens Community Food Security Project, Berkeley, CA."
[147] Daniel Miller, Interview with Daniel Miller, 2017.

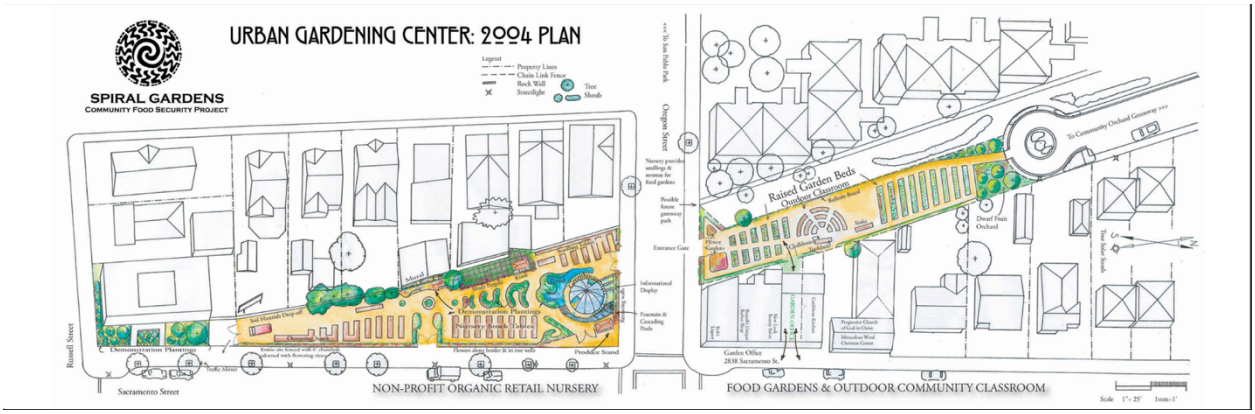

Figure 1 - Spiral Gardens 2004 Site plan

Figure 2 - Spiral Gardens Google Earth view, 2020

The farm is situated along a commercial strip in a mostly residential Southwest Berkeley neighborhood, as seen in the 2004 site plan (figure 1) and a 2022 Google Earth view (figure 2). Historically, West Berkeley – defined by some as the areas west of Sacramento Street - was mostly poor and Black, a legacy of 'redlining' by local governments and banks wherein de facto segregated neighborhoods were created by the use of color-coded maps to downgrade the value of certain areas based on security criteria that were proxies for race. It was in part for this reason that Spiral was founded. The area, rife with corner liquor stores, was suffering from food apartheid: "This area was historically a food desert," said Kanchan Hunter in a 2017 interview with the Berkeleyside local news outlet. "People here were dying seven to 10 years earlier than residents on the east side of Sacramento Street and from completely treatable diseases related to lack of nutrition."[148] The area around Spiral, however, has undergone a major demographic gentrification-driven transition over the past decade, as skyrocketing rents and stagnating wages have created an exodus of disproportionately poor and POC residents who are replaced by a more affluent and white population, a historic reversal of the "white flight" to suburbs that hollowed out urban cores.

[148] Cirrus Wood, "East Bay Food-Justice Movement Has Deep Roots in Black Panther Party," *Berkeleyside* (blog), August 24, 2017, https://www.berkeleyside.org/2017/08/24/east-bay-food-justice-black-panther-party.

This has meant new challenges for the farm in terms of the community it seeks to serve. Instead of predominantly Black residents from working backgrounds, the Spiral Gardens nursery business now attracts many more affluent white people. Daniel Miller explains: “And so the whole demographics of the neighborhood is changing very rapidly. And then that brings in, folks with a whole different set of expectations coming in this is sort of consumer entitlement, you know, expecting [a] certain environment that we're not even trying to provide.” Those visitors expect a customer experience of urban farming as opposed to engaging with a community organization. Miller adds, “You know, and if we're dealing with a person from community, and you're like, Excuse me, excuse me, I need some help, which was entitled, white folks tend to do, right, they tend to, like, you know, I'm here, stop talking to this other person of color over here, cuz obviously, you need to serve me. Right? Right happens all the time.”

The farm itself is bisected by a street, with both sides consisting of a quarter acre surrounded by a seven-foot cyclone fence. The southern section contains a nursery business, with soil and compost near the fence gates (for easy pickup/drop-off), racks of various starter plants organized into thematic sections, a small storefront and sales table, and a greenhouse for propagation. The northern side contains a small community garden (11,000 square feet, or about a quarter acre) with growing beds, an educational area, a toolshed, and a chicken run.

Spiral Gardens has but a fraction of the budget and staff of the other three sites, and this has remained relatively consistent throughout my research. On average, Spiral has had two paid part time staff members in the second hierarchy who handle the wide variety of tasks on both sides of the site, including overseeing volunteers. With few exceptions, their staff have been people of color, mostly women, as they attempt to recruit and hire people that represent the community the organization was founded to uplift out of intersectional oppression. As a result of the constraint on staffing, as well as the lack of focus on NPIC related tasks such as grant writing and donor solicitation by the co-director team, Daniel Miller and Kanchan Dawn Hunter (until her exit) performed all essential tasks on the farm themselves, with some assistance from paid staff when they could afford it - typically part time, and with titles such as Project Coordinator, Intern, Nursery Specialist, Nursery Plant Specialist, or Plant Steward. Thus, while there was nominally a job hierarchy, practically they worked in a collective effort such that there was little distinction between the various labor hierarchies in terms of on-site manual farm duties.

Because the southern half of Spiral Gardens is a functioning nursery business, most activities there revolve around tasks typical of maintaining such an inventory – harvesting seeds and using them to generate starts in the greenhouse, organizing and stocking plants for sale, and handling sales and advice for customers. Volunteers would typically be tasked with everything non-customer related, while sales would be processed by Miller, Hunter, or occasionally one of the staff on payroll. As Hunter explained the labor roles, “on the nursery side … there's plant production from seeds, cuttings and divisions … there's constant cleaning and weeding and always there's watering to do and, you know, we cover as best we can … But more people would just mean this place to stay and be able to intensify production of all contents of five production continued with landscaping projects. … rotation and greenhouse. It's just 1,000,001 projects, keeping the kiosk clean. Yeah. And then there's really no infrastructure to like, if you did want to write regular grants, you don't have an actual development director … Dan may write a grant once in a while.” <Kanchan> It is telling that Hunter mentioned the grant writing/nonprofit development role last, as it clearly is at the bottom of their work priority. There is no fieldwork per se in the nursery; perhaps the most arduous and dirty tasks involve filling the bags of soil and compost they sell, which are bought in bulk from a local company and delivered via truck dump

in a large pile at one of the fence gates, then mixed and packaged via shovel and bucket. When I have seen volunteers filling these bags, they have been overwhelmingly young and white.

On the community garden side, there are several small (3' x 10') beds of raised dirt and compost, and then two constructed raised beds which are the main focus of labor. More space is available for cultivation on the property, but it remains either overgrown or used for storage due to a shortage of labor to put the ideas for the space into practice, such as expanding the chicken run or adding a duck pond. Caring for the chicken run – currently a 10 x 30" area – is also perhaps the dirtiest and most labor intensive of the tasks on the farm. Every year or so, the floor of the run – which is a rising combination of composted straw bedding, food waste, and chicken manure – is removed, and repurposed as high-quality amendment for the community garden. This task is physically demanding and exposes the worker to chicken waste and pathogens. From a labor perspective, this is something most volunteers are not excited to do, and thus a task Miller would typically complete himself - though when large amounts of labor are available, as with an entire college class, then he can occasionally find a small group willing. When as a GSI I brought such a class to volunteer, only one of the 35 students offered to help process the floor of the chicken run: a young Asian man.

When asked what they most needed labor for on the community garden side, Hunter felt that having someone to "make sure the farm gets watered at least, you know, three times a week would be great. Making sure things are cleaned up around their tool organization and cleaning would be done more often. The compost tumbler would be better monitored. And, you know, we could be producing compost with that … make sure the birds have everything that they need … sometimes they need diatomaceous earth baths, you know, so they don't have to deal with mites … I'd love to have a chicken person dedicated to just … making sure their feathers and vents are clean and making sure that they're getting all the minerals that they need in their daily diet. You know, and then we've got two big Hügelkultur beds that a bunch of UC students … built with my direction. But it would be great to … have someone on team that, you know, once those are planted, can monitor the heat temperature inside the beds and also moisture inside the beds and just really get a good sense of how that that planting system works. I mean, there's so many systems over there that could be better monitored." (Kanchan)

The shortage of labor affects not just cultivation and monitoring, but distribution as well.

> "The way it works is that volunteers can harvest what they need, you know, with some supervision… but generally, when we have a good enough of a group participating, we get a core group, we tend to out produce what the volunteers can actually eat. And then at that point, we harvest and we donate, mainly to the seniors living next door… and it's just, you know, pretty easy. We've tried different ways over there, we've just put boxes down in the courtyard. People self distribute, which sometimes works sometimes doesn't. .... Free distribution. I've seen it in the shelters and all kinds of places when I worked for BOSS. But other times, like volunteers here … actually like bundle things and distribute them themselves. But that's hard. That's a lot of labor. It's hard to keep that up. And we've envisioned other ways to do it. The farm always tends to lag behind in our intentions." (Daniel).

Hunter agreed, stating that "two days a week on the farm is not enough to have like a really robust … food production process." (Kanchan). Again, we see that the labor structure, fueled by volunteers who are managed by both the first and second hierarchies (since both Miller and

Hunter maintained a mostly full-time, manual-labor presence on the site) was not enough to intensively cultivate even the quarter acre that the community garden occupied.

The volunteer base has mirrored the patterns experienced by the other farm sites, in that it began as mostly white and female, and provides the great majority of workers. By using word of mouth and social media communications highlighting their community and local market, they have – while not achieving the numbers seen at the larger sites – nonetheless acquired some volunteers and in particular staff members more reflective of the marginalized communities that the "Food Security Project" was intended to support. "We've managed to attract a pretty diverse volunteer base," says Daniel Miller. "It hasn't always been the case. And it's something that we struggled with. And I think it was, the typical issue is, we started with all white folks. And it's really hard when you start that way to attract diverse people." Even so, being situated closest to U.C. Berkeley, they have a younger and more Asian demographic than may be the case in City Slicker or Urban Tilth. "You know, it does get influenced by certain things. Like the diversity of the university, right, we get a lot of students volunteering here. And the diversity of course affects the diversity of our college volunteers. Right. So, you know, tends to be more Asian nowadays than it used to be."[149]

As 2021 ended, Kanchan retired from Spiral, and in 2022, Daniel was the sole remaining staff member. As a result, he has had to shut down the community garden operations and focus full time on the nursery alone, with occasional help from his son. Willow Rosenthal, a founder of City Slicker Farms, credits Daniel Miller in a 2011 Berkeleyside article as being one of her "local heroes," stating that he "was really my first inspiration for farming in an urban setting. I reached out to him early on."[150]

[149] Miller, Interview with Daniel Miller.

[150] Guest contributor, "City Slicker Plans to Create New West Oakland Farm," *Berkeleyside* (blog), June 4, 2015, https://www.berkeleyside.com/2015/06/04/city-slickers-plots-to-create-new-west-oakland-farm.

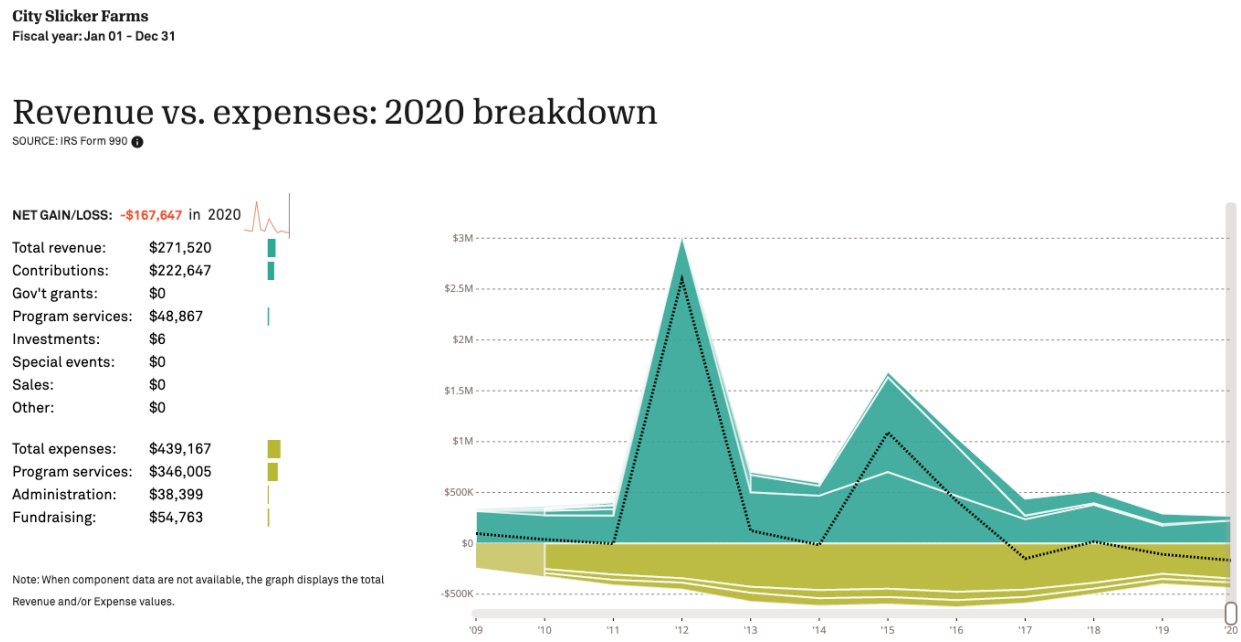

Figure 3 - City Slicker Farms 2020 Revenue vs Expenses

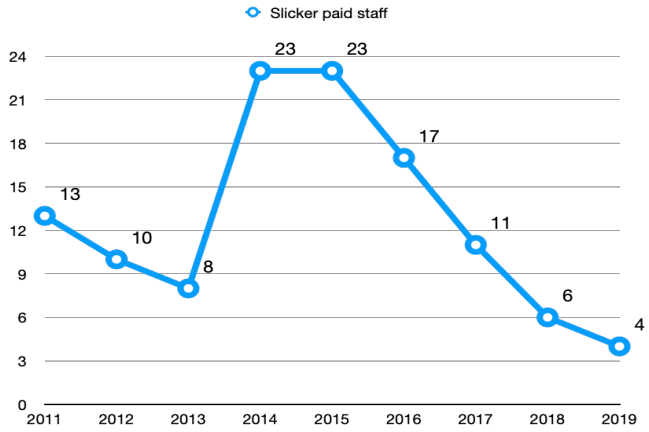

Figure 4 - City Slicker Farms Staff, 2011-2019

City Slicker Farms (CSF) was cofounded in 2001 by Willow Rosenthal, who describes herself as "very Jewish" and raised in Sonoma County by hippie parents.[151] In 1997 she moved to West Oakland which was at the time, as the Berkeleyside periodical described it, a "predominantly low-income, African American and Latino neighborhood" in which people "had nowhere close by to buy healthy, affordable food. The area had plenty of corner liquor stores and fast-food joints, but not a single full-service supermarket."[152] The neighborhood had been the

[151] Abra Cohen, "Talking with A Willow with a Green Thumb," *J.* (blog), March 28, 2014, https://jweekly.com/2014/03/28/talking-with-a-willow-with-a-green-thumb/.
[152] Sarah Henry, "Urban Farmer Willow Rosenthal Plants Seeds in Berkeley," *Berkeleyside* (blog), March 4, 2011, https://www.berkeleyside.org/2011/03/04/urban-farmer-willow-rosenthal-plants-seeds-in-berkeley.

subject of the same redlining described above, as well as environmental justice problems, particularly air quality. In Rosenthal's words in a 2014 interview with The Jewish News of Northern California:

> "After graduating from the University of Oregon, I moved into a house in West Oakland and noticed there was a lot of empty land. Since it was a bit of a downtrodden area, I thought, "There's some land. I wonder what we can do." One thing led to another and I was able to purchase an empty lot and started the first community market farm in 2001. That grew and eventually we called our project City Slicker Farms. Eventually, I quit my day job and started doing urban farming full time."[153]

City Slicker's webpage in 2022 describes the history this way:

> "In 2001, a racially and culturally diverse group of West Oakland community members, led by Willow Summer (formerly Rosenthal), decided they would donate their yards and plant on vacant lots in order to grow healthy food right in their own neighborhood … Willow became the organization's first Director and the founding farmers became an advisory board … The CSF model was built on and honors the rich history of farming in Black, Latino, and immigrant families as well as the models of community farming in Cuba and Venezuela."

This disparity in framing – between one centered around white female leadership engaged in education-oriented community uplift and beautification programs, and one led by and serving people of color, oriented around building radical food sovereignty infrastructure to counter food apartheid – is large, and hints at the tense politics around identity and legitimacy, of which the EDs in particular are aware as they address varying constituencies. When Rosenthal was asked if it was "hard to give up the reigns" (a misspelling on the original, and yet apropos): "I never thought about it in those terms. It wasn't 'mine,' it has always been a collaborative effort. City Slicker belongs to the community and I'm glad I was able to shepherd it through to its next phase and knew when to leave with grace."[154]

Their early staff – beyond Rosenthal – consisted of a program assistant, Backyard Garden Program Mentor, Community Market Farm Coordinator, and three "Farm Apprentices" who were responsible for much of the garden labor that volunteers did not perform themselves. Their 2006 report notes that 80% of staff time was spent working in the community and that 20% of staff time was devoted to administrative work and concludes that they "simply lack the staff capacity to use every volunteer or build on every empty lot we are offered. Increasing staff is critical to our organizational development and the economic advancement of our community members."[155] At this point, it still seemed an open question what kind of staff would be prioritized. Inability to use every volunteer implies a lack of management in the form of oversight and plan coordination, while inability to build on every empty lot implies a lack of physical labor to carry out the plans.

---

[153] Cohen, "Talking with A Willow with a Green Thumb."
[154] Henry, "Urban Farmer Willow Rosenthal Plants Seeds in Berkeley."
[155] "City Slicker Farms 2006 Annual Report," 2006.

The 2006 report also restated their mission is "to empower community members to meet the immediate and basic need for food security for themselves and their families through the creation of organic, sustainable, high- yield urban farms and backyard gardens."[156] It also contained the results of a spiderweb indicator assessment developed in the Latin American context,[157,158] showing progress and in some cases, regression (such as sustainability of income sources) between 2005 and 2006. Below is a comparison between an assessment from

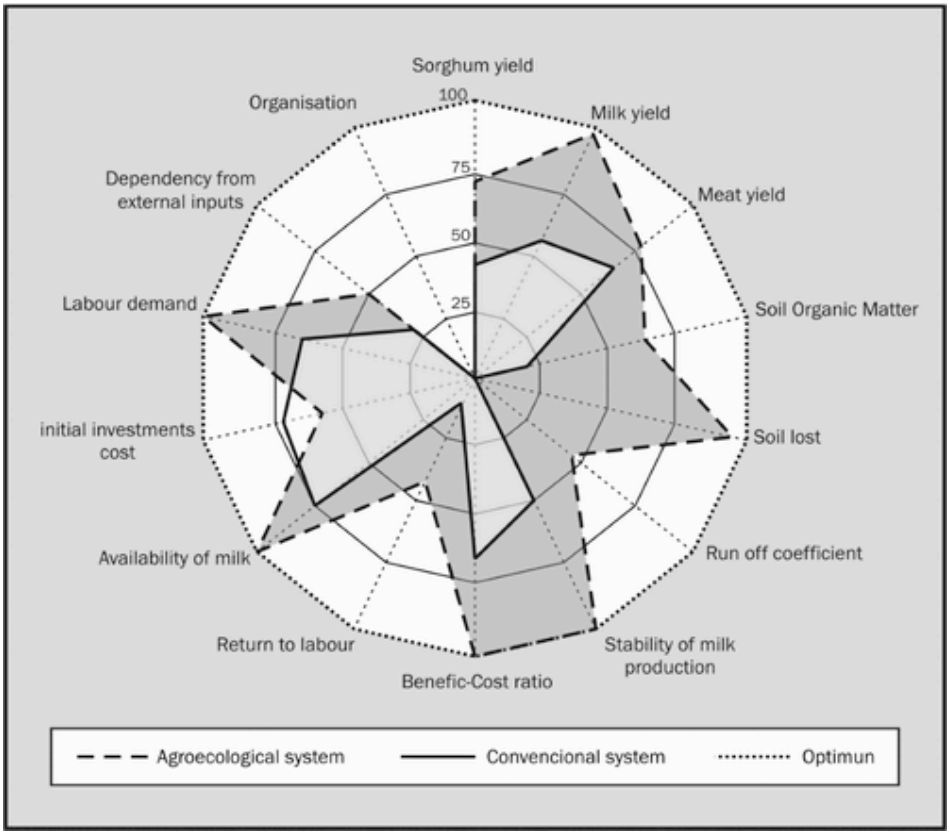

Figure 5 - Koohafkan et al. (2012) graph

Koohafkan et al. (2012) in figure 5, and a 2005-2006 report from City Slicker Farms in figure 6.[159] At this time the farm sought to apply a highly quantified approach to measuring its performance and results in line with the methods of leading urban agroecologists, and making this information available to everyone as a form of accountability and transparency.

[156] "City Slicker Farms 2006 Annual Report."
[157] S López-Ridaura, O Masera, and M Astier, "Evaluating the Sustainability of Complex Socio-Environmental Systems. the MESMIS Framework," *Ecological Indicators*, Hyatt S.I., 2, no. 1 (November 1, 2002): 135–48, https://doi.org/10.1016/S1470-160X(02)00043-2.
[158] Parviz Koohafkan, Miguel A. Altieri, and Eric Holt Gimenez, "Green Agriculture: Foundations for Biodiverse, Resilient and Productive Agricultural Systems," *International Journal of Agricultural Sustainability* 10, no. 1 (2012): 61–75.
[159] "City Slicker Farms 2006 Annual Report."

Figure 6 - CSF 2006 Annual Report Graph

In 2007, Rosenthal moved from her role as Founding Director to CSF's board of directors, and was replaced by Barbara Finnin, who would oversee and expand the operations over the next six years as Executive Director. This moment marked a period of institutional transition for Slicker, in which it began an expansion phase that is the forte of 'nonprofit development' professionals and consultants. The 2008 Annual report notes a drop in staff satisfaction from 2006, and notably one of the indictors present in their 2006 "sustainability web graph" under the "Institutional Sustainability" metric – "Democratic decision making process" – was removed entirely.[160]

In its early years, while operating on a "shoestring budget"[161] provided in part by All Edibles (a "landscaping company for east bay residents that installs entirely edible landscapes and gardens"),[162] CSF acquired a small collection of UA projects. Joseph Davis (a black man from Oakland and practitioner of biodynamic farming, seen in figure 7) was added as one of two

[160] "City Slicker Farms 2008 Annual Report," 2008.
[161] Henry, "Urban Farmer Willow Rosenthal Plants Seeds in Berkeley."
[162] "City Slicker Farms - 5/25/2010," May 25, 2010, https://web.archive.org/web/20100525235348/http://www.cityslickerfarms.org/.

Figure 7 - City Slicker Farms Staff, 2010

Backyard Garden Program Mentors, and they had maintained three "Farm Apprentices," who performed most onsite labor and directed farm volunteers. It partnered with the already existing West Oakland Woods farm in 2005 and "operated WOW Farm's annual production for its sliding scale farm stand and urban farming education activities."[163] Lacking its own greenhouses, it instead used a nursery space at Ralph Bunche Elementary School to start seedlings, which not only allowed for educational integration via UA curriculum, but also had the added benefit of turning hands-on learning into productive community work, reminiscent of the Bob Moses Algebra Project. CSF also cultivated two private yards with permission from the owners, named the Secret Garden (because it was in a backyard) and The Herb Farm. In cooperation with city council member Nancy Nadel, CSF converted the Union Plaza Park (owned by the city of Oakland) into a community garden, and because the land was being used as a homeless encampment, the council was assured by Rosenthal that "City Slicker Farms will be doing outreach with the homeless to involve them"[164] so that they would not feel displaced. The encampments, occupied mostly by Black unhoused, were resituated to areas directly surrounding the park and thus were a still a presence in the area, but during my time volunteering at that site I never saw any direct involvement on their part in the garden with personal "ownership" of growing beds or as a source of volunteer labor.

Beyond these community gardens it oversaw, CSF's other major activity was establishing dozens of privately owned backyard gardens distributed across West Oakland. The CSF backyard "mentors" would build raised beds on a weekend, using new, purchased materials such

[163] "Farm History," *WOW Farm* (blog), June 15, 2012, https://wowfarm.biz/the-farm/.
[164] "PARKS AND RECREATION ADVISORY COMMISSION," 2006, 6.

as pine boards, and then in theory would continue to advise and support the homeowners in the years to come so that their gardens would remain productive as they used their own labor for gardening and upkeep. However, as the lack of staff capacity mentioned above suggests, as the number of backyard gardens has grown into the hundreds, this has become infeasible. One Backyard Garden Program manager expresses frustration at the number of people saying "hey, you installed our garden eight years ago, and we need help"[165], only to find that it needs to be rebuilt from scratch. This is an issue not only of labor in terms of maintenance and upkeep, but also materials sourcing. For aesthetics and the sake of equity, the backyard raised beds are built with new materials, but they are cheap (such as pine) and degrade more quickly.

In 2009, Abeni Ramsey was on staff as their Community Market Farm Coordinator and oversaw distribution of the food produced in the farm sites to populations in need. She felt that her input as to the specifics as to how these populations should be served (such as working with SNAP and WIC funding, government food assistance programs) was unwelcome, and got the sense that increasingly her main role, for the sake of PR and fundraising, was to "be quiet and look Black."[166] By 2010, she had left.

In 2010, City Slicker Farms secured $4 million from the Proposition 84 California bond initiative (which "reserves $5.4 billion in bonds for project involving water quality and access, park improvements, and natural resources and park preservation"[167]) to be used "for a community market farm and park at a 1.4 acre vacant lot in West Oakland."[168] Because the Proposition 84 bond was for park funding, the entire lot could not be used for food: the law required that part of it be dedicated to public parkland (i.e. recreational) space, thus imposing a structural limitation on the farm. It would take another four years of planning and consultation before the site would open in 2015, but the award – and infusion of funding – radically changed the nature of City Slicker's labor focus, and codified the "professionalization" of the staff.

The 2010 report lists 5 staff members: ED Barbara Finnin and program assistant Elyse Rainey (the admin team), and three staff that performed a combination of physical and managerial labor: Joseph Davis (Backyard Garden Mentor), Julie Pavuk (Operations Manager), and Sarah Karlson (First Five Garden Coordinator). Joseph Davis – who had for years been a Farm Coordinator and Garden Mentor – was now retitled "Backyard Garden Mentor and Farm Assistant," and he oversaw operations on their multiple sites, coordinating volunteers but also doing the work of maintaining the gardens – planting, harvesting, weeding, fertilizing. He would also occasionally make compost tea at the Union Street site, but lacking electricity, they were unable to run an aerator for oxygenation, so it was not a scalable endeavor. (In my volunteer work, we were hand-churning buckets of compost tea, more of an educational than functional exercise).

As on other sites, the volunteer and paid youth intern labor I observed during this period was mostly white and female, typically recent students or retired people. Also, during this period of intense interest in food justice, when many corporations were sponsoring UA "Corporate Work Days," I watched a team from the Kashi Company (owned by Kellogg) arriving to volunteer while the (white female) team supervisor handed out merchandise emblazoned with the brand name and logo, and I was told this was happening at sites around the Bay Area. Ironically, these corporate teams were more diverse than the typical white and female UA volunteers, as

[165] Backyard Garden Manager, Interview with Backyard Garden Manager, August 2, 2022.
[166] Abeni Ramsey, Interview with Abeni Ramsey, 2015.
[167] "City Slicker Farms 2012 Annual Report," 2012.
[168] "City Slicker Farms 2012 Annual Report."

they were paid to be there on a temporary basis for PR/community engagement purposes, and so were reflective of the more diverse demographics of the temp labor market.

Over the years between 2010 and 2015, Slicker would grow considerably in its staffing. One of the farm apprentices would become "Operations Manager," and they would also add a "Development and Communications manager," a "Community Outreach Coordinator" and then a "Partnerships Coordinator" (notably filled by a Black woman, and from what I observed over the years, only one black woman would ever be on staff at a time, and always in a supporting role), a "Capital Campaigns Coordinator," a "Director of Advancement," and a "Senior Accountant." Importantly, despite a massive budget increase, City Slickers did *not* hire more farmers. For example, in 2016, when they had an annual budget of $1.6 million in grants and contributions, their staff remained relatively static, mostly white female, and mostly administrative.

Rodney Spencer's hire in late 2015 as executive director was seen as a hopeful sign by some that black leadership might alter the perception that CSF was not "of" the community, in that it did not represent the interests of West POC in West Oakland, and that with white leadership and a largely white volunteer labor force, it did not create a space welcoming for those who did not fit that demographic. At Spiral Gardens, Daniel Miller commented:

> "You know, they hire the black Executive Director, which was amazing, because that was one of the big issues with city slickers forever was always run by a white woman in West Oakland. Right? Now they got Rodney … and that changes everything, you know, not only does it change the look of the organization, and the trust and the projection on the organization, but also, you know, hopefully being black gives you more direction on what black folks want, beyond just making it more welcoming."[169]

Spencer oversaw the grand opening of the new Peralta Street Farm Park on June 11, 2016, described at the time as "a new civic green space that combines outdoor recreation and play space with healthy food and nutrition education"[170] – a notable departure from the original food sovereignty mission. As ED, he quickly discovered that not being from the neighborhood, and being – according to some - unrepresentative of its background, was a liability. From a 2018 San Francisco Chronicle article: "Spencer reports that a few community members have criticized him on the grounds that, while he's African American, he's also college educated and not native to West Oakland — and therefore less equipped to understand residents' needs. His volunteers, most of whom appear to be white, likewise risk making the Farm Park appear more a boon to home values than a site of learning and improved health for the neediest locals."[171]

This provides an interesting window into another form of double-consciousness that defines much nonprofit-led UA in the Bay Area. Farms simultaneously present as a radical project in self-sufficiency amongst the most marginalized, and yet are dependent upon securing credibility within the realm of (White) nonprofit funders and grant makers – and arguably address *their* external priorities and those of the incoming gentrifiers more than those food

[169] Miller, Interview with Daniel Miller.
[170] "City Slicker Farms West Oakland Farm Park: Grand Opening - Ecology Center," accessed October 3, 2022, https://ecologycenter.org/events/city-slicker-farms-west-oakland-farm-park-grand-opening/.
[171] Andrew Simmons, "Rodney Spencer and the Struggles and Rewards of a West Oakland Urban Farm," San Francisco Chronicle, April 27, 2018, https://www.sfchronicle.com/food/article/Rodney-Spencer-and-the-struggles-and-rewards-of-a-12869555.php.

apartheid-beleaguered West Oaklanders the organization was ostensibly founded to serve. Spencer observed as much in the same article:

> "Demographically, we're 10 years behind," admitted Spencer on a recent afternoon, as he surveyed his farm and the neighboring plot destined for condos. "By the time we get everything installed, the demographics will have changed," he said. "But we'll be here for whomever is here."[172]

Joseph Davis, the garden manager of several years with whom I had spent many hours of volunteer time, was later let go by Spencer for "not being numbers-focused" enough, according to another local UA practitioner, a decision that highlights the tensions around the kind of work expected of staff explained by Oyakawa. During my time volunteering at this farm, Joseph kept only a few records, such as a logbook into which volunteers would write their names. When I asked if there was a spreadsheet of the flows of inputs and outputs, he said it was all "up here," pointing at his head. For example, a large pile of organic waste at the Secret Garden had been donated by truck drop-off from local restaurants, but beyond getting "on average a couple cubic yards every couple weeks or so," there were no records kept; the only quantified logs regularly updated at that site documented the weight of harvested produce, so that the total pounds of food could be included on the annual reports or the website, as seen in figure 8.

Figure 8 - City Slicker Farms website image, 2022

While UA practitioners acknowledge the importance of such reporting in terms of highlighting demonstratable impact to those who might support them, they also resent the labor expended and even the quantification. Like Daniel at Spiral Gardens, Joseph felt maintaining such records was mainly for the funders, and it was not relevant to his work. When I floated the idea of a phone app to track the resources being used at the farm, Joseph expressed dismay – not just at the extra labor such data entry would imply, but also at the very idea of this spreadsheet deconstruction of an intensely ecological and embodied activity. This disdain for quantification was a common sentiment among those engaged in UA on the sites I studied, and obviously shaped the kinds of activities and labor being undertaken.

The period between 2016 and 2019 in general saw a dramatic drop in both staff and funding, as well as organizational flux. By 2018, CSF had been reduced to just three staff: Spencer, Julie Pavuk, who became the Garden Program Manager, and Gina Sarti, who replaced Pavuk as the Operations Manager. CSF changed its mission, which became "to strengthen food

[172] Simmons.

sovereignty and social inclusion through urban farming, education, and recreation."[173] Joseph Davis was eventually replaced as farm manager by a young white man named Eric Telmer, who had been apprenticing with CSF under Spencer (he told me that until his training at CSF, he had no garden manager experience). By September 2019, Spencer himself was leaving and CSF was hiring a new ED; they put out a call for a "passionate individual to lead our organization in the fight for food justice and equal access to green spaces."[174] They changed their mission again, to "reinforce self-sustaining access to food and build community through urban farming, education, and recreation," and they also sought a Community Outreach and Education Coordinator, who would function as the interface between the site and the West Oakland community that surrounded it. The organization emphasized that it was "not an agricultural role," but that the ideal candidate would have "some gardening experience".[175] This is one of the clearest indicators that the first labor hierarchy in the organization is not farming focused, but rather NPO focused, with "gardening" as the medium.

The ED position was soon taken by Kelly ErnstFriedman, who – not unlike Barbara Finnin - came from a background of NPO management connected to food: "she was the Executive Director of CommunityGrows, a garden-based youth development organization in San Francisco, and Program Director at Food Shift, a food recovery organization in Oakland."[176] The new CSF mission was "To increase wellness and build community through equitable access to healthy food, thriving gardens, and urban green space." The farm park – besides backyard mentoring by one individual - was now the sole focus of the organization; all other project sites had been abandoned. ErnstFriedman followed the standard NPIC approach, with the main focus of administrative staff being to expand the organization by increasing revenue streams; for example, an "experimental" plan to rent out the ostensibly public farm park for private events. This reflects a larger trend across the Bay Area that Portland State geographer Corbin terms "enclosures from above,"[177] namely the acquisition and functional (if temporary) privatization and exclusive access of the park "commons" by those in positions of elevated economic power, and also ironic given the mission statement regarding "equitable" access to green space. One staff member mentioned to me that this intensifying focus on the NPO development, and the resulting emphasis on securing foundation funding and government grants, often prevented the staff from doing the kind of grounded work that they wanted to undertake. "She's really into Salesforce," said one staff member of the new ED, describing the numbers-oriented culture of nonprofit management they found inhibiting.

The board of directors – which has seen as much turmoil and turnover in recent years as the staff – has remained largely white, with no significant institutional infrastructure connecting them to the larger West Oakland community, as was related at a meeting I attended in the summer of 2022 soliciting community Board members. Just weeks prior to this meeting, ErnstFriedman hired two people for the second labor hierarchy: Region Lewis, a Black West Oaklander as the new farm manager, and Juan Nunez, a young Latinx man, as the Backyard Garden Program manager. Nunez enjoyed his new position more than his former one overseeing

---

[173] "City Slicker Farms - 10/12/2018," October 12, 2018, https://web.archive.org/web/20181012012744/http://www.cityslickerfarms.org/.
[174] "City Slicker Farms - 9/11/2019," September 11, 2019, https://web.archive.org/web/20190911093715/http://www.cityslickerfarms.org:80/index.php.
[175] "City Slicker Farms - 9/11/2019."
[176] "Our Team – City Slicker Farms," accessed May 6, 2022, https://www.cityslickerfarms.org/about-us/our-team/.
[177] C. N. E. Corbin, "Enclosure-Occupations: Contested Productions of Green Space & the Paradoxes within Oakland, California's Green City," August 12, 2019, https://escholarship.org/uc/item/34r2d4hw.

a section of the greenway for Tilth as a "Greenway Coordinator," as the CSF position is more of a mix between physical and managerial (planning and procurement) labor, whereas the Tilth Greenway position was more physical – this highlights but one difference between "coordinator" and "manager" positions in the second labor hierarchy, in terms of job pay and perceptions of desirability. Despite two workers of color in the non-executive roles, those controlling hiring and directing the farm remain mostly white and female, as does the perceived volunteer base. In this sense, the first labor hierarchy – defined by mostly admin work and authority to determine the programming and staff – remains mostly white (when one includes the board of directors), those in the second, more immediately visible and community-interfacing paid labor presence are filled by a much more diverse range of people of color, and the third hierarchy is again mostly privileged, mostly white, but all volunteers. Thus, the social milieu at the site itself, despite many explicit and overt efforts and an expressed desire from both the ED and farm manager to create a welcoming space and sense of ownership for the non-white residents, remained seen by many as a mostly white space.

Nunez confirms that as regards the race and gender of paid staff, "for the people who are doing the physical aspects of farming and gardening … it's spread out pretty well," while the volunteer base is not. "I feel we have … definitely a skew towards white people, people who … don't seem to be struggling financially … They're usually people who have extra money and extra time to volunteer and don't really have like a necessity towards helping the community, they just want to spend some time outside."[178] Given this motivation, they tend to avoid the more laborious aspects of maintaining the farm: "when we do have volunteers, it's usually … the same sort of … monotonous, easier tasks, like physically. So it's like, weeding is always a thing to do at every farm and all the times … cleaning some stuff up, like, you know, mowing or something like that. Maybe like harvesting a little, you know, a little bit of planting, like, that's sort of like the funner stuff that people want to do. But when it's time to … dig a 40-foot trench … then you can kind of see on their face when their mind switches. Like, I don't really want to do this."[179] Because the volunteers are selective about the type of work in which they will engage, because they do so for a such a limited time, and because their skill level and productivity per hour is low compared to a trained farmer, the work they do – while helpful and supportive – is insufficient to keep the farm intensively productive. While Region has done a great deal to increase the cultivation on site, as much as two typical workers according to Juan, multiple visits during summer 2022 confirmed a general absence of people working the land on any given day, and a significant portion of the farm section laying uncultivated.

As of Fall 2022, ErnstFriedman had left and the ED had not been replaced, but instead the overall organizational functions are being overseen by Dre Hernandez, one of the former part time Vista fellows and a young person of color, who was promoted to the fulltime position "Operations and Community Engagement Senior Manager." Hernandez is not an interim ED as was the case with past transitions, and so while nominally in control of CSF, all decisions are overseen by the board of directors, meaning that decision making power had not spread to those in the second hierarchy, despite the departure of the ED. In this way, while all visible top staff were now people of color, all authority still rests with a largely white, largely invisible, and unaccountable, board. One staff member maintained that the board – whom they barely knew and had only recently met, after months – was opposed to most collaborations and expansion ideas that the second hierarchy proposed.

[178] Backyard Garden Manager, Interview with Backyard Garden Manager.
[179] Backyard Garden Manager.

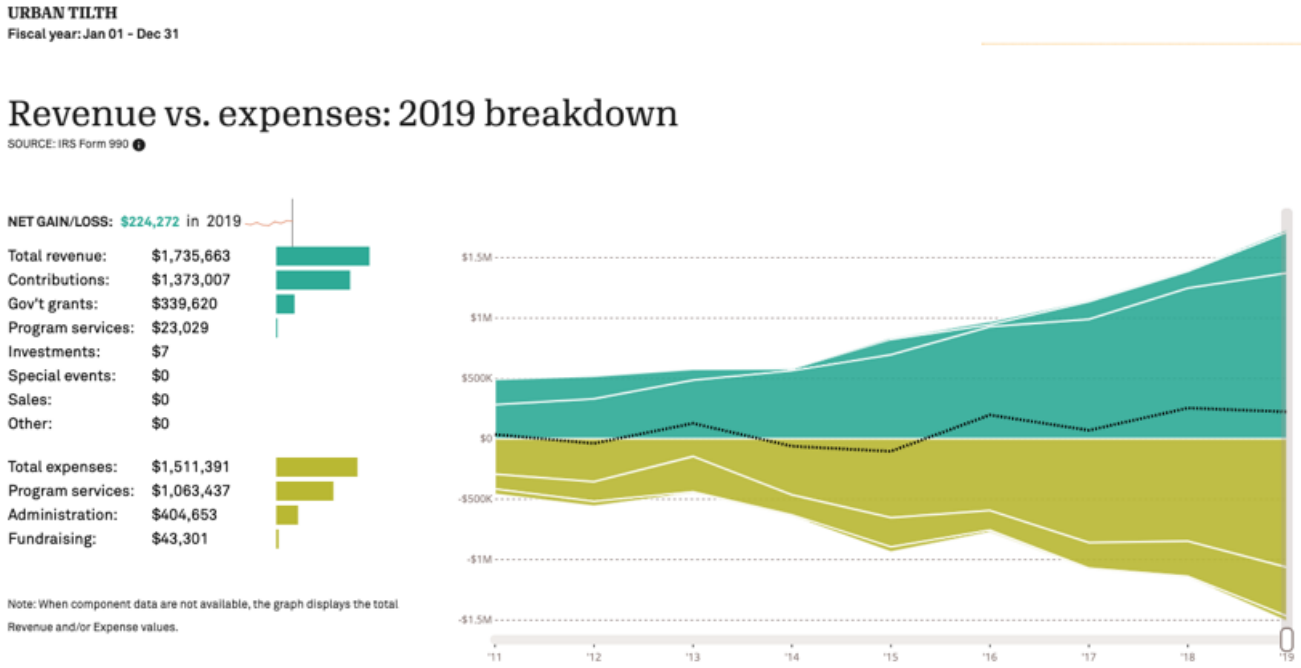

Figure 9 - Urban Tilth 2019 Revenue vs Expenses

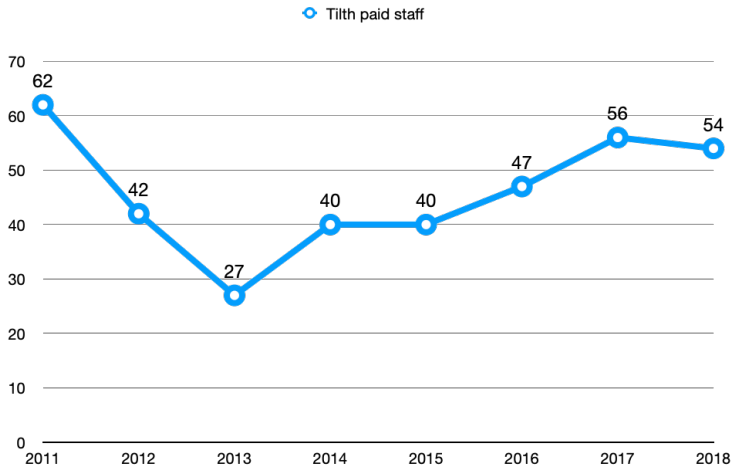

Figure 10 - Urban Tilth Staff, 2011-2018

Urban Tilth (UT) was founded by Richmond resident and schoolteacher Park Guthrie in 2005, who envisioned transforming a piece of the Richmond Greenway – a 5-mile, 42-block stretch of former railway land that had been converted into a bike/pedestrian path park, many sections of which were neglected and blighted – into a positive and productive community space. Guthrie asked Doria Robinson, a multi-generational Richmond resident who volunteered with the organization, to co-direct. Robinson recalls that Guthrie "had a passion for agriculture but didn't know a lot about running a nonprofit. I had spent a lot of years kind of working with

nonprofits and building capacity,"[180] and her background in ecological restoration gave her an advantage in terms of professional partnerships and planning work on city park land. Robinson has been the ED ever since Guthrie stepped down in 2008, when UT's original mission and mandate was the very specific goal of having West Contra Costa county (which includes Richmond) produce 5% of its own vegetable consumption, as part of a collaborative called the "5% Coalition."

Like many community-based urban food projects, the organization relied almost exclusively on volunteer labor in its early years to tend and manage the gardens. The volunteer labor was – as with SG and CSF - mostly white and privileged, or people who, as Robinson put it in an interview with KQED, "were mostly upper-class, white people who had the luxury to volunteer." "This, Robinson says, was simply unsustainable. 'I've always been interested in how to get low-income people involved,' Robinson notes. "The answer is jobs.'"[181] The article states: "The organization's programs target youth and train them to become community leaders who can pass knowledge from generation to generation. Robinson ultimately hopes that by empowering young people with hard skills in agriculture and business, Urban Tilth might eventually seed a number of small co-operative food business in Richmond."[182]

In 2011, UT "was awarded $35,000 toward its Homegrown Experts initiative that provides 30 low-income, urban teenagers with a six-week summer apprenticeship and 100 hours of paid experience with agriculture education, vocational training, community service, and employment."[183] That represented a high point in staff, though not in funding – at this point, Tilth was hiring many youth apprentices, so the staff was part time, young, and relatively nonprofessional. According to one local UA organization founder, Robinson attempted during this period to spread authority more widely throughout the organization and among the youth in particular, but it "backfired" in that many critiqued the direction the organization was taking as well as her leadership, creating a period of institutional instability. UT's news posts, typically published every couple of weeks or so, went silent for a period of almost two years, and during this time, UT would see its paid staff more than cut in half, even as funding steadily grew. At a 2012 dinner at which I was a co-panelist, hosted by a graduate student food policy group at the Goldman School of Public policy, Robinson expressed an aversion to people from outside Richmond's community "helicoptering in" who bring a desire to control Urban Tilth's processes. The organization had clearly undergone some internal turmoil.

By this time UT had several concurrent partnerships and projects, with its website at the time stating that it "coordinates "8 small farms and gardens and currently provides technical assistance to 3 community and school gardens across Richmond and San Pablo, California." Three of these eight projects were on the Richmond Greenway - Berryland (20 raised beds with 18 types of berries), the Greenway Community Garden (42 raised beds), and an Edible Forest. Using such land was supported by funding from "the City of Richmond, Parks and Landscaping Division, Friends of the Richmond Greenway, Opportunity West/SAGE, Rosie the Riveter

---

[180] "Urban Tilth: Reclaiming Community," Oregon Tilth, accessed June 20, 2022, https://tilth.org/stories/urban-tilth-reclaiming-community/.
[181] Adrien Schless-Meier, "This Urban Farmer Is Growing Jobs in Her Richmond Community," KQED, Civil Eats, January 19, 2015, https://www.kqed.org/bayareabites/92243/this-urban-farmer-is-growing-jobs-in-her-richmond-community.
[182] Schless-Meier.
[183] "Media | Urban Tilth," May 29, 2013, https://web.archive.org/web/20130529133533/http://www.urbantilth.org/news/.

National Park, Annie's Annuals, and RainTree Nursery."[184] The other five projects were all partnerships using school land, which allowed on-site educational integration as well as access to associated funding: Adamscrest Farm, Verde Partnership Garden, Lincoln School Farm, Richmond High Farm and Garden, and the Kennedy High Farm and Edible Forest.

Theoretically the skills being learned, though including manual labor, were varied and translatable to overall organizational or farm management, not just planting and harvesting. The Verde Garden, for example, was promoted as "an outdoor laboratory that brings classroom learning to life, teaching students everything from cooking, nutrition, literacy, math, and science to conflict resolution and leadership development. The garden also brings affordable healthy food to Verde School students and the North Richmond community."[185] Certainly, the students at school gardens, but also the various apprentices, coordinators, fellows, etc., are by definition of their titles being educated as well as trained in a variety of skills, purportedly all aimed towards the possibility of generating cooperative businesses. This, not incidentally, avoids the critique common in food justice communities that in teaching "hard skills in business and agriculture" they are being inculcated with neoliberal theories of change, perpetuating the same racialized capitalist market that their efforts are intended to confront. Cooperative businesses, or worker owned enterprises, are in essence the proletariat owning the means of production, and when that production is food in largely black and brown neighborhoods, their connections to food sovereignty and challenges to food apartheid become clearer, in terms of both logistical functionality and political economics. Were this framing to be realized, it would be far more reminiscent of the Black agrarianism of the Tuskegee Institute and Southern Farmer Cooperatives, or of the via Campesina cosmovision, than of the proliferation of Sprouts and Whole Foods franchises as a "solution" to "food deserts."

Robinson has since overseen the largest institutional growth among the organizations I examined, but with a budget now based in large part on UT's support for ecological restoration and beautification work in city parklands, with UA as one, but not the only, focus of activity. Between May and June of 2019, the mission statement line "We hire and train residents to work with schools, community-based organizations, government agencies, businesses, and individuals to develop the capacity to produce 5% of our own food supply" quietly disappeared from their website. UT's new mission has shifted to helping "school and community gardens and small urban farms to teach and employ community members to grow, distribute, cook, and consume thousands of pounds of local produce each year, to create a more equitable and just food system within a healthier and more self-sufficient community."[186] Labor is divided into several operational sections, each with its own purview.

Overseeing all operations is the "Admin team," comprised of titles as the Executive Director, Operations Manager, Volunteer Coordinator, Communications Associate, Fund Development Associate, and Bookkeeper. There is a "CSA Projects" team, which is a youth and resident run nonprofit Community Supported Agriculture project with a tiered pricing system that draws from local produce beyond what UT produces. It is comprised of a Logistics Manager, Procurement Manager, and Community Engagement Manager (recently changed to "Member Engagement Manager), all of which are non-physical labor positions. The CSA Coordinators/Drivers, who

[184] "Berryland | Urban Tilth," August 17, 2012, https://web.archive.org/web/20120817113613/http://www.urbantilth.org/gardens/berryland/.
[185] "Verde Garden Welcomes Common Vision," *Urban Tilth* (blog), accessed October 3, 2022, https://urbantilth.org/news/8234-2/.
[186] "Urban Tilth."

represent the entry level of the second labor hierarchy, are expected to "provide excellent customer service," to "prep, pack, pick up and deliver boxes of locally grown fruits and vegetables to local CSA members" and "also assist with maintenance and sanitation tasks of our equipment."[187] They, as with all second hierarchy positions at UT, are also expected to show up at all volunteer days and events, though this is not strictly enforced.

UT's School Garden partnerships include an Urban Agriculture Academy team that runs a UA class and garden at Richmond High School (Adam Boisvert, currently Deputy Director of UT, has taught the program for years, assisted by a Food Justice Fellow who helps co-teach, and a Garden Coordinator who maintains the school garden) and a Verde Elementary Partnership Gardens Team with two Education Program managers and a Garden Co-Manager. The Greenway Gardens team, which manages sections of the Greenway where UT began, is comprised of a Greenway Community Organizer in charge of programming, outreach events, and volunteer management, and four Coordinators, who carry out work and directly oversee volunteers. The entirety of the team except for one of the coordinators (an older Black man) are young women of color. UT's food work also has a Farm Stands and Added Value Products Manager, a Food is Medicine Project Manager, and Community Engagement/CSA Manager.

The summer youth apprenticeship program is now more focused on ecological education and restoration than on food and is closely connected to a Watersheds team which is comprised of a Crew Manager, a Program Manager, a Watershed Technician, and a Nursery Manager who focuses on native plant propagation to support the riparian restoration work.

What is clear from their staff structure is that while the workers are overwhelmingly Black and Latinx, very few of them are engaged in full time farming; the bulk of the staff and their duties could best be described as education and management related. A large portion of physical work in the job descriptions is not connected to food production, but rather park maintenance and ecological restoration; even in areas designated as community gardens, food production is more demonstrative than maximized. For example, as seen in the transformation of the Unity Park section of the Richmond Greenway over time, food production is a minimal part of the plan; most of the arable land is instead dedicated to park infrastructure and recreational space.

[187] "2022-CSA-Coordinator-PT-Position-Announcement-1.Pdf," accessed September 12, 2022, https://urbantilth.org/wp-content/uploads/2022/08/2022-CSA-Coordinator-PT-Position-Announcement-1.pdf.

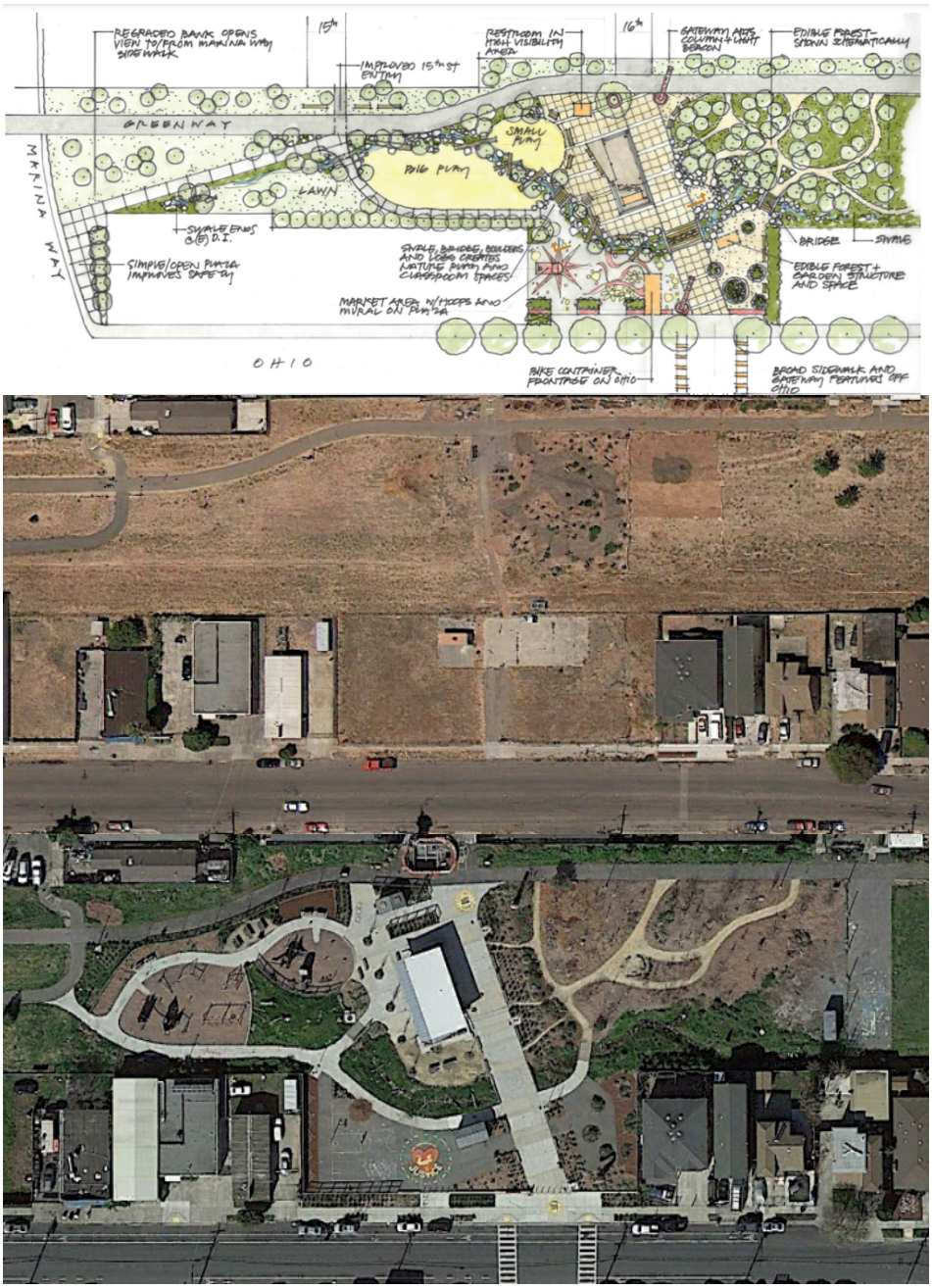

Figure 11 - Richmond Greenway site plan and buildout

A former Greenway Manager corroborates this priority: "It's because the Greenway is so open, you hardly are just doing gardening, it's a lot more than just, you know, planting a bunch of stuff and harvesting and pruning and stuff like that. It's really like site maintenance, almost park maintenance in that aspect … And it was like the city wasn't taking care of it. So we had to do a lot of stuff that was outside of just gardening and farming."[188] The buildout of parkland on the Greenway from site plan to finished space can be seen in figure 11.

[188] Backyard Garden Manager, Interview with Backyard Garden Manager.

Thus, while all these various activities are important, and the educational and ecological restoration/park maintenance projects serve as sources of external financial support for the overall organization, they are clearly not a functional platform on which to build local food sovereignty (i.e. caloric self-sufficiency), given that they are all on city land and delimited by park needs. Hopes were thus high when, in 2016, UT bought 3 acres of land in a relatively undeveloped, industrial area of North Richmond, on which they would site their new North Richmond Farm (NRF). The North Richmond farm was seen by some to be the central focus of UT's food justice agenda, since it represents secure tenure of a large arable tract – often cited as a major barrier to realizing food sovereignty from UA. Unlike CSF's consolidation of all its community garden operations into the Peralta Street Farm Park, UT maintained its other educational gardens and park projects after its headquartering on the NRF, and so some in UT hoped – given so much educational and park related activity at the other sites – it would be dedicated mostly to food production. Thus the labor focus and land use decisions on the NRF are representative of how prominently producing functional food sovereignty figures into UT's physical space and community priority-setting, and disagreement among those engaged in the use of the NRF land illustrates this tension.

The NRF is run day-to-day by 3 "Farm Council" staff and one farm coordinator, who oversee occasional volunteers. My observations during site visits produced a similar volunteer profile as the other sites, in that the volunteers who show were typically of privilege and mostly white, with disproportionately few Black workers. One Farm Council member confirms that the volunteers are mostly from "the Richmond community, but predominantly, the white folks and not so much of black and brown, I mean, some, some Latino folks will come through. But sometimes having American blacks will come through, but I feel like a lot of times, yeah, it is. Predominantly."[189]

The development of the farm moved slowly, in part because finding grant funding to build out a farm is much more difficult than funding the social-service, recreational and educational greenspace, farm-park oriented programs. This also explains the long-term vision. During the pandemic, the "stay at home" order shutdown of school educational programs led to a repurposing of the NRF:

> "To our surprise almost half the staff wanted to continue to grow and distribute food, or do what they could from home to help our community get the sustenance they needed while also helping Urban Tilth survive this moment of crisis. With the remaining staff, we retreated to the North Richmond Farm to see what was possible. We looked at our grants and realized we had a good number of funded farm development tasks such as creating the remaining 40 crop rows, planting the remaining 24 orchard trees, completing the permanent chicken coop, hoop house and installing our permanent irrigation system that still needed to be completed. With our normal crew of 4 people these tasks would take almost 2 years. But with our 13 education and community garden staff, we could accelerate the completion of these funded tasks while keeping our team employed. Maybe by the "end" of the crisis, we could emerge with more growing capacity and a stronger team. By December 31, 2020 we successfully scaled up our operations to feed 440 Richmond families with a box of fresh, locally, and sustainably grown food each week…"

[189] Interview with Former NRF Council member.

This passage from the Urban Tilth 2020 annual report illustrates a couple of important points. First, the work that could be done on the farm – even in a position of community emergency - was limited only to grant-funded "farm development tasks," meaning that the agenda is tied explicitly to paid, grant funded work, long-term viability of the site vision being utterly dependent on securing it. The second is that the temporary repurposing of the educational and community garden (e.g. Greenway park) staff allowed for a dramatic upscaling of the food production coming from the NRF, demonstrating that far more production was possible than was being previously undertaken on the same parcel of land, *if* allotted the labor resources.

Figure 12 - North Richmond Farm, 2/2020 vs 10/2020

As can be seen in the picture of upscaled production in figure 12, the total space cultivated for food, even during the shutdown and repurposing, is still but a fraction of the larger,

Figure 13 - North Richmond Farm long term plan, Noll & Tam Architects

as the rest will be dedicated to other uses. Richmond has a sizable Latinx community, and they currently make up the entirety of the NRF Council, some even coming from farming families. All of the three Farm Council members I spoke to, while grateful for the land and opportunity to farm, were unhappy – to varying degrees – about the small scale of food production at the NRF, and that such a large portion of the site was to be dedicated to buildings, paths, and park space, as seen in figure 13.

One former NRF Council member, considered a "mentor"[190] by some other NRF workers for her high level of agroecological knowledge, was fired from UT after six months, and left vociferously critical of their operations. She maintained that the programs were essentially nonfunctional from the perspective of agroecology-focused food production because the organizational culture was focused on recreation and education, not food sovereignty. According to her, maximizing food production was "definitely not their concern," but rather making the work "fun." She contended that the farming activities were tremendously wasteful of both resources and expertise, and not self-sustaining or educational from a farm business standpoint, because they are not run with the discipline or production focus of a business and are only operational because they are kept afloat with massive amounts of grant and donation funding. As a highly paid farm manager at the top of the second hierarchy, she had no authority to determine or discipline her staff (all hiring authority – as with CSF – rests with the ED, namely Robinson). She said, as a consequence, her staff "did not respect" her and would come late or not at all without fear of repercussion. This overall issue at UT was confirmed by a former Greenway Manager: "We had a very small team on the Greenway, it was four people, but one person for the last couple of months wasn't really doing any work. So it was what I would consider three people … it was just a mix of not showing up not doing things leaving early, leaving late or coming late, leaving early stuff like that, just attitudinal problems and stuff like that."[191]

The NRF manager also said the leadership forced her to hire and train people she thought lacked the skill or inclination to farm, or would hire skilled farmers, but lose them because they

[190] Interview with North Richmond Farm Council member, June 10, 2022.
[191] Backyard Garden Manager, Interview with Backyard Garden Manager.

didn't fit with the "organizational culture," (again, focused on education and for the benefit of "coordinators" and volunteers, sacrificing productivity). She also thought she was forced to hire some people because they were Black, in order to diversify the otherwise Latinx dominated crew, and said that she – a "brown" Brazilian immigrant – was accused of being racist, in part for critiquing what she called the "reparation" politics that UT was grounded in. While far too large an issue to unpack here in depth, this hints at a particular racial dynamic, a complex tension between Latinx and African American communities who engage together in food justice work, that stems from pervasive historical stereotypes, and different attitudes about how agriculture fits into their lives.

First, while it would not surprise anyone in the US to hear that negative attitudes and stereotypes about African Americans are widespread among US whites, they have been observed at times to be even more prevalent among the Latinx community, particularly those from places like Brazil, where (as in the US) color politics are foundational to the social structure and "blackness" is attached to negative associations.[192] McClain et al, drawing from a 2003 survey in the South, found "58.9% of the Latino immigrants in our study reported feeling that few or almost no blacks are hard working; approximately one-third (32.5%) of the Latino immigrant respondents reported feeling that few or almost no blacks are easy to get along with."[193] These sentiments are not constrained to the south; in 2021 "Global health care services and products company Cardinal Health" paid $1.45 million to settle a lawsuit brought by the U.S. Equal Employment Opportunity Commission alleging "African American employees either directly employed by Cardinal Health or assigned to work for Cardinal Health by AppleOne were subjected to ongoing and unwelcome harassment based on their race."[194] Specifically, "Black warehouse workers alleged that their Latinx colleagues denied them job opportunities, gave them the most physically demanding duties and called them monkeys, slaves and slurs."[195]

As an African American Studies undergraduate student and President of the Pan African Student Union at UC Berkeley in the 1990's, I encountered similar attitudes coming from African immigrant students and their parents, who thought American Blacks had a "victim mentality," over-emphasized the role of past slavery and ongoing racism in current conditions and were looking in vain to reparations for deliverance from socioeconomic subjugation. Put more bluntly, many immigrants of color share the historical US stereotype that African Americans want a handout rather than working hard to achieve self-sufficiency or in this case, food sovereignty. Second, while the most-cited definition of Food Sovereignty currently in use is developed by La Via Campesina, a Latinx and peasant led farmer movement, and the current US farmworker population is disproportionately Latinx, the population of African American farmworkers is a disproportionately low 1.5% (compared to ~12% of US population). In short, the Latinx community in the US, as a whole, has a far more immediate cultural connection to farming than the urban African-American community, and if one asks an African-American

---

[192] "Scholars Ask Why Latinos View Blacks Poorly," Diverse: Issues In Higher Education, July 11, 2006, https://www.diverseeducation.com/demographics/latinx/article/15082245/scholars-ask-why-latinos-view-blacks-poorly.

[193] Paula D. McClain et al., "Racial Distancing in a Southern City: Latino Immigrants' Views of Black Americans," *The Journal of Politics* 68, no. 3 (August 2006): 571–84, https://doi.org/10.1111/j.1468-2508.2006.00446.x.

[194] "Cardinal Health and AppleOne Settle EEOC Race Harassment / Retaliation Lawsuit," US EEOC, accessed October 27, 2022, https://www.eeoc.gov/newsroom/cardinal-health-and-appleone-settle-eeoc-race-harassment-retaliation-lawsuit.

[195] Nadra Nittle, "The Racist L.A. City Council Tape Wasn't a Surprise to This Black Angeleno," The 19th, October 19, 2022, https://19thnews.org/2022/10/racist-l-a-city-council-tape-not-a-surprise/.

community and Latinx community separately what to do with a large tract of land and money to develop it, they will get very different answers. I cannot say how prevalent these racial stereotypes are among Latinx farmers in Richmond, and I have not similarly surveyed the surrounding Black and Latinx Richmond communities to speak to how their outlooks on farming locally differ. That said, I find it highly unlikely these phenomena do not affect UT's outcomes in a number of ways: as a factor in varying visions over what should be done with the NRF land, tensions in day-to-day operations over work priorities and goals, and what kinds of politics UT should employ in its pursuit of racial, economic, and food justice or food sovereignty.

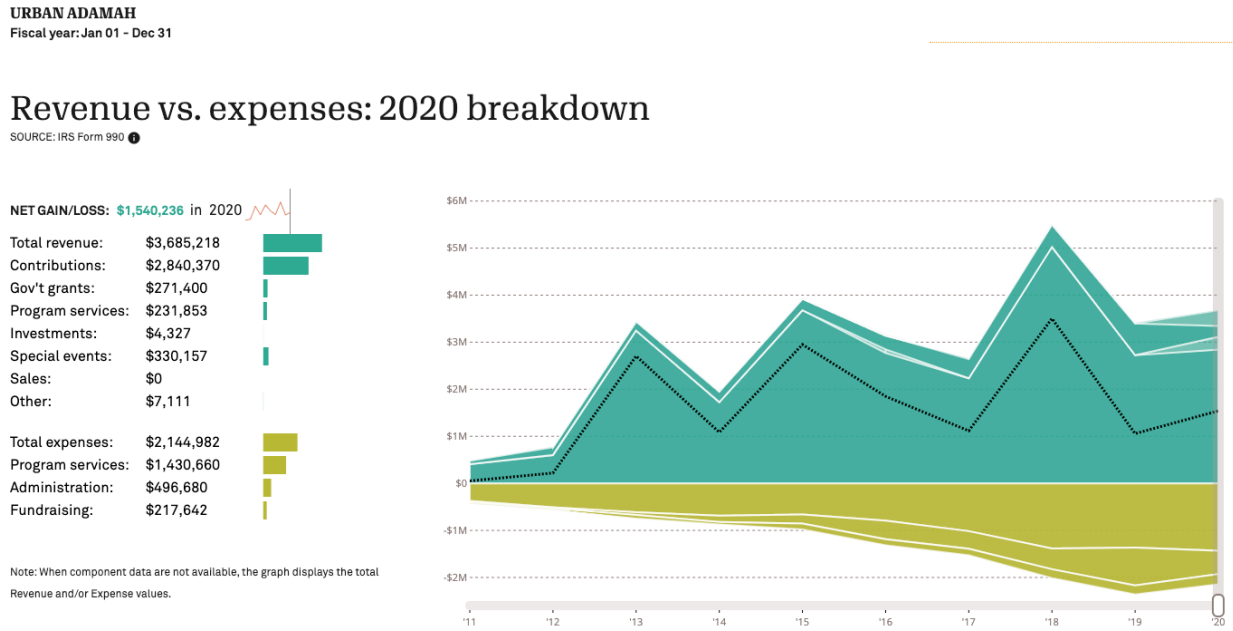

Figure 14 - Urban Adamah 2020 Revenue vs Expenses

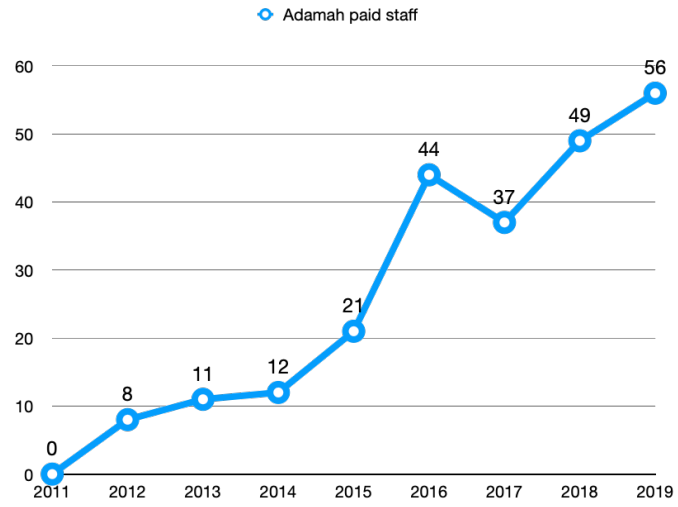

Figure 15 – Adamah Paid Staff 2011-2019

In 2002, Adam Berman co-founded the "Adamah Fellowship, a farm-based residential leadership program at the Isabella Freedman Jewish Retreat Center" in Connecticut, in which "young adults experience a compelling combination of leadership training, organic farming, community building, and progressive Jewish living and learning" over the span of three months. Adamah is a Hebrew word for 'from the earth/ground' and uses an etymological similarity to highlight the theological connection between man (Adam) and the earth (Adamah) from whence he comes and to which he returns: "Probably few languages can replicate the wordplay between the Hebrew

words ‘adam’ and ‘adamah.’ Adam might be translated ‘groundling’ though no major English translation does this. Yet this is a vital relationship to highlight. NRSV [New Revised Standard Version of the Bible] provides a footnote at Gen 2.7: “Or, formed a man (Heb adam) of dust from the ground (Heb adamah).”[196]

In 2010, Berman was given a three-year lease to a vacant parcel of South Berkeley land by Rich Robbins, CEO of Wareham Development, and a major landowner and developer in Emeryville, a city southwest of Berkeley. At that point, he formally founded the organization, built a board of directors, and “brought together community leaders to imagine and develop our initial programs,”[197] with the aim of “bringing the work of Adamah to an urban center and integrating food justice into the fabric of the curriculum.”[198] That he consulted with community leaders to “imagine” their initial programs, and had to alter a “farm-based residential leadership program” to include food justice in the urban context is telling. The original Adamah Fellowship had little relevance to the beleaguered communities in which they initially found themselves. This eventually became the current mission:

> “Urban Adamah seeks to build a more loving, just, and sustainable world. We ground and connect people — to themselves, to others, and to the natural world. We do this by providing farm-based, community building experiences that integrate Jewish tradition, mindfulness, sustainable agriculture, and social action.”[199]

The focus is clearly not on measurable food production goals, but rather Jewish tradition and experience; as the farm website explains it, Adamah’s practices are based in *Chesed* (kindness), *Tzedek* (justice), and *Ahava* (love), and “because Jewish tradition is rooted in our pastoral and agrarian history, exploring the human connection to land, food, and the natural world is also a powerful doorway of connection to Jewish practice, ritual, and celebration.”[200] The website for the Koret Foundation (an Adamah funder) maintains: “[Urban Adamah] serves as a Jewish educational platform, a 21st century American kibbutz where Jewish practice is actualized through farming and the sense of community. Urban Adamah is definitely more of a hub than an enclave, with a natural feeling of connection to the Zionist pioneers of 70 years ago.”[201]

---

[196] R. J. Berry, “Adam or Adamah?,” *Science & Christian Belief* 23, no. 1 (April 2011): 23–48.
[197] “Urban Adamah: About,” Urban Adamah, accessed May 23, 2022, https://www.urbanadamah.org/about/.
[198] “FAQ,” *Hazon* (blog), accessed May 23, 2022, https://hazon.org/adamah/adamah-fellowship-2/faq/.
[199] “Urban Adamah: About.”
[200] “Urban Adamah: About.”
[201] “Urban Adamah: Connecting to Jewish Roots,” Koret Foundation, accessed February 23, 2022, https://koret.org/grantee-stories/urban-adamah-connecting-to-your-jewish-roots-through-the-earth/.

Figure 16 - Urban Adamah West Berkeley site - 2009 vs 2013

During my time volunteering with Adamah in 2015-2016, Willow Rosenthal, formerly ED at City Slicker Farms, was the garden manager. Almost all work on the farm by volunteers and fellows (the two groups comprising most of the workforce) was typical of farm park sites and devoted to maintaining the crops seen in figure 16; volunteers would sign in and choose from a variety of work assignments. They would bring harvested plants to the small square workstation at the south end, where they would be washed, weighed, and recorded on log sheets; aesthetically unpleasing vegetables would be put back into compost to avoid the justice issue of providing "imperfect" produce to food insecure populations. There was a small aquaponics setup (a couple of PVC pipes about ten feet long with holes every foot for potted plants, recirculating water through fish tanks below) and a small animal area with chickens and goats. Both took occasional labor from staff, but were too small to produce enough material relative to the cultivation to have a significant impact. They were, as are so many aspects of the farm park model, more educational and performative than functional.

Because Adamah's main goal is Jewish community building via UA, the labor demographics, not surprisingly, reflect that identity. During this time, the labor I saw was in general white, young, and educated. The many informal conversations I had were similar – college students or recent school graduates interested in learning about farming, and doing so at a site focused on their cultural orientation. In my time observing as a volunteer, I saw a vanishingly small number of workers who I could visibly identify as POC. Though many POC do identify as Jewish, I did not observe their presence – as farm workers – on the site during my time there, or explicitly addressed in any of the literature the organization has produced. At their former South Berkeley site, POC were primarily present during their farm stand produce

giveaways. These were largely attended by older Black, Latinx, and Asian women, given the farms location in a neighborhood that while rapidly gentrifying still reflected these demographics. According to Adamah participants, the women were dismayed that the farm would be moving, and that the source of free weekly produce would be relocated away from them.

Figure 17 - Urban Adamah North Berkeley site gate

In 2016, Urban Adamah finally moved from its rented land in West Berkeley to a parcel they purchased for $2.1 million in Albany, directly adjacent to UC Village, which supplies housing for UC students with children. Their new location is considered by some to be more "appropriate," as while based on Parker Street, they were located in a West Berkeley neighborhood whose residents had historically been predominantly people of color. Their Jewish cultural mandate, given that location, created some resentment among those feeling that while they did give away free vegetables, they could not possibly represent the priorities of the community in which the farm operated. Their location shift alleviated this perception, and they are no longer highlighting food justice as their mission, or of trying to draw in community members of color so that they create a universally welcoming space. While open to the public during designated hours, the multiple locked gates, security warning signs, and barbed wire (figure 17) make the private nature of the "campus" clear enough. Still, the free farmstand does draw a far different population than the organization itself; according to a fellow: "The farmstand is different. It's not as Jewish I'd say it's a large percentage of Asian and more elderly … And even the people that like, volunteer during that time, yeah. The surrounding neighborhood is really industrial or right next to University Village, which is very, largely Asian. To my knowledge."[202]

Figure 18 - Urban Adamah North Berkeley participants, website

Their website states that their "farm is cultivated by our three person farm team, who oversee the work of the 12 – 14 young adults participating in our three-month residential fellowship, as can be seen in figure 18. Fellows learn experientially about urban organic farming, food justice, Jewish tradition, and mindfulness through educational activities and

[202] Interview with Adamah Fellows, November 2019.

through work on the farm, as well as through internships in local urban garden and food justice organizations."[203] Their labor base has not changed, as evidenced both by on site observations and conversations with Adamah participants. As one of their fellows described it: "General demographics would be white, Jewish, young, able bodied…" Another fellow agreed: "It's really what they're recruiting… for the Fellowship, which has an age range of 21 to 35. … most of the full-time staff is pretty young. And largely white. And largely Jewish. So very much an affinity space. I don't think it's changed much over time."[204] In 2019 Adam Berman left his ED position to become board president and a "Senior Educator" on staff, while Adam Weisberg became the new ED, after serving for eight years on the board, highlighting the exceedingly blurry line between the board and ED position. The board, comprised of fifteen members, has only one African American member, "described as an American Jewish University alum, agricultural entrepreneur, diversity strategist, and US Army veteran."[205] That social programming and community building and education, not farming, are now their prime drivers is made explicit in various ways. As stated in their 10-year anniversary video: "Yes, a lot of healthy, delicious food is grown here and shared, but at the heart of this place is the cultivation of more whole and more healthy human beings."[206]

This is made clear in part by the workers they hire to carry out their agenda. The current staff in the first hierarchy beyond the ED consists of a Facilities Director, Senior Director of Programming and Innovation, Finance and Database Manager, Creative and Marketing Manager, Kitchen Manager, Youth and Family Programs Associate, Retreats and Rentals Associate, Senior Director of People and Operations, Young Adult Programs Director, Youth and Family Programs Director, Public Programs Associate, and a Public Planners and Retreat Center Director. Two positions are in the second hierarchy directly related to farming: the Farm Director, and the Food Access and Assistant Farm Manager. They are supported by two fellows who act as "farmhands" some of the year; according to one fellow: "there's two farmhands in the winter, and spring, and then the two farm managers. So four of us." The only Black man on staff is the Facilities Associate, who performs site maintenance and says his job allows him "to continue to grow as a person and learn how to do a little farming and eventually grow some strawberries of my own."[207]

[203] "Urban Adamah: About."
[204] Interview with Adamah Fellows.
[205] "Nate Looney," Urban Adamah, accessed October 9, 2022, https://urbanadamah.org/team/10905/.
[206] "Urban Adamah: About."
[207] "Royce Rose," Urban Adamah, accessed October 9, 2022, https://urbanadamah.org/team/royce-rose/.

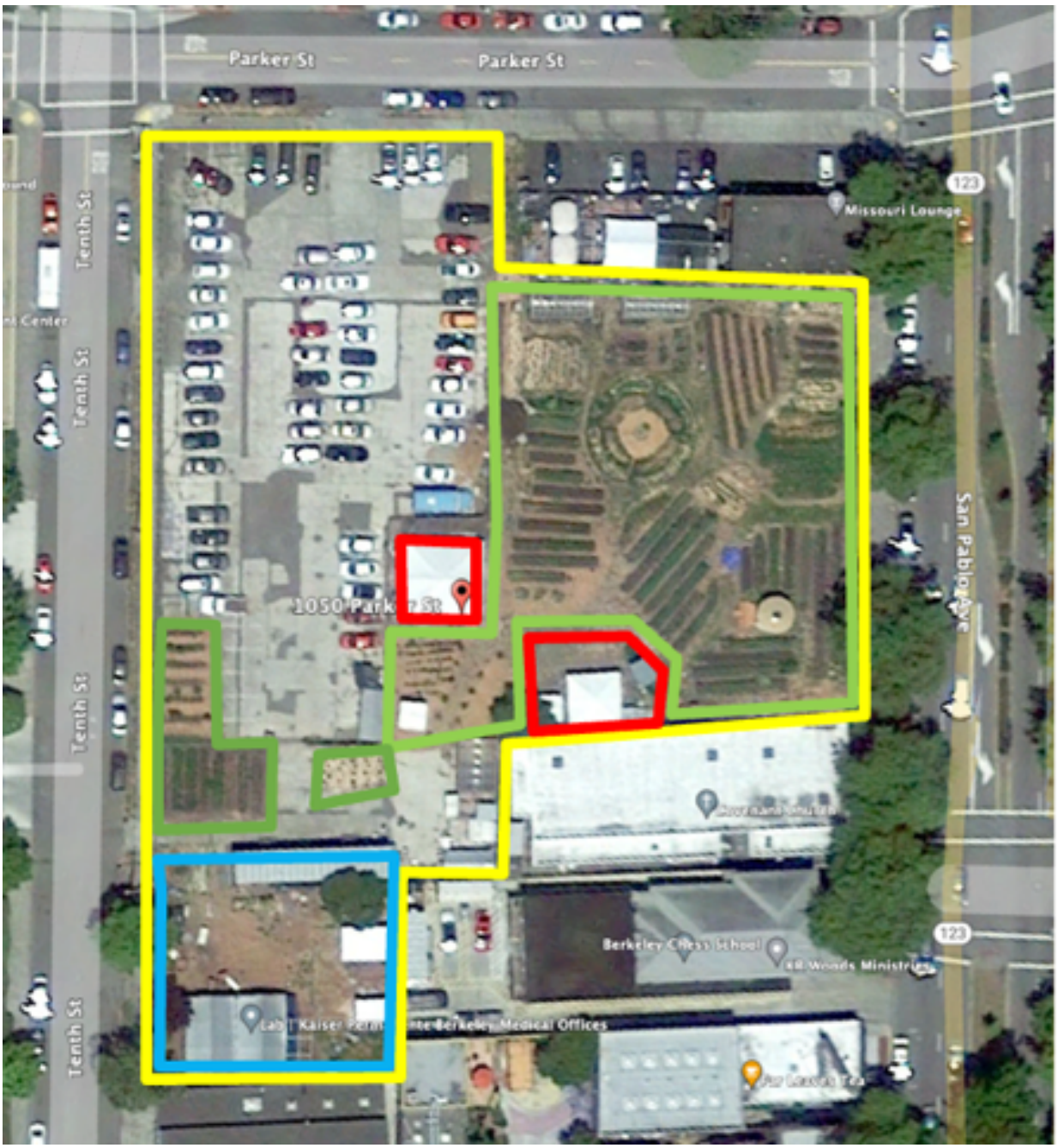

Figure 19 -Urban Adamah West Berkeley 2016 Land use

Adamah's land use choices also highlight their prioritization of these kinds of activities over food justice or farm production-related goals, and how this has been solidified in infrastructure with their movement to the new site. Figure 19 shows Urban Adamah's original, rented West Berkeley site outlined in yellow, cultivated areas in green, built space (though temporary, like a trailer for the office) in red, and an animal operation (chickens and goats) in blue. It becomes immediately apparent that the great majority of the cultivatable ground – i.e., that not already covered by concrete they were unable to remove due to lack of ownership - has been utilized, though pathways are wider than necessary.

Figure 20 - Urban Adamah North Berkeley site plan evolution

When the new site was acquired, it was presented as a food-production oriented upscaling: "The new site is more than double the size of Urban Adamah's current location, and eventually will allow for two times as many annual visitors and more than four times as much food production. When complete, it would make Urban Adamah the largest Jewish urban farm in the country and the largest urban farm and environmental education center in the urban East Bay."[208] At the time, Berman projected that "the new site will allow Urban Adamah to increase its number of visitors from 10,000 to 20,000 a year, and its food production from 12,000 pounds to 50,000 pounds annually, once the farm is completely built out, which might take years."[209]

[208] Andy Altman-Ohr, "Urban Adamah Buys Phenomenal New Site in Berkeley," *J.* (blog), May 31, 2013, https://jweekly.com/2013/05/31/urban-adamah-buys-phenomenal-new-site-in-berkeley/.
[209] Altman-Ohr.

However, the new site is clearly far more dedicated to buildings and other land-covering infrastructure that was apparent even in the planning phase, as can be seen in the progression from early conceptions to the actual built site in figure 20. It now includes a $4 million 54-bed

Figure 21 - Urban Adamah North Berkeley field

retreat lodge where they intend to "launch programs for Jewish and general community organizations, synagogue communities, educators interested in learning the Urban Adamah pedagogy, school groups, and Bay Area youth-focused organizations." There will also be a $2.6 million "2,400 square foot Community Hall that will serve as a central gathering space. The Community Hall will more than double our indoor program space, enabling us to host up to 320 people for Jewish holiday celebrations, cultural events, community gatherings, and family celebrations." Construction began in September 2022. All of this fitting out has cost up to $9 million in total, on top of the farm purchase.

Also as is typical among the farm park sites, they are unable (or perhaps equally so, unmotivated) to intensively cultivate the full extent of the arable land available to them with the constricted and relatively unskilled labor base they have. One can see in figure 21 that even in the most highly cultivated areas, aesthetics and walking space take precedence over maximizing cultivation. Their solicitation of volunteer labor is typical of the recreation-oriented take on UA: "Do you like working outdoors, meeting new people, learning new skills, and getting your hands dirty? If so, you will love volunteering with us! Urban Adamah relies on volunteers to help us grow the thousands of pounds of produce we harvest every year and donate to local food

pantries, partner organizations and those in need in our community! No experience necessary!"[210] The marketing for their volunteer opportunities highlight the "fun" framing of farming that the UT farm manager argued was the unrealistic, grant funded version used as the basis for enticing participation: "Farm work may include weeding, harvesting crops, turning compost, maintaining spaces for the goats and chickens, helping with repairs, and/or assisting with other fun projects around the farm." Also clear is the "museum" framing mentioned in Seigner et al: "The farm was a fascinating glimpse into the historic Jewish relationship to farming and food production. Urban Adamah inspired me to learn more."[211]

In sum, like UT, Adamah does important community and education work, and their farm site/headquarters demonstrates many aspects of ecologically regenerative food production. Willow Rosenthal was an advocate at their original site of biodynamic farming, which they still employ at the new site. They also have chickens, goats, worms, and bees, and a small aquaponics operation, as well as a variety of sustainable practices from greywater repurposing to solar energy. However, as has been made clear, these techniques are demonstrative: the goal is to not to optimize or maximize food production to provide an alternative production system, but rather to use the practices as a medium for achieving other goals, such as education.

Discussion and Conclusions

It would be surprising if US patterns and perceptions related to farm labor that have persisted through centuries would have no influence on UA. The third labor hierarchy has been dispensed with in most UA as compared to conventional farms, eliminating a class of labor that it seems few people – not DuBois/Booker T, and certainly not the current leaders of food justice NPOs involved in Bay Area UA – wanted to promote as a career. It is considered "low skilled" at best in the popular imaginary, and in no cases in either the literature or in personal experience have I found any UA organization claiming to be training future field workers. Again, the very idea would be offensive to many, despite the simultaneous and contradictory valorization of this labor. Were one to tell parents that their children working in a school community garden program were training to be "field hands," it would likely generate a scandal, as it did when a fifth-grade class in South Carolina was sent on a field trip to pick cotton and sing songs in order to learn about "the impact of the Great Depression on African Americans."[212]

Thus, the necessary manual labor – when performed by youth of color via school programs in particular – is framed as a means of hands-on ecological, nutritional, and social justice education, or acquiring the charitably termed "business skills" associated with weighing, pricing, and selling produce at farm stands. People may be doing planting, weeding, harvesting, compost production, or other physical work of farming, but it is framed as a clear pathway to doing something else for a living. Starting a food related business is the common implication, and Weissman found that the logics many UA organizations used to describe the educational component of youth labor, in particular teaching market and business skills, ironically only served to advance the neoliberal framing UA so often aims to supplant when it claims to be

[210] "Urban Adamah: Website."
[211] "Urban Adamah: About."
[212] A. B. C. News, "Parents Outraged after 5th Graders in South Carolina Pick Cotton, Sing Songs on Field Trip," ABC News, accessed October 17, 2022, https://abcnews.go.com/Politics/parents-outraged-5th-graders-south-carolina-pick-cotton/story?id=61238078.

providing a solution to failures of the capitalist market.[213] It does not help that the organizations themselves do not tend to model a viable alternative, such as a cooperative. With the exception of Spiral Gardens, which is a hybrid business/nonprofit and by far the smallest and least funded of the organizations, they are not functioning businesses, but rather almost totally dependent on grants and donations.

Indeed, all four UA sites I examined, while sharing very similar political stances and original founding missions vis a vis food justice, have developed organizational labor structures patterned after standard NPIC models, including vertical hierarchies led by Executive Directors with hiring and firing authority and prioritization of NPO positions (when new positions are created) over manual labor. They are what Daniel Miller would call (as a tongue in cheek reference to his own position) "benevolent dictatorships," trading the priority of democratic governance theoretically said to be a part of institutional sustainability/longevity, for the simplicity, accountability, and governance of a local founder-led organization. For those EDs who are focused primarily on "nonprofit development," such an NPIC leadership model also provides access to the grant and donor funding stream, which – since they are not structured to solicit and productively use volunteer white-collar labor – is essential to the ongoing existence of the organizations as they develop a sizable staff and have no other source of significant income.

Because the creation of a paid third labor hierarchy of field workers is not what attracts such funding, and because the use of such funds to create ranks of yet more field workers from economically struggling populations is not what is meant by job creation and food justice, the funds almost always go towards expansion of the first, and to a lesser extent, the second, hierarchies. In this way, while nonconventional UA is posed in the literature, and by those seeking grant money, as a way to step off the treadmill of dependence on the extractive food regime, large UA NPO's instead step onto a treadmill of dependence on grant money, and 'mission drift' towards those activities supported by those funding sources, and away from prioritizing food production. As one UA manager put it, "I feel like in urban agriculture in general, it's a lot of pencil pushing in paperwork … a lot of the, you know, money gets sort of siphoned away from actually helping people into … office workers and pencil pushers. … so that would be a huge problem that needed to be addressed."[214] Their UA activities do provide a source of fresh produce to a number of recipients though it is small relative to local need, but because the farms are not geared towards optimizing production, they serve primarily as educational and performative examples of what techniques *could* be used to produce actual scalar food sovereignty by others with that focus.

[213] Evan Weissman, "Entrepreneurial Endeavors:(Re) Producing Neoliberalization through Urban Agriculture Youth Programming in Brooklyn, New York," *Environmental Education Research* 21, no. 3 (2015): 351–64.
[214] Backyard Garden Manager, Interview with Backyard Garden Manager.

Figure 22 - City Slicker Farms Chicken Tractor

For example, CSF had on their site a small mobile chicken coop, seen in figure 22, which they called a chicken tractor. Theoretically, it could be used to help aerate and fertilize land, in the way that the large mobile chicken coop at Polyface Farm is used along with cattle to condition and regenerate the soil. Functionally, I never saw it utilized, and even if it were, it is so small as to be practically useless on a site of that size, and perhaps even abusively confining to chickens left in it for any length of time. Even in this photo of the "tractor," we can see the amount of open, arable space left uncultivated around it – a very visible indicator of the Farm Park model's shift away from farming food and towards providing a multiuse community space on which farming happens to take place but cannot be the sole, or even prime, focus.

UT, similarly, has used the vehicle of park system beautification and school system ed to "shoehorn" UA in, though in a necessarily limited fashion, and to get similar amounts of City of Richmond or park development funding. This is part of a larger movement towards the privatization of park services, because in "the context of capacity deficits and fiscal constraints, local governments are increasingly devolving the provision of government services to nonprofits (Marwell, 2004; Milward & Provan, 2000)."[215] In this way, "the convergence of public sector austerity and a burgeoning philanthropic and nonprofit sector" have led to what these theorists refer to as "nonprofit governance," wherein "nonprofit leaders can guide urban policy, sometimes with limited input from elected officials or citizens (p. 1472; see also Leach, 2018;

[215] Ashley E. Nickels and Kirk A. Leach, "Toward a More Just Nonprofit Sector: Leveraging a Critical Approach to Disrupt and Dismantle White Masculine Space," *Public Integrity* 23, no. 5 (2021): 515–30.

Nickels, 2019)."[216] Tilth has developed to focus as much or more on ecological restoration (such as with the sizable "watershed crew") and park maintenance (the Greenway Gardens crew) as UA (the North Richmond Farm). Even there, disgruntlement pervades the farmers who bristle at the land use choices favoring social service and park maintenance over food production agendas.

The larger the UA farms grow, the more numerous the educational, park related, and nonprofit development programs and their related staff become, while they maintain only one or two full time garden managers per site who directly oversee the second and third labor hierarchies. Thus, the three larger organizations all share a similar labor structure - "top-heavy" in the size of the first labor hierarchy, with a smaller number of paid personnel engaged in manual labor in the second. These few carry out a range of activities (like volunteer supervision, site planning, harvesting, packing, running a CSA stand, etc.) and are most often titled some variation on "coordinator" (e.g., farm coordinator, greenway coordinator, farm stand coordinator, CSA coordinator). By using such NPO framing, and by including a variety of tasks in the job descriptions of those being paid to plant and harvest by hand, they defuse the field-hand-labor tension by eliminating such positions per se altogether. Thus, urban agriculture NPO's are largely dependent on volunteer field labor. As Aptekar (2015) confirms, "in urban agriculture organizations, volunteer turnover, lack of skill among volunteers, or unreliability of volunteers can limit organizational capacity and scope of feasible of action," and "Without adequate volunteer participation groups lack the labor necessary to establish and maintain community gardens."[217]

As discussed, during my many visits as a participant observer and volunteer on all of the sites, and in reviewing their copious social media postings (e.g., Facebook, Instagram) that document their activities, I observed the same typical demographic trend in the volunteer labor: white, (or Asian near UC Berkeley), food-secure, and either retired, college students, or recent graduates. This was confirmed by asking those in the second labor hierarchy who they typically supervise as volunteers; the consistent observation is the same: that the manual labor base in the third hierarchy of volunteers is mostly white (or in the case of Berkeley, often Asian due to the high student component). This is in line with the observations of Siegner et al. (2020) who found that in East Bay UA "many volunteers are retired or recent graduates" and that UA organizations "expressed a desire to enhance race and ethnic diversity in terms of labor participation, with 16 farms indicating interest in learning how their farm can better address racial justice and equity through operations and participation."[218] While euphemistically stated, this is another way of saying their labor base is very white. Since the majority of volunteer UA labor is in the fields and supervised by managers or coordinators who are – except for at Adamah – people of color, the racial hierarchy typical in production farming is, interestingly, flipped. In terms of sheer numbers, the field work tends to be performed by "privileged" white people who have absolutely no dependence on the labor in any way, overseen by those who represent the population the organization is meant to uplift, which tend to be paid young Black and Latinx residents of the communities around the sites where the food is growing.

Some attribute the large numbers of white and financially secure volunteers to the notion that it is they who have the time and freedom to spend on the farm – the "luxury," as UT's Robinson framed it – while those actually in need of such food support do not. The same is often said of

[216] Nickels and Leach.
[217] Sofya Aptekar, "Visions of Public Space: Reproducing and Resisting Social Hierarchies in a Community Garden," *Sociological Forum* 30, no. 1 (2015): 209–27, https://doi.org/10.1111/socf.12152.
[218] Siegner, Acey, and Sowerwine, "Producing Urban Agroecology in the East Bay."

community meetings in the city planning context, where neighborhood input and state-mandated public environmental impact reports are delivered to rooms largely empty of those they should reach, who are working, busy taking care of households, etc. The luxury of civic participation, this conventional wisdom holds, is limited to those privileged with the time, who are assumed to be predominantly white. It is true, as discussed, that people of color suffer from disproportionate poverty under racial capitalism; we can see that in the five-county bay area, white residents are over twice as likely as Black and three times as likely as Latino residents to be in the high (120%+ Median Family Income) bracket (figure 23).

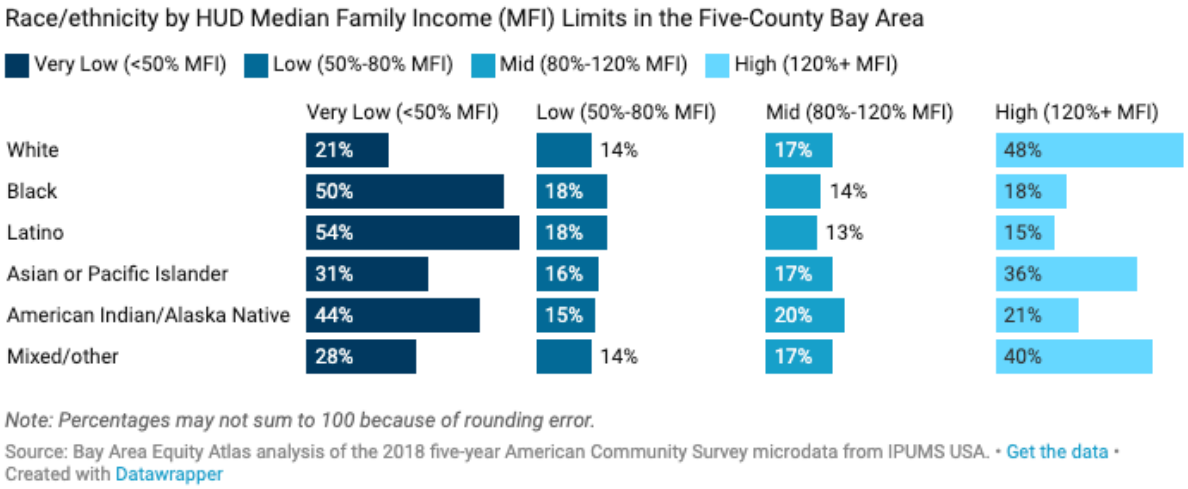

Figure 23 – Race/Ethnicity by HUD Median Family Income (MFI) Limits

However, the very same data shows that 18% of the black population still falls into the high bracket; these numbers are not reflected in the volunteer numbers at UA sites. The purely economic rationale for the volunteer trends thus goes begging as an explanation, unless the implication is that Black people in mid-to-high income brackets almost monolithically have no work-life balance; it also does not explain the relative paucity of Black college students (outside of group participation as with elementary or high school classes) or dearth of black retirees.

I argue, via the field-hand-labor concept, that this volunteer labor disparity is just as connected to the racialized history of the labor itself. White, food secure volunteers can plant and harvest crops with little thought to its optics or perception, because they can perceive themselves as visiting an outdoor museum, and "enjoy their time digging in the dirt" as a fun recreational activity. Their livelihoods, and the health of their children and community, do not depend on it, and they have no DuBoisian double-consciousness or slavery trauma to work through. In short, they do not suffer from the cognitive dissonance produced by the field-hand-labor tension, because they simply cannot conceive of themselves as field hands – indeed, the space itself reads as white-friendly, as so much research has found. That Americans, including and especially African Americans, would generally refuse en masse to replace the migrant farm labor force by returning to fieldwork as a profession, even when the wages rise above state average, seems so "obvious" to many that asking why this is not happening seems naïve, akin to asking why most people are not going back to live an Amish lifestyle. At the same time, those refusing to consider such work themselves, including those involved in the first and second labor hierarchies

of UA, nonetheless expect that someone – even in the context of food justice - will continue to work the fields. There is an unspoken naturalizing of the current state of affairs, despite it conflicting with the stated goals of transforming the system. Even among those who believe in agroecology and transforming the food regime, there remains a glaring and yet largely ignored question mark regarding who will perform the field labor.

The quandary is illustrated well by an anecdote. I found myself at a networking lunch attended by a well-known Marxist political economist, a preeminent agroecologist, and the Executive Director of a local food justice NPO. I posed the question: since the US is urbanizing and people are moving away from rural areas, who will provide the dramatically upscaled hand labor required, were our conventional farm system to be replaced with an agroecological one? I got three different answers. The agroecologist maintained that people would de-urbanize and seek out this work in rural areas. The political economist disagreed, arguing that urbanization would not reverse, and that production would need to move in or near cities, as with Havana. The food justice ED said they were both wrong, and that more migrant labor would be brought in to serve the need, because as he put it: "Gringos will never do this work."

If UA in the East Bay - let alone the US - is ever to substantially expand food justice, much more attention must be given to the centrality of field labor in farming, to the hegemonic and racialized culture of stigmatization to which such labor is subjected, and to the ways in which the managerialist, white-collar ethos of the NPIC serves as an unlikely vehicle for the expansion of UA food production and realization of local food sovereignty.

Chapter 3 (Industrial Ecology): The Cybershire Imaginary.

Introduction

As detailed in the dissertation introduction, many anticipated that urban agriculture (UA) in the East Bay would upscale sufficiently to serve as the food sovereignty-oriented foundation for a transition away from the hegemonic, ecologically destructive, "green revolution" based corporate food regime. This transition entailed the proliferation of not just farms capable of producing enough food to supply local demand, but farms that use ecologically restorative, hand labor-based techniques – e.g. biodynamic farming or permaculture. For many who engage in UA, and especially those who do so to further food sovereignty, "sustainability" is a central goal. The mission statements of the case organizations all mention sustainability, and their farms all explicitly endeavor to serve as models of "sustainable agriculture," variously defined.

- Spiral Gardens states its "mission is to improve community health and **sustainability**."[219]
- City Slicker Farms began with a mission to create "**sustainable**, high-yield urban farms and backyard gardens."[220]
- Urban Tilth trains people to "build a more **sustainable** food system, within a just and healthier community."[221]
- Urban Adamah says it is pursuing **"sustainable** agriculture" to help build "loving, just, and **sustainable** communities."[222]

While sustainability is a term that has often been critiqued as overly broad and nebulous, the essence of UA agricultural sustainability is much the same as that of agroecology, food sovereignty, and the global repeasantization movement generally: self-sufficiency as a way to not only survive, but provide ecological and social gains. Politically and ideologically, this self-sufficiency is a subversive, revolutionary means to counter the ongoing disempowerment of subjugated populations by (neo)colonialism and forced market dependency, and to gain community control of the means of production to counter the uneven development[223] of racial capitalism[224]. As stated in the City Slicker Farms 2006 annual report section entitled: "Our Long-Term Vision: A Self Sufficient Community":

> "We envision a community that is food self-sufficient, capable of growing its own food without polluting the air, water and soil or exploiting low-paid agricultural labor. Our ultimate goal at City Slicker Farms is to provide a significant portion of the produce required to feed West Oakland's population. We are working to achieve this goal not only

[219] "Spiral Gardens Community Food Security Project, Berkeley, CA."
[220] "About Us – City Slicker Farms," accessed October 24, 2022, https://www.cityslickerfarms.org/about-us/.
[221] "Urban Tilth."
[222] "Urban Adamah: Website."
[223] Neil Smith and David Harvey, *Uneven Development: Nature, Capital, and the Production of Space* (University of Georgia Press, 2008).
[224] Robinson, *Black Marxism*.

through our own programs, but also by supporting citywide policies that create more opportunities for urban agriculture."

Given that the expected – or perhaps, hoped for – proliferation of this model in the East Bay failed to take place even as some of these organizations grew to become major actors in their cities (in part for reasons detailed in the FHL chapter), the guiding ethic of "sustainability" found in the mission statements of local UA organizations, and their valorizing of community food self-sufficiency via declarations of "food sovereignty" politics, begs a few questions which I explore in this chapter.

First, how self-sufficient *are* the case study sites, from a material flow perspective? At this most local scale, the "self" analyzed in literature is typically the UA site or farm, and sufficiency is a measure of how dependent on external inputs (e.g. fertilizer, water, energy) the site is in order to stay viable. Koohafkan, Altieri, and Holt-Gimenez (2012) use "dependency from external inputs" as one of several indicators to assess the "performance thresholds" of green agriculture, not as absolute numbers, but as "percentages of locally derived optimums."[225] In other words and practically speaking, self-sufficiency in food and agriculture is not so much a state to be achieved as a continuum[226,227], namely, the degree to which a given system – of whatever scale – requires external support to continue functioning. For example, traditional agriculture derives much of the nitrogen and organic matter used to maintain soil fertility from manure, requiring enough animals to replace the nutrients lost, plus pastureland on which the livestock can live and feed; this allows farmers to avoid the commodified fertilizer 'treadmill.' But in the East Bay UA context, such large-scale animal husbandry on farm sites is essentially nonexistent, prohibited in most areas by land use and zoning regulations, not to mention high real estate values and neighbor opposition that deter this land use. Thus, the amendments to maintain soil fertility must be at least partially drawn from outside the farm site. This is the case for water as well**:** farm sites are largely dependent on grid water to stay functional.

In this chapter, I therefore explore a second question: how are these external inputs sourced – and under what social relations? Are they bought from the commodified "treadmill," or acquired through public and third sector sources? "Cultivating the Commons" highlighted the existence of hundreds of acres of city land available for UA activity in Oakland, CA,[228] which Corbin (2019) calls the "urban fallows."[229] For the purposes of practical food sovereignty, the commons could be expanded to include noncommodified sources of material inputs that these sites would require to stay functioning, and if the "self" is not one farm site but rather the larger local UA milieu at a municipal or regional scale, the notion of self-sufficiency – in terms of eliminating commodified inputs by drawing from a resource commons – becomes far more realistic. Francis et al[230] posit that agroecology is the ecology not just of food production sites but of food systems, and make the case for adopting this larger scale of analysis, i.e. the region or the foodshed. One larger "foodshed" scale at which UA and food sovereignty concepts often

[225] Koohafkan, Altieri, and Gimenez, "Green Agriculture."
[226] Jennifer Clapp, "Food Self-Sufficiency: Making Sense of It, and When It Makes Sense," *Food Policy* 66 (January 1, 2017): 88–96, https://doi.org/10.1016/j.foodpol.2016.12.001.
[227] Koohafkan, Altieri, and Gimenez, "Green Agriculture."
[228] McClintock and Cooper, "Cultivating the Commons an Assessment of the Potential for Urban Agriculture on Oakland's Public Land."
[229] Corbin, "Enclosure-Occupations."
[230] C. Francis et al., "Agroecology: The Ecology of Food Systems," *Journal of Sustainable Agriculture* 22, no. 3 (July 17, 2003): 99–118, https://doi.org/10.1300/J064v22n03_10.

congeal is municipal, such as that at which Food Policy Councils operate (e.g., the Richmond, Oakland, and Berkeley Food Policy Councils), and it is at this scale that food sovereignty as a concept has often entered the UA planning and ideation. It may encompass one neighborhood or section of a city, as with "West Oakland" which has been highlighted in both literature and local activism (in the case of City Slicker Farms) as a scale at which food sovereignty might be approached. It may also be larger, encompassing multiple municipalities across a county, as with Urban Tilth's early mission statement and membership in the "5% local coalition" which described itself as "a group of individuals and organizations working to develop the capacity of west Contra Costa County to grow 5% of our own food supply."[231]

This leads to the third question: what is the municipal material flow milieu in which each of these sites finds itself? "Agroecological urbanism" is the term some theorists use to describe an as yet largely unexplored and unrealized realm of urban planning and research, wherein planners expand "beyond the boundaries within which food has been treated so far," and reframe it as an "'urban question', giving it the same weight and centrality that has historically been given to the housing question, mobility, or sanitation in urbanism."[232] The holistic tracking and governance of regional metabolic flows for the purposes of community sovereignty creates an urbanity which I term the "cybershire," for reasons to be expanded upon in depth below – but for sites to both upscale and situate their material acquisition within the municipal resource commons will require a better understanding of what constitutes those commons, and how they might best be accessed.

I suggest that - with a stronger understanding of these questions - the potential contributions of scaled-up UA to common municipal goals such as carbon neutrality or "green" space in the East Bay Area can also be better quantified and understood. The metrics that those city planning priorities use (and they are becoming ever more important in the era of climate planning and "green" cities) are largely disconnected from UA activity, which are not considered significant enough to be included. This not only deprioritizes a full understanding of the metropolitan scope of UA operations, but strengthens the conception that UA is not a part of the planning process at that scale, and so transitioning to the sort of agroecological urbanism that is called for by Tornaghi et al. is far more difficult. What is more, when the sustainability narrative is attached to UA at the municipal level but outside of an explicit sovereignty framework, "the selective implementation by cities of environmental goals and values (often under the banner of sustainability)" can be used "to legitimate and advance long-standing neoliberal entrepreneurial development strategies."[233] This can run counter to the community empowerment goals these organizations are typically founded to pursue.

I will briefly review my methods, then discuss some literature connected to the field of industrial ecology as it applies to UA, the materialities of UA resources, and the urban political ecology of UA metabolism as it is situated in the larger urban metabolism. I will then examine the materialities of some key resource flows through the case sites, and end with a discussion of how East Bay UA might strengthen foodshed-level connections.

---

[231] "Urban Tilth » 5% Local Coalition," April 12, 2009, https://web.archive.org/web/20090412194816/http://www.urbantilth.org/site/?page_id=48.

[232] Tornaghi and Dehaene, *Resourcing an Agroecological Urbanism*.

[233] Nathan McClintock, Christiana Miewald, and Eugene McCann, "The Politics of Urban Agriculture: Sustainability, Governance and Contestation," in *The Routledge Handbook on Spaces of Urban Politics* (Routledge, 2018), 361–74.

Methods: UA data collection

To explore these questions, I used a mixed methods approach, including semi-structured interviews, archival analysis, and direct participant observation. At first I envisioned a detailed regime of quantitative data collection as something sites might find useful. Because almost all production data I saw recorded – when it was being recorded – was visibly written on paper logbooks which were then later entered into Excel spreadsheets (and more recently Salesforce databases), I mused about helping develop an app to track resource flows so that the farms could carry out their own sustainability analyses and share data. I quickly realized that such analyses, highlighted in annual reports, were not consistently conducted by farms except to "tell a story" about their activities and impacts in a way that attracted further donor or funder support. Indeed, as discussed in the FHL chapter, the increased labor and incessant bookkeeping associated with maintaining such data is sometimes resented by those in the second labor hierarchy carrying it out, who associate it with the funder "strings" attached to their work. As a founder of Spiral Gardens put it,

> "I always wanted to have like a scale and a logbook. And every time you took food, it would be written down, either by weight or by bunch or whatever made sense for the particular crop. But that's really hard to organize that. And, you know, it'd be great because then we could use that as a way to get funding to be like, hey, we generated two, two tons of food this year. Right? Give us money, we'll generate three times right, you know, annual reports. But, you know, at the end of the workday, people harvest some stuff and they go, you know, or we harvest some stuff and we take it to the seniors … The work to weigh it would just be like way too much at the end of the day **…** The only reason you would do that level of data collection would be either to aggrandize yourself to funders, or to just prove that you could, you know, this is data for scientific purposes, how much food can you create off one piece of land in a given area."[234]

This discomfort with, or de-prioritization of, quantification applies not only to outgoing production, but also to the third sector donations of materials coming in. When a local restaurant delivers their food waste or a rancher drops off a truck full of manure, time and effort spent sorting and/or quantifying the pile is not on the agenda, and I did not feel comfortable asking to introduce such a task to anyone's workflow.

I volunteered as a participant observer at four East Bay UA organizations (Spiral Gardens Urban Food Security Project, City Slicker Farms, Urban Adamah, and Urban Tilth) to gain an intuitive sense of the site operations; as one former City Slicker Farms manager put it, he "feels the flows" running through his site. I had many informal conversations at the farms, and interviewed people involved in the implementation of UA such as garden managers, volunteers, and staff in connected nonprofits and city agencies. I also examined archival records, including utility bills, ledgers, volunteer records, and production logbooks for the sites when I could obtain them, as well as more public sources such as websites, annual reports, and meeting minutes. I had hoped to use these to generate complete time series of material flows for all the farms, but encountered ongoing difficulties in gaining access, if the data was even available at all.

With some organizations (notably Spiral Gardens) I was given full access to records, meaning that I was able to derive much more of the time series of material flows I desired.

[234] Miller, Interview with Daniel Miller.

Others were more opaque, untrusting of my academic positionality and risk averse about the use of their information, or struggled with inconsistent recordkeeping and fragmented archives. As a result, data for Urban Adamah, City Slickers, and Urban Tilth are much more fragmented. I noticed almost immediate support from farm managers and coordinators, i.e., the people in the second labor hierarchy, with whom I would interact with while volunteering – while those in the first hierarchy would not typically be part of the field work, and so would often not know I was there. Another challenge was staff turnover: I would spend time building "sweat equity" with people in the second hierarchy who would then leave the organization, and I would then need to restart, building new connections to those with whom I had no relationship. In this way, unless I made a specific effort to connect to people in the first labor hierarchy, I would find them almost universally skeptical of my intentions, and distrustful or even resentful of data requests. One urban farm manager at Urban Tilth commented to me:

> "Yeah, I think it's more so to do with institutions using black and brown communities in particular … as a study, you know, as a specimen, and that feeling some type of way to people. So it's important for … what you're doing to be able to… build relationships show up. So they see your face, you know, who's doing what, where's the information going, who's benefiting from this information? You know, so that there's an exchange, not just the transaction."[235]

Because of the extended length of my observations, I have seen each site evolve over time in a way that typical short-term, "snapshot" research would not allow. I have seen how the farms were impacted by a worsening California drought, dealt with reliance on volunteer labor (but also the dramatic expansion of UA activity) during the COVID pandemic, and transformed their land base and organizational focus as they moved sites. Such a longitudinal approach allows me to examine the coproduction and changing of material flows across multiple sites, seasons, staff, and systems of management.

Industrial ecology and UA: Triple Sovereignty

The field and practice of Industrial Ecology (IE) arose in the 1980s following the rise of the environmental movement, as industries and academia explored alternatives to the linear, extractive, pollution-producing modernist model of production. "Conventional" industrial and agricultural models are linear: they extract fertilizer from a nonrenewable pool such as mining or fossil fuels, and the waste outputs are not recycled back into the system. IE is the application of closed-loop ecological principles to industrial or "product design and manufacturing processes," wherein waste products – rather than being disposed of into landfill, or incinerated, for instance – are instead re-used or recycled. These exchanges have been "dubbed 'industrial symbiosis' as an explicit analogy to the mutually beneficial relationships found in nature and labeled as symbiotic by biologists."[236] As "with natural ecosystems, an industrial ecology system, in addition to

[235] Adam Boisvert, Interview with Adam Boisvert, December 2022.
[236] Robert U. Ayres and Leslie Ayres, eds., *A Handbook of Industrial Ecology* (Cheltenham, UK ; Northampton, MA: Edward Elgar Pub, 2002).

minimizing waste production in processes, would maximize the economical use of waste materials and of products at the ends of their lives as inputs to other processes and industries."[237]

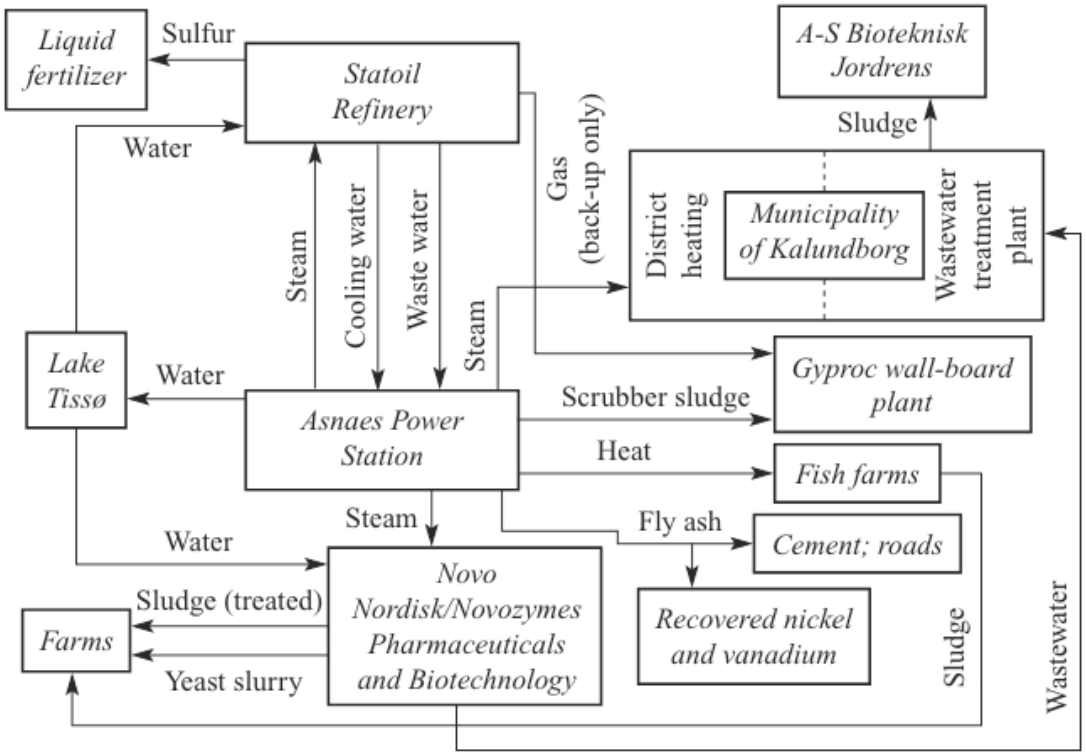

Figure 24 - Kalundborg exchange network diagram

The town of Kalundborg, Denmark, became well known as a place where local businesses developed, over time, a set of mutually beneficial closed-loop exchanges between their operations. It "has been described as an evolutionary process in which a number of independent by-product exchanges have gradually evolved into a complex web of symbiotic interactions among five co-located companies and the local municipality (Ehrenfeld and Gertler 1997; Ehrenfeld and Chertow 2002)."[238] The Kalundborg collaborations arose organically through connections made at a local business roundtable, though "groundwater scarcity in Kalundborg is generally claimed to be the motive force that brought many of the partners together."[239]

While the Kalundborg system was comprised of a number of resource exchanges including "18 physical linkages,"[240] of particular relevance here is the multiple sources of "waste" outputs rerouted to local farmers. As can be seen in Figure 24 (a chart from Ehrenfeld and Chertow 2002), sludge (aka "biosolids") from two different sources is conveyed to about a

[237] R. A. Frosch, "Industrial Ecology: A Philosophical Introduction.," *Proceedings of the National Academy of Sciences* 89, no. 3 (February 1, 1992): 800–803.
[238] Noel Brings Jacobsen, "Industrial Symbiosis in Kalundborg, Denmark: A Quantitative Assessment of Economic and Environmental Aspects," *Journal of Industrial Ecology* 10, no. 1–2 (2006): 239–55, https://doi.org/10.1162/108819806775545411.
[239] John R. Ehrenfeld and Marian R. Chertow, "27. Industrial Symbiosis: The Legacy of Kalundborg," *A Handbook of Industrial Ecology*, 2002, 334.
[240] Ehrenfeld and Chertow.

thousand local farms. After heat sterilization, “the sludge is distributed throughout the countryside by a network of pipelines and tanker trucks. Novo Nordisk produces 3000 cubic meters of sludge per day, but can only store three days' worth. The sludge is given away instead of sold, reflecting the firm’s concerns for disposal security. Three full-time employees coordinate its delivery.”[241] A yeast slurry from the Novo factory is also sold to the local farms as animal feed. These overall exchanges save the farms “fertilizer equivalent to Novo Nordisk sludge (about 1300 tons nitrogen and 550 tons phosphorus)” per year. Critical to enabling the exchanges are not only the infrastructure and the dedicated employees to facilitate them, but also the motivating factor of cost savings. Through these arrangements, the Kalundborg actors “minimize transaction costs. Kalundborg is based on a complex of contracts and alliances that have arisen with little or no outside intervention from government or other sets of interests.”[242]

[241] Ehrenfeld and Chertow.
[242] Ehrenfeld and Chertow.

As with the IE model, a UA site or community garden can be visualized as a network of nodes where materials are processed, connected by lines representing paths of material inputs and outputs. Figure 25 provides a simple model of typical East Bay UA Garden flows drawn from my direct observation and in consultation with UA garden managers. The square "producer" nodes – cities and animals – represent public or non-capitalist output production; though money is involved in municipal green waste flows due to the labor and costs related to

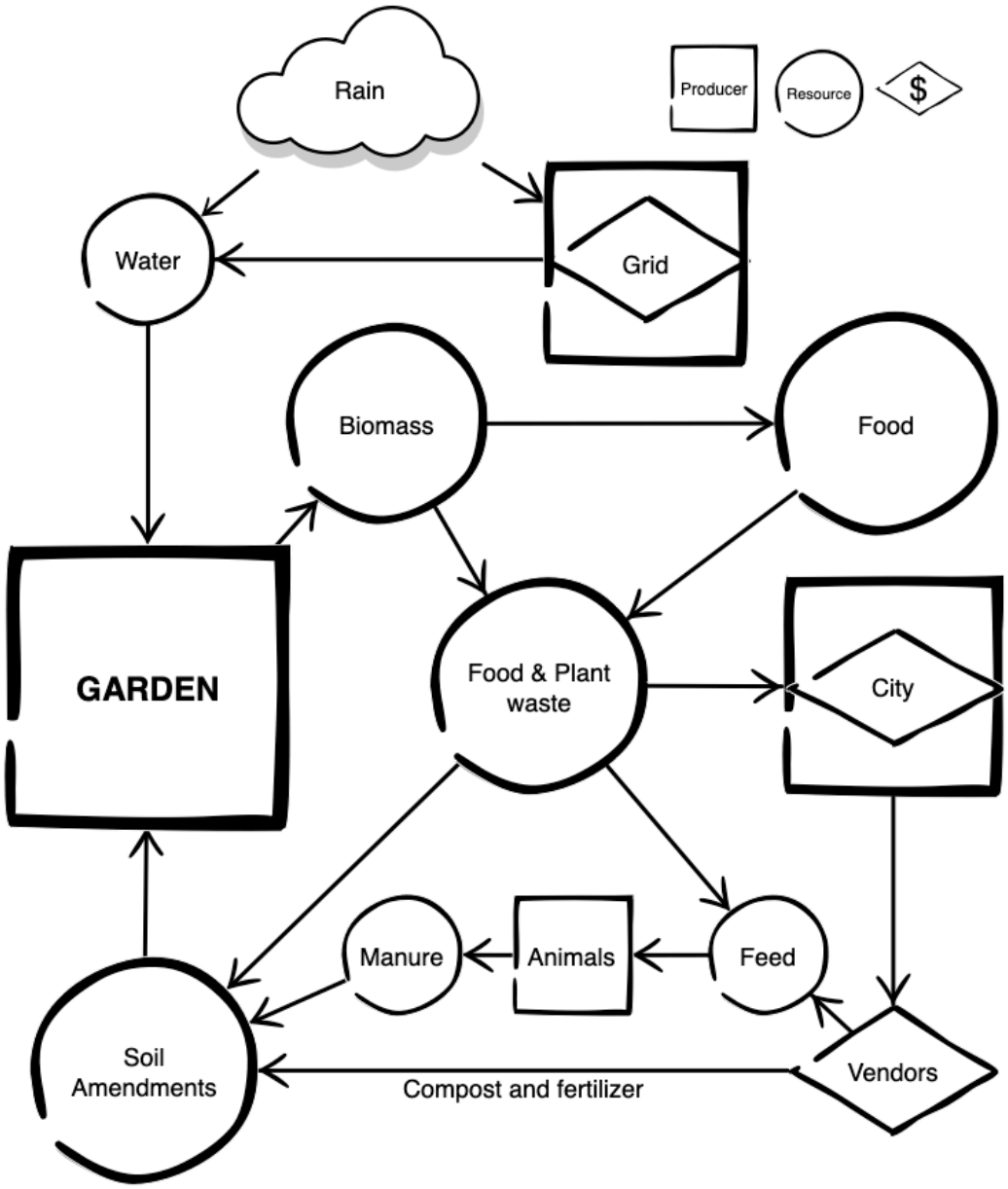

Figure 25 - UA garden material flow diagram

their collection and transportation, they are not sites of externalized value extraction; likewise, animals don't charge to digest their food. In contrast, vendors are private operations that sell their outputs as commodities for profit. Both are represented in the city and grid nodes, as "more

than 10% of the U.S. population gets drinking water from privately-owned water utilities,"[243] and green waste collection is likewise often contracted out to private companies (who then commodify what they collect). The producers (squares, diamonds) each contain another input that is not visualized here, and yet is crucial to their operation: energy. On UA sites this energy is mostly in the form of labor, whether paid or volunteer, but is a major determinant of the type of operation and magnitude of production. As described in the FHL chapter, the nature of the third labor hierarchy – field work in particular – is determined largely by the social framing and political economy of the operation.

As mentioned, such systems of purposeful material exchange between various producers are nothing new to farming; they have been used for millennia to maintain soil fertility as well as farm resilience and viability.[244] However recent work in systems theory has led to a variety of approaches toward quantifying, optimizing, and assessing such nested farm systems, with measurable indicators that vary depending on the priorities of those crafting the framework, such as "estimating farming system sustainability (López-Ridaura et al., 2002), soil quality and plant health (Nicholls et al., 2004), agrobiodiversity levels (Leyva and Flores, 2018; Vazquez, 2013), food, energy and technical sovereignty (Casimiro et al., 2017), resilience to climate change (Altieri et al., 2015) and the recent United Nations FAO's Tool for Agroecology Performance Evaluation (TAPE), which characterizes and evaluates the process of agroecological transition…"[245]

The food, energy, and technical sovereignty indicators mentioned in Casimiro et al. are of particular relevance to this chapter as they represent the aspirations of many UA operations which directly address the injustices of racial capitalism in all three domains. Altieri et al (2011) outline a "three-pronged agroecological revolution"[246] consisting of these frames**,** and again in a joint paper with Koohafkan and Holt-Gimenez provides a definition of this triple-sovereignty:

> "Food sovereignty is the right of everyone to have access to safe, nutritious and culturally appropriate food in sufficient quantity and quality to sustain a healthy life with full human dignity. Similarly, energy sovereignty is the right for all people to have access to sufficient energy within ecological limits from appropriate sustainable sources for a dignified life. Technological sovereignty refers to the capacity to achieve the other two forms of sovereignty by nurturing the environmental services derived from existing agrobiodiversity and using locally available resources. A household, community or region could be called sovereign if it meets the threshold levels established in a participatory manner for each type of sovereignty."[247]

While the various assessment approaches listed above have been applied to a variety of agricultural types (e.g. conventional to agroecological) and in a number of land contexts (e.g.

---

[243] U. S. Government Accountability Office, "Private Water Utilities: Actions Needed to Enhance Ownership Data," accessed November 29, 2022, https://www.gao.gov/products/gao-21-291.
[244] Marcel Mazoyer and Laurence Roudart, *A History of World Agriculture: From the Neolithic Age to the Current Crisis* (NYU Press, 2006).
[245] C.I. Nicholls et al., "Assessing the Agroecological Status of a Farm:A Principle-Based Assessment Tool for Farmers," *Agro Sur* 48, no. 2 (2020): 29–41, https://doi.org/10.4206/agrosur.2020.v48n2-04.
[246] Miguel A. Altieri and Victor Manuel Toledo, "The Agroecological Revolution in Latin America: Rescuing Nature, Ensuring Food Sovereignty and Empowering Peasants," *Journal of Peasant Studies* 38, no. 3 (July 2011): 587–612, https://doi.org/10.1080/03066150.2011.582947.
[247] Koohafkan, Altieri, and Gimenez, "Green Agriculture."

wetlands to forest to farmland), almost none have looked specifically at the urban context. The three-pronged revolution as outlined in Koohafkan, Altieri, and Holt-Gimenez (2012) remains rooted in a rural cosmovision, arguing that "rural social movements embrace the concept of food sovereignty as an alternative to the neoliberal approach," and that "agroecology provides the principles for rural communities to reach food sovereignty but also energy and technological sovereignty within a context of resiliency."[248] Even those studies using data from Cuban sites did not explicitly examine UA such as *organoponicos*, which produce statistically significant amounts of food, and have been academically analyzed and touted as a "model of urban self-sufficiency worthy of emulation by others."[249] This may be due to the perception that radical food sovereignty "is differentially located in the Global South," because "the capitalist 'agrarian transition' in the Global South has not generally taken the form of the full proletarianisation (complete separation of workers from land as the basic means of production) that has usually characterised the Global North."[250] Because of this perception, the possibility of this three-pronged sovereignty developing in the urbanized North, such as with UA organizations in the East Bay – is understood by many as fanciful, so research into material flows on urban farms has been scant.

UA Material(ity) flows: Water, soil amendments, and biomass

As is plain in the flow diagram (Figure 26**)**, the typical UA farm site in the East Bay is not self-reliant, but rather must import at least two physical materials in large amounts for the farming to take place: water and soil amendments. Energy, as one of the pillars of triple sovereignty, is also an essential input in the EBUA model as well, but is constituted overwhelmingly by labor, discussed in the FHL chapter. While a fraction of the on-site energy input is used for electricity for offices and power tools, and fuel for trucks to move materials, these inputs – in both units consumed and budgetary cost – are dwarfed by the cost of labor and themselves are a fraction of the cost of water. Practically none is used for the actual agricultural process itself, as powered machinery is not used in the cultivation process. While a regime of on-site intensification requiring more energy in the form of fuels and electricity could be imagined (discussed in the conclusions), it is not being employed on the sites studied, non-labor energy is not a limiting factor in the upscaling of on-site production given the unmechanized methods currently employed, and so the materiality of energy is not a focus of this paper.

Water and soil are transformed by the metabolism of the farm site, and then leave as "biomass" – which either gets distributed as food or is recycled back into the system as compost and perhaps seed. In some sites, "farm" animals such as chickens and goats are enmeshed as a part of the metabolism; some sites also contain apiaries, whose bees extend beyond the confines of the site to pollinate everything within their range, and on-site pollinator-attracting plants provide a local ecology for a variety of insects, thereby connecting the farm ecology to the surrounding urban space.[251] The typical UA site, therefore, is not simply a contained system processing biomass from limited inputs, but interacts with the urban social, physical, and

[248] Altieri and Toledo, "The Agroecological Revolution in Latin America."
[249] Sinan Koont, "A Cuban Success Story: Urban Agriculture," *Review of Radical Political Economics* 40, no. 3 (September 1, 2008): 285–91, https://doi.org/10.1177/0486613408320016.
[250] Tornaghi and Dehaene, *Resourcing an Agroecological Urbanism*.
[251] Gail Ann Langellotto et al., "Garden Pollinators and the Potential for Ecosystem Service Flow to Urban and Peri-Urban Agriculture," *Sustainability* 10, no. 6 (June 2018): 2047, https://doi.org/10.3390/su10062047.

ecological milieu that surrounds it in manifold ways, shaping the materialities of both the inputs and outputs.

"Materiality" is employed in different ways in the social sciences to refer to the socially contingent aspect of "physical" things. Bakker (2003) notes that the "term serves as a kind of (rarely decoded) codeword for those seeking to (re)incorporate nature into political economic analysis. At one level, materiality refers to nature as object of the analysis – an acknowledgement of the key role occupied by nature – transformed into resources – in our political economies. This use of the term "materiality" implies an acknowledgement of the corporeality of our economies, of their embeddedness in natural processes."[252] Water is obviously necessary for all life and an essential piece of the UA metabolism, but its mode of provisioning affects its materialities and outcomes. "As water flows through supply networks, for example, it is simultaneously a raw material (abstracted from a river), a product of the labour process (having been filtered, pumped, and chemically treated) and an instrument of labour."[253] Despite its centrality to UA, water is a constraint for some farms. For example, water provisioning has been difficult for many Cuban UA operations,[254] while an occupation movement seeking to take over land owned by the University of California used for agricultural research in the East Bay (the Gill Tract) to protest an impending sale to developers was countered by cutting off grid water access.[255] Depending on the technologies employed, UA utilizes a combination of grid and rain water, which – while both being water nominally –have very different modes of provisioning and materialities, as we shall see below.

Similarly, what are euphemistically called "soil amendments" are the products of very complex metabolisms, derived from the outputs of various actants and systems, repurposed to enhance both soil fertility and structure. In the UA systems studied here, chemical fertilizers are not used, but rather a mixture of compost, animal manure, organic fertilizers and substances like bone meal (for phosphorus) or lime (which raises pH) are added to maintain ideal conditions for plant growth. While lime is a relatively pure substance bought from vendors, compost and manure are highly variable in content, depending on their sourcing. Compost is the end product of a "biological process in which microorganisms convert organic materials such as manure, sludge, leaves, paper, and food wastes into a soil-like material,"[256] the quality of which will be dependent on the sourcing of the inputs and the methods used in the composting process itself. Some use vermicomposting, or worm cultivation, as a method of not only breaking down materials but also producing worm castings, a valuable fertilizer. Manure, as well, can contain byproducts of whatever the animals producing it were eating or treated with (e.g. antibiotics) as well as a plethora of pathogens. In this sense, the materialities of soil amendments are widely variable. If the amendments are derived from worms or manure from animals either on or off site, very different ecosystem of socio-natural relations is introduced as compared to those derived from green waste flows such as the compost produced on-site or by municipal green waste reclamation.

---

[252] Karen J. Bakker, "A Political Ecology of Water Privatization," *Studies in Political Economy* 70, no. 1 (March 2003): 35–58, https://doi.org/10.1080/07078552.2003.11827129.
[253] Bakker.
[254] Altieri et al., "The Greening of the 'Barrios.'"
[255] Antonio Roman-Alcalá, "Broadening the Land Question in Food Sovereignty to Northern Settings: A Case Study of Occupy the Farm," *Globalizations* 12, no. 4 (July 4, 2015): 545–58, https://doi.org/10.1080/14747731.2015.1033199.
[256] Robert Rynk et al., *On-Farm Composting Handbook (NRAES 54)* (Northeast Regional Agricultural Engineering Service (NRAES), 1992), https://ecommons.cornell.edu/handle/1813/67142.

These two resources - water and soil amendments - comprise the bulk of the material inputs of most UA systems. The "biomass" produced from their synthesis – "farming" - then either becomes food and leaves the system or is recirculated via composting or as animal feed (which then becomes manure). Either way, this biomass is the single major material output of UA systems and forms the main material connection of farms to the people in the communities they serve.

Urban Political Ecology, Geography, and other critical social disciplines have long discussed urban materialities. For example, McClintock (2015) connected patterns of urban soil contamination to the history of racialized capitalism and systematic segregation that underlies the geography of Oakland, California[257]. Heynen and Swyngedouw (2006) examine the political ecology of urban hunger, "jumping scales" from the stomach to the city to show the interconnectedness of both their social and material metabolisms[258]. Acey likewise discusses water as a fluid socionature, metabolized through human labor in African urban water markets, the materialities of which are constantly reworked through both nature and culture, regimes of control and commodification, and the physical, biotic constraints imposed by non-human actants.[259] My goal in this chapter is not to significantly expand on the materiality literature, but to highlight that the system inputs and outputs I will examine in UA are multiscalar socionatures congealed into physical things. They can be weighed, carried, stored, quantified, and are subject to the laws of chemistry, biology, and geology. They can be valued and commodified or devalued as waste and "lost" into larger material streams before once again being revalued – after having absorbed labor, technological frames of urban management (such as consolidation with urban waste via sewer systems) and myriad social contingencies along their pathways. Because agroecological production is meant to be a form of ecological enhancement restoration as much as food production, Spiral Gardens manager Daniel Miller's proclamation that we "don't grow plants, we grow soil"[260] has particular resonance with the concept of materiality.

The East Bay sites

Most organized UA in the East Bay looks very similar regardless of location. Planting beds, whether "raised" above the ground or directly in it, are hand cultivated, watered, weeded, and harvested. The soil may or may not be tilled, but some form of amendment is added to maintain fertility and replace lost organic matter. The sites focused on here are no exception; they prioritize local derivation of their material resources, and many attempt to develop relationships with nearby businesses – as with Kalundborg's material exchanges – to reduce waste as well as more cheaply acquire the inputs they do need to purchase. These UA sites occupy a variety of urban land contexts, and because the types of land and forms of ownership/tenure have varied - both between organizations, and even over time for some - the ways which these organizations have engaged with the land and local communities/ecologies vary as well.

---

[257] Nathan McClintock, "A Critical Physical Geography of Urban Soil Contamination," *Geoforum* 65 (October 1, 2015): 69–85, https://doi.org/10.1016/j.geoforum.2015.07.010.

[258] Nikolas C. Heynen and Erik Swyngedouw, *In The Nature Of Cities: Urban Political Ecology and The Politics Of Urban Metabolism* (Taylor & Francis, 2006).

[259] Charisma Shonté Acey, "Silence and Voice in Nigeria's Hybrid Urban Water Markets: Implications for Local Governance of Public Goods," *International Journal of Urban and Regional Research* 43, no. 2 (2019): 313–36, https://doi.org/10.1111/1468-2427.12715.

[260] Miller, Interview with Daniel Miller.

My goal in this section is not to provide a comprehensive quantitative comparison between all sites across certain variables. They are all very different operations, with different histories and foci, despite their similarity as UA practitioners. For reasons that include incommensurability in data structures between organizations, as well as gaps in the accessible data, such a comparison would be difficult. Rather, I hope to – through selected examples and vignettes – paint a picture of the many material connections East Bay farms have to their urban surroundings and beyond, and how the fetishization of their flows is enhanced by the absence of agroecological urbanist frames. Thus, the potential closing of the subsequent metabolic rifts is shrouded behind the current, relatively hegemonic, market-based flow systems.

Spiral Gardens Urban Food Security Project (Spiral) is located on a 0.5-acre triangular wedge of former Santa Fe railroad track land in a mostly residential West Berkeley neighborhood, split in half by a street. One side contains a not-for-profit nursery, and the other side contains a community garden, adjacent to a small house where the founder/executive director lives, and where the water line also provides a sewer connection. The railroad land - with soil only a few inches thick sitting on hardpan - presents challenges for agriculture (e.g., potential toxicity, lack of moisture, difficulty for roots to penetrate) that are not uncommon in the larger UA context.

Urban Adamah (Adamah) now occupies a 2.2-acre site in North Berkeley, which it purchased and then moved to in 2016 from a rented 1.5-acre parcel in West Berkeley. The new site was built from a fully developed site plan with permanent infrastructure (buildings, piped irrigation, etc.) while the former site was purposefully constructed to be temporary throughout, pending the foreseen move (and some of the land was not utilized, such as sections covered by pavement).

City Slicker Farms (CSF) previously used several dispersed smaller sites; one was a very small wedge of city park land, another the backyard of a private house whose owner allowed its use and cultivation. CSF also built raised beds for local residents via their "Backyard Garden Program." Like Adamah, CSF consolidated its operations to a single new site in 2016, the "West Oakland Farm Park," (WOFP) which it remediated developed in cooperation with the City of Oakland and in consultation with community members.

Urban Tilth (Tilth) began with a small number of garden sites on a long strip of city land called the Richmond Greenway, a 5 mile bike and pedestrian path occupying a stretch of former Santa Fe railway land, like Spiral. In 2012, Tilth was awarded a $5 million Proposition 84 State Parks grant to create "Unity Park," a community-led vision of the restoration of a large section of the greenway, with a significant portion devoted to UA. In 2017, Tilth acquired a 3.13-acre parcel of land in North Richmond, which has become its new base of operations and by far its biggest site of production.

Water

All the sites under examination depend on significant grid water, provided by the East Bay Municipal Utility District (EBMUD), which is "a publicly-owned utility formed under the Municipal Utility District Act (MUD Act) passed by the California Legislature in 1921. The MUD Act, as codified by the Public Utilities Code of the State of California, authorizes the

formation and governance of the District."[261] EBMUD prices water according to parcel zoning and total usage, and also adds occasional fees for infrastructure development or drought. While drip tape and buried irrigation lines on timers (present at some sites) reduce the labor of watering, more than one farm manager I spoke to make their preference for hand watering clear, for reasons such as these:

> "Hand watering is way more accurate, right - doesn't have water shadows and stuff like that. And I thought about doing that just to automate it but nothing beats hand watering, you know, and things don't always need to be watered the same amount … the thing about drip irrigation is it's super subject to entropy. If you got any kind of activity going on with the community, one person tripping on the line, and it doesn't work anymore. And we've tried putting weeping irrigation in the farm three times now, and volunteers working over there, you have one non supervised moment, and that stuff gets pulled up, you know, this hose was in my way, you know, what was this doing here? … And so it's tough to keep those kinds of systems in place when you have like open community participation … it's more meant for someone's backyard garden, or … a private project where you only have staff working on it. Because, you know, you pull out one emitter, and the whole thing doesn't work anymore."[262]

At Spiral, grid watering is done exclusively by hand and hose, while at Adamah, CSF, and Tilth, a combination of hand watering, "drip tape" irrigation, and permanent, buried irrigation lines on scheduled timers is used.

Grid water consumption can account for a substantial portion of farm budgets, as illustrated by Spiral's experience since 2004. The farm does not take any particular approach toward water conservation, although their usage is affected by grid prices and land zoning. As noted, Spiral is located on former railroad track land. With a thin layer of some inches of topsoil and mulch covering hardpan, the garden site in general dries out easily without daily watering and similarly, their raised beds and the containers that hold their inventory are susceptible to rapid drying. This biophysical characteristic makes grid irrigation not only a sizable site input, but often a budgetary burden as a result of the use-based fee system. Miller found that the cost of water is:

> "large, it's definitely large, especially if you don't have an irrigation only meter, which you need to have to do this kind of thing. Because if your water is … attached to any kind of building that has a bathroom or any connection to a sewer system, water basically cost twice as much, because you pay a company sewer fee with the with the water. So the water coming off our office live-work space over there, if we wanted to farm with that, that bill is twice as large as here [at the nursery]. So we actually string a hose across the street to water."[263]

[261] "Governance :: East Bay Municipal Utility District," accessed November 23, 2022, https://www.ebmud.com/about-us/board-directors/governance.
[262] Miller, Interview with Daniel Miller.
[263] Miller.

Fig. 26 shows Spiral's water expenses across the span of its operation. It makes clear how drought-related pricing in the past few years dramatically increased the cost of watering what is a relatively small farm site.

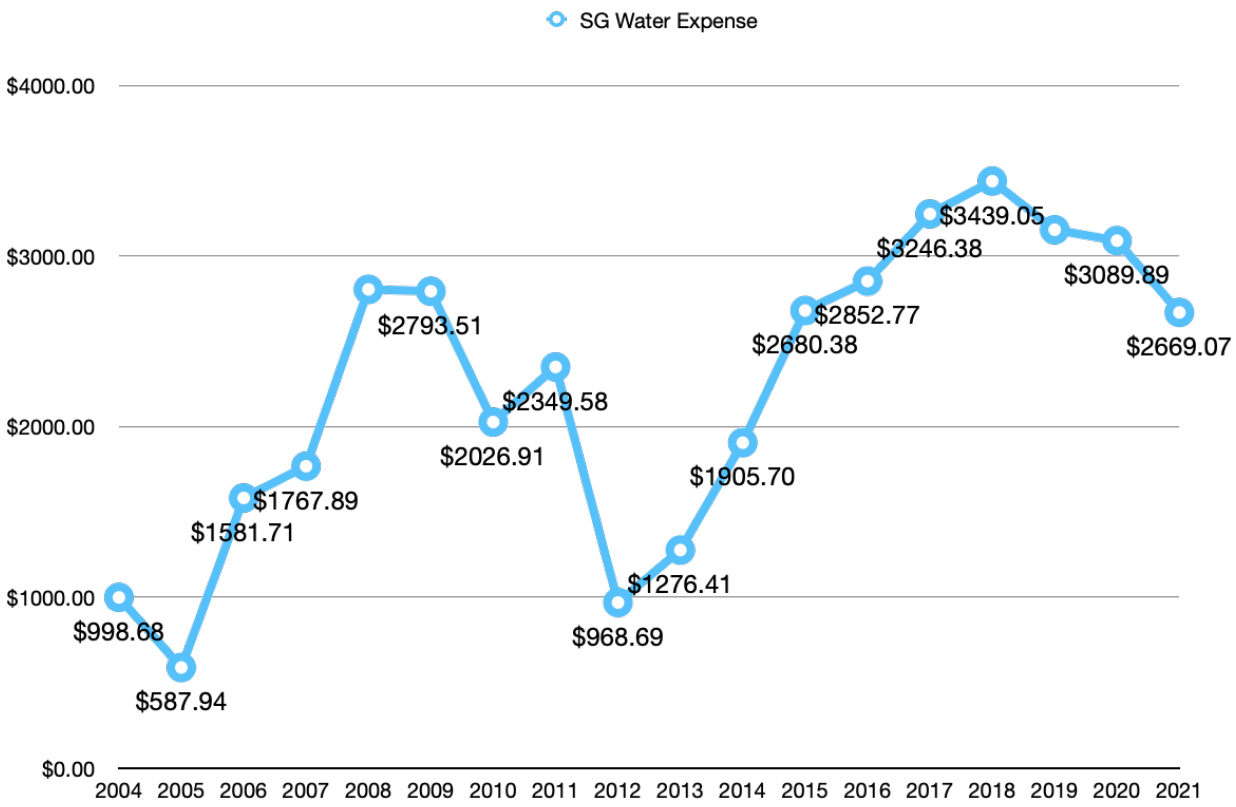

Figure 26 – Spiral water expenses, 2004-2021

Another example of how grid water access plays a central role in farm management comes from comparing Spiral Gardens and Urban Adamah's water use in comparison to rainfall. Adamah, while still at their West Berkeley site, had access to 1.5 acres but cultivated only about 0.75 acres with buildings, an animal section, greenhouses, pathways, and pavement occupying the remainder. They used a combination of drip tape and hand watering, mostly on raised beds built on top of forklift pallets. They also used water for their small number of livestock (goats and chickens) as well as in washing the produce harvested before weighing and bundling for distribution.

Spiral has a similar mixed land use: buildings, greenhouses, an educational area, and chicken run are found on its 0.5 acres in addition to the garden area, with about 0.25 acres under cultivation. CSF reasoned, in their 2006 annual report calculations, that "about half of the area in an average garden site is used for paths and other uncultivated land,"[264] and this rough assumption is borne out by my observations at all the sites. The chart in figure 27 shows a comparison of Spiral Gardens and Urban Adamah water consumption across a couple of years, using gallons derived from the EBMUD bills sent to each organization (months where there are

[264] "City Slicker Farms 2006 Annual Report."

no data for Spiral between April and October of 2014 indicate missing bills). Inches of rain during this period were sourced from the National Weather Service online database.

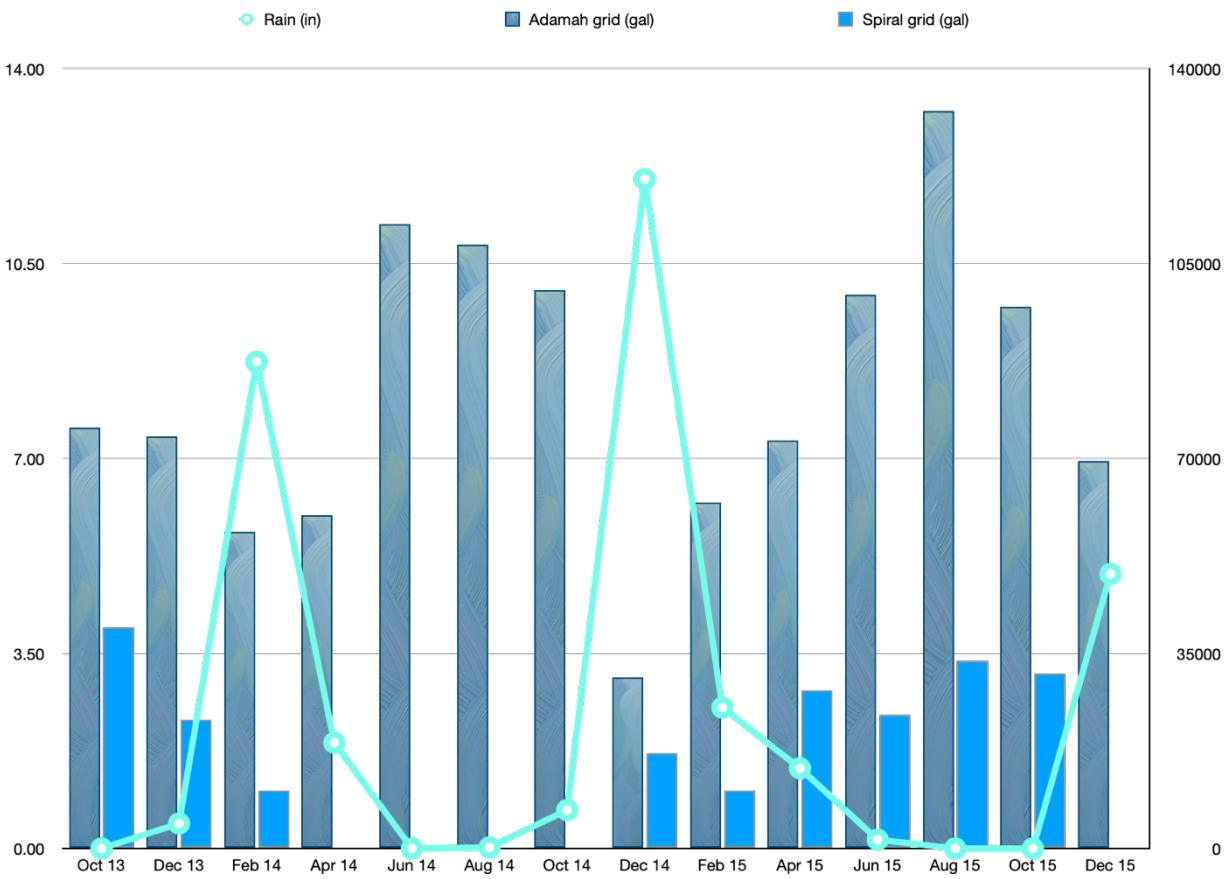

Figure 27 – Adamah vs. Spiral: water consumption Oct 2013 – Dec 2015

We can see that during the dry summer months of 2015, Adamah used between three and four times as much water, at significant cost (the 8/15 water bill covering the previous two months was $726.39). This is in line with expectations, given their garden area – now fully built out by that time – was about three times the size. During these months, Adamah used grid water on the same order of magnitude as the total precipitation on the property during the rainiest winter months, but focused only on the growing areas, using drip lines and hand watering. While the chart shows rain in inches, a simple calculation shows the gallons deposited across Adamah's approximately 0.75 acres under cultivation were roughly similar to the grid usage. Spiral, by virtue of its smaller area, received proportionately less rain.

This heavy reliance on piped irrigation during the summer in particular highlights how necessary the connection of these sites to the grid is for their continued operation. During an Occupy movement at the Gill Tract farm site in Berkeley, local authorities attempted to stop the "guerrilla farming" underway by cutting off the grid water at the main, which necessitated the occupiers bringing in trucks of stored water to be hand delivered onto the growing plots. While the water was donated, and the labor was volunteer, shutting down the grid was an effective tactic as it quickly became apparent that the UA operations there were not tenable for any length

of time under these conditions. The labor costs expended in securing and distributing water became perceived as too high.

CSF, prior to their consolidation at the West Oakland Farm Park, operated a number of sites, and would reimburse site owners for the grid water; their expense report for 2009 shows they spent $1,060 on payments to EBMUD. At the WOFP, they use the same combination of grid water, hand watering, and timed drip irrigation that Adamah has. Interestingly, however, City Slicker also uses water catchment on its buildings, with the larger one being connected to a 5000-gallon tank as seen in other farm sites do not have rainwater capture systems installed. Based on the area of the sheet metal roof which diverts water into the catchment tank (~2500 square feet) and rainfall numbers in figure 27, this would have captured ~37,000 gallons of water over the span of the year detailed above for Spiral and Adamah, or about a quarter of Spiral Garden's average annual grid usage. Unfortunately, City Slicker did not have water expenditure data available for 2015.

In 2018, CSF was awarded one of the Alameda County Resource Conservation District's (ACRCD) Urban Farm Conservation Mini-Grants to develop catchment infrastructure (figure 28) that would "meet three well- defined goals: to catch rain from all of their remaining roofs, to setup infrastructure to use this water in their drip systems, and to make progress in their water management strategy to reduce the damage done to soil during the rainy season."[265] Significantly, the stated main driver for this catchment was not to defray water costs or usage, but to prevent damage the built infrastructure itself was doing to the site. "Previously the 5 uncaptured roofs would drain directly at the base of the buildings, causing unhealthy chicken habitats, flooding, and sending dirty, leached water into the storm drains. The flooding impacted the site by causing anaerobic conditions to develop fast, killing healthy organisms and whole crops of plants, and degrading the soil structure and water holding capacity."[266]

[265] "Urban Farms Mini-Grant Program," Alameda County Resource Conservation District, accessed February 28, 2018, http://acrcd.org/GrowingLocal/UrbanFarmsMiniGrantProgram.aspx.
[266] "Urban Farms Mini-Grant Program."

Figure 28 – CSF Mini grant water catchment

Despite the presence of these rainwater capture systems, City Slickers does not appear to effectively integrate them into farm management. One CSF staff member said, "We have rainwater catchment, but it's doesn't really rain in California that much. So a lot of the water obviously comes from the city. I can't really tell you how much but it's quite a lot for a farm."[267] While it seems plausible that this stored water could have reduced the farm's grid water spending to some degree, and I did on occasion see it used for watering, overwhelmingly the grid connection was still used, out of ease and habit. Occasionally maintenance of the roof and gutter system was allowed to lapse, which would render the tank inoperable. While again I did not obtain detailed water usage data for CSF, in 2019 their WOFP water bill was $7,834.52. Given they currently have approximately 0.75 acres under cultivation at the WOFP, these numbers are very similar to Adamah's usage on its old West Berkeley site where a similar area was cultivated without any form of catchment. Grid water use therefore constitutes a major structural lock-in across the farm sites. Daniel Miller at Spiral maintains that if he were to get "serious" about water self-sufficiency, he would also construct a similar capture arrangement, but labor, cost, and other obstacles have prevented such infrastructure from being developed, and regardless, California's ongoing drought conditions currently render catchment less effective as a means of easing reliance on grid water.

[267] Backyard Garden Manager, Interview with Backyard Garden Manager.

Note on grid water materiality: Chloramine

For many years, municipalities have added chlorine to their water supplies to combat bacterial contamination. Clearly, for those attempting to build a thriving microbiological community in the soil, or who are concerned about thriving agroecological interactions and local ecologies, watering with an antimicrobial agent harmful to some wildlife is counterproductive. Some would mitigate this issue by exposing the water to air to let the chlorine evaporate first; an article on creating a garden pond suggests that if you have chlorinated water, you should "use a dechlorinator, or let the water sit for 2 or 3 days so the chlorine can evaporate first."[268]

According to Water Online, in the 1990s EBMUD had to "increase the concentration of chlorine added during and at the end of the water treatment process to comply with regulatory requirements in its piping network of 3,900 miles. But work had to be done to minimize trihalomethane (THM) formation. THMs are suspected carcinogens which can be formed when certain natural organic materials found in some raw water sources combine with chlorine in the treatment process."[269] For this reason among others, since 1998 EBMUD has added chloramine to the grid water. Chloramine, which is chlorine in a stable bond with ammonia, persists longer without degradation in pipelines and air. According to an East Bay water quality fact sheet from the Ecology Center, "Chloramines must be removed from water used in dialysis machines and are toxic to fish and reptiles and should not be used in aquariums and fishponds. Unlike chlorine, Chloramine will not evaporate from water by itself and not all water filters that remove chlorine will remove chloramine."[270]

Spiral attempts to mitigate these effects by adding a minimal compost tea mixture to the water supply from a small reservoir where the watering hose connects to the grid, with the hope that it chemically mitigates some of the chloramine in the incoming water:

> "We're adding a certain amount of organic content with the water coming in, that's also got a microbial content. And hopefully, if nothing else, it gives the chloramine something to kill first, right? You know, and plus, continually inoculating this nutrient rich water … I mean, really, I would like to be filtering out the chloramine, right, I think would be more valuable than actually adding compost tea … the way I tried to do compost tea is not by adding compost tea, but trying to eliminate things that would kill the microbes. Because tap water kills microbes, right? If you just water with straight tap water, you it's really hard to grow organically in containers with straight tap water and when it's really basic, it comes out of like 8.0 at least around here. But also it's full of chloramine that is there to kill things. It's there to sterilize the water."[271]

Urban Adamah, City Slickers, and Urban Tilth do not take any steps to address chloramine and there is no scholarship that I can find addressing the impacts of irrigating with chloramine grid

[268] S Lamb and N Allen, "Create a Garden Pond for Wildlife," *2002*, 2002, 8.
[269] "Large California Water Authority to Switch to Chloramine for Disinfection," accessed November 19, 2022, https://www.wateronline.com/doc/large-california-water-authority-to-switch-to-0001.
[270] Ecology Center, "Water Quality in the East Bay," accessed November 19, 2022, https://ecologycenter.org/wp-content/uploads/2012/05/water-quality.pdf.
[271] Miller, Interview with Daniel Miller.

water, if any, on agricultural output, local soil microbiology, or local macrofauna (such as amphibian populations). Highlighting the interconnected nature between the water, soil, and city level consumption, EBMUD offers coupons for discounts to a variety of local compost suppliers, in the hopes of boosting overall East Bay soil water retention and reducing use. As we will see below, EMBUD is also deeply, and perhaps problematically, involved in the soil amendment market.

Material Inputs

All of the sites require continuous inputs of soil amendments, whether organic fertilizers in various forms, or organic matter either bought or donated. While they all have small animal operations that do return some nitrogen to the soil in the form of manure, none are sizable enough to provide what would be required, and even if they were, substantial animal feed would still need to be brought into the sites. Because Spiral Gardens has a nursery which sells mass numbers of plants potted in soil, and CSF builds raised beds in backyards and other locations (such as senior centers), both require material inputs not just for their own internal farm operations, but to cover the outgoing materials used to provide these services. Urban Adamah

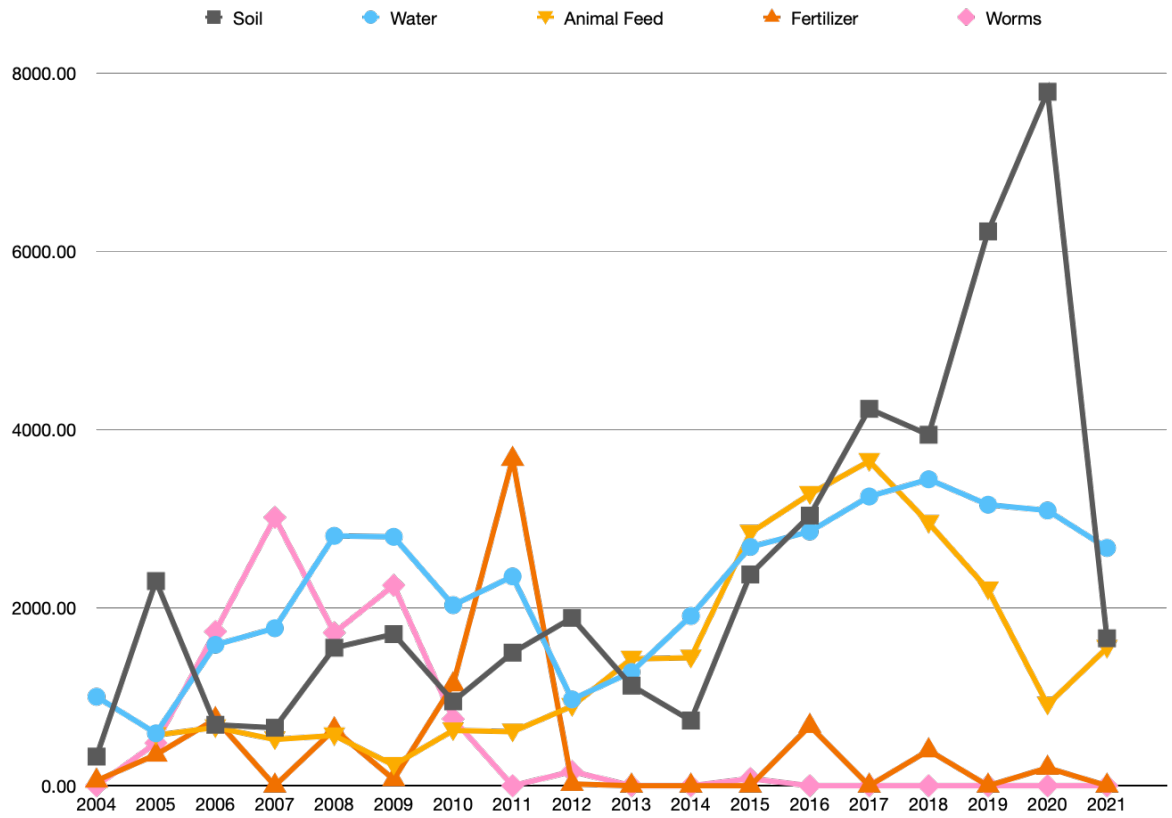

Figure 29 – Spiral material input costs

and Urban Tilth, however, have material inputs that are exclusively used for their agricultural production.

Spiral is the smallest of the organizations examined, in terms of land area, staff, and budget, and the only one to operate fully as a business-nonprofit hybrid that seeks little grant

funding and is mostly restricted by market logics. Their annual expenses (in dollars) for major inputs across the organizational lifespan is shown in figure 29, derived from profit-loss reports. It is visibly clear that by 2016, the cost of these various major inputs was relatively similar apart from low fertilizer costs, to be explained below. The 2020 spike in soil acquisition came as the pandemic dramatically boosted home gardening activity in the East Bay,[272] and Spiral's sales of outgoing plants shot upward.

Spiral has a material exchange between the two very different sides of the site: the not-for-profit nursery, which occupies most of the quarter acre with racks of inventory and greenhouses, has among its many offerings various kinds of organic commercial fertilizer, and they also create their own planting mix from a combination of compost and soil, all bought from local companies. Each raised bed in the community garden (there are three) – four feet across and sixteen feet long - may get an entire box of such all-purpose fertilizer per season, which contains fish and bone meal. Bags of compost are also occasionally brought over from the nursery to feed the various growing beds, in an ad hoc and unrecorded fashion. The site also receives occasional deliveries of green waste from local businesses, although they are rare. Daniel Miller, in the early years of the garden's operation, would make rounds and pick up such food waste locally himself, but as is the case with many aspects of implementing UA, the labor became prohibitive.

> "Yeah, well, soil for the nursery is our main input. And we have two main choices for that – there's basically two local soil companies, American s\Soil, Acapulco Rock and Soil. So we've chose to use Acapulco Rock and Soil, and they're pretty decent, they have a fairly decent quality soil. I've seen stuff that comes from further north, like near farm country that's better. Or they actually have like sources of manures and stuff like that. You know, but mainly we're getting, you know, 10 yards of the time from Acapulco Rock and Soil."[273]

The community garden also has a large "chicken run," the bedding of which turns into an extremely high value, composted soil amendment over time as it builds, and the lower layers go through a composting process. Excavating the bottom, most mature layers of the floor of the chicken run is again, a labor intensive and "nasty" process. Were they to expand the contribution of the chickens to the site, Daniel Miller says he would lengthen the chicken run to increase the number of birds, and then develop a gated paddock system so that they could be rotated through the site and perform labor – similar to a Swidden system, or to the rolling chicken coop used by Joel Salatin at Polyface Farm. As for the sustainability and function of the chicken run:

> "So that the main input is just chicken feed poultry feed, so we got the organic grains that are producing the poop. But also they're eating all the weeding from this side and that side, both sides go into the run. And there's a generation of insects, and worms and things, from the layering of the bedding and the run. So they're kind of the large intestine of the garden. And right now there's a gigantic pile of stuff we've excavated from the

[272] Kristina Sepetys, "'This Could Be Our Victory Garden Moment': Gardening, Homesteading See a Resurgence in the East Bay," Berkeleyside, April 9, 2020, https://www.berkeleyside.org/2020/04/09/this-could-be-our-victory-garden-moment-gardening-homesteading-sees-a-resurgence-in-the-east-bay.
[273] Miller, Interview with Daniel Miller.

chicken run that can grow like Findhorn-level vegetables. So that's, that's pretty close over there - it's definitely closer to that sustainability."[274]

This exchange can be demonstrated by highlighting the tradeoff between increasing animal feed and minimal fertilizer costs, seen in their annual expenditures in figure 30:

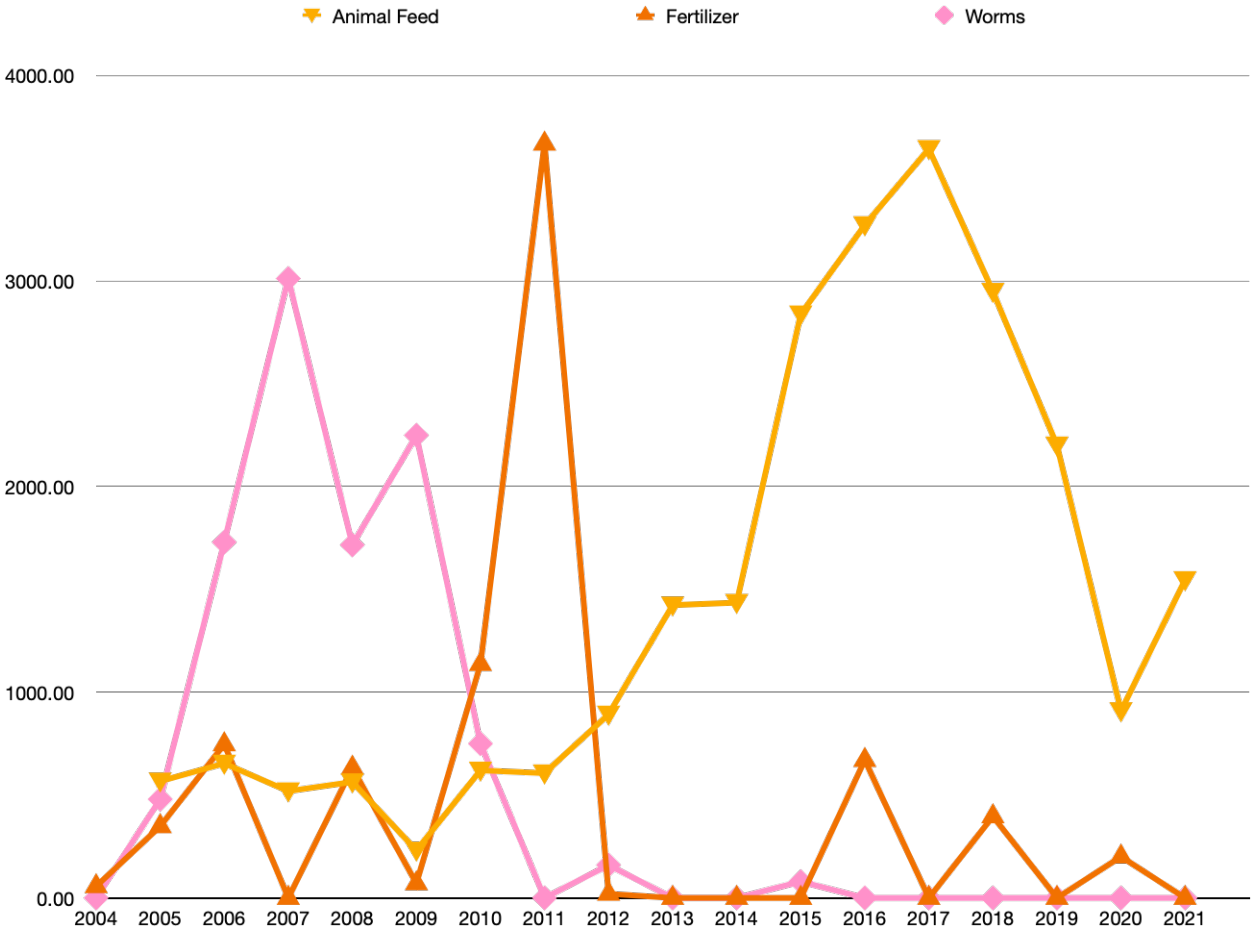

Figure 30 – Spiral Feed, Fertilizer, and Worm costs

In the early years, and particularly as Spiral began to build out the community garden on former railroad land, fertilizer and vermiculture inputs were large. Over a few years, as the animal operation matured, their needs dropped very low, as after the initial reservoir of fertility was established, the animal outputs were capable of maintaining it on the relatively small growing space (a fraction of the quarter acre of land that the community garden half occupies). The worms, likewise, were sustained on the waste derived from crop production, and required little capital input once they were established.

Spiral also receives a variety of donations:

"Sometimes people donate chickens <laughter> Generally, when they can't take care of them anymore. Occasionally people will bring in some plants: 'hey, here's a cool thing

[274] Miller.

you might want to propagate.' Then there's a guy who comes in all the time and brings bamboo sticks. And the egg cartons for the eggs, the cardboard trays that we send plants out in, donated by the local liquor store who would otherwise just throw them out. We do buy some cases of carry out trays for when they can't supply us enough in the busiest part of the year, but most of the time, that is all donated. So that saves some input. We receive used containers from people, which is tough to do. So we like reusing them. And it's we've bought a lot less plastic than other nurseries because of that. But at the same time, it's a huge chore to always be sorting that and reusing them."[275]

Figure 31 - CSF Chicken Tractor

CSF has a small animal operation, and even has a rolling chicken coop to perform the function described above (figures 22,31), but in a very small demonstrative scale, and not something that could be used to functionally cultivate the site. They also do not build up and then excavate a chicken bed as is done at Spiral, in part because of pushback from the labor, according to the current farm manager. Instead, they primarily truck in deliveries of compost, which they distribute to community garden members as well as use to fertilize their growing beds. As described by their Backyard Garden Program manager: "So the biggest material inputs will probably be bulk items … soil, compost, woodchips … woodchips in general … usually we try to get free from the city, there's usually like arborist around the area who you know, obviously have a lot of wood scraps that they just want to give away. So … maybe we usually do it like on a one-off basis. And it'll be like … five, six yards at a time but I guess in general it's probably like about a yard a month and soil and compost together. It's probably about three yards, three cubic yards."[276] In addition to soil, compost, and woodchips, the farm manager uses the CSF truck (figure 32) to bring manure from the Oakland Zoo, which reduces the need for commodified fertilizer.

[275] Miller.
[276] Backyard Garden Manager, Interview with Backyard Garden Manager.

Figure 32 – CSF Truck with compost load

CSF purchases materials for the ongoing Backyard Garden program, wherein they build raised beds for clients throughout West Oakland. A template budget for such a build from their archive is below in figure 33:

Dates	July 2021- June 2022		
MATERIALS & SUPPLIES	Per Bed Quantity	Item Cost	Total
Bed: # of 2x10	7.00	$17.00	$238.00
Trellises: # of 2x4s	4.00	$7.00	$56.00
Carpentry Supplies (Screws, twine, etc.)	1.00	$10.00	$20.00
Cubic Yards of Soil/Compost	3.50	$35.45	$248.15
Drip Irrigation Timers/System (1 per site)	1.00	$70.00	$70.00
Drip Irrigation Drip Tubing	40.00	$0.18	$14.40
Drip Iirrigation Supply Line	25.00	$0.10	$5.00
Seedlings - Initial Planting	20.00	$4.00	$160.00
Seedlings - ongoing support	20.00	$4.00	$160.00
Compost and amendments - ongoing support	0.25	$35.45	$17.73
Printed Materials	8.00	$1.25	$50.00
		Materials & Supplies Cost	***$1,039.28***

Figure 33 - CSF raised bed costs

Beyond manufactured equipment like water timers, over a quarter of the budget is vendor-bought soil and compost acquired to generate a new planting bed. In fact, it is by far the single most costly component of setting up a new garden. More soil and compost will be required to provide ongoing mentored support (which clearly is, itself, not self-sufficient – the average backyard gardener does not have their own personally generated source of soil amendments). The wood used to construct the beds is all brand-new material, as this is expected by the clients, and using cheaper materials decreased the longevity of the garden beds, meaning after some years they would need to be rebuilt – they began using more expensive materials, but also cutting costs by using some of their own plant starts. The Backyard Garden Manager estimates that "for one build, the standard build that's four by eight by 20 inches, that's about two yards of soil, two and a half, with about like, $700-800 worth of lumber and … maybe like $80 worth of plant starts." At 4x8 feet, about 1,361 garden builds are equivalent to one new acre of growing space, and according to its email newsletters, by 2021 CSF had built 405 such gardens; they built another 14 in 2022.

According to a North Richmond Farm Council member, Tilth acquires most of their material inputs (seeds, soil amendments, etc.) from vendors:

> "We get our seeds from different companies. Oftentimes, it'll be Johnny's selected, seeds, organic seeds, or marine. And then grow organic as well as our two seed sources online. We also get some topsoil or like a soil blend, so we got like potting mix, and then we'll have a different another soil that we bring in and next from usually a company called American Soil. And then anything else will be probably fertilizers that we use that usually are … organic inputs and amendments. And those are sourced from different sites, or stores. One of those being an urban farmer. And others, maybe some of them come from grow organic.com as well. And maybe some stuff from Amazon as well."[277]

He also felt that they could improve sustainability by "starting to save some seeds probably don't have to order any more seeds as far as maybe making our own soil blends for our seeds, how to do forward and as far as like, not using any fertilizers on the I know, oftentimes, when it comes to farming, it's kind of hard to bypass that."[278]

[277] Interview with North Richmond Farm Council member.
[278] Interview with North Richmond Farm Council member.

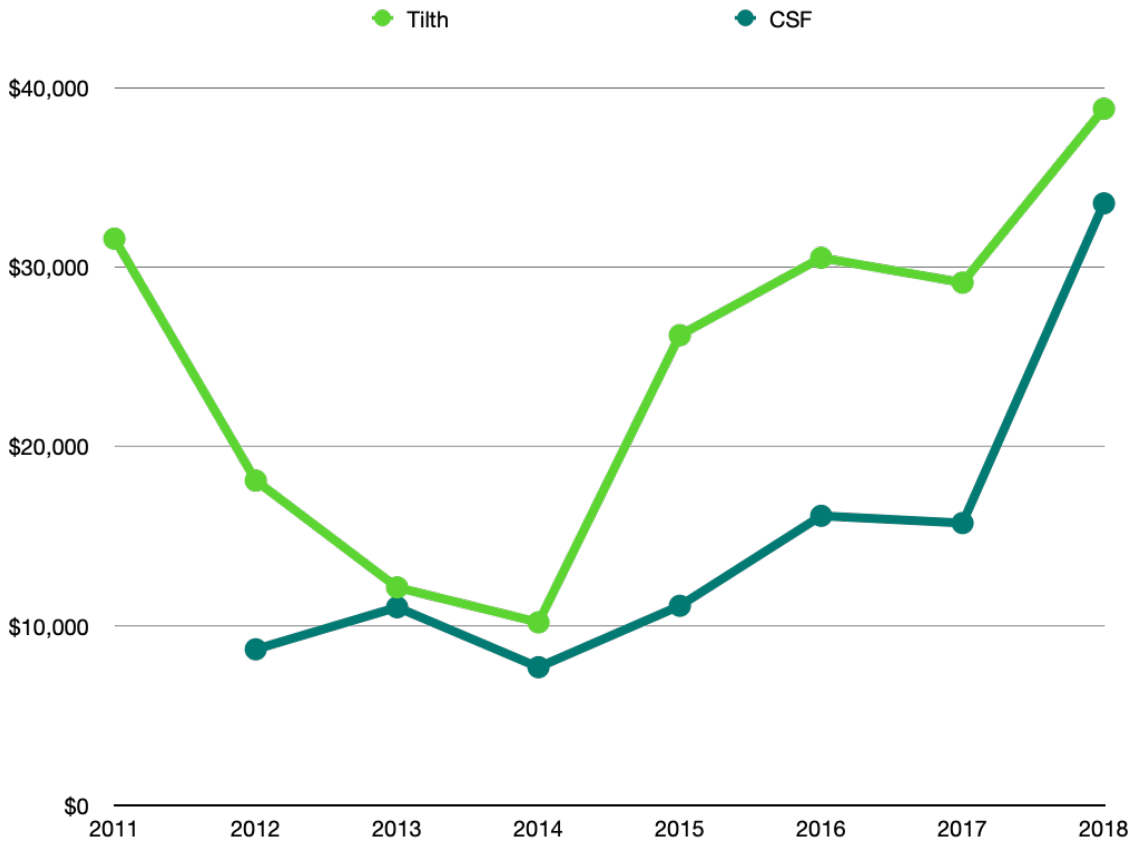

Figure 34 – Tilth vs CSF: Garden supply costs, 2011-2018

Tax forms provide overall yearly expenditures on garden supplies for these two organizations in figure 34. While it is an umbrella category that contains not just fertilizer, compost, soil, and other such materials but also tools, irrigation parts, etc., it nonetheless provides an overall indicator of how dependent their similarly scaled farming activities are on commodified external inputs. We can see that both – with the acquisition of their farm park lands in 2016 and resources to continue their buildouts in 2017 – increased their acquisition of such supplies; both, also, have been victims of theft and had to replace stolen equipment.

Biomass production

As the organizations are producing food and funded as UA organizations, they all (with the exception of Spiral, as noted) track and sometimes publicize their overall site production. Figure 35 shows pounds of production at the various sites across recent years.

This represents food that has been processed and weighed for distribution through a variety of means (farm stands, whether free or market-based, donations to various food organizations, etc.). The sizable gaps in this time series are due, in part, to this kind of data collection being deprioritized while the organizations relocate to new sites – the WOFP in the case of CSF, the NRF in the case of Tilth, and the North Berkeley site in the case of Adamah. The large increase in 2020-21 at Tilth is due mostly to a fruit tree orchard planted at the NRF

taking a few years to mature and begin producing; fruit constituted the majority of biomass output in 2021.

The total vegetable production for Adamah for the three years between 2013-2015 at the old site in West Berkeley was 34,370 pounds (they also produced 3,876 eggs, and 1,137 gallons of goat milk from their small animal operation). Given the area they had under cultivation at the time (approximately 0.75 acres), this comes to ~ 5.1kg per square meter – almost exactly the

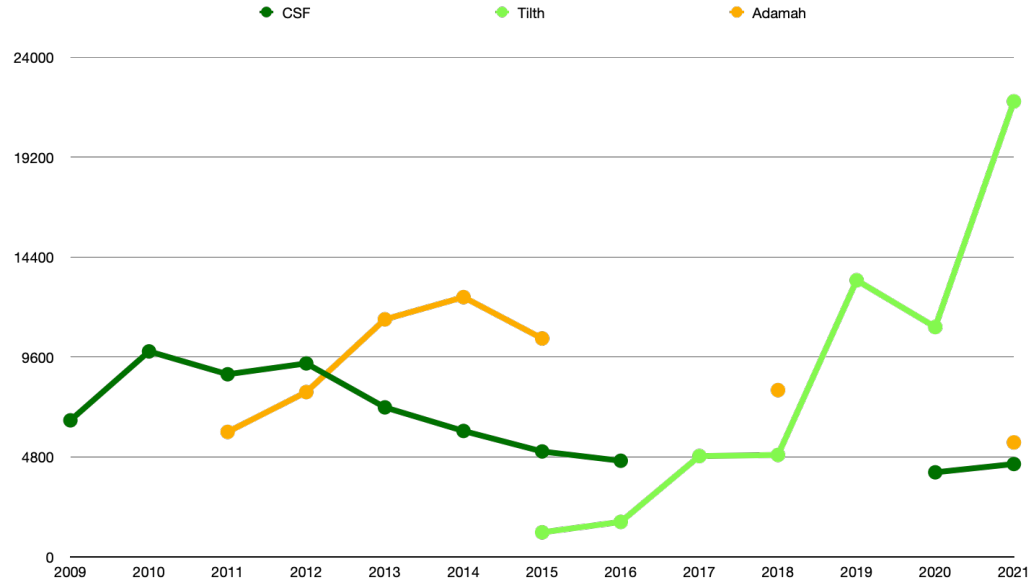

Figure 35 – CSF, Tilth, Adamah: Biomass production, 2009-2021

"productivity of 5 kilos per square meter – one quarter of Cuban productivity" predicted by Altieri for EBUA when calculating what could be grown in Oakland.[279]

During this time Adamah also consumed 1,392,280 gallons of water, according to their EBMUD bills (summing the data detailed in figure 27). Assuming that this water was used for food production, over this period each pound of vegetables that was produced (again, with connected associated animal products and uses) required ~122 gallons of water. One experimental study into the productivity of UA gardens showed a somewhat ideal grid irrigation requirement of 52.4 gallons per pound of produce.[280] It therefore seems cromulent to use a conveniently round number of 100 gallons of grid water per pound of produce to estimate the approximate consumption for East Bay UA operations in their vegetable production, with the understanding that the estimate includes the small, entwined animal operations (usually chickens, worms, and/or goats) that all the sites possess (which not only defray fertilizer costs, but also produce some food themselves). Since the figure varies based on a bewildering plethora of confounding factors, including but not limited to weather, presence of water catchment, soil condition and geology, gardening and watering practices, types of crops grown, the politics of selection vs rejection based on aesthetic quality, and how much water is used during their processing, any projection is necessarily quite approximate.

[279] "Urban Agroecology."
[280] Georgia Pollard, James Ward, and Philip Roetman, "Water Use Efficiency in Urban Food Gardens: Insights from a Systematic Review and Case Study," *Horticulturae* 4, no. 3 (September 2018): 27, https://doi.org/10.3390/horticulturae4030027.

Adamah's 2019 Capital Campaign brochure projects their phase 3 production at 35,000 pounds annually. Berman, in multiple interviews, projected an even higher output: "Once the new space is completely built—a process Berman says could take several years—the farm could increase its food production five-fold to 50,000 pounds of produce. That's a lot of nutritious fruits and vegetables for hungry people in need."[281] We can see that their actual numbers are far lower, and this was predicted as discussed in the FHL chapter, based on the site land use decisions and clear community building and educational direction into which the organization has expanded.

Virtually none of this processed and weighed biomass is ever returned to the farms – once given away, it is either eaten and then gets (likely) deposited into the city sewer system, or the uneaten food waste goes into the consumer's own compost, the city green waste stream, or landfill. It is this major exit of organic matter and soil nutrients that East Bay UA sites lack the ability to replace via their own processes, and it constitutes a central metabolic rift that East Bay UA is struggling to transcend. Because the nutrients don't return, soil fertility will degrade unless they are replaced by other means – namely, the compost, fertilizer, manure, and other inputs brought in from outside the system. While they can sometimes be sourced from the "commons," such as food waste drop-offs from friendly restaurants or trips to load free manure, they can also be a significant cost when the inputs are bought, and the farms are dependent on them to continue functioning.

Significant on-farm waste is also generated in this production – not just the remainder of harvested plants (like stems and roots), but also large amounts of produce considered aesthetically unacceptable due to holes from pests, a spot of broken skin where rot has set in, or other 'imperfections.' Because some consider it a food justice issue to give such produce to people in need as it is 'inferior' to that which is expected at supermarkets, these fruits and vegetables are instead composted on-site by some. This isn't a universally applied standard for a number of reasons - some workers prioritize production and access over appearance, and volunteer harvesting produces a wide variety of outcomes - but the aesthetic "quality" is a common and highly subjective variable in the calculation of food production from a given area.

While the sites all have some composting operations, often including vermicomposting, they are all limited in their capacity. Hand turning compost piles to maintain ideal thermophilic conditions for the microorganisms is a labor intensive and strenuous task, and as has been established in the FHL chapter, such labor is a major limiting factor for farm operations. Several cubic yards of compost production are common, but more than that is typically beyond the capacity of the farms operations to manage. City Slickers recently received a grant to construct a new compost enclosure allowing them to produce more on site, but they still acquire more waste biomass than they can process; the extra then leaves the site and enters the city green waste stream. As one staff member at CSF observed, "when it gets big – the pile - we'll just go dump it at the city waste at the big green site, the green side of it."[282] Similarly, Adamah – at both the old and new sites – processes some compost, but lacks the capacity to manage all the waste produced on-site, and so large amounts are put into green bins for city collection.

At Tilth's North Richmond Farm, one side of the site has been temporarily dedicated to windrows (a large-scale method of composting) and is the only farm among my cases to do so, although the area being used for it is slated to be built upon in the long-term plan. Even so,

[281] Sarah Henry, "Urban Adamah 2.0: An Urban Farm Poised for Growth," Civil Eats, May 5, 2014, https://civileats.com/2014/05/05/urban-adamah-2-0-an-urban-farm-poised-for-growth/.
[282] Backyard Garden Manager, Interview with Backyard Garden Manager.

because so much biomass leaves the site not to return, what can be produced this way is still not sufficient to maintain fertility. A Tilth NRF Council member observed: "It would be nice to make a nutrient rich type of soil, maybe including some compost and making our own compost here on site to support all the operations here. I mean, we do have compost on site. And I'm attending to it, you know, on a weekly or bi-weekly basis. But I don't think we have enough compost to support all of our crop rows."[283]

In sum, all of the sites, when considered as isolated units, are heavily dependent on external inputs for both water and soil amendments, as well as sources of waste disposal. While CSF has water catchment, they still consume water on the same order as sites of a similar size, and while they all have small animal operations and compost operations, they are not sufficient to produce or reprocess all the solid material flows that are involved in site operations.

UA and Urban Metabolism: Regional resource flows

Each site is not isolated from its communities, however – even if a farm required no offsite inputs to function, the workers do not restrict themselves to the sites, and they produce food and waste which is distributed into the city systems. Isolation in urbanity is an illusion; rather – as discussed above – the farm is interwoven into the metabolism of the cities surrounding them in manifold ways, and if food sovereignty is to be achieved at a community or regional scale, the scope of analysis must necessarily include the same. By considering regional resource flows, we can not only identify pooled "commons" that might serve as an uncommodified source of UA inputs, but also paths for waste diversion and closed resource loops, consistent with the example in Kalundborg, as well as the "Zero Waste Plans" adopted by all cities and counties in the East Bay. For this to be feasible and scalable, however, requires that the resources be of sufficient quality and quantity, which is partially dependent on the infrastructure used to access, store, and convey them.

Since the development of industrial ecology practices during the environmental era, as described above, a few concurrent trends have increased interest in urban metabolic thinking and analysis. First, "After several decades of Whites fleeing large metropolitan areas, they are now increasingly gentrifying urban neighborhoods and communities,"[284] a reversal of the white flight that created the suburban rings. Second, the rise of data science and systems analysis in "smart city" climate and zero waste planning. With GIS technology, remote sensing, and cloud computing, the material flows associated with urban dwellers have been quantifiable, visualizable, and shareable as never before.[285] Third, ongoing urbanization, which is "rapidly accelerating, and extending ever more densely, if unevenly, across the earth's surface," is creating "a globalized network of spatially concentrated human settlements and infrastructural configurations in which major dimensions of modern capitalism are at once concentrated, reproduced and contested."[286]

---

[283] Interview with North Richmond Farm Council member.
[284] Rogelio Sáenz, "The Rising Relative Presence of Whites in Majority Non-White Cities," *American Behavioral Scientist* 66, no. 11 (2022): 1558–81.
[285] Wang Tao, "Interdisciplinary Urban GIS for Smart Cities: Advancements and Opportunities," *Geo-Spatial Information Science* 16, no. 1 (March 1, 2013): 25–34, https://doi.org/10.1080/10095020.2013.774108.
[286] Neil Brenner and Roger Keil, "'From Global Cities to Globalized Urbanization,'" in *The City Reader*, 5th ed. (Routledge, 2011).

The methods for assessing the metabolism vary as well, oriented around their issues of interest. These variations, broadly speaking, fall into "two related, non-conflicting, schools of urban metabolism: one following Odum describes metabolism in terms of energy equivalents; while the second more broadly expresses a city's flows of water, materials and nutrients in terms of mass fluxes."[287] Many, if not most, theorists in the Odum school are driven by climate concerns; with global climate change looming as an existential threat, many have focused on energy flows –and more narrowly carbon emissions – as the single indicator that addresses the most pressing concern. Partially wrapped into this rationale is the idea that many other issues of consumptive concern can be stated in carbon terms, and therefore can be addressed simultaneously. For example, Michael Gelobter (an ESPM alumnus and environmental justice theorist and advocate) began the nonprofit "Cooler Inc." under exactly this rationale.

Initial scholarly work into material-flux urban metabolism focused on tracking water flows and explored cities' connection to regional "watershed" networks.[288,289] Following this model, some scholars have explored the "foodsheds" of cities, or the network of linkages to farms, processing plants, and transportation that provide access to food.[290,291] Combining various threads of these approaches, other work has looked at more holistic combinations of material flow analysis and urban metabolism, such as the "ecological footprint" concept proposed by Wackernagel, Rees, et al.[292], or more recently the "nexus" of water, energy, and food.[293,294,295]

Social theorists argue, however, that purely material-focused frames of analysis ignore the materiality of their materials: "If labor is the means through which humans transform their surroundings, then understanding social metabolism – and its integument with soil processes – demands that we extend our analysis to historically specific processes of capitalist urbanization mediating labor power, production, and consumption. In cities, the influx of capital is visibly inscribed on the landscape in the form of buildings and infrastructure (e.g. roads, bridges, power lines, rail lines, sewers)."[296]

These locked-in infrastructural artifacts and technological frames then create institutional momentum toward a particular pathway of development, which presents a key obstacle to moving regional, municipal materialities in the direction of agroecological urbanism. In other words, I suggest it is not enough to quantify and map material flows; it is also important to

---

[287] C. Kennedy, S. Pincetl, and P. Bunje, "The Study of Urban Metabolism and Its Applications to Urban Planning and Design," *Environmental Pollution* 159, no. 8–9 (August 2011): 1965–73, https://doi.org/10.1016/j.envpol.2010.10.022.

[288] Abel Wolman, "The Metabolism of Cities," *Scientific American* 213, no. 3 (1965): 178–93.

[289] Murray B. McPherson and William J. Schneider, "Problems in Modeling Urban Watersheds," *Water Resources Research* 10, no. 3 (1974): 434–40.

[290] Jack Kloppenburg, John Hendrickson, and George W. Stevenson, "Coming in to the Foodshed," *Agriculture and Human Values* 13, no. 3 (1996): 33–42.

[291] Christian J. Peters et al., "Foodshed Analysis and Its Relevance to Sustainability," *Renewable Agriculture and Food Systems* 24, no. 1 (2009): 1–7.

[292] Mathis Wackernagel and William Rees, *Our Ecological Footprint: Reducing Human Impact on the Earth*, vol. 9 (New society publishers, 1998).

[293] Morgan Bazilian et al., "Considering the Energy, Water and Food Nexus: Towards an Integrated Modelling Approach," *Energy Policy* 39, no. 12 (2011): 7896–7906.

[294] Anik Bhaduri et al., "Sustainability in the Water–Energy–Food Nexus," *Water International* (Taylor & Francis, 2015).

[295] Tamee R. Albrecht, Arica Crootof, and Christopher A. Scott, "The Water-Energy-Food Nexus: A Systematic Review of Methods for Nexus Assessment," *Environmental Research Letters* 13, no. 4 (2018): 043002.

[296] McClintock, "A Critical Physical Geography of Urban Soil Contamination."

evaluate how the availability and accessibility of material flows is shaped by the dominant technological, political, and economic systems that constitute their milieu. Whether or not UA in the East Bay is able to benefit from city-level metabolic processes will depend on how the city material flows have developed – what constitutes them, how they are moved, and who controls them.

Regional Water flow materialities

As mentioned, all the sites observed draw significant water from the grid, supplied by EBMUD. EBMUD was initially established as a progressive pushback against robber-baron era consolidation of public resources:

> "Before they established the East Bay Municipal Utility District, Oakland and its neighbors depended on private water companies that tapped ground water and four local creeks, Temescal, San Pablo, San Leandro, and Pinole. San Francisco's Spring Valley Water Company owned the rights to Alameda Creek, the only other major watershed in the East Bay."[297]

This led to campaigns for public systems to displace the capitalists, and the local regions cooperated:

> "the East Bay municipalities spent more time fighting private utilities over water than fighting each other. California's 19th-century water and utility laws allowed investors to buy up water rights and hold them for later development or resale. The private utilities that evolved from this legal arrangement earned monopoly profits that allowed them to defeat many campaigns for public water supplies. That is, until East Bay residents finally approved EBMUD in 1923."[298]

EBMUD now sources its water from the Mokelumne river basin in the Sierra Nevada Mountains via the Mokelumne Aqueducts as can be seen in figure 36,[299], which pass through Pardee and Comanche reservoirs on their way to the EBMUD service area seen in Fig. 37.[300] Built between 1926 and 1929, the massive project was intended to expand strained Bay Area water access, but as the name "Mokelumne" which means "People of the Fish Net" in the language of the indigenous Miwok peoples might suggest, at "their foundation, California state and federal water projects are colonial operations that deny Indigenous presence, sovereignty, and future. Federal water projects in the American West were funded by the seizure and sale of Indian lands to non-Indians."[301]

---

[297] Sarah S. Elkind, "Industry and Water Distribution in California: The East Bay Municipal Utility District, 1920–1930," *Environmental History Review* 18, no. 4 (1994): 63–88.
[298] Rolf Pendall, "Bay Cities and Water Politics: The Battle for Resources in Boston and Oakland," *American Planning Association. Journal of the American Planning Association* 66, no. 3 (Summer 2000): 336.
[299] "Water Supply :: East Bay Municipal Utility District," accessed November 30, 2022, https://www.ebmud.com/water/about-your-water/water-supply.
[300] "Service Area :: East Bay Municipal Utility District," accessed November 21, 2022, https://www.ebmud.com/about-us/who-we-are/service-area.
[301] Beth Rose Middleton-Manning, Morning Star Gali, and Darcie Houck, "Holding the Headwaters," *Decolonization: Indigeneity, Education & Society* 7, no. 1 (2018): 174–98.

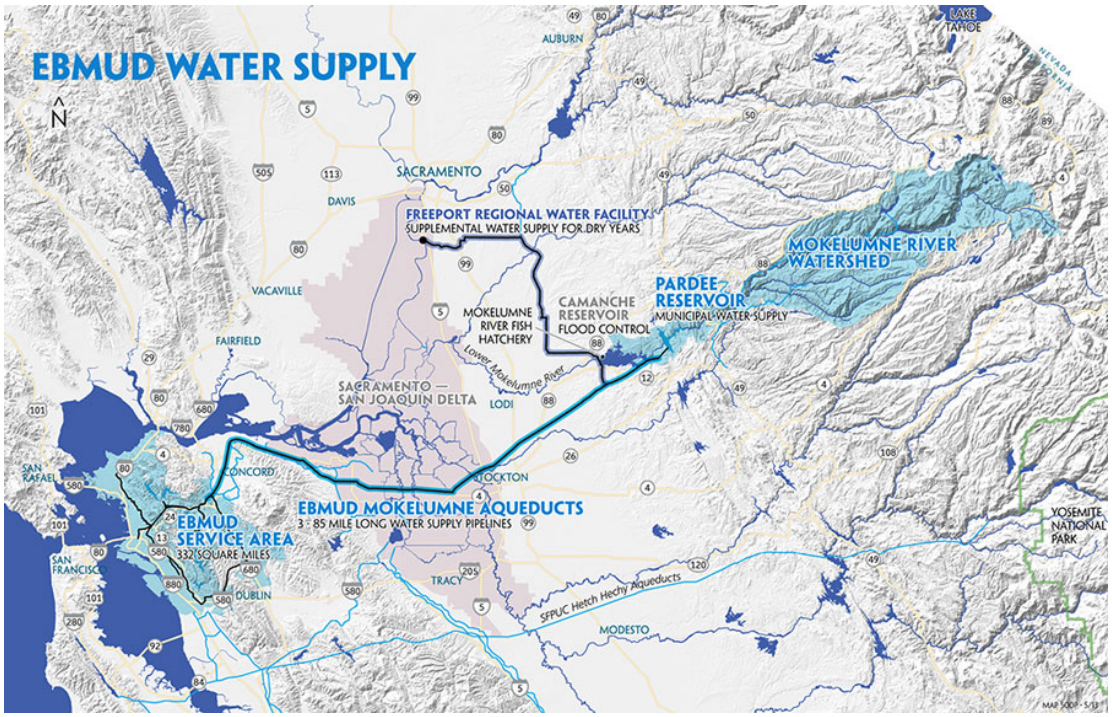

Figure 37 – EMBUD Water Supply Map

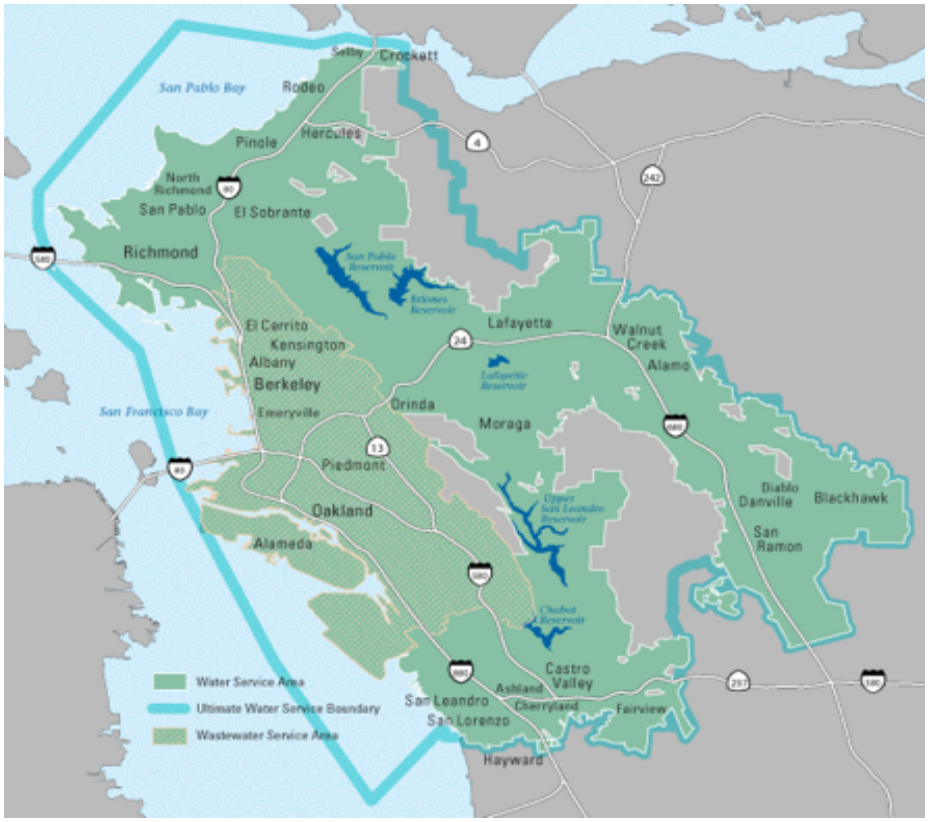

Figure 36 - EMBUD Service Area

EBMUD has water rights for up to 325 million daily gallons from the watershed, which they store at the Pardee reservoir, while the Camanche reservoir "stores water to meet the needs of fisheries, riparian habitat and downstream water-rights holders, and it provides flood control."[302] EBMUD also collects runoff within local reservoirs within its districts, though this is minimal compared to that from the Mokelumne system, and even negligible in drought years. A fairly recent episode in the ongoing evolution of this system provides an example of the leverage points where various political forces can shape long term, built infrastructural outcomes.

EBMUD's Water Supply Management 2040 planning document projected the current water provisioning and storage to be inadequate to meet future needs. In addition to considering a number of conservation measures (from increasing system efficiencies to changing consumer behavior) and new projects such as potential desalination plants, EMBUD planned to expand the Pardee reservoir and to build a dam to flood two miles of the Mokelumne river, to the outrage of communities in the area and environmentalists at large, who contested these plans in court. Another option existed: "The Contra Costa Water District, which serves Concord, Martinez, and eastern Contra Costa County along with parts of Pleasant Hill and Walnut Creek," wanted to "expand its Los Vaqueros Reservoir, on the eastern side of Mount Diablo," from 100,000 acre-feet "to 160,000 acre-feet or even 275,000 acre-feet,"[303] depending on how many other districts joined with it. EBMUD initially refused to partner on the Vaqueros project, arguing it was not developed enough, an assertion contested by Contra Costa.

Eventually EBMUD was halted by a judge who threw out their Mokelumne Dam Environmental Impact Report on the grounds that it did not sufficiently consider alternatives (such as the Vaqueros project) or the projects impacts on stakeholders: "In addition to inundating the popular Electra and Middle Bar whitewater runs, the move would also destroy the 1912 Middle Bar Bridge and imperil a black willow stand where Miwok tribe members gather branches for weaving traditional baskets."[304] EMBUD relented and abandoned the plan, while not admitting that the Pardee expansion was problematic. In their 2011 revised EIR for their water planning document, they insisted that:

> "This supplemental program-level examination of the Enlarge Pardee project has not changed the previous determination regarding the feasibility of this supplemental water supply option, although the other portions of this supplemental analysis have demonstrated that the Enlarge Pardee component option does not need to be included in the portfolio of options that could be pursued in the thirty-year planning horizon of the WSMP 2040."[305]

As of 2022, EBMUD was indeed one of the partners supporting Los Vaqueros expansion to 275,000 acre-feet. In a 2021 press release, they insist "The Los Vaqueros Reservoir Expansion is

---

[302] "About Your Water :: East Bay Municipal Utility District," accessed November 30, 2022, https://www.ebmud.com/water/about-your-water.

[303] "EBMUD Has Yet Another Option Besides a New Mokelumne Dam," *East Bay Express | Oakland, Berkeley & Alameda* (blog), June 3, 2009, https://eastbayexpress.com/ebmud-has-yet-another-option-besides-a-new-mokelumne-dam-1/.

[304] Kelly Zito, "EBMUD Set Back by Pardee Reservoir Ruling," SFGATE, April 18, 2011, https://www.sfgate.com/green/article/EBMUD-set-back-by-Pardee-Reservoir-ruling-2374581.php.

[305] "Draft: Revised Program Environmental Impact Report, Water Supply Management Program 2040" (EBMUD, December 2011).

not only important for EBMUD, but for the Bay Area and the region as a whole," and that "along with efforts such as water conservation, water recycling, and supplemental supplies, EBMUD will continue to support mutually-beneficial regional reliability efforts to prepare for an uncertain future."[306]

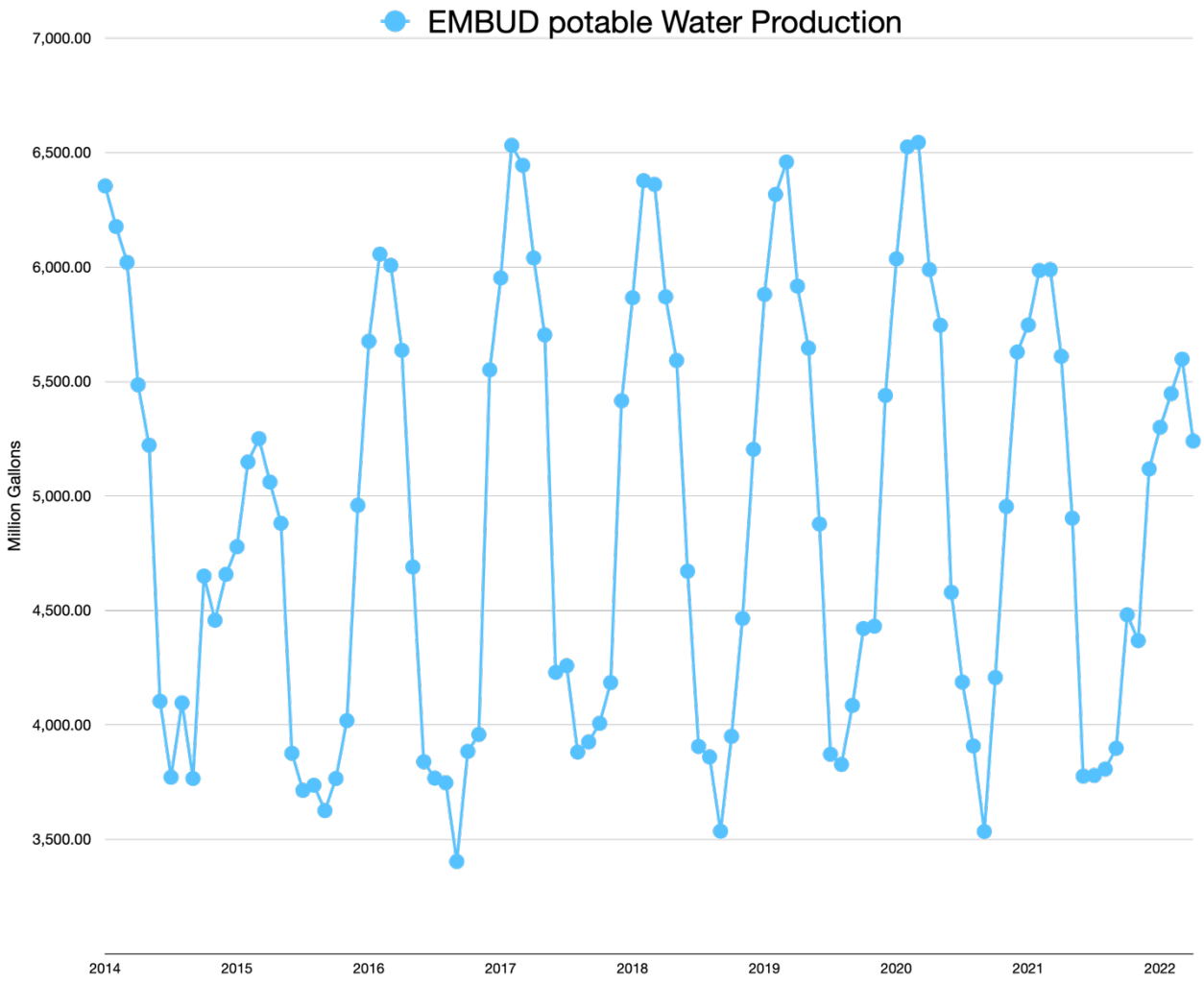

Figure 38 – EMBUD Water production, 2014-2022

The "uncertain future" is a reference to the fact that California is currently experiencing an ongoing and historic drought; figure 38 displays EMBUD's monthly potable water production across the last several years (in millions of gallons). While the dip in maximum production in 2015 provoked a "stage 4" drought classification, termed a "water emergency" and requiring mandatory measures to produce a greater than 50% demand reduction,[307] conditions have since

[306] "Los Vaqueros Reservoir Joint Powers Authority Formed :: East Bay Municipal Utility District," accessed November 30, 2022, https://www.ebmud.com/about-us/news/press-releases/los-vaqueros-reservoir-joint-powers-authority-formed.

[307] "Drought Stages Summary," accessed November 21, 2022, https://www.edcgov.us/Water/documents/Stages2.pdf.

improved only marginally. For example, in spring 2022, the California State Water Board intervened to impose water use restrictions:

> "Findings from EBMUD's annual Water Supply Availability and Deficiency Report showed supplies will be insufficient to meet demand and consequently, on April 27, 2021, the Board of Directors made a Declaration that current and projected conditions warranted triggering a Drought Stage 1 as defined in EBMUD's 2020 Water Shortage Contingency Plan (Attachment 1 of the 2020 UWMP). As the severity the drought continued into spring of 2022 and with unknown uncertainty for the coming year of hydrologic conditions or dry year supplemental supply availability, on April 26, 2022, the Board of Directors made a Declaration that current and projected conditions warranted triggering a Drought Stage 2 as defined in EBMUD's 2020 Water Shortage Contingency Plan (Attachment 1 of the 2020 UWMP). Table W-5 in the Attachment 1 outlines the response actions to take depending upon severity of the drought. Subsequently declaration of Drought Stage 2, on May 10, 2022, the Board of Directors made a Declaration to implement Drought Stage 2 surcharges. The Drought Surcharges is to be imposed and collected on each unit of potable water delivered on or after July 1, 2022 at the rate of eight percent (8%) of the Water Flow Charge for Water Delivered."[308]

Not only is direct rain and water catchment on EBUA sites rendered less effective due to drought, but the funds that must be sunk into grid water access increase because of drought surcharges; as discussed above, water is already a budgetary burden for smaller UA operations. Applying the 100 gallon/lb. estimate arrived at above to both Oakland and Richmond food sovereignty goals in a quick calculation can be illustrative about the impacts of expanding East Bay UA on the grid.

City Slickers Farm's 2006 annual report states that "Americans eat an average of 418 pounds of produce per year. To be self-sufficient in produce West Oakland's population of 20,000 would need to grow 8.36 million pounds annually."[309] This would necessitate 836 million gallons of grid water, or fully 15% of the peak 2022 production of the entire EMBUD system. Similarly, according to 2020 census data, West Contra Costa County – the area under Tilth's original 5% sovereignty-based mission statement – had a population of 262,460 people. Using existing East Bay UA techniques and production numbers, my water conversion as described above, and applying CSF's analysis, reaching the 5% local goal originally on Tilth's website would necessitate growing 5,485,414 lbs. of food, using 548.5 million gallons of grid water, or a tenth of EBMUD's overall 2022 water production. Even if the producers could pay the cost, it would put an unworkable strain on the water supply. Growing 100% of all WCC vegetables this way would require more than twice the total potable water EBMUD produced through its entire system.

This approach is clearly not a feasible, scalable route to community food self-sufficiency given the water infrastructure and usage regimes we currently employ. EBMUD – though ostensibly a public utility – makes the great majority of its budget from selling water, and as the

[308] "June 2014-August 2022 Urban Water Supplier Monthly Reports (Raw Dataset)" (California State Water Resources Control Board), accessed November 27, 2022, https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/docs/2022/uw-supplier-data100322.xlsx.
[309] "City Slicker Farms 2006 Annual Report."

Pardee incident illustrates, can require lawsuits to hold it accountable to the public and indigenous land management. Changes not just to the way EBMUD collaborates with localities, but changes to the way water is provisioned beyond the scale of what EBMUD is in control of would be necessary to render mass urban food production viable – such as a recalibration at the state level of how water rights are apportioned to rural agriculture vs. urban areas such as those EMBUD services, or partnerships between various regions to create collaborative watershed scale infrastructures. This was, in fact, part of the judge's rationale in blocking EBMUD's proposed dam in favor of reconsideration of the Los Vaqueros expansion: "The Los Vaqueros project does not involve a new reservoir in a previously undeveloped area, does not involve significant historical community opposition, and would allow the district to partner with other agencies to jointly resolve water supply issues."[310]

Regional (bio)solid flow materialities

The concept of solid waste management in urban metabolism goes back millennia, as large settlements found a wide range of ways to deal with their sizable effluent. Civilizations around the planet reused human excrement, euphemistically termed "night soil," to avoid waste buildup and return nutrients to the farmland from whence they came. For instance, in what is now Mexico, the Aztec chinampas or "floating gardens" – artificial islands separated by canals – used human waste from the city of Tenochtitlán to maintain fertility. "The chinampas, in turn, produced maize, beans, chili peppers, and tomatoes as well as a host of medicinal plants and agroforestry products that sustained the region's estimated 250,000 inhabitants. Today, it has been considered an early model of environmental and socio-economic sustainable management in a complex society."[311]

This recirculation was not without its downsides; archaeological and historical research reveals that human pathogens were often rife in some areas where nightsoil was common. Medieval friars were "riddled" with intestinal parasites due to their garden use of night soil:[312] "Ironically, the friars' better hygiene may be to blame, Mitchell believes. Because they collected their excrement in the latrine instead of disposing it in cesspits, the clergy may have recycled their own waste (or purchased waste from the townspeople) as manure for their vegetable gardens. Roundworms lay their eggs in human feces, Mitchell notes, so eggs in the gardens could easily make their way into produce and then into the friars' stomachs."[313] Similar issues were found in Korea and other East Asian countries.: "Since the night soil produced in a major city was recycled by farmers as fertilizer for vegetables, soil-transmitted parasitism must have been prevalent among the city-dwellers of the Choson period. A high level of infection was a kind of unavoidable by-product of the night soil recycling process, which otherwise was very efficacious for the sustainable management of a preindustrialized city in Korea."[314]

---

[310] Zito, "EBMUD Set Back by Pardee Reservoir Ruling."
[311] Nicholas C. Kawa et al., "Night Soil: Origins, Discontinuities, and Opportunities for Bridging the Metabolic Rift," *Ethnobiology Letters* 10, no. 1 (2019): 40–49.
[312] Tianyi Wang et al., "Intestinal Parasite Infection in the Augustinian Friars and General Population of Medieval Cambridge, UK," *International Journal of Paleopathology*, 2022.
[313] "Medieval Friars Were Riddled with Parasites," accessed November 21, 2022, https://www.science.org/content/article/medieval-friars-were-riddled-parasites.
[314] Myeung Ju Kim et al., "Parasitic Infection Patterns Correlated with Urban–Rural Recycling of Night Soil in Korea and Other East Asian Countries: The Archaeological and Historical Evidence," *Korean Studies* 38, no. 1 (2014): 51–74.

Night soil removal was standard in increasingly dense US cities in the 18th and 19th centuries as well, and "the paltry urban infrastructure could not handle the sheer tonnage of human waste its residents were producing. New York was the dirtiest city of them all. In 1844 it was estimated that Manhattanites alone produced nearly 800,000 cubic feet of excrement". Some of this waste was transported to country farms to be used as fertilizer. "But more often they were hauled through the night to a designated pier and dumped into the Hudson or East Rivers (and sometimes mistakenly onto the private boats below), creating a stinking, festering shoreline."[315] The era of technocratic city planning driven in part by the developing field of public health and in part by racial capitalist precepts, as well as cultural mores connected to hygiene and cleanliness, among other factors, all led to the end of this practice of night soil reclamation in cities. The modern water-based sewer system emerged as the dominant modality for dealing with human waste.

> "With this development emerged a "culture of flushing"—intertwining attitudes, infrastructure, and legal codes that resulted in the channeling of human excrement into subterranean networks and waterways (Benidickson 2007). In effect, this disrupted the cycling of nutrients from urban metropolises to surrounding agricultural lands, provoking what Marxian scholars now describe as the metabolic rift."[316]

The metabolic rift as Marx described it had to do with the soil erosion – decreasing fertility and overall soil health – as a result of capitalist rural accumulation and value extraction, resulting in agricultural practices that destroyed their own natural value base. "Urban concentration led to a one-way flow of nutrients out of the countryside and into the city, where they were consumed as food and goods. These nutrients were not returned to the countryside, but were sloughed into the rivers and oceans as waste."[317] Human waste was not central to this metabolic process, as its contribution to soil fertility was but a fraction of that produced by livestock and other sources – but in regions where it played a substantive role in agriculture, the loss of its nutrients into alternative waste streams had to be replaced somehow.

Throughout much of 20th century, this "somehow" – and capitalism's overall answer to decreasing soil fertility – became synthetic fertilizers. In 1909 a German chemist named Fritz Haber "discovered how ammonia, a chemically reactive, highly usable form of nitrogen, could be synthesized by reacting atmospheric dinitrogen with hydrogen in the presence of iron at high pressures and temperatures,"[318] and Carl Bosch – working for the German chemical company BASF – scaled it to an industrial level in 1910 (for their work, Haber would win the Nobel Prize in 1918 and Bosch in 1931). The Haber-Bosch process would not only dramatically increase the production of gunpowder and explosives during World War I, but also farm fertilizers – and through this transition to industrial, mass production, fertilizer became further fetishized - not unlike the way Chicago's rail cars and grain elevators served as an infrastructural catalyst for the fetishization of grain and increasing of the metabolic rift between city and country.[319] As agriculture became mechanized, and urban migrations – especially during and after WW2 –

---

[315] Adee Braun, "The 19th-Century Night Soil Men Who Carted Away America's Waste," Atlas Obscura, 06:00 400AD, http://www.atlasobscura.com/articles/when-american-cities-were-full-of-crap.
[316] Kawa et al., "Night Soil."
[317] Holt-Giménez, *A Foodie's Guide to Capitalism*.
[318] Jan Willem Erisman et al., "How a Century of Ammonia Synthesis Changed the World," *Nature Geoscience* 1, no. 10 (October 2008): 636–39, https://doi.org/10.1038/ngeo325.
[319] William Cronon, *Nature's Metropolis: Chicago and the Great West*, 1st ed (New York: W. W. Norton, 1991).

removed hand labor from farms, traditional techniques and animal-crop exchange systems became exceptions rather than the rule. "For nearly a half-century since the use of synthetic agricultural inputs became widespread after the Second World War, the problem of urbanization and the metabolic rift was largely forgotten. Today, capitalist agriculture is inconceivable without synthetic fertilizer."[320] UA attempts to mend this metabolic rift by re-introducing non-chemical fertilizers and animals, but as discussed, is unable to fully close the loop.

Despite these massive changes, over a century later the urban night soil economy has not wholly vanished but is in fact being actively resurrected in a new form: the "biosolids" industry. I worked as an assistant mechanic at EBMUD's West Oakland Sewage Treatment plant in the early 1990s, and witnessed firsthand how as sewer water was treated, and after large objects and gravel were screened, two major constituents were extracted: "scum," which floated to the top, and "sludge," which sank to the bottom. Scum – consisting of oil-based compounds that absorb a variety of chemicals (such as fat-soluble organophosphate pesticides) – was considered irredeemably toxic waste and disposed of as such in large tanker trucks. Sludge would be processed using high temperature cooking in "digesters" that killed many pathogens and released methane used to power site operations, followed by water removal with centrifuges, to produce a final product they called "cake" – which would then be turned into soil amendments and sold on the market. Because none of the processes eliminated heavy metals and other contaminants from the sludge (which again, derived from all the sewer-waste our urbanity produces, including industrial effluent), contamination from such substances was an ongoing toxic problem.

Since then the "sludge" industry has rebranded itself "biosolids" in a public relations effort which one writer has called "an example in practice of the 'propaganda model' of communications, which sees its task as indoctrinating target audiences with ideas favorable to the interests of the communicators."[321] The renamed industry has lobbied for changes to federal EPA regulations to allow its formerly prohibited toxic and pathogenic loads to be allowable on farmland, and a variety of literature has been written about this process, notably a book titled "Toxic Sludge Is Good For You: Lies, Damn Lies, and the PR Industry".[322] A 2009 Mother Jones article noted:

> "A federal radiation task force recently warned that sludge might be contaminated with radioactive waste; in January, shipments of Canadian sludge with elevated radioactivity levels were turned back at the border. Food companies such as Del Monte and H.J. Heinz won't accept produce grown on sludge-treated land. The Netherlands and Switzerland effectively ban the use of sludge on farmland, and 37 states regulate it more strictly than the EPA."[323]

---

[320] Holt-Giménez, *A Foodie's Guide to Capitalism*.
[321] Sheldon Rampton, "Sludge, Biosolids, and the Propaganda Model of Communication," *NEW SOLUTIONS: A Journal of Environmental and Occupational Health Policy* 12, no. 4 (February 2003): 347–53, https://doi.org/10.2190/05Y2-PW2V-C485-CRKD.
[322] John C. Stauber et al., "Toxic Sludge Is Good for You" (Common Courage Press, 1995), https://scholar.google.com/scholar_lookup?title=Toxic+sludge+is+good+for+you&author=Stauber%2C+John+C.+%28John+Clyde%29&publication_year=1995.
[323] Josh Harkinson, "Sludge Happens," *Mother Jones* (blog), accessed November 21, 2022, https://www.motherjones.com/environment/2009/04/sludge-happens/.

When Michelle Obama's white house lawn garden soil testing found 93ppm lead contamination in the soil, it fueled a debate about whether it had in part come from the use of biosolids fertilizers:

> "Starting in the late 1980s and continuing for at least a decade, the South Lawn was fertilized by ComPRO, a compost made from a nearby wastewater plant's solid effluent, aka sewage sludge. Sludge is controversial because it can contain traces of almost anything that gets poured down the drain, from Prozac flushed down toilets to lead hosed off factory floors. Spreading sludge at the White House was a way for the EPA to reassure the public that using it as a fertilizer for crops and yards (instead of dumping it in the ocean, as had been common practice) would be safe. 'The Clintons are walking around on poo,' the EPA's sludge chief quipped in 1998, 'but it's very clean poo.' "[324]

More recently, concerns have grown over contamination with Per- and polyfluoroalkyl substances (PFAS), "a class of chemicals used across dozens of industries to make products resistant to water, stains and heat. Though the compounds are highly effective, they are also linked to cancer, kidney disease, birth defects, decreased immunity, liver problems and a range

TABLE 2-1
Pollutant Limits

Pollutant	Ceiling Concentration Limits for All Biosolids Applied to Land (milligrams per kilogram)[a]	Pollutant Concentration Limits for EQ and PC Biosolids (milligrams per kilogram)[a]	Cumulative Pollutant Loading Rate Limits for CPLR Biosolids (kilograms per hectare)	Annual Pollutant Loading Rate Limits for APLR Biosolids (kilograms per hectare per 365-day period)
Arsenic	75	41	41	2.0
Cadmium	85	39	39	1.9
Chromium	3,000	1,200	3,000	150
Copper	4,300	1,500	1,500	75
Lead	840	300	300	15
Mercury	57	17	17	0.85
Molybdenum[b]	75	—	—	—
Nickel	420	420	420	21
Selenium	100	36	100	5.0
Zinc	7,500	2,800	2,800	140
Applies to:	All biosolids that are land applied	Bulk biosolids and bagged biosolids[c]	Bulk biosolids	Bagged biosolids[c]
From Part 503	Table 1, Section 503.13	Table 3, Section 503.13	Table 2, Section 503.13	Table 4, Section 503.13

[a] Dry-weight basis

[b] As a result of the February 25, 1994, Amendment to the rule, the limits for molybdenum were deleted from the Part 503 rule pending

Figure 39 – Pollutants regulated by EPA "Part 503 Biosolids Rule"

[324] "Michelle Obama, How Does Your Garden Grow?," In These Times, accessed November 27, 2022, https://inthesetimes.com/article/michelle-obama-how-does-your-garden-grow.

of other serious diseases."[325] It is thought that the PFAS may be entering the waste stream via food packaging, and though there are as yet no federal regulations of PFAS in compost, the state of Maine has moved to preemptively ban the use of PFAS-contaminated biosolids. With other states contemplating similar restrictions, biosolids producers worry the "regulations will decimate their industry."[326]

Figure 39 shows the pollutants regulated by EPA's "Part 503 Biosolids Rule", the contents and limits of which are the subject of intense debate and industry lobbying. Class B biosolids "usually result from mesophilic anaerobic digestion and, by definition, are likely to contain human pathogenic bacteria, viruses, and protozoan parasites (Pepper et al., 2006)."[327] Figure 40, from Pepper et al., contains a list of common biosolid pathogens:

Bacteria	Protozoa
Salmonella sp.	*Cryptosporidium*
Shigella sp.	
Yersinia	*Giardia lamblia*
Vibrio cholerae	
Campylobacter jejuni	*Toxoplasma gondii*
Escherichia coli	
Enteric viruses	Helminth worms
Hepatitis A virus	*Ascaris lumbricoides*
Adenovirus	*Ascaris suum*
Norovirus	*Trichuris trichiura*
Sapporovirus	*Toxocara canis*
Rotavirus	*Taenia saginata*
Enterovirus	*Taenia solium*
Poliovirus	*Necator americanus*
Coxsackievirus	*Hymenolepisnana*
Echovirus	
Enterovirus 68–91	
Reovirus	
Astrovirus	
Hepatitis E virus	
Picobirnavirus	

Figure 40 – Common biosolids pathogens

[325] Tom Perkins, "Maine Bans Use of Sewage Sludge on Farms to Reduce Risk of PFAS Poisoning," *The Guardian*, May 12, 2022, sec. Environment, https://www.theguardian.com/environment/2022/may/12/maine-bans-sewage-sludge-fertilizer-farms-pfas-poisoning.
[326] "'We Can Never Get to Zero': Organics Recyclers Face Hard Choices in Responding to PFAS Contamination," Waste Dive, accessed November 20, 2022, https://www.wastedive.com/news/pfas-chemicals-organics-recycling-compost-biosolids/587044/.
[327] Ian L. Pepper et al., "Sustainability of Land Application of Class B Biosolids," *Journal of Environmental Quality* 37, no. S5 (September 2008): S-58-S-67, https://doi.org/10.2134/jeq2007.0321.

Due to the EPA regulations, sludge products cannot be returned to land used for agriculture without stringent protocols; EBMUD's Biosolids site states that "regulations for Class B biosolids extend from the wastewater treatment process to the fields where biosolids are land applied. Regulations limit the quantity of biosolids that can be applied, how soon crops can be harvested after application, and more. EBMUD biosolids are therefore not available for home gardening with our current practices."[328]

Despite these issues, the biosolids industry has rapidly expanded as a "solution" to landfill growth, and as a "sustainable" diversion of urban waste. Figure 41, a slide from a 2022 EBMUD "Biosolids Handling Management Briefing,"[329] provides an indication of the size of these flows through the region, the local capacity to process them, and thus the magnitude of the "market" they seek to enclose.

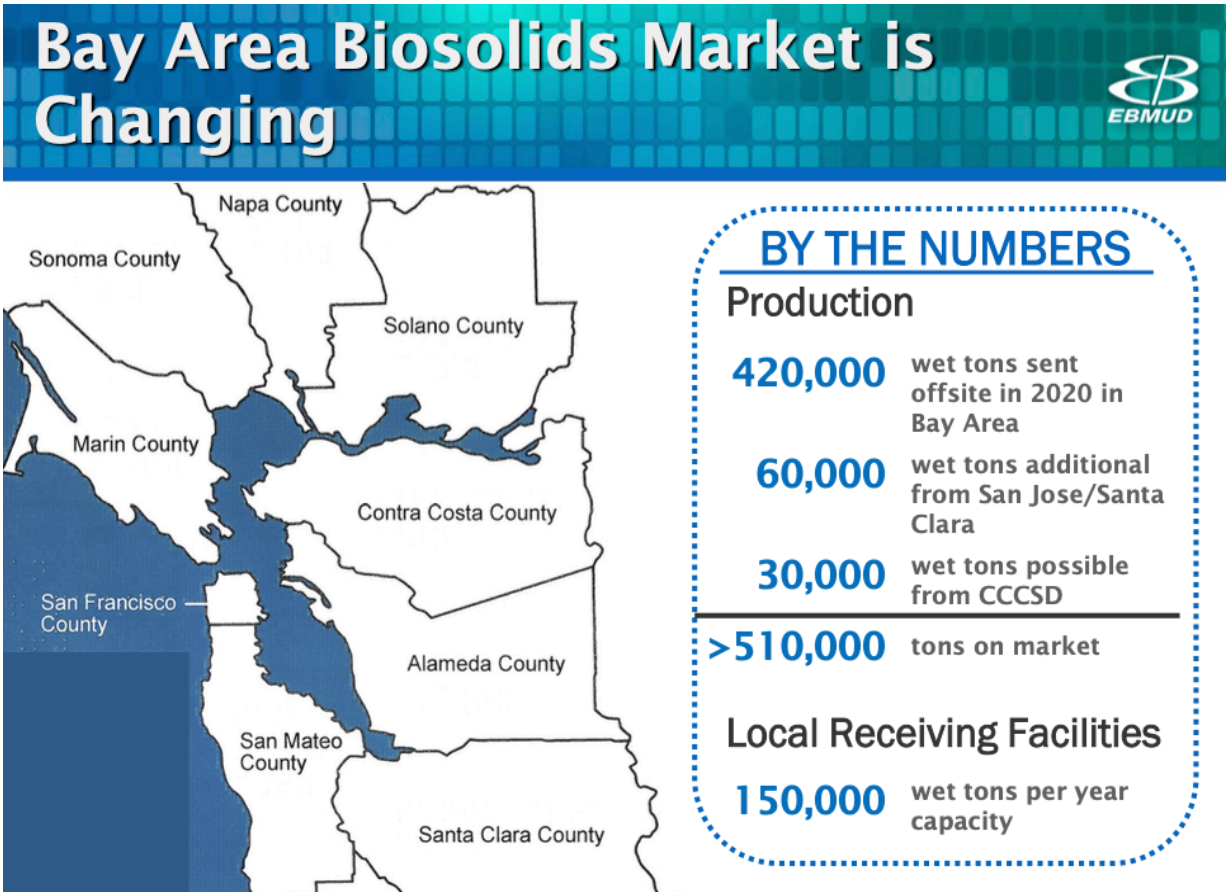

Figure 41 - EBMUD Bay Area biosolids market slide

Figure 42 illustrates the recent distribution destinations of the sludge produced by EBMUD.[330] The portion sent to landfill is "used as alternative daily cover to substitute the need for soil for covering the newly disposed waste material at the end of the day. This cover helps to control

[328] "Biosolids :: East Bay Municipal Utility District," accessed November 20, 2022, https://www.ebmud.com/wastewater/collection-treatment/wastewater-treatment/biosolids.
[329] "Sustainability Energy Committee Presentation."
[330] "Biosolids :: East Bay Municipal Utility District."

fires, reduce odors, and deter rodents and birds."[331] The percentage sent to compost is "processed at the Central Valley Compost Facility in Dos Palos, CA. There they are blended with wood waste and cured in windrows. The resulting compost is sold in bulk to local farmers."[332]

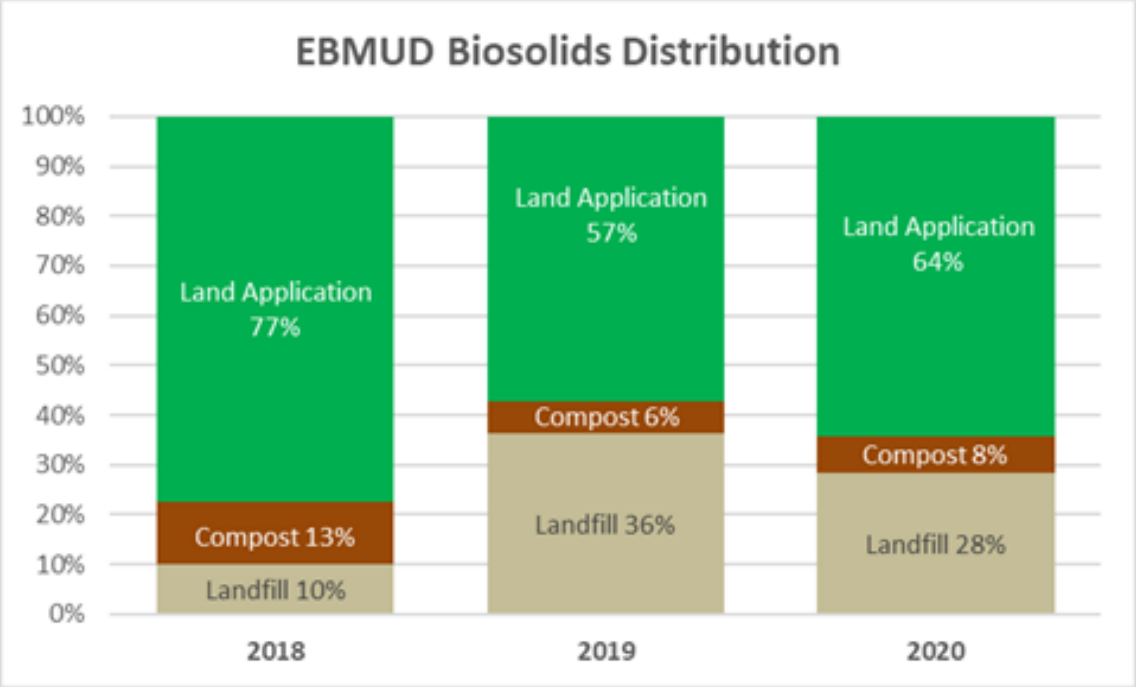

Figure 42 - EBMUD Biosolids distribution

The infrastructure-driven consolidation of the biosolid waste with toxic industrial and pharmacological waste streams, the accumulation by economic interests hostile to regulation, and a regulatory environment somewhat captured by capital together render the vast majority of this material flow materially, economically, and legally unsuitable to be returned to the source of production, namely the urban farm. As it is, urban soils already suffer from a long history of contamination; all the farm park sites I studied underwent extensive remediation before farms could be built, and the regional technocratic and capitalist frames applied to EBMUD's reclamation of human waste would only exacerbate this issue.

City organic waste collection and compost production: accumulation and enclosure

The other main infrastructure that might provide the necessary fertility for urban farms in the Bay Area is associated with green waste, or food and plant matter. The cities in which the farms reside are each serviced by a different waste contractor, who then sends city-level organic waste to various processors, so it is at this stage that the flows begin to pool at the regional level and become dissociated from their sources. In principle, these green waste streams might form a regional commons that urban farms might then draw on for their essential compost and soil inputs at low cost. In practice, so far, green waste streams have largely entered the commodified

[331] "Biosolids :: East Bay Municipal Utility District."
[332] "Biosolids :: East Bay Municipal Utility District."

market economy as private companies appropriate these, in a neoliberal era of shrinking municipal budgets, privatization of the public "commons," and increasing reliance on market forces to address formerly public functions.

Richmond contracts with a company called Republic Services for collection and composting (the West Contra Costa Organics Material Processing Facility also receives excess beyond what Republic services can handle). Data from the "Transparent Richmond" website (figure 43) shows the overall monthly food and organic waste flow, in tons, which the city places into this system (note this includes not just food scraps, but also plant and yard waste).

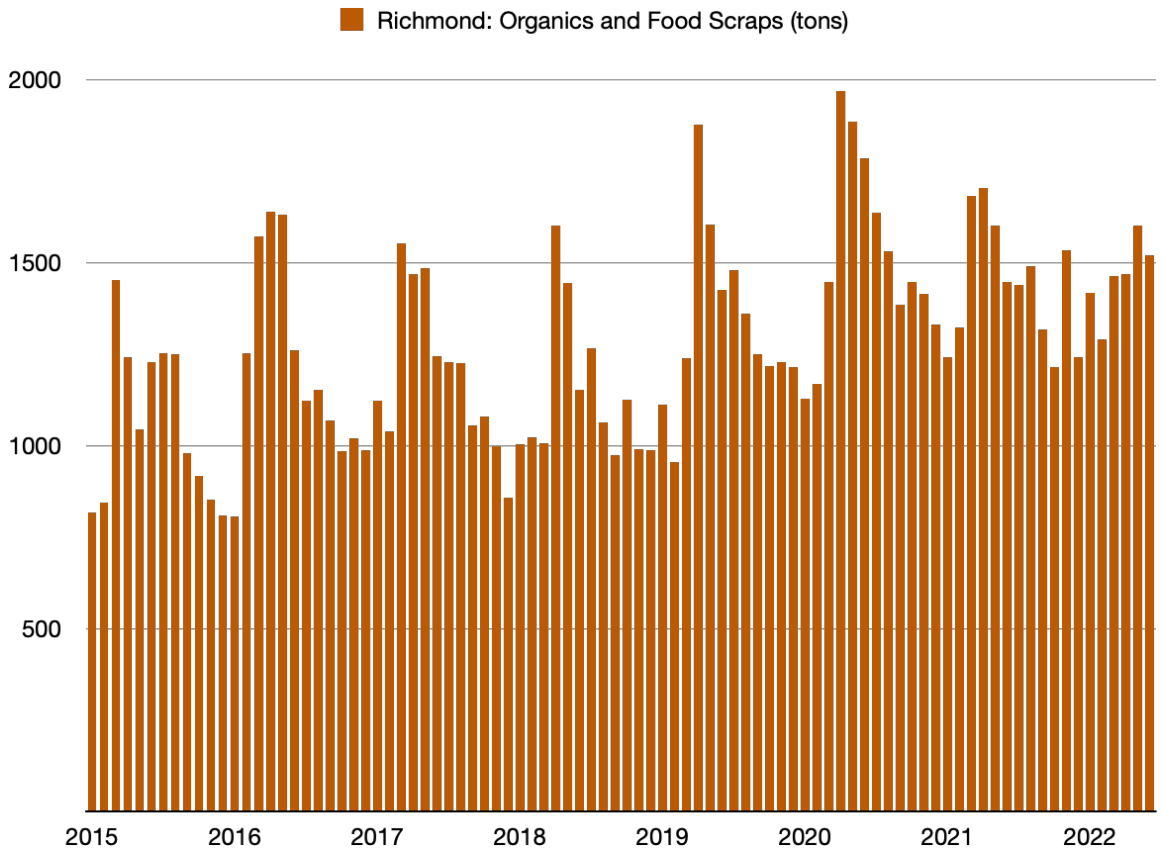

Figure 43 - Richmond: monthly organic food waste in tons, 2015-2022

In 2015, the city of Oakland (which collects CSF green waste) entered into a ten-year contract with Waste Management Incorporated, a Texas-based corporation that sued the city when it initially lost the bid. WMI is now "the exclusive provider of trash and composting services for residents and businesses"[333] in Oakland. The company drew widespread condemnation when – after winning the contract – it immediately and dramatically raised rates on businesses for processing their green waste bins, where food is meant to be put for diversion from the landfill. As an article at the time observed, "Oakland businesses are now required to pay significantly more for compost services than trash services — making it financially burdensome to run a green operation. That means restaurants that generate a lot of food waste can save a substantial amount

[333] "Oakland's Trash Program Promotes Waste," *East Bay Express | Oakland, Berkeley & Alameda* (blog), July 15, 2015, https://eastbayexpress.com/oaklands-trash-program-promotes-waste-2-1/.

of money by throwing the waste away rather than by composting it."[334] Facing backlash, WMI lowered their green bin fees – but this serves as an example of capitalist pressures redirecting flows away from the source and magnifying metabolic rifts by preventing behavior that would support resource sovereignty, via the imposition of onerous fee schedules. This privatization of municipal waste functions thus leads to the enclosure of a potential green waste commons.

The food waste collected this way is composted by a subcontractor for WMI. From a 2016 KQED article: "truck operators drive to the Davis Street Transfer Station in San Leandro and dump the day's haul, anywhere from 2 to 6 tons of green waste, onto a huge concrete platform. All of the green waste is loaded into much larger trucks, called transfer trucks, and carted off to Redwood Landfill 45 miles away in Novato."[335] Despite the name, the food waste is composted there, and sold to contractors and local farms.

Two companies contract to process the City of Berkeley's waste, which is collected by the Berkeley itself: Recology and Blossom Valley Organics. They keep 90% of the compost produced for sale on the market, and send 10% back to the city, deposited once per month near the Berkeley Marina for public access. If they lack capacity to process the full flow, they can sell some of the food waste to EBMUD to be turned into electricity.

Via sources like Recology among many others, EBMUD receives a large amount of food waste (estimated at 20-40 tons per day)[336] which it converts into power via anaerobic digestion and biogas production. In 2012, with these inputs and a new gas turbine generator, it became net energy positive and began selling excess energy to local customers (e.g. in 2020, 20.3% of the Port of Oakland's energy was derived from this source).[337] This has created a new market for this kind of low emissions power generation, and a further commodification pressure on the food waste stream. However, because this stream – while not chemically uncontaminated (PFAS from food packaging for example) – is far less toxic than the biosolids stream, because it lacks the technological frame lock-ins of vast city infrastructure like sewers, and because composting is possible at various scales (even on UA sites), it may offer the best immediate resource for a municipal, recoverable "biomass commons."

Discussion & Conclusions: Agroecological urbanization and triple sovereignty in East Bay UA

While sustainability and self-sufficiency are guiding philosophies for all the UA organizations I observed, none find on-site closed loop operation possible given both the scale at which they operate and resource bases to which they have social and economic access. The sites all had small animal populations (such as the chickens and goats commonly tolerated in urban settings) but there are not enough to produce the manure quantities necessary to keep the soil productive, or often even enough labor to redistribute the product of the animals they do have. Beyond soil fertility, the animals themselves require feed, bedding, and other "inputs" for their livelihood that cannot be produced without significant integrated pastureland that these UA

[334] "Oakland's Trash Program Promotes Waste."
[335] "How Does Oakland Turn Food Scraps to Soil?," KQED, accessed November 22, 2022, https://www.kqed.org/news/10884334/how-does-oakland-turn-food-scraps-to-soil.
[336] "Food Scraps Recycling :: East Bay Municipal Utility District," accessed November 21, 2022, https://www.ebmud.com/wastewater/recycling-water-and-energy/food-scraps-recycling.
[337] "Port of Oakland to Buy Renewable Energy from EBMUD," accessed November 22, 2022, https://www.ajot.com/news/port-of-oakland-to-buy-renewable-energy-from-ebmud.

operations lack; animal feed costs are just one expense that rapidly increases as the size of the operation grows. Finally, all the farms use significant amounts of piped water, and in dry months are almost completely reliant on sizable and expensive amounts of chloraminated grid irrigation. One farm out of the four has significant rainwater catchment infrastructure, but in recent Californian drought conditions, it has not had a large effect on consumption.

In sum, the farms all rely on significant, commodified, external inputs of organic matter, animal support, and grid water. As a result, a highly self-sufficient operation at their current scale and in the prevailing city milieu is not just elusive, but completely unrealistic. Since they require significant external inputs to stay viable, then, the extent of their contribution to local food sovereignty, as well as the triple sovereignty that Koohafkan, Altieri, and Holt-Gimenez (2012) speak about, hinges heavily on the social relations and infrastructure inherent in acquiring those inputs at whatever is defined as local, whether the community, city, or regional scale. Connecting to those structures and developing resource loops through them quantitively increases the level of community "self-sufficiency" in a way that would be apparent using the assessment frameworks (MESMIS, TAPE, etc.) mentioned above.

Of the organizations I am examining, with their extension into the municipal green space system and local educational system, and the November 2022 election of Executive Director Doria Robinson to the Richmond City Council, Tilth is perhaps the most representative of an organization operating at a regional scale, like Agroecological Urbanism that Tornaghi et al describe. Still, as at CSF's "Farm Park", the implementation of UA through the expansion of the city park system overdetermines both the space dedicated to UA, and the type of techniques used to cultivate it.

Before contemplating such extended networks, the first way such sites might enhance their triple sovereignty is focusing on **food sovereignty** via agroecological intensification, namely increasing the food output from the land they have available. Compost tea, creative polycropping, and maximizing spatial cultivation of farm sites are some ways in which productivity can be optimized within a certain amount of space. By combining increased on-site biodiversity (soil microbiology, plant and animal species) with biointensive planting techniques (e.g. companion planting, such as the "three sisters" – corn, beans, and pumpkin/squash, which interact symbiotically) the number of agroecological interactions are increased, enhancing the resilience and stability of each of the farm's constituent parts.[338] For example, one study found the "benefits of the Three Sisters system included increased soil drainage, a reduction in raccoon damage, and a higher yield in calories per acre,"[339] while another study found it "yields more energy (12.25 x 106 kcal/ha) and more protein (349 kg/ha) than any of the crop monocultures or mixtures of monocultures,"[340] Because of these techniques, among other differences (such as labor), the Cuban urban farm production numbers are quadruple those seen in East Bay UA organizations.[341] These approaches are rarely used in the farm park models I observed, wherein aesthetics and recreational space are prioritized due to fundraising, grant, and city policy

[338] Miguel A. Altieri, Fernando R. Funes-Monzote, and Paulo Petersen, "Agroecologically Efficient Agricultural Systems for Smallholder Farmers: Contributions to Food Sovereignty," *Agronomy for Sustainable Development* 32, no. 1 (January 1, 2012): 1–13, https://doi.org/10.1007/s13593-011-0065-6.
[339] Rhea Trotman Martinez, "An Evaluation of the Productivity of the Native American 'Three Sisters' Agriculture System in Northern Wisconsin" (Thesis, University of Wisconsin-Stevens Point, College of Natural Resources, 2007), https://minds.wisconsin.edu/handle/1793/81177.
[340] Jane Mt.Pleasant, "Food Yields and Nutrient Analyses of the Three Sisters: A Haudenosaunee Cropping System," *Ethnobiology Letters* 7, no. 1 (2016): 87–98.
[341] "Urban Agroecology."

demands. Because the organizational development goals here tend to mission-drift away from framing UA as a "production" engine, as discussed in the FHL chapter, they largely ignore practices like compost tea production that are entirely oriented enhancing output, or close polycropping which requires agricultural expertise to manage. Instead, the highly skill-, knowledge-, and labor-intensive modality of UA that results in Cuban levels of production is replaced with one that is more educational and recreational, suitable for park spaces and unskilled volunteer labor, including children.

Of course, the more entwined agroecological intensification and innovative techniques are used, the more embodied cognitive expertise and physical labor is required to keep the site functioning. Though they can end up saving substantial resources over time, "these techniques tend to be knowledge-intensive rather than input-intensive,"[342] and require more skilled workers. The previously mentioned Aztec chinampas – while representing "a self-sustaining system that has operated for centuries as one of the most intensive and productive ever devised by humans" – was "highly labour-intensive, requiring about 350-500 workers day $^{-1}$ ha^{-1}."[343] This is two orders of magnitude more labor than is typically found on East Bay UA sites.

The models proposed by Altieri, Nichols, Koohafkan, and other include human labor as an energy input alongside such sources as animal labor and biogas, as inputs assessed for **energy sovereignty.** As discussed in the FHL chapter, labor is one of the most needed and yet missing energy inputs into East Bay UA. Multiple conversations across farms sites and with farm managers in the Bay Area have estimated that at least 3 FTE (Full Time Equivalent) workers of farm manager skill are required to fully cultivate a single acre in the East Bay context, using the models most prevalent here. Significantly more workers would be needed, were the most highly intensive methods to be used. The volunteer labor is helpful, but not skilled enough or willing enough to cultivate at a level necessary to optimize the acreage. None of the organizations have committed such resources to the land they cultivate, and their output suffers as a result, but Altieri et al. argue this "can be buffered when communities organize and share tasks (Altieri, 1995)."[344] The sites are also largely dependent on external power. Aside from a few solar panels on roofs at the Adamah site in North Berkeley (solar is also planned but not yet built at the Tilth NRF), the farms have no power generation capability, such as windmills or bio-gas fueled turbines, and such technologies are beyond UA sites' ability to manufacture themselves.

Finally, the sites use significant grid water, and though this is likely unavoidable to some extent given drought and a lack of nearby water bodies, water-conservation techniques and on-site capture and storage infrastructure (such as that at CSF) can help. This connects to the third and final means of enhancing self-sufficiency: **technological sovereignty**. This could be infrastructure that allows for decreased resource loss and increased resource provisioning, or the technical advising to transition to site intensification. All four organizations I studied have received government and foundation grants for building such amenities, of one kind or another – rain catchment roofs and tanks to decrease grid reliance, greenhouses to propagate seeds, water compost bins to process onsite waste, farm stands as ways to interact with the public (a potential site for food waste drop offs). One might add solar power and batteries to enhance energy sovereignty, and storage tanks and aeration for constant compost tea generation to enhance food sovereignty. Aquaponics – only used on the Adamah site among my cases and then only as a

[342] Miguel A Altieri and Clara I Nicholls, "Scaling up Agroecological Approaches for Food Sovereignty in Latin America," *Development* 51, no. 4 (December 2008): 472–80, https://doi.org/10.1057/dev.2008.68.
[343] Altieri and Nicholls.
[344] Altieri and Nicholls.

tiny demonstration but built at scale in other UA locations outside the East Bay – is an example of another engineered, fixed infrastructure that creates renewable resource streams, as well as greywater storage, which they have on their new site. These are forms of farm development that can demonstrably be accessed through routes such as state and federal grant funding, though this is neither scalable nor sustainable as these funds are currently limited.
However, there are many nearby public educational institutions (like UC Berkeley and a variety of state, community, and city colleges) which not only possess motivated and intellectually engaged labor forces, but also the resources to cheaply or freely provide expertise relevant to UA in particular that would otherwise be beyond the economic means of economically marginalized populations, such as professional site planning, legal consulting, civil and mechanical engineering, or laboratory soil laboratory analysis.

Another possible vehicle for sovereignty enhancement lies in local public institutions. While a nominally public utility, EBMUD – as discussed – has developed a regime of water provisioning and wastewater processing that is infrastructurally, economically, and politically oriented around capitalist (privatizing) and green revolution (toxic farming) agricultural precepts. It is currently a player in the commodification and enclosure of the food waste commons to generate biogas from green waste for the market, and makes hundreds of millions of dollars a year via the sale of water, imposing extra-onerous and regressive flat fees supposedly to suppress use. Though the political environment does not currently support it, it is imaginable that a portion of that biogas-generated electricity – under a city regime of agroecological urbanism – could be preferentially routed to the sites that generated the waste, or even that EBMUD could play a central role in catalyzing the creation of community power grids. Likewise, the same logistical trucking systems used to convey green waste out of areas could be used to convey UA-related resources back to them.

Just as EBMUD could be repurposed to serve as a means of UA-compatible organic material processing, so could it be modified to act as a hydrologic support mechanism, rather than an inhibitor, of East Bay UA upscaling. As one policy professional who works in local community projects put it, "Why shouldn't the California utilities commission mandate that water utilities connect UA properties at cost? Or below, you know, for free? Like, why should it be the whatever $30,000 connection charges that they charge typically for, like, developers? … that just doesn't make sense."[345] The Pardee expansion fiasco showed not only how disconnected long-term EBMUD water policy is from local community sentiment and cultural needs, but also the power of public coalitions to force an otherwise unaccountable "public" water utility into the kinds of multi-regional partnerships that created the utility in the first place. Similar partnerships could be applied to the variety of future solutions to local water provisioning that EBMUD discusses in its planning documents and has already "carried forward for screening" based on logistical, legal, economic, public health, community, and environmental criteria. These envisioned future endeavors include multiple new reservoirs, regional and offshore desalinization projects, and fog capture. It's conceivable that these could be intertwined with upscaled UA production, but "policies and preferences must evolve to reward the ecological and social benefits of sustainable farming and landscape management"[346] wherein those state actors planning and operating regional and city systems conceptually weave urban agroecological intensification together with city services and built infrastructure. Unfortunately,

[345] Jeremy Liu, Interview with Jeremy Liu, March 4, 2020.
[346] Alastair Iles and Robin Marsh, "Nurturing Diversified Farming Systems in Industrialized Countries: How Public Policy Can Contribute," *Ecology and Society* 17, no. 4 (2012): art42, https://doi.org/10.5751/ES-05041-170442.

as pointed out by Tornaghi et al., this assemblage called "agroecological urbanism – as a realm of professional practice – does not yet exist."[347]

Toward a Cybershire Imaginary

Resistance to such an integrated way of thinking from the prevailing hegemonic system is unsurprising; patriarchal western ecosystem thought largely focuses on "wilderness" and ecosystems as places that humans may impact or dominate but are separate from – it is everywhere people are not, and full of nothing but natural resources. By contrast, urban environments are seen as technocratically engineered spaces (in which "urban ecology" is an oxymoron) – artificial spaces that are separate and distinct from the life that inhabit them, and where nature is an ornamental, not functional, aspect of the urban fabric. Coining the term "artinatural" to highlight this false dichotomy, Grudin (2016) argues that "American perspectives on nature that have assumed a great distance between humanity and nature have been a driving force behind both environmental destruction and social injustices."[348] The developing field of urban political ecology mainly concerns itself with exploring the assemblage of these supposedly disparate categories:

> The "city and the urban are a network of interwoven processes that are both human and natural, real and fictional, mechanical and organic … In the city, society and nature, representation and being, are inseparable, integral to each other, infinitely bound up; yet, simultaneously, this hybrid socio-natural "thing" called "the city" is full of contradictions, tensions and conflicts."[349]

Feminist political ecologies (fpe) have added more dimensions to this urban organism by highlighting the intersectionally racial, ecological, political, and gendered nature of these formations, and have been "critical to understanding how global development policies such as land titling, commercialized agricultural, resource extraction and urban restructuring impact men and women differently."[350] This discourse then goes on to be represented in fields such as urban planning, and scholarship connected to such issues as urban water provisioning.[351,352] In other words, those who trouble the false dichotomy are making slow progress toward shaping the fields and language that then go on to shape urban formations in ways that further justice. These new frameworks and formations that "transcend the binary formations of 'nature' and 'society' will require "a new 'language' which maintains the dialectical unity of the process of change as embodied in the thing itself. The things are hybrids or quasi-objects (subjects and objects, material and discursive, natural and social) from the very beginning."[353]

---

[347] Tornaghi and Dehaene, *Resourcing an Agroecological Urbanism*.
[348] Theodore Robert Grudin, "Confronting the Artinatural: Science, Wilderness and 21st Century Nature" (UC Berkeley, 2016), https://escholarship.org/uc/item/4x99d8kc.
[349] Erik Swyngedouw, "The City as a Hybrid: On Nature, Society and Cyborg Urbanization," *Capitalism Nature Socialism* 7, no. 2 (June 1996): 65–80, https://doi.org/10.1080/10455759609358679.
[350] Sharlene Mollett and Caroline Faria, "Messing with Gender in Feminist Political Ecology," *Geoforum* 45 (March 2013): 116–25, https://doi.org/10.1016/j.geoforum.2012.10.009.
[351] Charisma Acey, "Gender and Community Mobilisation for Urban Water Infrastructure Investment in Southern Nigeria," *Gender & Development* 18, no. 1 (2010): 11–26.
[352] Acey, "Silence and Voice in Nigeria's Hybrid Urban Water Markets."
[353] Swyngedouw, "The City as a Hybrid."

Iles suggests that "geographical, economic and cultural distances between producers and consumers" which create dissociation from the realities of production and lead to commodity fetishization can be lessened using "missing objects", or "things that people create to help materialise, or make more accessible, otherwise invisible phenomena in their everyday lives. These things refer to 'contexts beyond what is materially present."[354] He uses the apropos example of food miles, but the extensive regional socionatural networks that constitute our urban existence and UA could be described by innumerable such missing objects. Indeed, they are so numerous, and people so bereft of them in their relative isolation from (and therefore ignorance of) its complex expanse, that one could argue they collectively constitute a "missing metropolis."

How could these gaps begin to be filled? A number of writers argue that the proliferation and evolution of information technology – and in particular web 2.0 and cloud computing – are a vehicle to not only provide such objects and access to them, but a means to civically act on the information as well. Calculating food miles was one of the first common food-justice related uses of GIS technology and led to the "food desert" concept which has arguably helped transform how people think about food access. Recent work on technological sovereignty has focused on the "smart city" concept, arguing that "'technological sovereignty' has been instrumental in re-politicizing the notions of (smart) citizenship and technology, deploying initiatives aimed at regaining public control on data and citizens participating in policy-making."[355] Using concepts such as the free software, community internet, and open data as a "digital commons," theorists are beginning to lay out an "ecology of networks" that uses cyberspace as a form of liberatory technology.[356]

The term "cyber" derives from the word "cybernetics," or the "the science of control and communication, in the animal and the machine."[357] It has since spawned any number of neologisms, including the "cyberspace" mentioned above, as well as "cyborg" – "a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction,"[358] which Donna Haraway famously used in her piece "A Cyborg Manifesto" to conceptualize technical socionatures. Haraway argues that "The ubiquity and invisibility of cyborgs is precisely why these sunshinebelt machines are so deadly. They are as hard to see politically as materially."[359] Using cyberspace as a subversive lens to shine light on the ubiquitous cyborgs and reveal them as missing objects is the main point, and a highly subversive one at that.

This recalls another cyber neologism, "cyberpunk," which refers to a speculative fiction genre: "While science fiction frequently problematizes the oppositions between the natural and the artificial, the human and the machine, it generally sustains them in such a way that the human remains securely ensconced in its privileged place at the center of things. Cyberpunk, however,

---

[354] Alastair Iles, "Learning in Sustainable Agriculture: Food Miles and Missing Objects," *Environmental Values* 14, no. 2 (May): 163–83.
[355] Ramon Ribera-Fumaz, "Moving from Smart Citizens to Technological Sovereignty?," in *The Right to the Smart City*, ed. Paolo Cardullo, Cesare Di Feliciantonio, and Rob Kitchin (Emerald Publishing Limited, 2019), 177–91, https://doi.org/10.1108/978-1-78769-139-120191013.
[356] Alex Haché, "Technological Sovereignty," *For Free Information and Open Internet: Independent Journalists, Community Media and Hacktivists Take Action. Ritimo*, 2014, 165–74.
[357] W. Ross Ashby, "An Introduction to Cybernetics" (Chapman & Hall Ltd., 1957), http://dspace.utalca.cl/handle/1950/6344.
[358] Donna Jeanne Haraway, *Simians, Cyborgs and Women: The Reinvention of Nature* (Free Association Books, 1991).
[359] Haraway.

is about the breakdown of these oppositions."[360] Cyberpunk "charts a course between utopia and dystopia. Most often set in the near future, cyberpunk imagines a world where technology is a tool of both oppression and liberation. Poverty is pervasive in cyberpunk, and technological resources are expensive luxuries."[361] In these stories, the cybernetic is often overdetermining and hegemonic over the organic, leading to dystopia; the "punk" in cyberpunk is anticonformity to hegemony: "Its evocation of popular/street culture and its valorization of the socially marginalized, that is, its "punk" sensibility, have also been recognized as important defining characteristics."[362] The socially marginalized present a subversive, revolutionary presence against the domination of the cybernetic; they are often "hacker heroes fighting against faceless international mega-corporations in a gritty, high tech near future,"[363] and using technology as a liberatory force. This parallels the historically anarchist tendencies of the current hacker community, which distrusts centralized power and control of technology, and leans toward decommodification, as with Aaron Swartz's pyrrhic "commoning"[364] of terabytes of JSTOR data.[365] One MIT graduate student summed up this ethic succinctly using a hacker mantra during my time there: "Data wants to be free."

How does this relate to UA? In Tolkien's writings, the "Shire" is often presented as an embodiment of the English rural country: "Tolkien admitted that much of the model for The Shire is derived from his impressions of rural England (Curry 37). These similarities run deeper than basic superficialities; the landscape, the people, and the customs presented parallel traditional, rural, British stereotypes. In the Prologue, Tolkien describes The Shire as 'a well-ordered and well-farmed countryside.'"[366] The denizens of the Shire, "Hobbits," have attitudes about farming and relationships to land which echo the outlook of many who engage in UA as a rejection of the corporate food regime.

> "[Hobbits] disdain the sort of 'progress' characterized in our own world by assembly-line manufacturing, industrial farming, advanced agricultural technology, agribusiness, or the needless use of complex machinery when simpler tools will do. Hobbits are willing to use simple devices to further their farming techniques, but they do not employ technological interventions that might endanger the quality of the soil, water, and air—the environmental sources on which their culture is directly dependent."[367]

I contend that those who engage in UA as farm parks or urban oases, isolated from (or in opposition to) the cybernetic cities that surround them and the technological sovereignty that they offer are promulgating the country vs. city illusion. They are casting shadows over the cyborgs, shrouding the missing metropolis behind a fog of neo-agrarian romanticism. I contend

---

[360] Veronica Hollinger, "Cybernetic Deconstructions: Cyberpunk and Postmodernism," *Mosaic: A Journal for the Interdisciplinary Study of Literature* 23, no. 2 (1990): 29–44.
[361] Karen Cadora, "Feminist Cyberpunk," *Science Fiction Studies*, 1995, 357–72.
[362] Hollinger, "Cybernetic Deconstructions."
[363] Alexandra Hussenot, "The 'Cyberpunk Movement,'" Immersionn Website, March 19, 2022, https://www.immersionn.com/post/the-cyberpunk-movement.
[364] David Bollier, "Commoning as a Transformative Social Paradigm," in *The New Systems Reader* (Routledge, 2020).
[365] Sergio Amadeu da Silveira, "Aaron Swartz and the Battles for Freedom of Knowledge," SSRN Scholarly Paper (Rochester, NY, June 1, 2013), https://doi.org/10.2139/ssrn.2399578.
[366] Brian N. Weidner, "Middle-Earth: The Real World of JRR Tolkien," *Mythlore* 23, no. 4 (90 (2002): 75–84.
[367] Matthew T. Dickerson and Jonathan Evans, *Ents, Elves, and Eriador: The Environmental Vision of JRR Tolkien* (University Press of Kentucky, 2006).

that the application of Agroecological Urbanism to the "intermediary arrangements that we are calling networks"[368] in UA, guided by triple sovereignty and facilitated by "smart" urban material and information infrastructures can create a new form of intersectional, regional, participatory ecological urbanity that I am dubbing the "**Cybershire Imaginary.**" I intend it to combine many of the issues discussed above: in the academic sense, the UPE conceptual domain of Swyngeouw's "cyborg urbanization"; in the literary sense, the subversive, technologically sovereign and antiplutocratic heroics of cyberpunk; in the functional sense, the cyberspace potential for civic empowerment, knowledge sharing, and finding missing objects; and in the farming sense, the agroecological, triple-sovereignty ethics represented in Tolkien's Shire.

> "As for the physical restoration of the Shire, Tolkien implicitly shares with his contemporary, the economist E.F. Schumacher, the view that "small is beautiful," yet which in the Shire applies to the socio-political in addition to the industrial scale. Restoration, as performed by the hobbits, becomes what Schumacher terms "appropriate technology," the application of technology and industry proportionate to actual needs. In the Shire, this becomes a "labour of repair" ... the replacement of innovative ugliness and excess with the functional and harmonious scale of the old."[369]

I add "cybershire" to the growing lineage of socionatures that are being theorized in urban political ecology, in the hopes that encouraging the farming of the cybershire – rather than the farm park, or the city – provides the conceptual and structural basis for triple sovereignty and liberation. I will address the Cybershire Imaginary further in the Conclusions chapter.

[368] Bruno Latour, *We Have Never Been Modern:* (Cambridge, MA: Harvard University Press, 1993).
[369] Jerome Donnelly, "Nazis in the Shire," *Mythlore* 37, no. 1 (133 (2018): 81–102.

Chapter 4 (Urban Political Ecology): The Urban Agrarian Question.

"Day by day the peasants make the economists sigh, the politicians sweat, and the strategists swear, defeating their plans and prophecies all over the world...
Moscow and Washington, Peking and Delhi, Cuba and Algeria, Congo and Vietnam."[370]

The Agrarian Question was (and still is) is primarily a peasant question.[371]

The role of the peasantry in the development of capitalism, the role of capitalism in the development of agriculture, and recently the extent and large-scale viability of the food sovereignty paradigm, have been debated for decades as varying forms of the "Agrarian Question" (AQ). Various writers, using various definitions of "peasant," have alternatively declared them subsumed by market forces and essentially extinct,[372] barely hanging onto existence via class differentiation and hybridized relationships with capitalism,[373] or more numerous than ever before and driving a movement of the global food regime away from neoliberalism.[374] As mentioned in the CSI chapter, in these debates the AQ is assumed to be situated in the Global South, under the rationale that "the capitalist 'agrarian transition' in the Global South has not generally taken the form of the full proletarianisation (complete separation of workers from land as the basic means of production) that has usually characterised the Global North."[375] What is more, the AQ has been, throughout its various incarnations, also assumed to be rural by almost all theorists, for whom "the analytical framework that is the agrarian question is an essential yet highly nuanced approach to understanding rural change, one that captures … the common processes at work in the countryside of a range of developing countries..."[376] The absence of peasant agriculture in the Global North is argued to be the case even in the rural areas. In the US the "country" is typically cultivated by migrant workers (as described in the FHL chapter) on increasingly large conventional farms, while smaller "family" operations are eliminated by capitalist consolidation.

Cities in the Global North, therefore, are not considered remotely relevant to the AQ by most scholars except as a source of the metabolic rift wrought by capitalist systems, a maw of consumer demand into which disappears the productivity of the capitalist rural countryside as well as its remaining peasantry, and out of which exudes streams of waste, including toxic manure, alongside alienated false consciousness. Cities, it's typically thought, are full of proletarians but devoid of peasants; urban agroecology is small scale and performative at best,

---

[370] Teodor Shanin, "The Peasantry as a Political Factor," *The Sociological Review* 14, no. 1 (March 1, 1966): 5–27, https://doi.org/10.1111/j.1467-954X.1966.tb01148.x.
[371] Eric Holt-Giménez, Annie Shattuck, and Ilja Van Lammeren, "Thresholds of Resistance: Agroecology, Resilience and the Agrarian Question," *The Journal of Peasant Studies* 48, no. 4 (2021): 715–33.
[372] Henry Bernstein, "Food Sovereignty via the 'Peasant Way': A Sceptical View," *The Journal of Peasant Studies* 41, no. 6 (November 2, 2014): 1031–63, https://doi.org/10.1080/03066150.2013.852082.
[373] T. J. Byres, "The Agrarian Question, Forms of Capitalist Agrarian Transition and the State: An Essay with Reference to Asia," *Social Scientist* 14, no. 11/12 (November 1986): 3, https://doi.org/10.2307/3517162.
[374] Jan Douwe van der Ploeg, "Peasant-Driven Agricultural Growth and Food Sovereignty," *The Journal of Peasant Studies* 41, no. 6 (November 2, 2014): 999–1030, https://doi.org/10.1080/03066150.2013.876997.
[375] Tornaghi and Dehaene, *Resourcing an Agroecological Urbanism*.
[376] A. Haroon Akram-Lodhi and Cristóbal Kay, "Surveying the Agrarian Question (Part 1): Unearthing Foundations, Exploring Diversity," *The Journal of Peasant Studies* 37, no. 1 (January 2010): 177–202, https://doi.org/10.1080/03066150903498838.

not expected to make a statistically meaningful shift in the local food supply. Under the weight of these assumptions, hegemonic in their own way in the realm of Marxist political economy, the phrase "urban peasantry" is considered oxymoronic, and the AQ analytic gaze is averted from the metropolis.

However, crucial to the body of AQ theory is the notion of "differentiation": that the peasantry is diverse in form and function. Far from being the monolithic "sacks of potatoes" Marx once scorned, peasantry persists via a variety of creative social relations: tentative connections to capitalism, stratified social classes, and community-scale endeavors. For example, a peasant family might produce enough food for subsistence, but what they consume beyond that – clothes, medicine, tools, technology – would be achieved through exchange with others in an alternative set of social relations. A number of theorists discuss various "hybrid" forms of peasantry such as "semi-proletarians," or as Parson (1984) termed it, urban wage laborers in Botswana who have been "discarded" back to rural areas, or whose rural families depend on their urban wages: the "peasantariat."[377] Those theorists recognized that it has become increasingly common

> "for rural livelihoods to be constructed from a plethora of fragmentary and insecure sources: petty commodity production in farming, to be sure; but also the sale of temporary and casualised waged labour, both on and off-farm; as well as petty commodity handicraft manufacture, petty merchant trading, the provision of petty services, and a reliance on remittances arising from migration (Kay 2008a)."[378]

Even more, some geographers argue that contemporary alternative food politics, land redistribution politics, and other forms of resistance constitute evidence not just of the persistence of the peasantry, but of its *expansion*. Many urban agriculture (UA) advocates hope to realize "alternative models that relocalize food systems and de-link them from the corporate global food system."[379] La Via Campesina's concept of food sovereignty proposes that the means of food production be democratized, and that

> "the human right to food be guaranteed through re-peasantization, agroecological production, localization and the de-commodification of productive resources. Re-peasantization can be understood as 'the process through which agriculture is restructured as peasant agriculture. It may also refer to a quantitative increase in the number of peasants' (Ploeg 2013, 135)."[380]

Since the food sovereignty ethic has guided UA activity and politics, and politically connects their activities to their rural peasant counterparts, the peasantry in these perennial debates must – like self-sufficiency – be understood not as a binary status but as a continuum of agricultural activities and politics, dependent on scale of analysis, and situated in often radically different geographies. For example, a community might be able to maintain a semblance of "peasant"

---

[377] Jack Parson, "The Peasantariat and Politics: Migration, Wage Labor, and Agriculture in Botswana," *Africa Today* 31, no. 4 (1984): 5–25.
[378] Akram-Lodhi and Kay, "Surveying the Agrarian Question (Part 1)."
[379] Gerda R. Wekerle, "Food Justice Movements Policy, Planning, and Networks", 2009
[380] Rita Calvário, "Food Sovereignty and New Peasantries: On Re-Peasantization and Counter-Hegemonic Contestations in the Basque Territory," *The Journal of Peasant Studies* 44, no. 2 (March 4, 2017): 402–20, https://doi.org/10.1080/03066150.2016.1259219.

autonomy in ways a single family could not. Similarly, while it is true that US cities are demonstrably and abysmally low on the food sovereignty continuum, every metropolis has organizations that engage in urban agriculture as an explicitly stated effort to further local food sovereignty, and an urban community or region might be able to collectively achieve a level of sovereignty that a single actor would find impossible.

Of course, the US urban milieu is also very different than the English countryside on which Marx based his original analysis, as well as the rural landscapes on which typical AQ dramas of pastoral land enclosure and redistribution play out. It also has structural and economic aspects particular to American urban history and development, including cyclic settlement patterns of white flight/gentrification, racial segregation and discrimination combined with uneven development resulting in structural "food apartheid," and other phenomena. Combined with high population densities, zoning regulations, the civic infrastructure of electric and water grids, and other novel aspects of farming in urban land, the significance of UA poses a far different AQ than might be seen in the battles over rural land redistribution. It creates contradictions and paradoxes, between radical visions of alternative food systems, and reproductions of the neoliberal economic and institutional models. McClintock (2014) argues that not only "is urban agriculture both radical and neoliberal," but "that it has to be both. It would not arise as a viable social movement without elements of both, insofar as contradictory processes of capitalism both create opportunities for urban agriculture and impose obstacles to its expansion."[381]

This chapter therefore first articulates, then applies the concept of an Urban Agrarian Question (UAQ) to evaluate four case sites in the East San Francisco Bay Area. Because the East Bay is a metropolitan space with a long history of leadership in progressive social and food justice activism, a diverse populace, proximity to some of the most productive farmland in the world, and a longtime UA presence, it is an ideal location to examine the UAQ and its application. I first sketch a brief history of the AQ, with a focus on the concept of "differentiation" by which some argue the peasantry evolves to find survival alongside and in relationship with capitalism. I will then position the UAQ as an area of under-theorized and missing scholarship, including racial formations integral to the US construct of "urbanity." Using the presence of an agrarian "moral economy" as an indicator of peasant activity, and Polanyi's "fictitious commodities" (land, labor, and capital) as sources of data about organizational social relations, I then pose one UAQ in relation to for empirical case studies of food sovereignty groups in the East Bay: *do* they represent a form of repeasantization? I will then conclude with some remarks about what my findings portend for the political economics of a potential cybershire.

Methods

Methods included a mix of semi-structured and unstructured interviews with various participants in UA (organization founders, farm managers, site volunteers) as well as those closely connected to their activities (food justice nonprofits, academics, advocacy organizations). I also performed several years of participant observation on farm sites, in meetings of organizations and food policy councils, and at conferences connected to these issues. Finally, I

[381] Nathan McClintock, "Radical, Reformist, and Garden-Variety Neoliberal: Coming to Terms with Urban Agriculture's Contradictions," *Local Environment* 19, no. 2 (February 7, 2014): 147–71, https://doi.org/10.1080/13549839.2012.752797.

examined archival documents - city records, organization records, public financial documents, and private invoices and record books (such as volunteer logs). The most important documents were tax filings, which – while often estimates, particularly in the case of volunteer numbers – gave a longitudinal overview of the political economy each organization was articulating.

A (Very) Brief review: Whither the Peasantry?

The "original" agrarian question was posed in the late 1800's by Marx, Engels, Kautsky, and their contemporaries, born of their prediction that in due course all land in the commons would be privately accumulated, agriculture collectivized and industrialized, and the former peasantry enfolded either into rural waged labor or the urban proletariat. They based this expectation partially on the still-recent history of enclosures of English commons and dispossession of the peasantry, which "had as its outcome the dominance, in the countryside, of the capitalist farmer/wage labourer relationship."[382] As Engels put it, "in brief, our small peasant, like every other survival of a past mode of production, is hopelessly doomed. He is a future proletarian."[383] However, as time went on, not only did capitalism fail to completely sweep the peasantry into the proletariat, but it showed no signs of immediately doing so; to the contrary the peasantry found a diverse set of niches within the expanding rural capitalist structure in which to exist, if not thrive. The persistent peasantry thus constituted a political problem for those fomenting revolution based on a collective, unified proletarian class awareness. Engels shared Marx's disdain of peasant politics and the "idiocy of rural life,"[384] and in their minds the "'agrarian question' was, in essence, the 'peasant question.'"[385]

Marx and Engels relied on the historical materialism method, or a "view of the course of history, which seeks the ultimate cause and the great moving power of all important historic events in the economic development of society, in the changes in the modes of production and exchange, in the consequent division of society into distinct classes, and in the struggles of these classes against one another."[386] Some argue Marx took a more fatalist, or economic determinist view of the inevitable tide of historical forces – not unlike modern neoliberals for whom capitalist democracies are Fukuyama's "end of history," and who subscribe to Thatcher's "There Is No Alternative" doctrine, though Marx obviously arrived at very different political predictions. Yet scholars like Gramsci and Polanyi took a less clockwork view, respectively seeing political change as the result of wars of position/maneuver, and as a "double movement" between the forces of unbridled capitalist logic and social constraints. Indeed, Gramsci had a dim view of such determinism, arguing that the "claim presented as an essential postulate of historical materialism, that every fluctuation of politics and ideology can be presented and expounded as an immediate expression of the structure, (i.e., the economic base) must be

[382] Sam Moyo, Praveen Jha, and Paris Yeros, "The Classical Agrarian Question: Myth, Reality and Relevance Today," *Agrarian South: Journal of Political Economy* 2, no. 1 (April 2013): 93–119, https://doi.org/10.1177/2277976013477224.
[383] Friedrich Engels, *Peasant Question in France and Germany*, *The Agrarian Question* (Routledge, 2021), https://doi.org/10.4324/9781003191704-4.
[384] Karl Marx and Friedrich Engels, *The Communist Manifesto*, Penguin Classics Deluxe Edition (New York: Penguin Books, 2011).
[385] Byres, "The Agrarian Question, Forms of Capitalist Agrarian Transition and the State."
[386] Engels, Socialism: Utopian and Scientific

contested in theory as primitive infantilism..."[387] EP Thompson similarly derided purely deterministic explanations for English moral economies as a "crass economic reductionism, obliterating the complexities of motive, behaviour, and function."[388] Where a scholar is placed on this ideological continuum creates a set of assumptions which tend to determine which AQ is being asked and what answer is being arrived at; thus some are focused more on the historical material conditions, others on the social movements, and they have crafted their AQ accordingly. The historical roots of these divisions, as well as the current tendency to classify food sovereignty or repeasantization theorists as "neo-Chayanovian", can be found in the writings of Vladimir Lenin, Karl Kautsky, and Alexander Chayanov.

Part 1: Old White Guys Defining Progress for Everyone

Lenin largely agreed with the Marx/Engels historical materialist stance that the "backward" peasantry was "doomed" and would disappear during the full development of capitalism preceding the transition to socialism. Nonetheless, his writings went beyond Marx in examining the increasing class diversity/differentiation among peasants and explaining in political and economic terms how this differentiation took place. Lenin described "a model of three basic peasant classes – rich, middle and poor peasants – which anticipated their (eventual) transformation into classes of agrarian capital (rich peasants) and proletarian labour (poor peasants), with a minority of middle peasants joining the ranks of the former and the majority joining the ranks of the latter."[389] Examining Russia, Germany, and America, Lenin saw two different paths to this outcome. The "Junker" or "Prussian" path (Junkers being the landed nobility in Prussia, or early Germany) was typified by the "internal metamorphosis of feudalist landlord economy,"[390] wherein the feudal landlord class became the new bourgeoisie, preserving much of the former class structure. Lenin preferred what he considered to be the more progressive "peasant" or "American" path - one in which unclaimed land would be bought up by capital or parceled out by a vanguard party via land distribution policies, and thereby have a greater disruption of former feudal social relations, hastening the differentiation (and eventual demise) of the peasantry.

Karl Kautsky's "The Agrarian Question" was published in 1899, and combined Marx/Engels and Lenin's work to posit that there were in fact two AQ's, "the first theoretical and the second political: (1) what are the dynamics of capitalist agriculture and (2) given those dynamics, what stance should the German Social Democratic Party (SPD) take towards the peasantry?"[391] Kautsky shared Lenin's derision of rural inhabitants and agroecology, and his modernist faith in industrial science. Despite conceding the ecological efficacy of peasant agriculture - the "three field system with forest and pasture required no external inputs, producing all the stock and manure which were needed to cultivate the land and prevent

[387] Antonio Gramsci, *Selections from the Prison Notebooks, Edited and Translated by Quintin Hoare and Geoffrey Nowell Smith* (New York: International Publishers, 1971).
[388] E.P. Thompson, "The Moral Economy of the English Crowd in the Eighteenth Century", 1971, p.78
[389]Bernstein, Henry. "VI Lenin and AV Chayanov: Looking Back, Looking Forward." The Journal of Peasant Studies 36, no. 1 (2009): 55–81, p.58
[390] Vladimir I. Lenin, "The Agrarian Programme of Social Democracy in the First Russian Revolution," *Collected Works* 13 (1907): 239.
[391] Paul McLaughlin, "Rethinking the Agrarian Question: The Limits of Essentialism and the Promise of Evolutionism," *Human Ecology Review* 5, no. 2 (1998): 15.

exhaustion of the soil"[392] - he goes on to explain why such a system is an "unbearable burden on agriculture," and that chemistry could replace the traditional methods of maintaining soil quality. Kautsky explored not just the reasons why the peasantry was resistant to elimination or obsolescence, but in what ways their presence became a crutch for capitalist agriculture: he found that far from being eliminated by capitalism, the peasantry kept it from destroying itself by providing a reserve army of wage labor for the now industrial-scale agribusinesses. Indeed, had the peasantry been completely subsumed into the urban industries, there would be no rural reserve army of labor for industrial agriculture, and Kautsky noted that once "things have reached this state, large and small-scale farming are not mutually exclusive. In fact, like capitalist and proletarian, they require each other, with the small farm increasingly assuming the latter role."[393]

Chayanov, looking through the lens of rural sociology, was more sympathetic to the plight of the peasantry than Lenin and others in his "vanguard" vein; according to Moyo et. al, "the only leading intellectual who sought a more profound understanding of the peasantry was Chayanov."[394] In contrast to the material or economic factors Lenin examined as a driver of peasant differentiation, Chayanov focused on social and family structures and **"**argued that indices of apparent inequality among Russian peasants ... were not due primarily to class formation but reflected the locations of households in the demographic cycle."[395] He maintained that small family farms could weather price drops or other calamities that might sink capitalist farms by using "self-exploitation" – working harder, longer, or for less value than market rules would dictate. In so doing, their desire to remain on the land, to maintain a modicum of peasant self-sufficiency, or to perpetuate their identity as farmers, could be realized.

This highlights not just the increasing class differentiation within the peasantry, but also the establishment of a spectrum of peasant types such as "semi-proletarians" with a range of relative dependencies on the capitalist market, as well as a range of theories regarding how they alter the political equation, and how to respond. This differentiation led Marx himself to retheorize as "late in his life he saw an alternative: that the articulation of progressive and historically-adaptable social relations could cumulatively allow the community to 'reap the fruits with which capitalist production has enriched humanity without passing through the capitalist regime' (Marx 1983, 112)" so long as "new technologies developed the forces of production in a way that sustained the position of small-scale petty commodity peasant farming and provided that state support for small-scale petty commodity peasant farming was forthcoming."[396] In this way, some areas could have "a 'hybrid' form of peasant subsumption to capital that maintains and sustains peasant communities where collective tendencies dominate because 'smallholding and petty landownership ... production ... proceeds without being governed by the general rate of profit' (Marx 1981, 946; Arraghi 2009, 118)."[397]

In the early 1900s, Lenin, Kautsky, and Chayanov's respective writings – working from a European perspective and building from Marxist tradition – formed a theoretical foundation for

---

[392] Karl Kautsky, *The Agrarian Question: In Two Volumes* (London ; Winchester, Mass: Zwan Publications, 1988).
[393] Kautsky.
[394] Moyo, Jha, and Yeros, "The Classical Agrarian Question."
[395] Henry Bernstein, "V.I. Lenin and A.V. Chayanov: Looking Back, Looking Forward," *The Journal of Peasant Studies* 36, no. 1 (January 2009): 55–81, https://doi.org/10.1080/03066150902820289.
[396] A. Haroon Akram-Lodhi, "The Ties That Bind? Agroecology and the Agrarian Question in the Twenty-First Century," *The Journal of Peasant Studies* 48, no. 4 (June 7, 2021): 687–714, https://doi.org/10.1080/03066150.2021.1923010.
[397] Akram-Lodhi.

much of the agricultural political economy work that would emerge in the next century. Lenin and Kautsky both moved past the explicitly political Marx/Engels AQ to focus on the peasant social relations, both internally and between the peasantry and industrial market economy. Lenin shared Kautsky's "emphasis on social differentiation; and their conclusions on the inter-dependence of farming scales and the role of the semi-proletariat were remarkably similar."[398] They both observed, for example, that debt played a key role in connections to capital and class differentiation among the peasantry, because

> "the types of debt incurred by the poorer and by the richer petty commodity producing peasants was different. Small and semi-proletarian peasants became dependent upon the market over time to maintain subsistence. Although they consumed relatively less than big peasants, poorer peasants spent relatively more on basic wage goods, and debt typically ensued if they lacked cash to meet these needs."[399]

Because the works of Lenin (building off of Marx/Engels) and Kautsky were foundational to the initial fleshing out of the AQ, some who share the dim prognosis for the peasantry argue the "Kautsky-Lenin sense of the agrarian question is the one which is most widely accepted today, in those poor countries in which a capitalist path is being attempted."[400] However, others argue that while Lenin and Kautsky shared an interest in the macro and Chayanov in the micro, "Lenin is wrongly placed in the same category as Kautsky. The similar analytical conclusions led Lenin to very different political praxis, that is, to a re-qualification of the political question and fresh thinking on economic possibilities. Indeed, Lenin was the transitional figure in the political theory of the AQ."[401] While Kautsky took a more hands-off stance and maintained that the SPD (German Social Democratic Party) "should do nothing to either 'artificially' hasten or retard the proletarianization of the peasantry,"[402] Lenin thought that the "organization of the peasantry by the vanguard parties of liberation" was a political priority. Richard Walker concludes that "Lenin's variety of utopianism of the vanguard party is not much in favor anymore, even on the far left. Chayanov and Kautsky, who struggled to find a middle road of collectivism with social democracy, seem more nuanced and attractive."[403]

Part 2: Contemporary debates

Terry Byres, who co-founded the Journal of Agrarian Change with Bernstein in 2001, takes a similar stance when examining the agricultural transitions of several countries in Asia.[404] Byres repetitively uses the phrase "economic backwardness" to describe conditions where non-industrialized agrarianism is still prevalent. In this view, resolution of the AQ then could come about by the elimination of non-industrialized agriculture and the disappearance of any substantial peasantry that constituted its own class. This echoes the theoretical direction of Lenin and Kautsky's work examining the differentiation of the peasantry, which was to emphasize their

---

[398] Moyo, Jha, and Yeros, "The Classical Agrarian Question."
[399] Akram-Lodhi and Kay, "Surveying the Agrarian Question (Part 1)."
[400] T. Byres, *Capitalism from Above and Capitalism from Below: An Essay in Comparative Political Economy* (Springer, 1997).
[401] Moyo, Jha, and Yeros, "The Classical Agrarian Question."
[402] McLaughlin, "Rethinking the Agrarian Question: The Limits of Essentialism and the Promise of Evolutionism."
[403] Richard Walker, "The Conquest of Bread: 150 Years of California Agribusiness," *New York*, 2004.
[404] Byres, "The Agrarian Question, Forms of Capitalist Agrarian Transition and the State."

political fragmentation with the understanding that this would eventually lead to their elimination (Lenin simplified the process by only focusing on three categories, but his point was made nonetheless).

Both Bernstein and Byres are representative of a "proletarianist" standpoint, a version of "Eurocentric and economistic tendencies which have made a comeback in Marxian political economy, to the point of pronouncing the classical agrarian question dead, purportedly for no longer serving its primordial function, industrialization."[405] When contrasted with capitalist industrialized agriculture, peasant agroecology is viewed not as a phenomenon in constant flux, but rather as unchanging and almost timeless, a current manifestation of traditional ecological knowledge. As a result, "the dynamics and malleability of agricultural production are, like those associated with the process of reproduction, hardly explored. Hence, agricultural production as organized by peasants is basically seen as being stagnant, which is frequently translated as the general and intrinsic 'backwardness' of the peasantry as a whole."[406]

This skeptical outlook has been contested by various scholars who describe and document considerable empirical evidence of what they see as a growing worldwide peasantry; indeed, Moyo maintains that there is "no serious social or political movement that is not considering the peasant path as a modern solution to the multiple crises of our times, the economic, climate, energy and food."[407] Jan Van der Ploeg and Philip McMichael represent what some term a "neo-Chayanovian or 'agrarian populist'"[408] set of theorists who see the peasantry in modern food sovereignty movements, regardless of their degree of hybridity or semi-proletarianization, and thus modern applicability for Chayanov's observations about peasant differentiation. "In contrast to the postmodernist approach, Ploeg and other neo-Chayanovian authors do not conceive autonomy struggles as anti-modern: These are not attempts to withdraw from capitalist modernity or globalization entirely, but a search for 'autonomy and progress' (Ploeg, 2009, p. 15)."[409] They focus on

> "minimizing monetary costs, crop diversification to reduce economic and environmental risks, cooperative relations that provide an alternative to monetary relations and market exchange, and a struggle for autonomy, which includes non-money forms of obtaining inputs and labor. Importantly, Van de Ploeg sees these elements as central not only to peasants in developing countries, but also to the many multifunctional farms in Europe and North America that rely on the same principles to assure survival in a challenging economic environment."[410]

My purpose here is not to substantively review (much less end) a debate that has been ongoing for decades, but rather to point out that the narrative of who constitutes the "peasantry"

---

[405] Moyo, Jha, and Yeros, "The Classical Agrarian Question."
[406] Ploeg, Jan Douwe van der. The New Peasantries: Struggles for Autonomy and Sustainability in an Era of Empire and Globalization. London ; Sterling, VA: Earthscan, 2008., p. 25
[407] Moyo, Jha, and Yeros, "The Classical Agrarian Question."
[408] Kyla Sankey, "From Survival to Self-Governance: A Comparison of Two Peasant Autonomy Struggles in Colombia's Coffee and Frontier Regions," *Journal of Agrarian Change* 22, no. 3 (2022): 506–28, https://doi.org/10.1111/joac.12465.
[409] Sankey.
[410] Marc Edelman, "What Is a Peasant? What Are Peasantries? A Briefing Paper on Issues of Definition," *First Session of the Intergovernmental Working Group on a United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas, Geneva, July*, 2013, 15–19.

differentiates and evolves over time and experience, as does the academic discourse. Now, even "within the Marxian tradition itself, there is a growing recognition of its inability to adequately theorize historical diversity and context-specific constraints."[411] Contemporary forms of small scale agriculture are highly dynamic and innovative, using agroecology and technologies in rapidly evolving ways - particularly within the urban context, which provides both new challenges and opportunities, pathways for a redefined peasantry, and a new lineage of AQ's to which I intend to make an addition.

New AQ's: Race and Urbanity

Akram-Lodhi and Kay's survey outlining decades of AQ debates[412] groups contemporary versions into seven categories as seen in figure 44, all of which they expand through three lenses: rural production, rural accumulation, and rural politics. Questions of class, as discussed above, are central to most of the early AQ's, whether or neo-Chayanovian. "A critical variable in understanding a specific path of agrarian transition is, as emphasised by Brenner (1986) and Byres (2009), class struggle, both between dominant and subordinate classes and within subordinate classes undergoing processes of socio-economic differentiation, and the role of the state in shaping or succumbing to class struggle."[413]

Table 2. Contemporary agrarian questions (AQ).

	Rural production	Rural accumulation	Rural politics
AQ1: class forces	Asset differentiation restructures rural labour-processes and facilitates the emergence of agrarian capital, but is highly contingent	Dependent upon the emergence of the capital-labour relation	Class struggle shapes and is shaped by the character of production and the traits of accumulation
AQ2: path-dependent	Capitalism in agriculture is developing the forces of production, albeit unevenly, as labour commodification proceeds	Will occur as agrarian capital emerges	Class struggle is over the terms and conditions of wage labour as capitalism develops
AQ3: decoupled	The emergence of agrarian capital is no longer relevant	Rural accumulation is not relevant to global capitalism	Class struggle is over the terms and conditions of livelihoods facing fragmenting classes of rural labour
AQ4: global reserve army	Increasingly subordinated to the law of value operating on a world-scale through the enclosure food regime	An outcome of dispossession and/or displacement as rural populations are marginalised and/or expelled from agriculture	Focuses on the terms and conditions by which agrarian labour reproduces as the value of its labour-power is depressed and the global reserve army of labour increases
AQ5: corporate food regime	Must be located within the dynamics of the global food regime: financialisation, neoliberalism and supermarketisation produce a commodity fetish	The corporate food regime is predicated upon an accumulation fetish	Politicise economic processes to incorporate global peasant resistance that situates the class struggles of the dispossessed in the terms and conditions of access to and control over food
AQ6: gender	Shapes and is shaped by gender relations	Shapes and is shaped by gender relations	Shapes and is shaped by gender relations
AQ7: ecology	Shapes and is shaped by the biophysical ecology	Shapes and is shaped by the biophysical ecology	Shapes and is shaped by the biophysical ecology

Figure 44 - Contemporary Agrarian Questions (Akram-Lodhi & Kay 2010)

[411] McLaughlin, "Rethinking the Agrarian Question: The Limits of Essentialism and the Promise of Evolutionism."
[412] A. Haroon Akram-Lodhi and Cristóbal Kay, "Surveying the Agrarian Question (Part 2): Current Debates and Beyond," *The Journal of Peasant Studies* 37, no. 2 (April 1, 2010): 255–84, https://doi.org/10.1080/03066151003594906.
[413] Akram-Lodhi and Kay.

Discussions of food sovereignty as a movement and the centering of peasant counterculture within food discourses is a highlight of McMichael's "food regime" frame, which comprises AQ5. The food regime is not "a theoretical construct; rather, it is a form of analysis. It is a method, in fact a world-historical method. It is a way of organizing our understanding of significant shifts in global power relations through the agri-food lens. As such it challenges international relations theory and world-systems analysis alike. And it reframes liberal and Marxist theories of development."[414]

Federici's examination[415] of the subjugation of women and accumulation of their labor as a necessary process in the development of capitalism further demonstrated how economic class alone could hardly capture the extent of the social relations at play in peasant agriculture, an example of work within AQ6. Bernstein, seeing yet another route via which capital had demonstrably accumulated the peasantry, observed that "Gender analysis added further, and necessary, complexities to investigating and understanding the fluidity of the social boundaries between peasant capitalism and other forms of capital (and the state), and between peasants and classes of rural labour."[416]

John Bellamy Foster is widely credited with bringing a largely undiscussed ecological lens to AQ7, coining the concept of the metabolic rift, and highlighting Marx's lesser-known treatments of the topic; for example, Marx observed that industrialized agriculture under capitalism, when "'progresses spontaneously and is not consciously controlled . . . leaves deserts behind it'."[417] As mentioned, Marx, Kautsky, Lenin, and others had a glowing assessment of input-heavy, mechanized "green revolution" agriculture as the form their "consciously controlled" collectivization would take. Foster's metabolic rift concept became key in describing how conventional agriculture writ large was ecologically moribund, but again these discussions were focused – as were virtually all AQ debates – on the rural context.

The field of political ecology has conceptualized the coproduction of political economies and ecologies as "socionatures," with an early example being Piers Blakie's soil erosion studies forming a direct linkage between political economy of agriculture and ecological outcome. Work in this field has outlined the socionatural dynamics of peasant existence including how rights to resources and access to them are vastly different. Feminist political ecology (fpe) has further illuminated how these socionatures are gendered, bridging multiple threads of previous scholarship and adding new insight into resource access, family dynamics, and the uneven development caused specifically by patriarchy. For example, Mollett and Faria (2013) note that an

> "fpe focus on gender and household relations provides a nuanced conceptualization of gender relations in the context of development interventions nationally and internationally/ or "across scale". For instance, as Carney writes, examining household dynamics ''brings attention to the crucial role of family authority relations and property relations in structuring the gender division of labor and access to rural resources'' (1996, p. 165)."[418]

---

[414] Philip McMichael, "Commentary: Food Regime for Thought," *The Journal of Peasant Studies* 43, no. 3 (May 3, 2016): 648–70, https://doi.org/10.1080/03066150.2016.1143816.
[415] Silvia Federici, *Caliban and the Witch* (Autonomedia, 2004).
[416] Bernstein, "V.I. Lenin and A.V. Chayanov."
[417] John Bellamy Foster, "Marx's Theory of Metabolic Rift: Classical Foundations for Environmental Sociology," *American Journal of Sociology* 105, no. 2 (September 1999): 366–405, https://doi.org/10.1086/210315.
[418] Mollett and Faria, "Messing with Gender in Feminist Political Ecology."

While class is the fundamental basis of the majority of the AQs above, and gender has begun to be represented within the scholarship, *race* remains conspicuously absent.

AQ8: race

Given the fundamental underpinnings of racial formations at the heart of capitalism, race is obviously fertile ground for a host of AQs; Minkoff-Zern (2018) notes that "classic and current deliberations of the agrarian question have yet to contend with the issues of race and immigration, defining elements of today's globalized agrifood system."[419] A further piece in the political puzzle is that in the US, centuries of forced Black labor and systematic exclusion from systems of wealth creation has many people calling for economic reparations.[420,421] This call creates a form of potential racial capital redistribution politics that does not fit easily into the standard Marxist class analysis, and also provides a source of political tension within organizations between organizers and activists who operate on different theories of change.

W.E.B. DuBois, Cedric Robinson, and many others have addressed the standard Marxist canon's inadequacy at addressing the racial nature of capitalism, but only a few have extended this specifically to questions of the current agrarian transition, despite its clear relevance to contemporary Black agrarianism. For example, a multivariate analysis of Black smallholder farmers carried out by Schulman et al (1991) found that those who managed to maintain their family farms "had more on-farm household labor, had smaller households, and had higher gross farm incomes than those who left agriculture." They conclude that as many have observed about the peasantry in general the "future of the black smallholder remains precarious," and that their findings "point to the need to synthesize Lenin's macro-level focus on class formation and Chayanov's micro-level focus on enterprise formation in order to understand smallholder persistence."[422]

There is of course an extensive history of Black agrarianism in the US, as a source of food sovereignty and resistance for communities subjugated by racial capitalism. As mentioned in the FHL chapter, growing one's own food and medicine was seen as form of autonomy during slavery, and remained thus throughout African American histories of resistance; this became particularly so in the modern era of anti-colonialism and human rights activism. Indeed, in the 1960's,

> "black political preoccupation with land was pervasive. Reenergized by Malcolm X's teachings and by Third World struggles for independence and postcolonial development, the land question offered African American polemicists a potent tool for critiquing liberal reformism. Liberation was worthless, these thinkers argued, unless it delivered

[419] Laura-Anne Minkoff-Zern, "Race, Immigration and the Agrarian Question: Farmworkers Becoming Farmers in the United States," *The Journal of Peasant Studies* 45, no. 2 (February 23, 2018): 389–408, https://doi.org/10.1080/03066150.2017.1293661.
[420] Ta-Nehisi Coates, "The Case for Reparations," in *The Best American Magazine Writing 2015* (Columbia University Press, 2015), 1–50.
[421] Adrienne D Davis, "The Case for United States Reparations to African Americans" 7 (2000): 5.
[422] Michael D. Schulman and Barbara A. Newman, "The Persistence of the Black Farmer: The Contemporary Relevance of the Lenin-Chayanov Debate," *Rural Sociology* 56, no. 2 (1991): 264–83, https://doi.org/10.1111/j.1549-0831.1991.tb00436.x.

> meaningful black sovereignty—a goal that required control of the critical social space, natural resources, and means of production that land embodied."[423]

Fannie Lou Hamer, legendary civil rights activist, founded the Freedom Farms Cooperative (FFC) cooperative, "a community-based, rural and economic development project; its members were displaced, unemployed land/farmworkers, those dispossessed of access to land and displaced by mechanization."[424] This is precisely the process of proletarianization that Marx described and expected, but these cooperatives represented explicit Black repeasantization, "an opportunity to stay in the South, live off of the land, and create a healthy community based upon building an alternative food system as a cooperative and collective effort."[425] As White (2013) aptly noted and quoted, highlighting both the reality of US racialized violence and the resolute existence and resistance of a Black US peasantry: "It was in keeping with Hamer's perspective that if she had a pig and a garden, 'she might be harassed and physically harmed but at least she would not starve to death.'"[426] In this way, Hamer, along with other leaders of Black-led farming cooperatives, was on her way to changing the social order of the South through her anti-poverty agrarian work."[427]

A series of natural disasters which destroyed crop income, macro scale US financial malaise (the famous stagflation of the 1970's), lack of independence from grants and donations as a source of necessary capital for an extensive social service agenda, a dearth of labor to harvest crops when funds dried up, and other issues beyond the scope of this chapter brought an end to the Cooperative when it sold its land in 1976. Nonetheless, the existence of the FFC is relevant to contemporary efforts; it "offered lessons for black farm workers in the 1960s that are important today for families displaced by the automobile industry and others in urban areas who struggle to access healthy food, adequate and affordable housing, access to water, quality education, health care, and employment."[428]

This transition to the urban setting when discussing the Black agrarian tradition is necessary, as the well-known history of urban migrations, segregation, and white flight to the suburban ring eventually created not just a demographic and spatial redistribution, but an association in the American mind between "urban," "inner city," and "Black," one defined by poverty, crime, and deprivation.[429,430] Indeed, in 2020, responding to

> "the rapidly increasing momentum behind the fight for Black lives in the U.S. and around the world, Republic Records announced that it would "remove 'urban' from the label's verbiage in describing departments, employee titles and music genres," citing their belief that "over time the meaning and connotations of 'urban' have shifted and developed into a

[423] Russell Rickford, "'We Can't Grow Food on All This Concrete': The Land Question, Agrarianism, and Black Nationalist Thought in the Late 1960s and 1970s," *Journal of American History* 103, no. 4 (March 1, 2017): 956–80, https://doi.org/10.1093/jahist/jaw506.
[424] White, "'A Pig and a Garden.'"
[425] White.
[426] White.
[427] McCutcheon, "Fannie Lou Hamer's Freedom Farms and Black Agrarian Geographies."
[428] White, "'A Pig and a Garden.'"
[429] William Julius Wilson, *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy* (University of Chicago Press, 2012).
[430] Loic JD Wacquant and William Julius Wilson, "The Cost of Racial and Class Exclusion in the Inner City," *The Annals of the American Academy of Political and Social Science* 501, no. 1 (1989): 8–25.

> generalization of Black people in many sectors of the music industry, including employees and music by Black artists."[431]

For many Black agrarians and Black nationalists during the implementation of this inner-city apartheid, the land question, as with many advocates of repeasantization generally, was inevitably a rural one; they rejected the possibility of urban sovereignty. "'None seriously believes a nation can be built on the concrete slabs of cities built on mountains of garbage,' a Republic of New Africa spokesman declared in 1970. The black arts movement poet Haki Madhubuti concurred. 'We can't grow food on all this concrete,' he lamented in 1973."[432] However, some literature has focused on UA as an extension of this Black agrarian resistance legacy, such as with D-Town Farm as "a community-based model for increasing access to healthy food for the mostly African American citizens of Detroit,[433] or the Cleveland "gardener's visions of thriving, self-reliant African American communities and the desire to rebuild soil, neighborhoods, and economies,"[434] and a "black agrarian imaginary in the city."[435]

In sum, "urban" in the US has been racialized, both spatially and conceptually, and under these circumstances a Black agrarian question is also very often an urban agrarian question. A UAQ asked in this context must therefore grapple with not just the materialities of agriculture surrounded by concrete, or the political economics of urban real estate, but also the ways in which UA has historically been tied to movements of resistance against historic and institutionalized food apartheid.

AQ9: urban

Given the deep ideological underpinnings of the country vs. city binary[436] and the common framing of a post- (or pre-?) modernist peasantry rooted in a rural agrarian identity even for many within Black agrarianism, US cities seem unlikely places for a peasant movement regardless of definition. This is especially true in the absence of an implemented agroecological urbanism that greatly expands food production to regionally functional levels as described in the CSI chapter, and given the racialized labor conundrum as described in the FHL chapter. Bernstein, apprehending no common thread in the "experiences, beliefs and practices of its socially heterogeneous membership," believes that the peasant classification is "in effect attributing to 'the movement' a unity of vision and purpose that is unwarranted, and unhelpful"[437] and that there is no common set of activities "driven by an inherent 'peasantness'"[438] that would signify membership in such a group.

---

[431] Cate Young, "Is This The End For 'Urban' Music?," *NPR*, June 15, 2020, sec. The Grammy Awards, https://www.npr.org/2020/06/15/877384808/is-this-the-end-for-urban-music.
[432] Rickford, "'We Can't Grow Food on All This Concrete.'"
[433] Monica M. White, "Environmental Reviews & Case Studies: D-Town Farm: African American Resistance to Food Insecurity and the Transformation of Detroit," *Environmental Practice* 13, no. 4 (December 1, 2011): 406–17, https://doi.org/10.1017/S1466046611000408.
[434] Janet Fiskio, Md Rumi Shammin, and Vel Scott, "Cultivating Community: Black Agrarianism in Cleveland, Ohio," *Gastronomica* 16, no. 2 (May 1, 2016): 18–30, https://doi.org/10.1525/gfc.2016.16.2.18.
[435] Justine Lindemann, "'A Little Portion of Our 40 Acres': A Black Agrarian Imaginary in the City," *Environment and Planning E: Nature and Space*, October 13, 2022, 25148486221129410, https://doi.org/10.1177/25148486221129408.
[436] Raymond Williams, *The Country and the City*, vol. 423 (Oxford University Press, USA, 1975).
[437] Bernstein, "V.I. Lenin and A.V. Chayanov."
[438] Sankey, "From Survival to Self-Governance."

However, many UA groups founded out of food justice origins operate vociferously under the food sovereignty banner, and this discourse has begun to bring together the multiple scales, cultures, academic disciplines, and technological frames that intersect in the urban milieu. In the same way that Ploeg is recognized as a leading scholar of repeasantization, McMichael is recognized for contributing a conceptual framework to the food sovereignty movement. McMichael argues:

> "'Food sovereignty' … is about reorganizing international political economy, modeling social struggle around democratic principles, gender equity, producer rights, ecological practices and rebalancing the urban/rural divide. It reconnects the city with the countryside, reformulating the 'agrarian question' as a general socio-ecological question, rather than simply a question of class alliances as capital subordinates agriculture (Araghi 2000; McMichael 1997)."[439]

Urban Political Ecology (UPE) has been used as a lens for understanding these phenomena, for two reasons in particular as identified by Agyeman and McEntee (2014). First, its use of hybridity (as discussed in the CSI chapter) is well suited to the "intertwined nature of the urban and the natural" and so the socionature concept in political ecology finds an easy application in UPE discussions. Second, because of its Marxist underpinnings, UPE economic analysis connects "socioecological processes, relationships, and metabolisms, which create unjust outcomes in space."[440] As the CSI chapter explained, when agriculture using agroecological techniques and traditional ecological knowledge is taking place in the city - irrigated with water from the municipal grid, supplemented with compost from residential green waste, and grown in soil with a history of urban contamination – new materialities are introduced that are unaccounted for in the standard canon. Urban socionatures are not just biophysically different from the rural, they operate in completely different regimes of social relations.

UPE scholarship has made limited attempts to address UA, primarily via food justice: the evolving narrative of food deserts,[441] food apartheid,[442] and rethinking foodsheds.[443] Urban areas where racialized uneven urban development connected to a corporate food regime has left large populations, disproportionately people of color, nutritionally underserved are seen as sites of political and economic contestation.[444] The socionatures of urban land and soil contamination have been explored[445] as well as issues of uneven and racialized access to even the alternative food system such as farmers markets.[446] Limited though this literature is, almost none refers to the activities in these cities as repeasantization, i.e., as a manifestation of the AQ.

---

[439] McMichael, "Commentary."
[440] Julian Agyeman and Jesse McEntee, "Moving the Field of Food Justice Forward Through the Lens of Urban Political Ecology," *Geography Compass* 8, no. 3 (2014): 211–20.
[441] Virva Tuomala, "Towards Inclusive Urban Food Supply Chains," *Food Supply Chains in Cities*, 2020, 1–32.
[442] Joshua Sbicca, *Food Justice Now!: Deepening the Roots of Social Struggle* (U of Minnesota Press, 2018).
[443] McClintock, "From Industrial Garden to Food Desert."
[444] Nik Heynen, "Urban Political Ecology II: The Abolitionist Century," *Progress in Human Geography* 40, no. 6 (2016): 839–45.
[445] Nathan McClintock, "Assessing Soil Lead Contamination at Multiple Scales in Oakland, California: Implications for Urban Agriculture and Environmental Justice," *Applied Geography* 35, no. 1–2 (November 2012): 460–73, https://doi.org/10.1016/j.apgeog.2012.10.001.
[446] Alison Hope Alkon, *Black, White, and Green: Farmers Markets, Race, and the Green Economy*, vol. 13 (University of Georgia Press, 2012).

I submit that what may unite the peasantry in general, including the urban– their "double movement" against total subsumption to capitalist logic as Polanyi argued, their regulation of the commons to prevent Hardin's proverbial "tragedy" as Ostrom demonstrated – is the perpetuation of a common ethical foundation, applied specifically to agriculture. In short, I argue that urban repeasantization is happening where UA is taking place under an alternative, non-capitalist, set of ethics – what EP Thompson called a "moral economy."

Moral economy of food sovereignty: the urban peasant ethic?

The moral economy term emerged in E.P. Thompson's explanation for the motivations of food "rioters" in eighteenth century England who redistributed products intended for export among hungry residents. As mentioned earlier, Thompson was a critic of "crass economic reductionism" and challenged oversimplified, economically framed portrayals of the peasantry which painted their actions as the predictable, rational "response" that came from the "stimulus" of hunger or poverty. Thompson called this a "spasmodic" view of the peasant role in history that disregarded both their agency and philosophical complexity, pointing at Rostow's "social tension chart" which purported to statistically predict levels of social disturbance from a combination of commodity prices and harvest numbers as emblematic of this school of thought ("Begone, J. Evans Pritchard, PhD!"[447]).

As a counterpoint to this "abbreviated view of the economic man," Thompson pointed out that those undertaking such social unrest did so because they believed they were upholding "a consistent traditional view of social norms and obligations, of the proper economic functions of several parties within the community, which, taken together, can be said to constitute the moral economy of the poor."[448] He then goes on to detail a number of such practices, for the pricing and distribution of wheat and bread in particular, that were disrupted by the imposition of new capitalist market rules. While it began with this specific focus, the usage of moral economy by various theorists expanded to describe most alternatives to capitalist social relations, including the customs, traditions, and ethics that generate them. Thus, in a later essay entitled "The Moral Economy Reviewed," Thompson states that "if I did father the term 'moral economy' upon current academic discourse, the term has long forgotten its paternity. I will not disown it, but it has come of age and I am no longer answerable for its actions."[449] It has since been used to describe a wide variety of circumstances, far from its origins in British streets.

For example, Neumann's book *Imposing Wilderness* relies heavily on the notion of the moral economy to help theorize the actions of indigenous inhabitants of the Meru mountain area in Tanzania and offers an Africa-focused history of the term with the aim of examining "the problems associated with its sometimes cavalier usage."[450] Scott's "*The Moral Economy of the Peasant*" is referenced to describe "risk averse" peasants operating on a "subsistence ethic,"[451]

---

[447] Robin Williams et al., *Dead Poets Society*, Special edition, Hartwick Classic Film Leadership Case (Burbank, CA: Touchstone Home Entertainment, 2006), https://www.lib.uwo.ca/catalogue/mediabooking/index.php?bib=b42376270.

[448] E. P. Thompson, "The Moral Economy of the English Crowd in the Eighteenth Century," *Past & Present*, no. 50 (1971): 76–136.

[449] E. P. Thompson, *Customs in Common: Studies in Traditional Popular Culture* (New Press/ORIM, 2015).

[450] Roderick P. Neumann, *Imposing Wilderness: Struggles over Livelihood and Nature Preservation in Africa*, vol. 4 (Univ of California Press, 1998).

[451] James C. Scott, *The Moral Economy of the Peasant: Rebellion and Subsistence in Southeast Asia*, vol. 315 (Yale University Press, 1977).

which guarantees community members enough resources to meet both personal and social needs and ensures collective stability. Watts (1983), cites both Scott and Popkin ("The Rational Peasant"[452]) in his analysis of Hausa response to draught and food shortage, and Watts, like Scott, identifies a "subsistence ethic" that produced a "measure of the collective welfare which was presupposed by the moral economy of the Hausa peasantry."[453] Feierman (1990) similarly argues a "subsistence guarantee" constituted the basis of a moral economy in Tanzania, but was "threatened by colonial soil erosion control schemes."[454] Goran Hyden (1983) proposed that some African communities remained "uncaptured" by the market system and thus operated in part on their "economies of affection," defined as "a network of support, communications and interaction among structurally defined groups connected by blood, kin, community or other affinities."[455] Because of this social support network, peasants can

> "'choose' to have one foot in the traditional moral-based economy and one in the market system. Unlike past Asian and European societies, where land as the means of subsistence became scarce and peasants were forced to seek permanent employment in urban centres, many rural producers in Africa can move back and forth between the capitalist and peasant economy/ethic."[456]

Most recently, a new formulation of the concept has been used to offer an alternative to neoliberalism-based development, called an "economy of solidarity," which "can be defined as all production, exchange, savings and consumption activities that contribute to the democratisation of the economy based on the commitments of citizens and focusing on the collective interest and solidarity rather than the search for profit."[457]

---

[452] Samuel Popkin, "The Rational Peasant," *Theory and Society* 9, no. 3 (May 1, 1980): 411–71, https://doi.org/10.1007/BF00158397.
[453] Michael Watts, "Hazards and Crisis: A Political Economy of Drought and Famine in Northern Nigeria," *Antipode* 15, no. 1 (1983): 24–34.
[454] Steven M. Feierman, *Peasant Intellectuals: Anthropology and History in Tanzania* (Univ of Wisconsin Press, 1990).
[455] Goran Hyden and Göran Hydén, *No Shortcuts to Progress: African Development Management in Perspective* (Univ of California Press, 1983).
[456] Tony Waters, "A Cultural Analysis of the Economy of Affection and the Uncaptured Peasantry in Tanzania," *The Journal of Modern African Studies* 30, no. 1 (March 1992): 163–75, https://doi.org/10.1017/S0022278X00007771.
[457] Isabelle Guérin and Miriam Nobre, "Solidarity Economy Revisited in the Light of Gender: A Tool for Social Change or Reproducing the Subordination of Women?," in *Under Development: Gender*, ed. Christine Verschuur, Isabelle Guérin, and Hélène Guétat-Bernard, Gender, Development and Social Change (London: Palgrave Macmillan UK, 2014), 286–305, https://doi.org/10.1057/9781137356826_14.

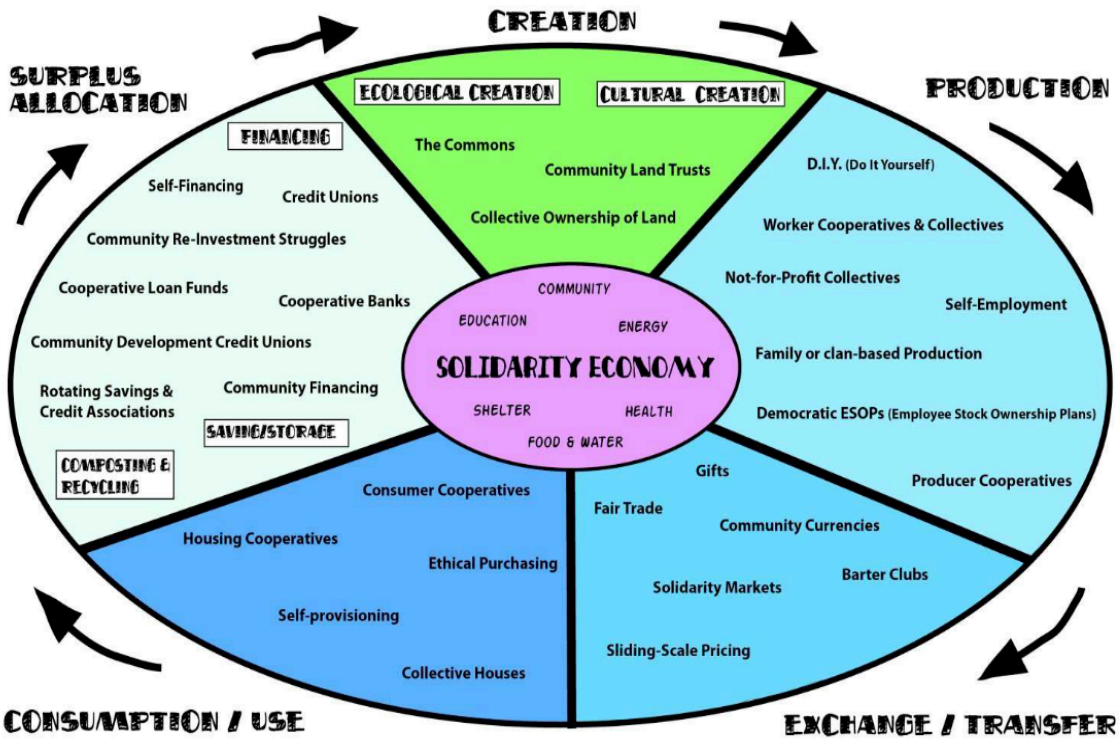

Figure 45 - Solidarity Economy: Key Concepts and Issues (Miller 2010)

Whether termed a subsistence ethic or guarantee, an economy of affection or solidarity – and whether in Britain, Tanzania, or Brazil – we see across these circumstances a consistent non-capitalist ethic focused on public needs, community uplift, and redistribution of resources. These echo the explicitly stated goals of food sovereignty and are thus apropos to the AQ generally and the UAQ specifically. The graphic in figure 45 drawn from Miller (2010)[458] displays examples of how such a "solidarity economy" might manifest, and I propose that where we see such activities employed towards food production and distribution, we are looking at a reassertion of peasant activity, whether rural or urban, and however interlocked with capitalist structures.

Bernstein, ever skeptical of labeling such activities as repeasantization, "identifies the presence of heroism and vanguardism in the food sovereignty narrative (cf. McMichael 2014), as well as 'aspirations to "grand theory" and its feel-goodism'. He questions the proposed continuation of peasant farming, 'informed by agroecological wisdom and values of autonomy, community and social justice, in the face of the corrosive effects of capital'."[459] Is Bernstein correct, and UA operates as a sort of Potemkin peasantry, wearing the mantle of food

[458] Ethan Miller, "Solidarity Economy: Key Concepts and Issues," *Solidarity Economy I: Building Alternatives for People and Planet*, 2010, 25–41.
[459] Kees Jansen, "The Debate on Food Sovereignty Theory: Agrarian Capitalism, Dispossession and Agroecology," *The Journal of Peasant Studies* 42, no. 1 (January 2, 2015): 213–32, https://doi.org/10.1080/03066150.2014.945166.

sovereignty but perpetuating neoliberalism? The myriad UAQ's (AQ9) necessary to fully explore these questions within the metropolis are a synthesis of multiple AQ perspectives that bring together the intersectional and nested socionatures urbanity represents, such as class, gender, and race (AQ5, AQ6, and AQ8) mediated by novel urban ecologies (AQ7). It would require a more holistic snapshot that defies easy quantification and deconstruction, one which transcends the "classic" preoccupation with whether and how peasants have moved toward modernism (and it is presumed, thus away from their own existence) and instead embraces a multiplicity of community and culture-oriented farming modalities, making conceptual room for such a thing as an urban peasantry.

One UAQ: Is a moral economy applied to the "fictitious commodities" within urban food sovereignty movements?

Many varieties of the UAQ could be posed, even by "classical" theorists. For example, Kautsky, Lenin, and other economic historical materialists might have asked how the urban peasantry interact with urban proletarians and the regional food and real estate market. In classic agrarian question fashion, they might be concerned with their role in the inevitable and collective urban economic revolution. By contrast, Chayanov, Gramsci, Polanyi, E.P. Thompson, and others focused on the social drivers of political movements might ask what conditions allow these alternative types of production to persist, who derives the benefits, and what political, philosophical, ethnic, or cultural tissue binds these communities together.

My UAQ is most concerned with placing the food sovereignty activities I see locally, in a metropolis of the Global North, within the repeasantization discourse. Have the "corrosive effects of capital," or what Chayanov referred to as the "influence of urban culture," fully subsumed UA? Or does UA activity that identifies with the international food sovereignty movement evidence attributes of a moral economy, and thus constitute a push in Polanyi's "double movement" away from neoliberalism and market logic, and towards the repeasantization envisaged by Ploeg, McMichaels, Rosset, and others, even if differentiated, proletarianized, or hybridized? To delve into this question, I use a combination of the moral economy theory above, along with Karl Polanyi's notion of "fictitious commodities" as points of analysis in UA activity.

Karl Polanyi, in theorizing the ways in which capitalism attempts to subsume social systems and their associated economies, argued that: "labor, land, and money are obviously not commodities; the postulate that anything that is bought and sold must have been produced for sale is emphatically untrue in regard to them."[460] Thus while dubbing them "fictitious commodities," he maintained they were nonetheless crucial to the machinery of capitalism, as they helped ensure that "no arrangement or behavior should be allowed to exist that might prevent the actual functioning of the market mechanism on the lines of the commodity fiction."[461] People operating under different social relations, i.e. under moral economies, resist this movement to impose marketization, and the "counter-movement that arises in response to the unchecked market exchange of fictitious commodities can be productive or destructive, peaceful or violent, exclusive or inclusive, from the right or from the left."[462]

I am not the first to highlight the role of fictitious commodities in examining the urban political ecology of the East Bay. Corbin (2019) argues public park land in Oakland is a false

[460] Karl Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time* (Beacon Press, 2001).
[461] Polanyi.
[462] McClintock, "From Industrial Garden to Food Desert."

commodity, as up until recent privatization trends (what Corbin calls "enclosures from above"), "public parks were produced for the people and not necessarily the market."[463] McClintock likewise notes that in Oakland, the "history of the flatlands—of both its uneven development and the social movements that have organized in response—is a history of capitalism's double movement, a history of struggle to against the impacts of the free market on land, labor, money, and food."[464]

Because in UA, land, labor, and money are essential inputs for food production and often are identified as constraints to upscaling, I will likewise use them as pathways for examining UA social relations in the East Bay.

UAQ in the East Bay: Four Case Studies

I use my UAQ concept as a lens to examine four UA organizations that have each existed for over a decade and represent different models of UA across three cities. As described in the previous two chapters, the San Francisco Bay area has a long history of both food activism and UA activity, as well as being the site of scholarship examining these issues. A recent study surveying East Bay Area UA located over 120 East Bay urban farms, and analyzed survey results from 35 of them, finding that "top three highest ranked farm missions were community food security (CFS), food sovereignty, and food justice (#1), education (#2) and environmental sustainability (#3), whereas the lowest ranked missions were job creation (#6) and profit (#5)."[465] I examined four organizations that all began with such an overt CFS or food sovereignty orientation – one in Richmond, two in Berkeley, and one in Oakland.

Spiral Gardens Urban Food Security Project (Spiral)

Spiral is a combination nonprofit nursery and adjoining community garden which resides on a 0.5-acre plot of former railway land in southwest Berkeley, licensed from the city for a perfunctory fee. Spiral was "originally founded in 1993 as a project of the Agape Foundation for Nonviolent Social Change by a handful of individuals dedicated to urban greening, innovative organic farming methods, food security, and environmental justice issues."[466] In October 2004, it incorporated as "Spiral Gardens Community Food Security Project," an independent 501(c)(3) nonprofit organization. Its stated mission is "to create healthy sustainable communities by promoting a strong local food system and encouraging productive use of urban soil."[467]

Urban Tilth (Tilth)

Tilth began as a nonprofit organization focused on UA at a limited number of sites located at Richmond public schools and the Richmond Greenway, a 5 mile stretch of city-owned, decommissioned rail land turned into a bike and pedestrian pathway. It has since grown and acquired a 3-acre site, the North Richmond Farm (NRF) which it is converting into, like Adamah's site, an "educational farm" and park with other community service infrastructure focused on ecosystem restoration, climate organizing, and "just transition," an increasingly used term in climate discourse which highlights the "need to ensure that efforts to steer society

[463] Corbin, "Enclosure-Occupations."
[464] McClintock, "From Industrial Garden to Food Desert."
[465] Siegner, Acey, and Sowerwine, "Producing Urban Agroecology in the East Bay."
[466] Spiral Gardens website
[467] Spiral Gardens website

towards a lower carbon future are underpinned by attention to issues of equity and justice."[468] Its current mission states that "Urban Tilth inspires, hires, and trains local residents to cultivate agriculture, feed our community, and restore relationships to land to build a more sustainable food system, within a just and healthier community," with the slogan: "Grow your own."

City Slicker Farms (CSF)
CSF is a nonprofit that began with an explicit food sovereignty mission. It expanded to a number of sites at different locations, before consolidating in 2015 at the West Oakland Farm Park (WOFP), which is, like Adamah's new site and Tilth's NRF, an educational farm (with recreation space – a lawn, pathways, and children's play area – mandated by both the funding and a community driven design process. CSF's 2022 mission is "To increase wellness and build community through equitable access to healthy food, thriving gardens, and urban green space."

Urban Adamah (Adamah)
Adamah is a nonprofit Jewish community building and UA organization, originally located at a rented 1.5 acre rented site in a west Berkeley business district between but now based on a permanent 2.2 acre site in North Berkeley. Adamah's latest mission statement describes it as "an educational farm and community center in Berkeley, California that integrates the practices of Jewish tradition, mindfulness, sustainable agriculture, and social action to build loving, just, and sustainable communities. We provide training programs, educational workshops, and community celebrations for more than 15,000 visitors annually."[469]

Local Land: Real estate vs rematriation

Agricultural acres are difficult to access in the San Francisco Bay Area. First, high real estate values and minimal open space due to extensive urban development present barriers. Typically, to access urban land and to deal with all of its associated legal and financial burdens, an organization is required, as opposed to an individual endeavor. One UA organization founder notes:

> "it feels like community gardens are still pretty much institutionally affiliated, not citizen, community, grassroots-driven in parts of the city … so I haven't seen this sort of blossoming of like, let 1000 Gardens bloom throughout Oakland, because people feel empowered to be able to like tackle this opportunity. And that might just as much be symptom of the last 10 years being ridiculous in terms of real estate prices."[470]

These rising real estate prices, driven in part by a mass accumulation of land by speculators and investors during the housing crisis, generates layers of corporate ownership that is, at times, opaque by design, as described by a long-time East Bay community development professional:

[468] Peter Newell and Dustin Mulvaney, "The Political Economy of the 'Just Transition,'" *The Geographical Journal* 179, no. 2 (2013): 132–40, https://doi.org/10.1111/geoj.12008.
[469] "Urban Adamah: Website."
[470] Liu, Interview with Jeremy Liu.

> "Because the vast majority of investor-owned land in the US is owned by limited liability corporations … there's no requirement for transparency beyond the name of the LLC, and like management entity that could be like an attorney or whatever. And that hides the vast majority of investors owned land … and so it's therefore hard to create that level of accountability around ag[riculture] that is required to be able to like push for, like a different access. So even to see if you're wildcatting and squatting and you want to make it a permanent situation, it's almost impossible to figure out actually, if the if that entity doesn't want to be contacted … the same problem affects affordable housing, housing rights, housing, Justice stuff, issues."[471]

Second, as discussed in the CSI chapter, the materialities of urban land given its history of industrial use and contamination can be problematic. As one local UA project manager noted when asked about the biggest barriers to upscaling:

> "The two biggest things are obviously land and general infrastructure. And when I'm talking about land, I'm thinking specifically not just … a plot of land, like just acreage, but I'm also in urban agriculture. … do you really want this land if it's just been a dump, like a literal dump? Right, like, you really can't farm too heavily on a former dump site, or former … auto body shop, a former … paint shop … it's really difficult to remediate, you'd have to rebuild a lot. You can't really grow too much on raised beds … it's a lot of wasted space with raised beds."[472]

UA organizations have thus leveraged a variety of strategies to acquire land by mitigating barriers that would otherwise render them economically inaccessible.

One of the first pieces of "low hanging fruit" identified by FPC's and UA advocates for production has been publicly owned parcels. McClintock, et al. found hundreds of acres of such unused city space in the city of Oakland;[473] they suggested a next step in research might be to identify another set of spaces, such as rooftops or redundant asphalt that might be similarly leveraged towards UA. The only other source of large plots of undeveloped land cheap enough to be acquired by UA organizations using the fundraising methods available to them are situated in industrial zones, and often on the city periphery, i.e. the peri-urban zone. Depending on location, this may or may not be easily accessible to the inner city residents that historically constituted those communities subjected to food apartheid.

In an attempt to facilitate UA land access, in 2013 the California state legislature passed Assembly Bill 551: the Urban Agriculture Incentive Zones Act (AB 551). The law allowed cities and counties to legislatively designate zones in which owners of empty lots who signed a contract allowing UA on their property for 5 years would receive a tax break. The hope was to free up more of the urban fallows to cultivation, as well as provide some predictable stability in UA land tenure, because insecure land access was identified as a major barrier. Implementation has been sparse and the Act has had minimal impact in terms of increasing food justice as the incentive is unattractive to the many landowners who still owe back taxes, and without proper

[471] Liu.
[472] Backyard Garden Manager, Interview with Backyard Garden Manager.
[473] McClintock et. al., "Cultivating the Commons", 2009

representation by community organizations, the policies can actually be a vehicle for further gentrification.[474]

As mentioned in the FHL chapter, an era of declining city budgets has led to an increase in nonprofit management of public city parks and recreational land, and this is now another route for finding larger (more than an acre) plots, typically a difficult prospect in dense urban settings. While this route has led to UA on previously uncultivated land, the farm park model is not geared towards significant production, and at times results in Corbin's "enclosures from above" when the controlling entity lacks the staff to keep the park open or reserves it for private events.

Another method of acquiring land for UA that operates within a broadly defined moral economy is community land trusts. For example, the Oakland Community Land Trust has a mission "to expand and preserve housing and economic development opportunities for Black, Latinx, Asian, other communities of color, and low-income residents of Oakland" and seeks to "build community power through an engaged board of OakCLT residents and community members to enact a vision of resident-powered development on community-owned land." The OCLT acquired dozens of parcels from the city over time, and while there was initial interest in UA, the local housing crisis and solidarity with the activist group Moms for Housing meant that that while a handful of lots have been converted to community gardens, the majority are prioritized for new homes. The Sogorea Te' Land Trust likewise removes land from the market and "Rematriate" it back into the local Ohlone (Lisjan) indigenous community. They define Rematriation as "Indigenous women-led work to restore sacred relationships between Indigenous people and our ancestral land, honoring our matrilineal societies, and in opposition of patriarchal violence and dynamics."[475] Further, the Land Trust builds "ongoing relationships with cities, institutions, individuals, and organizations to Rematriate stolen land in Lisjan territory, and to develop relationships of reciprocity."[476] Planting Justice, a local UA organization which works explicitly toward "food sovereignty" to "address the structural inequalities embedded in the industrialized food system",[477] donated a quarter acre of land to the Sogorea Te' Trust.

In sum, urban land presents a variety of obstacles for UA in general and the East Bay specifically – problematic materialities, fictitious commodification, and intersectional marginalization, to name a few. In response, UA operates not just as a food production means, but also as a land-based political movement, often creating solidarity along ethnic, gender, and/or class lines in resistance to these historic obstacles. This can be seen in both the land tenure strategies and political activities of the case sites.

Spiral Gardens (Land)

Spiral resides on two plots of a triangular area of land divided by a street; the southern side contains the nursery and measures 11,100 square feet while the northern plot contains the community garden and measures approximately 9,300 square feet; together they constitute about half an acre. Miller admits that the half-acre constrains what can be done: "Even in the garden project, you got to know your limits. And eventually, I would like it to have a rural link. … And

[474] Eric Havens and Antonio Roman-Alcala, "Land for Food Justice? AB 551 and Structural Change," Land and Sovereignty- Policy Brief #6 (FoodFirst, 2016), https://foodfirst.org/wp-content/uploads/2016/06/UrbanAgS2016_Final.pdf.
[475] "What Is Rematriation?," *The Sogorea Te Land Trust* (blog), accessed December 27, 2022, https://sogoreate-landtrust.org/what-is-rematriation/.
[476] "What Is Rematriation?"
[477] "About – Planting Justice," accessed December 27, 2022, https://plantingjustice.org/about/.

we could like have a larger nursery out there, that then brings stuff, you know, brings inputs here, that then can be marketed in the city … so that one of the tricks with living on the land, is how you support yourself, right. And so if there was a farm linked to this, they could work together."[478]

The land was repurposed from the decommissioned Santa Fe railroad line, which was originally built in the 1880's with the intention of connecting the bay area industries to mines in Colorado but was never completed past the East Bay city of Orinda. Beginning in 1904, a Point-Richmond to Oakland line provided passenger transport until its deconstruction in the 1950's era of burgeoning cars and freeways. The decommissioned rail land was then given to the cities, and as newly municipal land, was then given to the then emerging BART system at a nominal price for its rail lines. What was not used for the new BART system – or for the park creation described in the FHL chapter – became "urban fallows",[479] or open lots that remained unused, and often "blighted" by dumping and other activities. Much of this land and its surroundings became "redlined" and racialized uneven development produced de facto segregation and economic marginalization. Spiral's farm manager Miller described this history of Spiral's neighborhood:

> "And so needless to say, the old historical black neighborhood of Berkeley, these were the railroad tracks. And this was literally the other side of the tracks. So the land actually is symbolically significant that way, and that it was the dividing line for race … these were the Black businesses right here … there's a lot of deterioration of that community that has happened over the years through redlining … those are the folks we came here wanting to serve."[480]

Spiral "was founded as a 'project of the Agape Foundation for Nonviolent Social Change by a handful of individuals dedicated to urban greening, innovative organic farming methods, food security, and environmental justice issues.'[481] In 1997, it began merging activities with the Building Opportunities for Self-Sufficiency (BOSS) Urban Gardening Institute (BUGI), and in in 2003, incorporated as a 510(c)(3) nonprofit to oversee the development" of the site. According to their application for the site,

> "BUGI did extensive outreach to the surrounding community and incorporated many of the suggestions received to ensure that the project would be an asset to the community. The project has met with overwhelming and enthusiastic support. Most of the concerns raised by the community focused on improving the existing aesthetic and security conditions of the project site. The gardens and nursery will be neat and clean, and the dome greenhouse, vine covered fences, landscaped borders, and flowers in the street tree wells will provide significant visual interest and appeal. Drug activity and associated violence occur within a block or two of the project site in several locations in the neighborhood."[482]

---

[478] Miller, Interview with Daniel Miller.
[479] Nathan McClintock, "Cultivation, Capital, and Contamination: Urban Agriculture in Oakland, California" (UC Berkeley, 2011), https://escholarship.org/uc/item/2vk2w7jq.
[480] Miller, Interview with Daniel Miller.
[481] "Spiral Gardens Community Food Security Project, Berkeley, CA."
[482] "BOSS Urban Gardening Institute Application Statement," November 25, 2002.

In this way, usage of the land in consultation with the local community was intended not just as purely a food security project, but also to address other land-based social issues arising from the neighborhood's socioeconomic marginalization. Still, access to both plots of land is routed through the controlling nonprofit, as the community garden and nursery are locked behind fences when it is not in operation and access hours have fluctuated depending on labor and funding.

In addition, the parcels were not leased from the city but rather licensed:

> "This LICENSE AGREEMENT is entered into on JULY 1, 2003 by and between the CITY OF BERKELEY, a Charter City organized and existing under the laws of the State of California ("City"), and the BOSS URBAN GARDENING INSTITUTE (BUGI), a community organization doing business at 2850 Sacramento Street in Berkeley, California ("Licensee") …City hereby grants an exclusive License to Licensee, subject to all the terms and conditions herein … Licensee acknowledges that this License grants it the personal privilege to occupy and use the Property for the purposes stated herein, but does not convey an estate in land or a leasehold interest in the Property, does not create a landlord/tenant relationship, and is not a lease."[483]

The license further required Spiral's adherence to non-discrimination, living wage, and equal benefits ordinances. The initial term of the license was five years at a fee of $100 per year, to be extended monthly thereafter in perpetuity; there was a 5% increase in the fee upon the expiration of the initial agreement, but that is still a tiny fraction of what a lease of similar real estate would cost. Spiral's land use could therefore be considered an example of the state support for non-capitalist peasant activities which Marx mentioned, focused here explicitly on redressing the spatial impacts of uneven racialized development as well as supporting local food sovereignty efforts.

Urban Tilth (Land)

Tilth has established UA at several sites; most are City of Richmond public land and schools except for the most recently acquired North Richmond Farm. The school and Richmond Greenway operations are the kind of educational and farm-park oriented (i.e. recreational and educational) UA that garner both philanthropic and municipal support and produce some food, but not in amounts necessary to have a significant food security impact. They are also insecure sources of land tenure. As Tilth's website explains, "Access to all of our other garden locations is tenuous. Between year to year access agreements, MOUs and Adopt-a-Spots none allowed us to build the kind of infrastructure necessary to truly impact the scale of food insecurity in our community."[484]

Thus in 2016 Tilth moved their base of operations to the North Richmond Farm, 3.13 acres of land in an industrial area of North Richmond which is unincorporated and governed by the county, not the city of Richmond. "After working with the county to amend the general plan for North Richmond to allow for urban agriculture and negotiating a 10 year lease that would

[483] "REVENUE Contract - # R6119 - Date Executed_ 8_12_2003 - BOSS Urban Gardening Institute Urban Gardening License," August 12, 2003.
[484] "WE DID IT: We Bought the Farm!," *Urban Tilth* (blog), accessed January 1, 2023, https://urbantilth.org/news/we-bought-the-farm/.

automatically renew 3 times, in 2016 we signed this 30 year lease agreement for the property and the North Richmond Farm project was born…"[485]. As with industrial areas in most cities, redlining and property devaluation led to concentration of Black populations now being reversed by gentrification; the placement of the NRF there is an expression of the racialized land politics that UA in general grapples with. "Doria [Robinson] says that she sees her community disappearing from Richmond, and … having a farm in North Richmond, a historic black community … it's important that we're reflective of the community. So really, that was one of our rallying cries for 2021. At the end of 2022, was to really focus our efforts and double down on creating space for black folks, black voices."[486]

Tilth finally bought the site in 2021, after "the Contra Costa County Board of Supervisors' vote Tues., Sept. 14 to unanimously approve the sale"; previously Tilth had been "leasing the land at the corner of Fred Jackson Way and Brookside Dr. for its farm..."[487] As detailed in the FHL chapter, the proposed NRF development to be carried out in 5 phases and ending in 2025 is again a farm park model; the Contra Costa County website refers to it as "an educational community urban farm with a variety of activities and learning experiences for all ages."[488] It is also meant to be a hub of planning for "Just Transition" green development "where residents can come together to create community-based projects that target issues like unemployment and lack of healthy foods and come up with climate change solutions."[489] It will include an "Ohlone Reflection Garden" as a means of education about, and cultural recognition of, the history of the land and its forcibly removed indigenous inhabitants.

The NRF is located at 323 Brookside Drive, adjacent to 411 Brookside Drive, a 6.8 acre property which "is owned by the Nabeta family. In 1902, the Japanese American business owners opened their first nursery in Contra Costa County, followed by many more across the Bay Area, according to the Historical Marker Database. In North Richmond, they are the last family to own a nursery."[490] When a "120,000-square-foot, 40-foot-tall warehouse" that would "focus on manufacturing, production and distribution"[491] was contracted for development at 411 Brookside by the southern California based Panattoni company, it received staunch organized opposition from Tilth who argued it would have multiple negative impacts, including blocking sunlight from the NRF for hours a day as well as increased traffic, and destruction of "Ohlone historical assets."[492] In the face of community opposition and negative PR, the development has stalled and Tilth instead is in talks to buy the land to extend the NRF; the NRF council, as per the land use tensions described in the FHL chapter, hopes that if 411 Brookside is acquired, UA food production will be prioritized over additional "educational" farm park development.

---

[485] "WE DID IT."
[486] Boisvert, Interview with Adam Boisvert.
[487] Staff, "Urban Tilth Plants Permanent Roots with North Richmond Land Acquisition," *Richmond Standard* (blog), September 21, 2021, https://richmondstandard.com/richmond/2021/09/21/urban-tilth-plants-permanent-roots-with-north-richmond-land-acquisition/.
[488] "North Richmond Urban Educational Farm | Contra Costa County, CA Official Website," accessed November 27, 2022, https://www.contracosta.ca.gov/4981/North-Richmond-Farm.
[489] "Threat of Nearby Development Looms Over North Richmond Farm," February 28, 2022, https://richmondpulse.org/2022/02/28/threat-of-nearby-development-looms-over-north-richmond-farm/.
[490] "Threat of Nearby Development Looms Over North Richmond Farm."
[491] Staff, "Warehouse Project near North Richmond Farm Faces Opposition," *Richmond Standard* (blog), February 22, 2022, https://richmondstandard.com/richmond/2022/02/22/warehouse-project-near-north-richmond-farm-faces-opposition/.
[492] "Urban Tilth Press Advisory," February 16, 2022, https://urbantilth.org/wp-content/uploads/2022/02/UT-Feb-18th-Press-advisory-1.pdf.

City Slicker Farms (Land): CSF grew in phases, beginning with a piece of land donated by the founding members, expanding into a number of plots in schools and on city land, and cultivating two private home yards. Via their backyard garden program, they also constructed raised beds for various clients (e.g. churches, senior citizen centers, and private homes) and provided them with short term mentoring and soil amendments for their upkeep. In this sense, it was not unlike Tilth's beginnings at schools and the Richmond Greenway with insecure land tenure; an article interviewing their development and communications manager Cora Lee Garcia about their acquisition of the Peralta street site noted that because its farms

> "are located on borrowed land, City Slicker gardeners have several times been forced to uproot established gardens and orchards. Having a permanent site will greatly expand the gardeners' ability to grow fruit trees, which can require many years to become established, Garcia says. And land ownership will enable City Slicker to be a permanent presence in this fast-changing neighborhood."[493]

This highlights not just the problems with short term land access (e.g., the 5-year frame offered by AB551 doesn't allow for planting orchards) but also hints at the gentrification already underway in what had, until the last decade, been a mostly Black area due to its redlined history and industrial surroundings. A 2010 CSF press release noted that "West Oakland is an 8.2 sq mile industrial area bounded by three major freeways, and it is home to the 5th busiest port in the country. The neighborhood struggles with poverty, environmental pollution, and a lack of access to fresh, affordable healthy food."[494]

CSF purchased the 1.4 acre lot that would become the West Oakland Farm Park in 2013 from now defunct corporate holder Peralta Street, LLC for $2.25 million, using $4 million it received in 2010 from the 2006 California State Proposition 84, "The Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006." This measure provided "$5.388 billion in general obligation bonds to fund safe drinking water, water quality and supply, flood control, waterway and natural resource protection, water pollution and contamination control, state and local park improvements, public access to natural resources, and water conservation efforts."[495] CFF's stated purpose in acquiring the land was to "demonstrate the viability of a local food-production system; serve as community space; empower children and adults who want to learn about the connections between ecology, farming and the urban environment; and support tools for self-reliance and empowerment."[496] CSF has a native land acknowledgement on their page ("City Slicker Farms acknowledges that we are living and working in occupied Ohlone Chochenyo territories. With respect we acknowledge them as the original keepers of the land we stand and farm on."), but I can find no specific rematriation-oriented activities other than the overall goal of using the land for community health and well-being.

The lot had been the site of a paint factory for over five decades, remediated via a brownfield cleanup process, and then sat vacant as one of the "urban fallows" until the CSF

---

[493] contributor, "City Slicker Plans to Create New West Oakland Farm."
[494] "City Slicker Farms Prop 84 Press Release," November 10, 2010, 84, https://www.kaporcenter.org/wp-content/uploads/2010/11/2010-City-Slicker-Farms-Awarded-Prop-84-Funding.pdf.
[495] "Proposition 84," accessed January 1, 2023, https://bondaccountability.resources.ca.gov/p84.aspx.
[496] "City Slicker Farms Prop 84 Press Release."

purchase. Because it was secured via funding meant specifically for park creation, via an application process that highlighted community driven park design, the end plan was crowdsourced and included "lawn space (to provide ample room for youth of all ages to run, play, and exercise), a vegetable growing area, a community garden, a fruit orchard, a chicken coop, a beehive, a dog run, and a tot lot."[497] While CSF maintained that the park would "be open seven days a week, from morning until night without charge,"[498] staffing shortages a decade later meant that the gates could sometimes be locked during these hours. The acquisition of the land was also intended to double the food production prior to consolidation at the farm park, but for reasons discussed in the previous two chapters, this has not yet been achieved.

Urban Adamah (Land)

Adamah began on a 1.5-acre open lot in West Berkeley, a historically redlined neighborhood. It was donated by Rich Robbins, CEO of Wareham Development, which "was founded in 1977 … [their] focus on deep-pocketed technical tenants, often with a need for a mix of office and lab space, has made Wareham's Emeryville and Berkeley properties alone home to roughly one-third of the Bay Area's 600 bioscience companies and 820 life science companies."[499] Robbins is also active in local philanthropic activities and foundation funding (much focused on STEM and the life sciences) and donated the land to Adamah for three years, later extended to five. As an article at the time explained,

> "The land is donated by Wareham Development in San Rafael, which eventually plans to build a laboratory on the site. 'We thought the farm was a fantastic short-term use for the site,' said Chris Barlow, a partner in the firm. 'I'm full of admiration for the place. Hats off to them.' When Wareham gets approval to build on the site, probably in 2013, Urban Adamah will move to another vacant lot."[500]

Adamah used the time to build up its programs and financial base to the point where it could afford to purchase its own space, and because the operations were expected to be temporary from the beginning, they developed no long-term built infrastructure and dedicated most of the site to cultivation of short-term crops. As mentioned, some residents considered a Jewish "faith based" UA site in a community of color, despite their food justice activism, to be out of place.

According to Adamah's site, in July 2013 they identified a $2.1 million North Berkeley parcel for sale, and the site "just screamed: community farm! By December of that year, thanks to an outpouring of support primarily from the Bay Area Jewish community, we had raised most of the funds to purchase the property. We closed in September of 2014."[501] The parcel, 2.2 acres of former post office land adjacent to the main processing facility, was vacant and is situated in "in Berkeley's MULI district, which is zoned for mixed-use light industrial uses. While farming and agricultural uses are not listed in the 'use table' for that area, Berkeley zoning laws allow

[497] "City Slicker Farms Prop 84 Press Release."
[498] "City Slicker Farms Prop 84 Press Release."
[499] "How Career Developer Rich Robbins Guided Wareham Development to Success (Video)," San Francisco Business Times, accessed January 2, 2023, https://www.bizjournals.com/sanfrancisco/news/2018/11/08/rich-robbins-wareham-development-most-admired-ceo.html.
[500] Carolyn Jones, "Berkeley Jewish Farm Mixes Agriculture, Learning," SFGATE, February 3, 2012, https://www.sfgate.com/bayarea/article/Berkeley-Jewish-farm-mixes-agriculture-learning-2975470.php.
[501] "Urban Adamah: About."

any other uses that are compatible with the purposes of the district if the applicant gets an Administrative Use Permit,"[502] which Adamah did. "We spent the next two years designing the new campus, acquiring the necessary permits and doing preliminary site development including grading, soil remediation, and major underground utility installation."[503] This terminology shift from "community farm" to "campus" is evident on the ground in the shifting site plans, which began with classroom "tents" and ended with a 54-bed retreat lodge and 2,400 sq. ft. community hall.

Adamah, as with many social justice-oriented organizations, has acknowledged the Indigeneity of the land on which they reside: "The Urban Adamah Farm is built on unceded land that was once home to the *Ohlone Lisjan* people," and that "Urban Adamah recognizes and honors the native inhabitants of the land on which we have built the farm."[504] They also sought the support of the local indigenous activist community:

> "Local *Ohlone* Activist, Corrina Gould, leads the l community's ongoing struggle for recognition, preservation of historic sites, and access to native lands. In the summer of 2017, Urban Adamah invited Corrina to the farm to share her knowledge and traditions, as well as to ask her blessing for repurposing the land we are on for the work we do."[505]

Finally, Adamah supports the rematriation of local land via financial support to such activism: "Urban Adamah makes an annual contribution to the Shuumi Land Tax / Sogorea Te' Land Trust to support their work to acquire and preserve land, establish a cemetery to reinter stolen Ohlone ancestral remains and build a community center and round house so current and future generations of Indigenous people can thrive in the Bay Area."[506]

In sum, UA projects use a variety of means to navigate urban land access issues: public parcels, the farm park model, and industrial areas with "cheap" large undeveloped lots are very common methods. The organizations may eventually own the land outright, as with the NRF, CSF, or Adamah, or may steward it on behalf of the municipality, as with Spiral and the Richmond Greenway. Integration into schools is also almost always a mode when multiple sites are cultivated, as with Tilth or CSF before its consolidation at the WOFP. It's also clear that their land choices – both in terms of location and price, and also the "story" they tell to get funding to acquire or steward them – is deeply woven into the racialized history of dispossession and uneven development. As with much in UA, this is a complicated and sometimes contradictory set of circumstances from a moral economy perspective.

One the one hand, when focusing on public land for UA projects, UA advocates cultivate "the commons."[507] By distributing production to individual landholders via backyard cultivation such as at CSF, they provide a modicum of "repeasantization" for proletarians by helping build the knowledge and infrastructure for small scale home production. By using grants and donations to remove parcels from the private market and in the case of some, either donating to trusts or dedicating portions to indigenous recognition – they rematriate pieces land to varying

---

[502] Frances Dinkelspiel, "Community Farm Buys 2+ Acres in West Berkeley," *Berkeleyside* (blog), May 23, 2013, https://www.berkeleyside.org/2013/05/23/urban-adamah-buys-2-acres-in-west-berkeley.
[503] "Urban Adamah: About."
[504] "This Place," Urban Adamah, accessed January 2, 2023, https://urbanadamah.org/the-farm/this-place/.
[505] "This Place."
[506] "This Place."
[507] N. McClintock and J. Cooper, "Cultivating the Commons: An Assessment of the Potential for Urban Agriculture on Oakland's Public Land" (UrbanFood. org, 2010).

degrees. On the other hand, by becoming stewards of public lands, with community access dependent on a non-public organization that sometimes uses the land for private income, they can create "enclosures from above."[508] By creating backyard raised beds that go defunct after a number of years, they build in re-proletarianization into the process. By purchasing open land and covering a substantial portion with built infrastructure rather than agroecology, they are removing potential for both increased food production and a resource for local flora and fauna.

Local Labor: Wages vs Solidarity

The dynamics of racialized paid and volunteer labor structures at these sites was discussed at some length in the FHL chapter, and there is no need to belabor those points in detail further here. What was hopefully made clear is that much UA labor operates outside, or alongside, market logic. It is substantially voluntary, from people committed either to supporting the food justice/sovereignty cause, or engaging in education and learning sustainable farming practices as fellows, interns, etc. Paid labor positions tend not to be subject to the same strict logics (such as field production quotas) as in the private market, and in addition, socioeconomic positionality, ethnic solidarity and community social ties are major influences in both who applies for positions and who shows up for volunteer hours. I will expand very briefly below on the labor dynamics of each site through a moral economic lens – i.e., to what extent is the labor the organization uses paid vs. volunteer workers, and does the paid labor operate under the same rigid expectations as in the private sector, or does the work culture somehow reflect aspects of a broadly defined moral economy?

Spiral Gardens (Labor): Spiral has perhaps the most simple and Chayanovian labor structure. As discussed in previous chapters until recently when one of the founders moved on from the organization, Spiral had two co-directors who worked full time, and hired at most two paid staff, sometimes full time, sometimes less. Beyond the founders, its labor was almost entirely volunteer, coming both from community members and significant numbers of students from local schools and universities. This remained the case throughout the organization's lifespan, as it had the smallest paid staff and budget of the sites studied, and even struggled with tax and nonprofit documentation and paperwork. Given that the owners, who were partners that cohabitated on the property in a live-work space adjoining the community garden and engaged in all labor tasks themselves with occasional help from many volunteers and a very few paid staff, it could be argued that Spiral operates not unlike a family farm that produces more than it consumes from a caloric standpoint and stays viable via "self-exploitation."

[508] Corbin, "Enclosure-Occupations."

Urban Tilth (Labor)

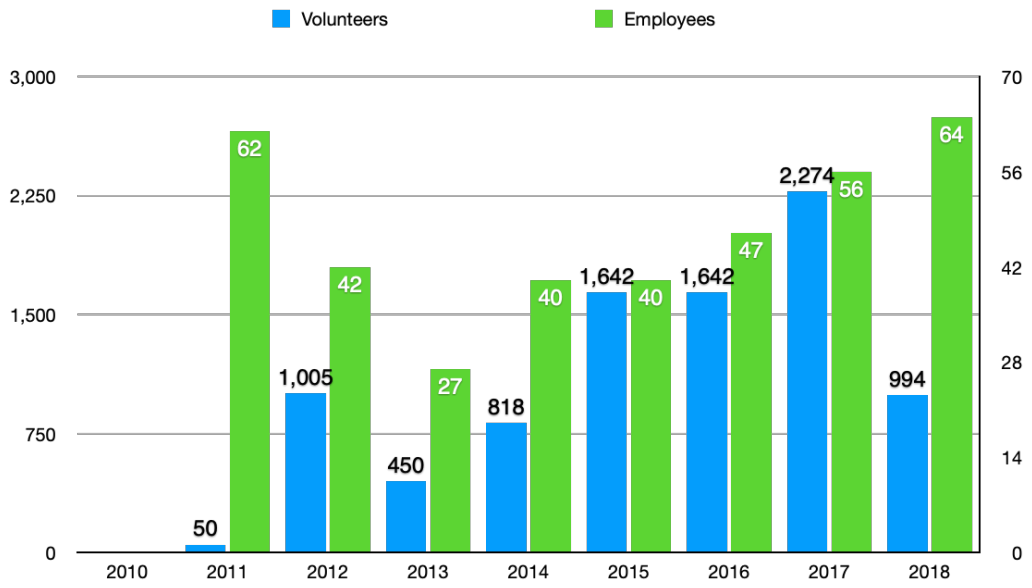

Figure 46 - Tilth: Volunteers vs. Employees, 2010-2018

Tilth has a sizable paid staff, which has slowly increased since its founding, as can be seen in figure 46. These are not all full-time staff members, but rather reflect youth intern programs with short term employment:

> "Really the only time we were at the 60 level … is when we have our summer internship program that's on our staff balloons … I would say our staff progression … it's incrementally increasing each year … it leveled out for a while and kind of like in the beginning, it was only like 10 or 12 of us. And then as we got more sites, it was more like 20 or so. And then during the pandemic, our CSA, membership ballooned. And so we had to get more staff for that. So now we're up to like, I think 30-plus staff members, maybe 40. And during the summer, we hire 30 to 40 kids."[509]

Their paid labor base also reflects the racialized nature and demographic shifts of Richmond's ongoing development:

> "During the pandemic, we grew very rapidly, and the amount of folks that were available to hire and whom was available to be hired, are mostly Latinos. And that's kind of like Richmond's biggest population right now. And so we started seeing kind of a decrease on staff of black folks. Whereas, you know, when I started, it was predominantly black folks at Urban Tilth."[510]

The paid labor operates under a more relaxed atmosphere than would be expected on a market farm, as maximizing profit and extraction of surplus value is not the guiding priority. "We want people on our staff to be like loving their jobs … aside from you know, uplifting the community

[509] Boisvert, Interview with Adam Boisvert.
[510] Boisvert.

and doing this work, we want to make sure that people that are involved in doing this work are like, 'Yeah, I like being here. And this is what I like doing … I'm valued. And that's that, for me a success marker, and I don't know how you would put that on a spreadsheet."[511]

For this reason, their deputy director thinks their model is difficult to scale up to significant food production:

> "You're maybe crunching big numbers, but maybe you're copying more of a really hardcore production style thing where it's like, your people are maybe underpaid. Maybe folks are overworked …. If they're not having a good experience, you know, you're just creating a turnstile that just cycles people in and out … people who are around for a year and they're gone … we'd like to have people around for long periods of time, where they can really can kind of deepen their relationship with projects, innovate, that's where we see the best ideas."[512]

Tilth also has city funded volunteer days, monthly NRF volunteer days, Eventbrite signups, and a variety of other methods of attracting donated labor. Of course, as discussed in the CSI chapter, such labor is not nearly as productive as paid farm labor, and as described in the FHL chapter, does not reflect the demographics of the neighborhoods the way their paid labor does. A former Greenway manager compared the numbers of volunteers he sees at CSF with Tilth:

> "I know they [Tilth] were getting huge money from individual private foundations like donors. And they had a lot of staff. So a lot of the work was through staff. And a couple of volunteers. I feel volunteer wise, it's probably about the same [as CSF], maybe a little more Urban Tilth's because they have more sites, but a lot of what they were doing as well was just with staff just because that's so many staff maybe like … 30-ish. That's kind of a lot for … any nonprofit that is food justice."[513]

[511] Boisvert.
[512] Boisvert.
[513] Backyard Garden Manager, Interview with Backyard Garden Manager.

City Slicker Farms (Labor)

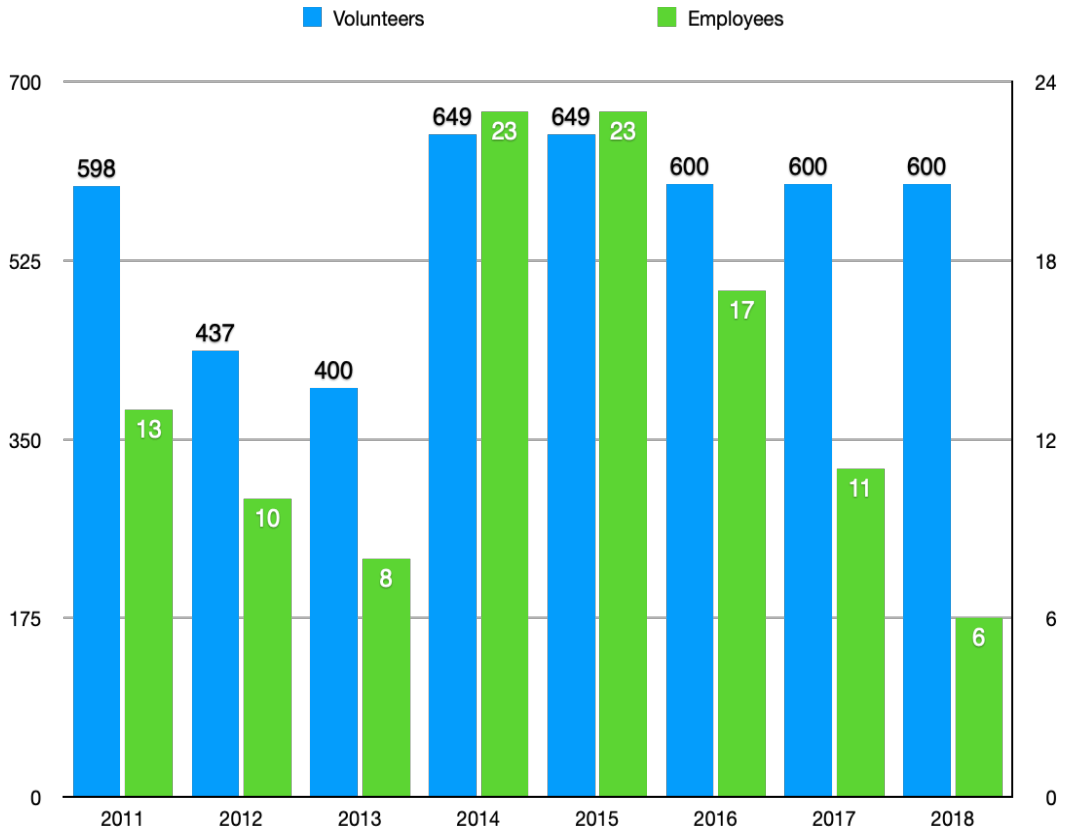

Figure 47 - CSF: Volunteers vs. Employees, 2011-2018

CSF is very like Tilth in that its labor was a mix of paid staff and sizable volunteer numbers, but also in that the staff is responsible for the complex work. As described in the FHL chapter, the paid staff grew to its peak when the organization consolidated on the WOFP, and by 2022, the staff had been reduced to just a handful, with the first labor hierarchy largely eliminated and one worker in the second hierarchy stepping up to fulfill managerial roles. The Backyard Garden Manager, beyond installations of raised beds for clients, also helps maintain the WOFP. "The three and a half people - like a lot of what we do is just us. Well, we probably get about … 20 to 40 volunteers a month doing stuff, but a lot of the volunteer work is … more monotonous things maybe like, you know, cleaning out an area we haven't cleaned out, weeding a certain area, you know, trying to chop down an overgrown area that's in the park or something like that landscape area."[514]

Figure 47 shows the rise and fall of their paid staff, and the identical numbers for volunteers across multiple years for tax document purposes suggests how such recordkeeping, as discussed in the FHL chapter, can create resistance within the second labor hierarchy, which results in broad estimations rather than accurate recordings.

[514] Backyard Garden Manager.

Urban Adamah (Labor)

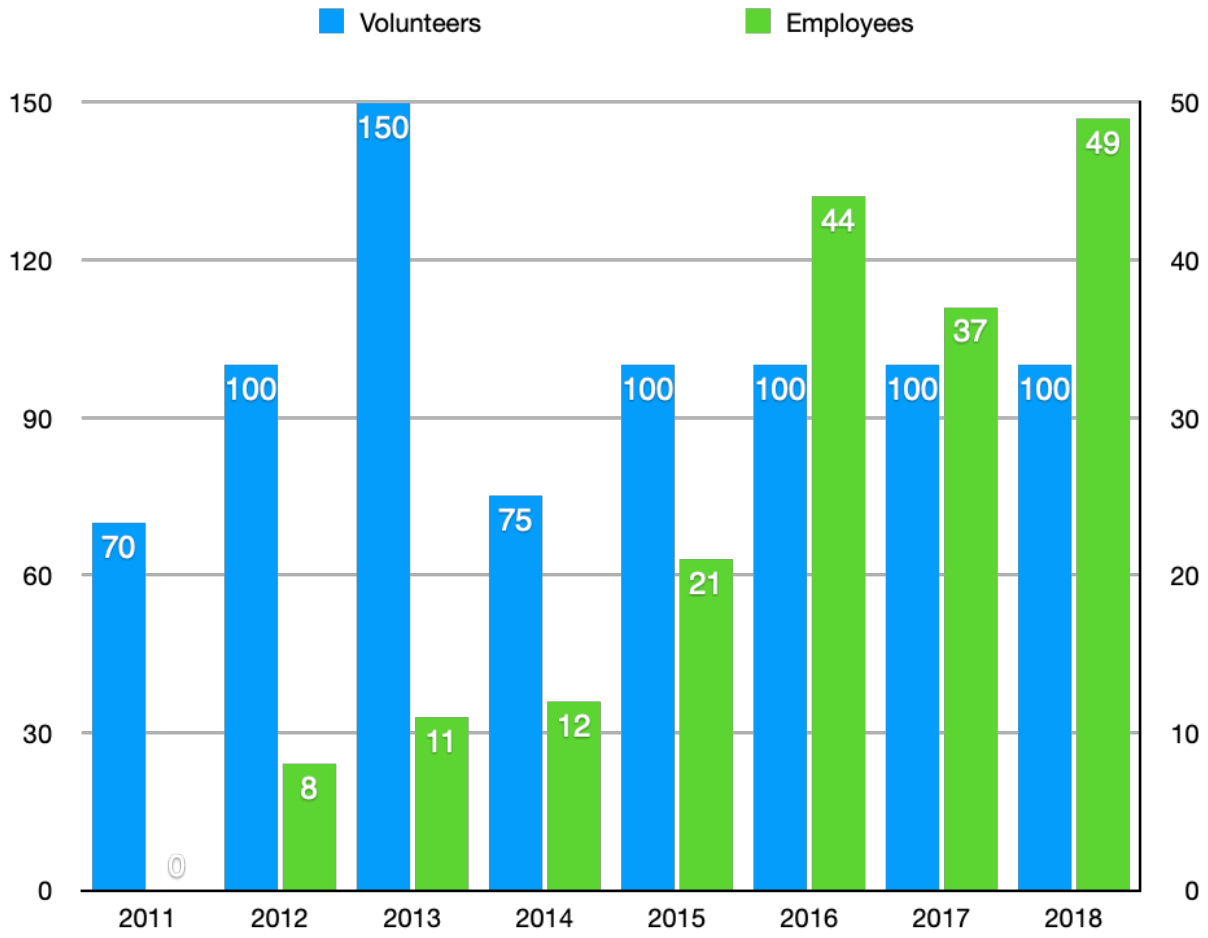

Figure 48 – Adamah: Volunteers vs Employees, 2011-2018

Adamah's labor is perhaps amongst the sites the most "professionalized" and least food sovereignty oriented. Their primary mission is Jewish community building and education using UA as a means, and their decisions around land use, labor structure, and lack of social integration into the community of color that surrounded their old site reflects that fact. As one fellow put it:

> "Yeah, yeah. I think specifically, like Jewish farming is like its own little thing. And I, in my experience, I've worked a lot in the Jewish farming realm, and I think it's a really great way for like, this like to infuse Judaism into community. I think there's a really direct relationship between like Jewish spirituality and farming and it's like a good way to have a whole list involvement in the community."[515]

[515] Interview with Adamah Fellows.

This has produced a steady increase in non-framing related paid personnel, while the volunteer base has stayed fairly static, as can be seen in figure 48. The fellows I interviewed also made clear that the orientation of the farm was educational and not production oriented:

> "I mean, I think it's an educational farm. So there is some degree of like, allowing like the fellows to take ownership over stuff, but we don't necessarily know best practices. So that's not the most efficient there's a lot of kids on the farm all the time, like stuff gets destroyed. So there's a balance between like, maximizing output in order to give to the community for the free farmstand and also letting it be an educational environment and trying different things for the fellows and then like for the kids also."[516]

Another agreed: "Definitely. Yeah, I would definitely say that maximizing productivity never feels like a really high … I mean, it's like a priority but it never feels like the highest priority or something that's like really pushed on us."[517] From their perspective, for upscaling of production to take place in their model anywhere near what was predicted before the move (50,000 lbs. a year was a commonly touted amount, as mentioned in the CSI chapter) there would need to be far more labor:

> "I think a lot of the current operation is based on the fellowship and having fellows work on the farm so I think if it became bigger there'd be need to be like more fellows or some like increasing labor because there's really only like two farm like for managers and then the rest is like fellows for the most part during fellowship seasons."[518]

In sum, the UA nonprofits all heavily encourage and make use of volunteer labor, but as described in the FHL chapter, it is structured in such a way that the overall organizations' essential functions do not depend on it. While as their activities expand and they accumulate paid staff related mostly to the educational, nonprofit, and "social venture" (e.g. CSA) sections that can either attract donor/grant funding or support themselves, this labor is generally not subject to the same harsh market discipline (productivity maximization) as businesses would be. Indeed, the farm managers at Tilth and CSF had no hiring or firing authority, and workers could often show late or not at all without consequence. While this maintains the internal culture in a social justice organization and is very unlike a capitalist farming business built on extracting maximum surplus value from laborers, it was also a huge limitation in terms of making the most of the land they have access to, given their stated prioritization of providing food security (or even food sovereignty). For this reason, the farming social ventures are typically unable to compete economically with businesses that do exploit their labor, and are reliant on "self-exploitation," volunteer labor, and infusions of money from the larger social service/parks and rec nonprofit complex to remain viable.

[516] Interview with Adamah Fellows.
[517] Interview with Adamah Fellows.
[518] Interview with Adamah Fellows.

Money: Government, Foundations, Donations, and the Market

"They happen within the cracks of the system, in marginal urban spaces reclaimed from aggressive urban development practices and policies; they strive within temporary land tenures with little hope for expansion, and often rely on volunteerism, self-exploitation and grants issued in a range of areas other than food (typically health or community development)."[519]

This observation by Tornaghi (2017) about UA in the Global North describes very well the struggles and successes of the UA sites I examine as they grapple with their fictitious commodities. I have discussed above how they address the marginal urban spaces and find ways to expand (land), as well as the volunteerism and self-exploitation that partially drives their growth (labor). Below, I briefly examine the grants and other money sources that play such a large role in their expansion. A full accounting of the myriad and complex ways these organizations manage to support themselves – including material support or "in-kind" donations – would be beyond the scope of this paper. However, by examining broadly how much each site is dependent on these non-market funding routes, we can derive a sense of how much have forgone the capitalist market as a means of continued existence, and operate instead on a mix of state support, nonprofit industrial complex funding, and a broadly defined economy of solidarity. Which route provides the best long-term stability in what circumstances, or for what political outcomes, is different and more complex question.

With the sole exception of Spiral which operates as a social venture with a business component, by far the largest input of money for UA operations I examine is government and foundation grant funding, and donations from businesses, individuals, and other groups, collectively reported as "contributions" on tax forms. The other category of income - selling services and products on the market – is reported as "program services." As seen in the table below (figure 49), three of the four case sites derive the bulk of their capital input not from sales of products or services rendered, but rather grants and donations:.

2010-2018	Total Revenue	"Contributions" (grants/donations)	%
Spiral			
Tilth	$6,633,726	$6,558,480	99%
Adamah	$21,428,957	$19,746,215	92%
Slickers	$8,440,059	$7,867,962	93%

Figure 49 - Percent revenue from grants and donations, 2010-2018

[519] Chiara Tornaghi, "Urban Agriculture in the Food-Disabling City: (Re)Defining Urban Food Justice, Reimagining a Politics of Empowerment," *Antipode* 49, no. 3 (2017): 781–801, https://doi.org/10.1111/anti.12291.

Grant funding is not seen by most nonprofit managers as generally a sustainable income source however[520], and instead they look to defray it via social ventures and service-based income. As Tilth's deputy director put it:

> "Yeah, the biggest success stories I feel like are the organizations like Urban Tilth, like Planting Justice that have been able to use an entrepreneurial ends, to have social enterprises that generate income to be able to fund some of the work, a portion of it. So they're not completely and entirely dependent upon grants, or funding or foundations or the generosity of people outside of the, you know, the efforts, basically, that the efforts are creating a bit of a parachute to slow down the burn rate of funding, you're not entirely self-sufficient, but you know, even a little bit helps. So those models have really, over time, have survived and have been able to flourish."[521]

This hints at the kind of hybridization that theorists have argued allows moral economies to survive in capitalist surroundings.

Spiral Gardens (Money)

Spiral's UA activities on the community garden side are underwritten by the income from the nonprofit nursery, and in its early years, a farm stand (for which they received a grant) that would resell purchased produce to provide a point of access in what was considered at the time a "food desert." At their inception, the food justice orientation (beyond having Food Security Project in the name) was explicit on their 2004 website: "The Farm is dedicated to food production, and in contrast to our Nursery and Produce Stand, this food is not for sale. The harvest is shared between the volunteer growers, low-income senior residents in the adjacent apartments, and other neighborhood folks who need it. While we are actively encouraging people in the immediate neighborhood to come work on the farm, anyone is welcome to volunteer, gain skills, and share in the harvest."[522] Miller explained:

> "We did a nursery because we knew we couldn't do a self-supporting farm here. And you know, a lot of people don't do in a self-supporting way they do it based on grants and stuff. But I don't find that to be sustainable either. As soon as the funder changes their goals, or whatever, that's it for your program, unless you can scramble and kickstart or find some other way to do it. So, you know, we've always tried to do on the social enterprise model where it's self-supporting. And that keeps us honest, too, because a lot of times with these kind of programs, they're like saying, 'Oh, this is how you do urban gardening,' but they never have in the context of actually being a functional production thing … it's not just like a quaint little garden project, you know, that it's actually trying to be a real source of starts and genetics and … materials for people to seriously grow food."[523]

---

[520] "City Slicker Farms 2006 Annual Report."
[521] Boisvert, Interview with Adam Boisvert.
[522] http://spiralgardens.s.m6.net/foodgrdn.htm, 7/22/2004
[523] Miller, Interview with Daniel Miller.

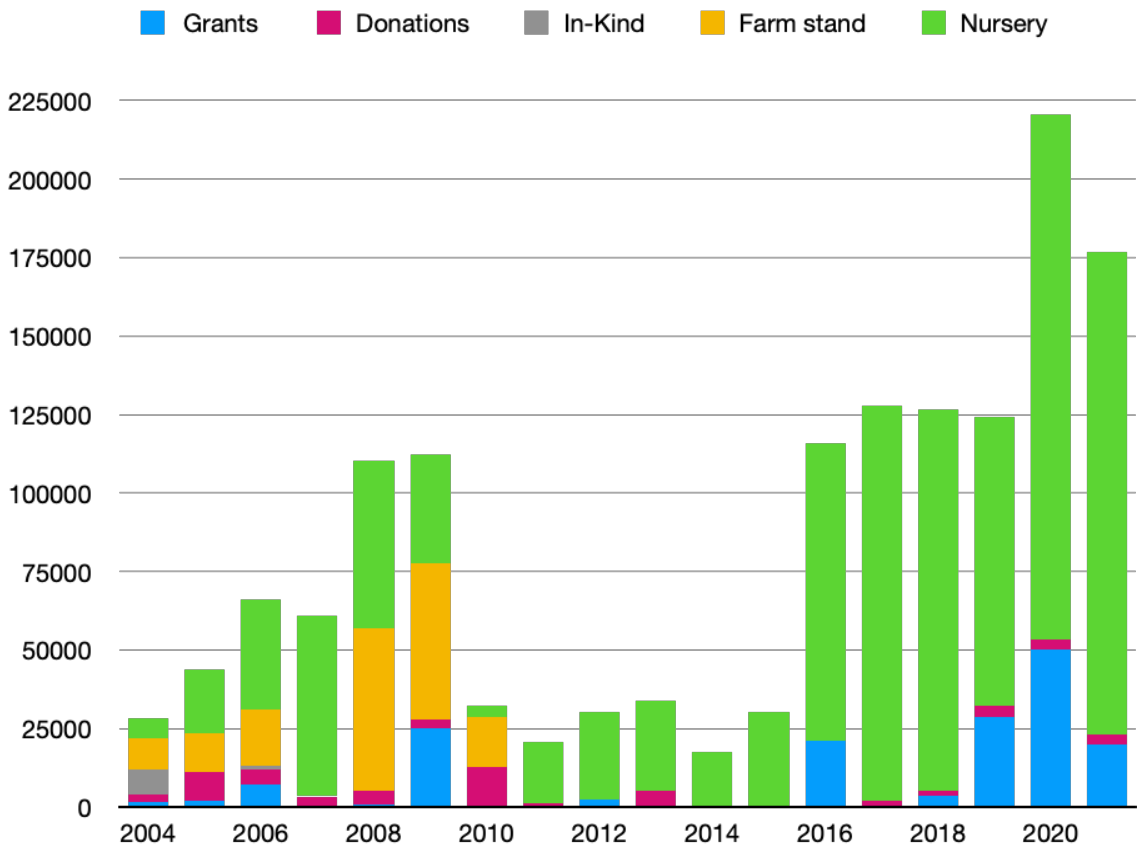

Figure 50 - Spiral Gardens income sources, 2004-2020

Figure 50, using numbers from Spiral's QuickBooks profit/loss reports, shows the income the site has derived from various sources and its clear reliance on the nursery proceeds, as opposed to grants and donations. Also apparent is the doubling of nursery business in 2020-21 during the pandemic, when interest in home gardening dramatically increased. Compared to a rural context, the urban cost of living is a large financial burden, which is so high in the Bay Area that running such a business, even in the absence of exorbitant rent given their cheap land license, is prohibitively difficult. "Well, the hardest thing right now is fitting into the current economy. Things are so expensive, especially here, like if we were some in some other state, it might not be the case as much. But here, particularly in the Bay Area, you know, cost of living rivals Manhattan."[524]

Urban Tilth (Money)

Tilth has, throughout its organizational lifespan, been overwhelmingly grant and donation funded as can be seen in figure 51, although in recent years since the acquisition of the NRF their service revenue stream, such as farm stand sales, have begun to provide a small percentage. Their deputy director Adam Boisvert maintains that increasing this marketing is an essential piece of their stability:

[524] Miller.

"You look at with Planting Justice is doing over in East Oakland, you look at what we're doing over here in North Richmond, our CSA box program has had a lot of success, it's really more than doubled our staffing, having a social enterprise having a social entrepreneurial project. Yeah, and I feel like that's kind of like the, you're dipping a little bit into capitalism, but you're kind of meeting the situation where it's at, you gotta be able to finance your efforts and this paradigm. So without those things, you're really dependent upon unreliable resources, you're dependent upon grants, you're dependent upon funding, you're dependent upon people who may or may not be around, you know, in three or four years."[525]

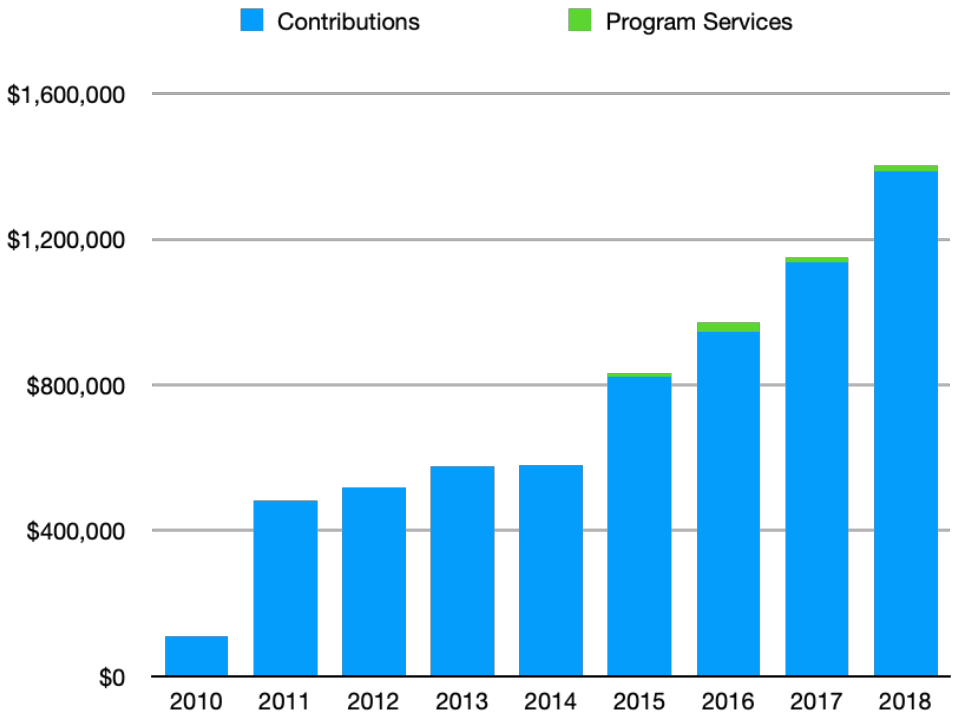

Figure 51 - Tilth income sources, 2010-2018

As mentioned in the FHL chapter, such funding is also more difficult to secure for Black nonprofit managers, a problem for community members of color competing with white grant seekers to fund their food sovereignty operations. Boisvert relates that for Doria Robinson, a Black woman and longtime Richmond resident:

"Historically, definitely, that's the case. However, more recently, we are really happy to have found a network of funders that are actually privileging organizations that are Black owned or Black run. And that's actually one of their first criteria. And it's like, Oh, my God, we just had to hang on long enough to find these resources. And, yeah, and so, recently, it's become … a good thing, that we have a Black woman in charge of the organization, you know, whereas before, I think Doria really was struggling with other people in the community, other nonprofits that are white led for the same funds and you know, not selected, so it's like, that definitely was the case for a long time. And if it

[525] Boisvert, Interview with Adam Boisvert.

wasn't for Doria's tenacity, and her perseverance through all of it, we wouldn't be anywhere. Yeah, anywhere. Really. She really had to kind of carve out a place in the East Bay for us. And she did it with her bare hands. And yeah, it's, it's pretty remarkable."[526]

City Slicker Farms (Money)

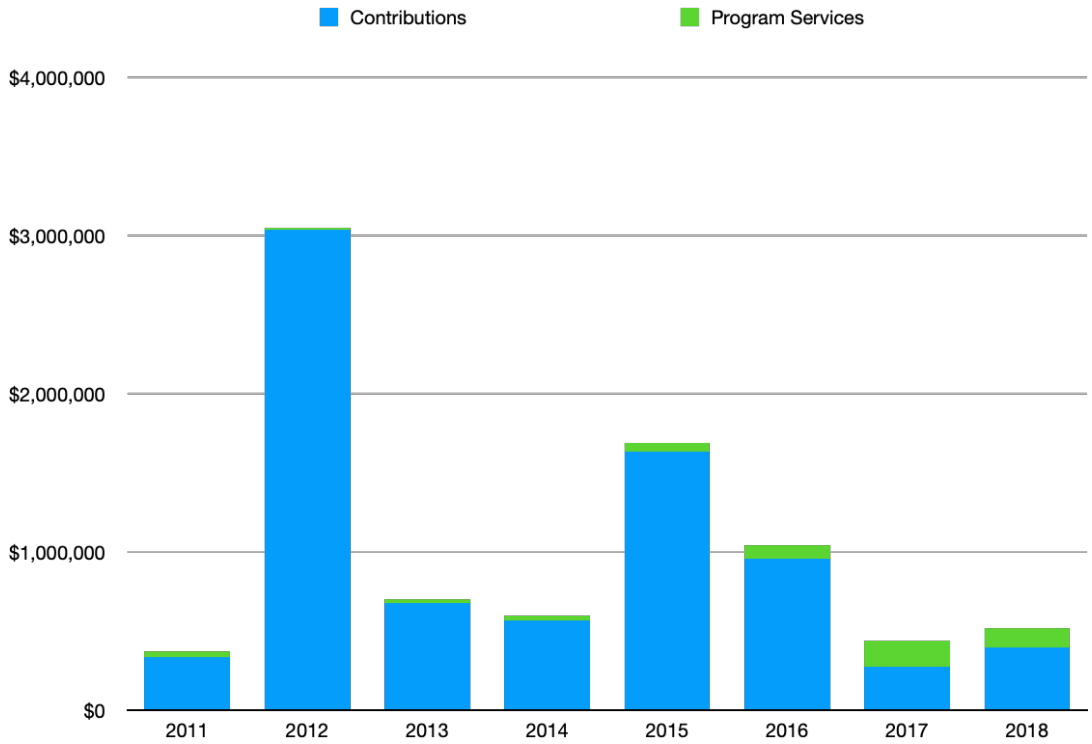

Figure 52 - CSF income sources, 2011-2018

CSF has, from the beginning, taken a donation and grant based approach to growth, as can be seen in figure 52, which details revenue sources as reported in annual tax returns. Revenue producing program services such as garden builds and consulting have always been a minimal, though important, part of their access to money, as compared to soliciting community, foundation, business, and government support. An article written during CSF's acquisition of the WOFP describes this strategy:

> "As of the afternoon of June 3, the campaign had garnered over $18,000 in tax-deductible donations. In order to receive any of the cash, though, the nonprofit must reach its $25,000 goal by June 15. That amount is admittedly a small portion of the $1 million in additional funding that City Slicker is currently raising through grants and major donors. But crowdfunding has been key to the nonprofit's efforts to engage local residents and to provide those they serve with a sense of direct investment, says development and communications manager Cora Lee Garcia."[527]

[526] Boisvert.
[527] contributor, "City Slicker Plans to Create New West Oakland Farm."

A more detailed view can be seen by examining their 2021 income sources, derived from CSF spreadsheet data, as seen in figure 53:

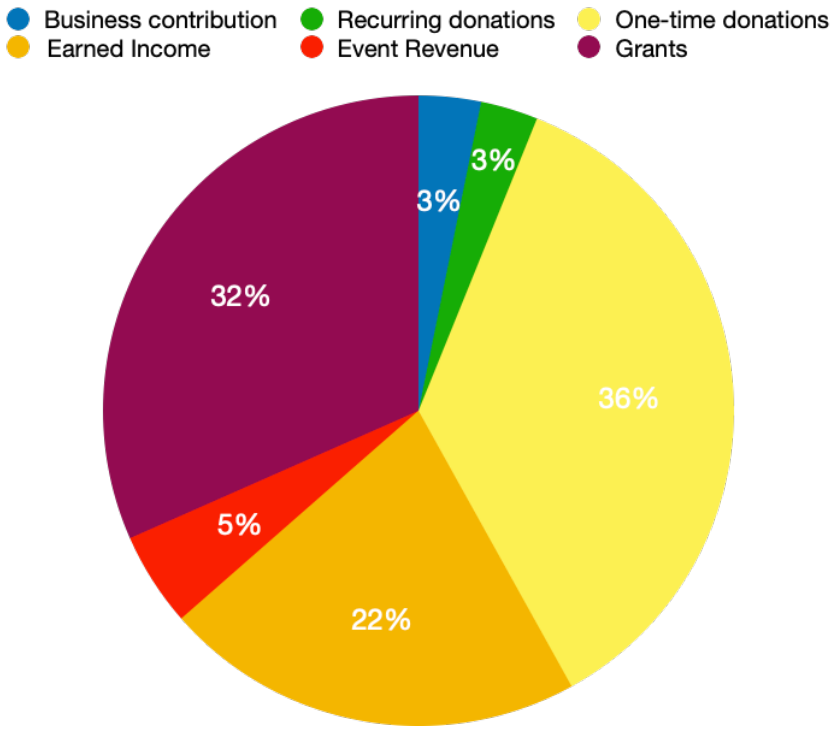

Figure 53 - CSF 2021 income pie chart

Small, household recurring donations are small, while grants and sizable one-time donations make up the bulk of contribution funding. Consulting and garden builds provide earned income, while corporate workdays and park rentals for private events provide an additional source, though one that – because of their awareness of how privatizing such spaces fits into their politics – they are loathe to use frequently, much less as a substantial means of their income.

Urban Adamah (Money)

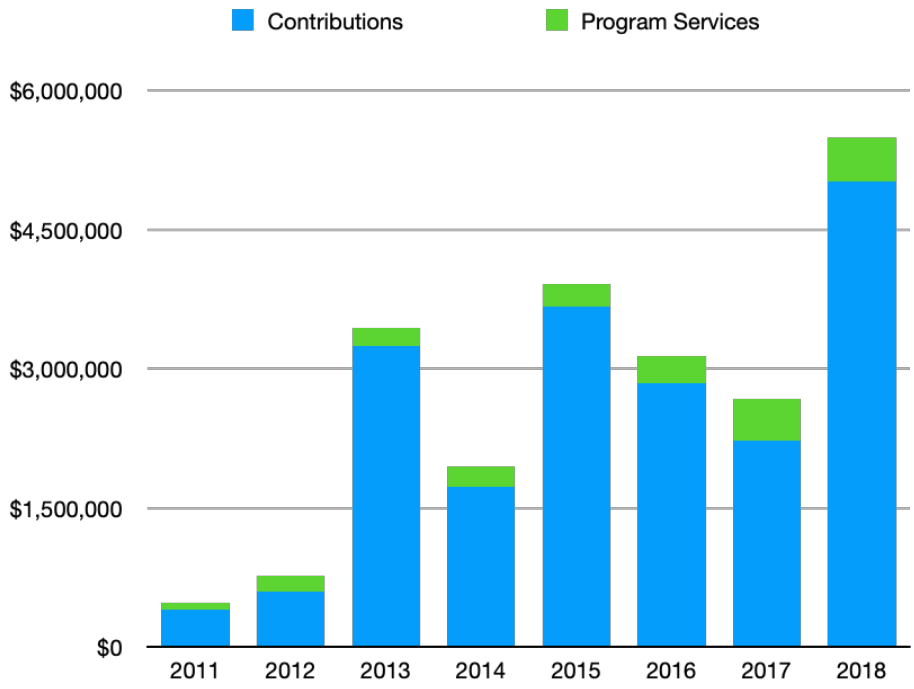

Figure 54 - Adamah income sources, 2011-2018

When they began at their temporary West Berkeley Site, a Berkeleyside article titled "Faith-Based Urban Farm Opens in Berkeley" observed that "The annual budget for the farm is around $360,000. Public programs are slated to bring in about $15,000 a year and fellows pay $1,200 each to attend the leadership training, but Berman still needs to raise significant funds to keep the nonprofit farm afloat. To date, core support has come from The Dorot Foundation, Walter and Elise Haas Fund, Nathan Cummings Foundation, Repair the World, Saal Family Foundation and UpStart Bay Area."[528]

Adamah is now by far the best monetized of the groups; a massive infusion of capital in order to acquire the North Berkeley site can be seen in figure 54 in 2013, and again in 2018 as further capital campaigns to fund the continued buildout of the site with the 32-guest residence hall and the community gathering center were undertaken. A not insignificant portion of their income also comes from program services related either to their community building and education activities, or renting out the farm or their residence hall for private events. For example, as of this writing, Adamah's site states that "Celebration rentals are $4,800 for eight hours of exclusive use of our entire campus."[529] Even so, figure 55 – a breakdown of their 2018 tax filing shows that the overwhelming majority comes from non-governmental private grants and donations.

[528] Sarah Henry, "Faith-Based Urban Farm Opens in Berkeley," Berkeleyside, June 20, 2011, https://www.berkeleyside.org/2011/06/20/faith-based-urban-farm-opens-in-berkeley.
[529] "Celebration Rentals," Urban Adamah, accessed January 4, 2023, https://urbanadamah.org/rentals/celebration-rentals/.

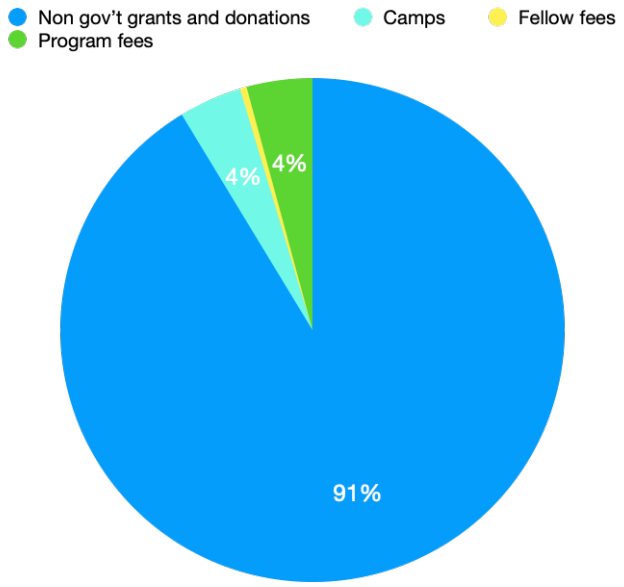

Figure 55 – Adamah 2018 funding breakdown

This has created tension within the food justice community, because Adamah reads as a totally "white" organization, and so can be considered by some as a sort of paternalistic community uplift arm at best, or worse associated with the system of oppression by those who feel they are resisting a system of food apartheid. The current Adamah farm director relates feeling that tension when she first considered the position: "I really see Urban Adamah as my like, first hint, as soon as I walked in and was thinking about the job was like, 'Oh, this would just be like a center for resource allocation.' Because I think the feel of Urban Adamah in the community - I know it is - is like 'They're the Jews, they have a lot of money.'"[530] Since joining, they have taken a more nuanced view:

> "I've had to adapt because I when I first started here, it wasn't even thinking about applying for the job. It just didn't feel like this was going to be kind of my like, rootsy place. And for many reasons decided to and then was like, 'Oh, I think this could be like simpatico in terms of my teaching and farming experience.' And so I definitely came up with some preconceived notions, many of which are true, but most importantly the best thing that Urban Adamah could possibly do with the resources that we do have is to give away whatever we can - to redistribute it."[531]

[530] Interview with Urban Adamah Farm Director, November 27, 2022.
[531] Interview with Urban Adamah Farm Director.

Conclusions: The UAQ moving forward

	Land	Labor	Money
Spiral	Nominal land licensing fee approved by City of Berkeley	Co-owners, handful of paid staff, almost entirely volunteer	Nonprofit nursery proceeds, produce resell stand, few grants
Tilth	Manages Richmond City Greenway and school sites, purchased NRF	Average: 47 employees, 1,100 volunteers/year	Grants and donations, small service fees
Adamah	Temporary (donated) West Berkeley plot, then purchased North Berkeley site	Average: 49 employees, 100 volunteers/year	Grants and donations, small service fees
Slicker	Managed a park, backyards, school sites, then purchased and consolidated on the WOFP	Average: 14 employees, 567 volunteers/year	Grants and donations, CSA cooperative, some service fees

Figure 56 - UAQ Summary Chart

What is clear from the general trend among practitioners of UA in general and those in the examined sites (summarized in figure 56) is that UA, while situated within an urban neoliberal market hegemony, endeavors – to varying degrees, depending on the model and focus – to operate largely outside of capitalist logic. Not only would UA not make market economic sense given the land values and economies of scale of rural agriculture, but UA subscribes to a food sovereignty rooted social justice agenda that intends to supplant the corporate food regime, and thus remedy the food apartheid generated by racial capitalism. By plying multiple non-market or "moral economic" sources for its inputs, especially as it relates to land, labor, and money – Polanyi's "fictitious commodities" – UA staves off the complete market accumulation and enclosure that defines depeasantization, even as it plies various market mechanisms to remain viable, a la the "hybridized" peasants debated by Lenin and Chayanov a century ago. From this observation, I draw two main conclusions to be discussed here.

The first is that despite the prognostications of those who see the disappearance of peasantry, the peasantariat has evolved to fill interstitial spaces - both in a literal sense in terms of cultivating urban fallows, and economically by addressing areas where markets have failed. Some would argue this fills the gaps left by neoliberalism and thus helps support its agenda by staving off the political crises it would otherwise produce, and that "contrary to romanticised narratives, autonomy struggles are not necessarily counter-hegemonic because it is perfectly possible for them to be successful while leaving the neoliberal food regime intact."[532] This would only end up producing the "feel-goodism" that Bernstein so scorns without the structural change necessary for a truly alternative food system, much less the triple sovereignty discussed in the

[532] Sankey, "From Survival to Self-Governance."

CSI chapter. However, we can see it is also an opportunity to use community power to shape the infrastructure created, as with Tilth's organization against the nearby warehouse development and both Tilth and CSF's community driven land design plans for their educational farm parks; at the regional level, this echoes the community reconfiguration of the EBMUD expansion plans related in the CSI chapter. As McClintock (2011) aptly put it, "The passion and vigor with which food justice activists break new ground in the urban fallows in Oakland and elsewhere must therefore extend to rethinking and rebuilding the metropolitan and regional food system in its entirety—production, but also processing, distribution, retail, and waste recovery—in both urban and peri-urban areas."[533]

The second is that, as the popularity of UA grows, the *possibility* of repeasantization at such a scale does as well. To the extent that non-capitalist forms of production and organization proliferate, and begin to fill economic spaces that had previously been subsumed under capitalist frameworks, those involved form a new class of urban peasantry. In discussions about the viability of upscaling East Bay UA, the clear example of Havana is often disregarded as non-applicable to the US context as it exists within a vastly different political system, one that would be willing to dedicate state resources to large scale urban production. However, as we saw above, some of these organizations (like Tilth) are tapping into millions of state dollars to reshape the local park and peri urban infrastructure.

Most recently, as a result of the COVID-19 sheltering in place, we have seen a dramatic expansion of interest in UA. This has taken various forms - community gardens have seen an upsurge in interest and volunteer labor; nurseries have seen their inventories emptied by people starting their own "victory gardens"[534] (recalling the common practice of doing the same to boost domestic production during WW2 - perhaps because our struggle with adapting to COVID-19 is often likened to a war). z Kanchan, a farm employee at Spiral, noted that their business had doubled; similarly, Boisvert at Tilth stated it was a time of major expansion for them, and Tilth through its "Just transition" work has just recently received a $10 million grant from the state for climate related projects, which it will use "to expand its work around Richmond, including turning an empty lot on the southside into another community garden for folks along the Richmond Greenway."[535] As I argue in the CSI chapter, agroecological urbanism is becoming conceivable, if not currently in the Overton Window of political activity, i.e. Gramscian war of maneuver.

There are many critical questions to be asked as these movements continue forward, perhaps most crucially how they can avoid the pitfalls of the past. The end of the Freedom Farmer Cooperatives, the collapse of the once-ascendant UA organization Growing Power, and the struggles of local advocacy groups such as Food First all point to a variety of lessons around reliance on grant funding, charismatic leadership, centralized power, and competing theories of change. In my assessment, what is currently absent is the municipal leadership to provide infrastructure not just for these organizations to work together collectively, at regional scale, sharing data and resources, but also governance infrastructure that transcends the current NPIC-derived leadership models, and provides a vehicle for broad community control and mass

[533] McClintock, "Cultivation, Capital, and Contamination."
[534] Hayden-Smith, Rose. Sowing the Seeds of Victory: American Gardening Programs of World War I. McFarland, 2014.
[535] Pete Suratos • •, "East Bay Nonprofit to Receive $10 Million in Climate Change Fight," *NBC Bay Area* (blog), accessed January 4, 2023, https://www.nbcbayarea.com/news/local/climate-in-crisis/richmond-nonprofit-to-get-millions-climate-change/3062598/.

empowerment. Food sovereignty organizations cannot alone simply work towards community self-sufficiency; "the strategy of autonomy alone is insufficient for building counter-hegemonic movements. Leadership strategies are critical in shaping the political direction of autonomy movements."[536] By building the capacity for broad municipal community participatory planning, emergent agroecological urbanist complexities will be possible that could not be visioned or implemented by organizations or individuals alone.

"It's clear that the struggle for justice should never be abandoned because of the apparent overwhelming power of those who have the guns and the money and who seem invincible in their determination to hold on to it. That apparent power has, again and again, proved vulnerable to human qualities less measurable than bombs and dollars: moral fervor, determination, unity, organization, sacrifice, wit, ingenuity, courage, patience--whether by blacks in Alabama and South Africa, peasants in El Salvador, Nicaragua and Vietnam, or workers and intellectuals in Poland, Hungary and the Soviet Union itself. No cold calculation of the balance of power need deter people who are persuaded that their cause is just … We don't have to engage in grand, heroic actions to participate in the process of change. Small acts, when multiplied by millions of people, can transform the world."[537]

[536] Sankey, "From Survival to Self-Governance."
[537] Howard Zinn, "The Optimism of Uncertainty," *Amass* 13, no. 4 (2009): 12–14.

Chapter 5 (Conclusion): Some Final thoughts.

One of the central arguments for urban agriculture (UA) as a means of community revitalization was that it would create farming-related activity, carried out by marginalized populations in underserved areas, and result in an upscaling of local farm production commensurate with access to land. Crucially and perhaps most nebulously, it was hoped that as an alternative to the corporate food regime, UA would operate on some form of moral economy, thereby creating equitable food sovereignty – community self-sufficiency and control of the means of food production, including democratic governance. However, the conflicts and contradictions described by multiple theorists and in these preceding chapters, while not rendering UA infeasible or making it only a marginal force in local political discourse, have still prevented its upscaling to the level of agroecological urbanism, wherein farming is a significant driver of both these organizations' operations and related regional urban planning decisions. One can debate what would "objectively" constitute self-sufficiency or sovereignty in a given community, but none of the organizations studied has seen their local areas come close to achieving such a goal even by their own stated goals and measures. There are multiple overlapping issues at multiple scales producing this outcome; I discuss some prominent ones here.

First, the model used to manage and run these endeavors has, in every study case mentioned, been the 501c3 nonprofit organization employing a standard corporate structure and titles, with a vertical authority hierarchy. As described in the section on the Nonprofit Industrial Complex, growth of the organization ("nonprofit development") became a primary goal for all but Spiral Gardens, in which "telling a story" that will secure funding often produces "mission drift" towards providing services other than maximizing food production. These include community and cultural programming, education, park maintenance and beautification, and more recently, ecological restoration and climate change remediation. While they are not goals incompatible with upscaling farming, and they do secure funding that supports the associated UA activity, they generate and lock in a different set of land and labor force outcomes. It also expands organizational reliance on a world of donors and grant makers that remains dominated by the white and privileged, whose prerogatives then effectively set the agendas that can be carried out by the activities they choose to fund.

Spiral Gardens, as the sole site that operated most years without grant funding has also been throughout the time studied the smallest in budget and staff, never reaching the size of the other three. Urban Adamah and Urban Tilth, which have both maintained the same leadership over near the entire lifetime of the organizations, have managed to grow substantially using a combination of community legitimacy (ethnic and/or or neighborhood solidarity) and the farm park model. While they highlight food production in their story as a prime driver of their activity, their land use decisions – as discussed in the FHL chapter – reflect instead the social programming and park aspects of their operations. City Slicker Farms, while using the same farm park model, had a revolving door of executive director leadership compared to the other groups, and after consolidation at the WOFP has also not seen the growth of Tilth or Adamah, instead contracting to the point that it may be absorbed into another organization.

Second, access to farming at scale in an urban context – as measured in acres – is often only possible to secure via park creation, as with the Richmond Greenway or the West Oakland Farm Park. By applying for funding for such sites, or by building on sites under the jurisdiction

of parks and recreation, one can access significant amounts of both land and money that would be out of reach were one in the business of simply farming, i.e. maximizing food production, but it also severely restricts the area that can be cultivated. When organizations bought their sites with no such land use restrictions, as with Urban Adamah's North Berkeley farm or Urban Tilth's North Richmond Farm, only peripheral industrial land is typically financially viable, and even then the sites are still built as "educational" farm parks rather than dedicating their full acreage to food production to address "food security" – the stated number one priority of East Bay UA operations.

Third, over the last decade in particular (after the housing market crash) many of the urban areas that constituted the "food deserts" which sovereignty efforts were meant to address have been gentrifying, such as the neighborhoods around Spiral Gardens and City Slicker Farms. The local constituencies that these organizations represent are altering, away from marginalized populations suffering under food apartheid, and towards more privileged residents that find goods and services following them, and often even preceding their arrival as part of mixed-use development. Many of the residents in the surrounding neighborhoods that would presumably be the volunteer base are no longer the same community members they were a decade or two before, and it also complicates the community uplift and food access "story" such an organization uses to attract donor funding. When the communities that these operations serve are consulted for site buildouts, maximized food production is not at the top of their list whatever the mission statement of the organization, nor is the creation of field worker jobs requested or expected. Given a land base and money for development, communities suggest a variety of social service and park aspects they find lacking in their areas (café, food stand, community center, grass fields) that in turn removes land on that site from cultivation.

Fourth and perhaps most importantly, as discussed in the FHL chapter, this restriction on the land base is in part not an issue because of the overriding problem that the sites universally face: field labor. Initially, land access was among the most discussed obstacles to achieving an upscaled UA presence. However, as I observed these organizations' development it quickly became clear that the skilled labor necessary to farm even the accessible areas fully and intensively was not forthcoming. The portrayal of field labor as unskilled, menial, and lacking in status, as well as the trauma associated with field labor in African American history, requires that it be recast in the UA world as educational, recreational, or a means of community building. A few skilled workers will manage the farm in such a way that most of the labor can be performed by inexperienced volunteers or children, thus overdetermining the forms of agriculture that can take place. While the worker-owned cooperative model provides a way to 'elevate' the field worker position in our de-agrarianized labor hierarchy to co-owner, the nonprofits themselves do not operate as such, and still perpetuate a culture of white collar "professionalization" that places field labor at the bottom of a skill hierarchy. Embedded, then, in the expansion of this model is an unspoken naturalizing of the current caste-based labor system, despite it conflicting with the stated goals of transforming this system.

Finally, this labor structure leads to issues with institutional sustainability. When those who fill leadership roles have longstanding community legitimacy, and maintain longevity with the organization, as with Spiral, Tilth, and Adamah, the organizations can be stable and even grow to national prominence – until the executive leadership somehow is lost or cannot personally manage the extent of their operations, and both the skill sets and social networks the leader cultivated during their time at the helm cannot be replaced or replicated. This process can be seen in multiple food justice organizations that went through periods of rapid expansion, built

up a sizable professional staff, and then hit periods of crisis and even collapse, such as with Fannie Lou Hamer and the Freedom Farm Cooperatives, or Will Allen and Growing Power. The reasons vary by organization, location, and representation - as one can see with the demise of Food First, an East Bay area food justice organization, even a group that is a model of inclusivity from and diversity standpoint can still struggle with stability when power becomes concentrated.

These conflicts, obstacles, and paradoxes haunt East Bay UA, leading even many advocates and professionals working in these organizations to conclude privately (though they rarely, if ever, say so explicitly) that the prospect of UA-based food sovereignty, at least in the Global North where not just the labor structure but labor culture has been proletarianized and/or professionalized, isn't realistic. Given these assumptions, few are motivated to ask questions about how UA at scale would weave into the urban organism, as this agroecological urbanist scale is not part of the general vision. As discussed in the CSI chapter, this lack of interest means that material flows at that scale are not considered a sufficiently valuable commons by the UA actors themselves, and instead are a waste disposal issue increasingly accumulated and commodified by the private market. Nathan McClintock, who has authored a number of studies on East Bay UA in Oakland, concluded at the end of his dissertation work:

"I am less sanguine about urban agriculture than I was four years ago when I got started on this project, but only somewhat so. While I am critical of urban agriculture on some levels and aware of its limitations, my goal has also been to explore its possibilities, and in doing so, to provide urban agriculture advocates with information that might help further their cause."[538]

This echoes my own experiences. On the one hand, every organization I have examined has done impressive and valuable community work, over a long span of time, engaged in mass political and ecological education, and built a foundation for a form of urban repeasantization that has extended and amplified the agroecological presence in urban green spaces. On the other hand, their models and conflicts mean that scalability is limited, structures that prevent their further expansion are reinforced and valorized, and the mode of governance limits community control of the purported commons. I began this line of inquiry in 2012 with the theory that rifts beyond the metabolic one already identified stood in the way of realizing a technologically assisted city commons rooted in agroecological urbanism, or what I am now calling a cybershire imaginary, an idea for which I did not yet have a term at the time. Briefly exploring one below – a technological rift – can help chart potential paths towards realizing triple sovereignty. Such paths will be traveled by those who are not only based in agroecological farming techniques and a moral economy that expands rather than contracts intersectional access to the commons, but also the technological and engineering approaches necessary to fully engage with and reconstruct the future urban expanse in which UA will blossom. The apparent absence of the political power to implement such visions now does not mean that they will not be increasingly relevant, and even necessary, when and if Gramscian wars of position become wars of maneuver, and new Overton windows open.

[538] McClintock, "Cultivation, Capital, and Contamination."

A Technological Rift, the Cybershire, and a Cyberpeasant Manifesto?

For many who engage in UA as an antithesis to "all this concrete," agroecology may be in the city, but is not of the city. The engineered vs. the cultivated; high modernist capitalist technocracy vs. traditional ecological indigenous governance; these are conceptual analogues of the city vs. country dichotomy critiqued by an array of authors. This technological rift – a functional and conceptual blind spot regarding the ways these starkly different technological, epistemological, and ontological frames intersect in the UA context – can create unintended consequences and contradictions. Expanding UA within an urban environment that does not integrate the UA within its metabolism as part of a larger anti-colonial technological sovereignty project can in fact reinforce and reify dominant power structures, whatever its adherents' commitment to the techniques of agroecology. As Swyngedouw observed,

> "In fact, it is exactly those "natural" metabolisms and transformations that become discursively, politically and economically mobilised and socially appropriated to produce environments that embody and reflect positions of social power. Put simply, gravity and photosynthesis are not socially produced, of course. However, their powers are socially mobilised to serve particular purposes, and the latter are invariably associated with strategies of achieving or maintaining particular positionalities of social power and express shifting geometries of social power."[539]

As described in the CSI chapter, technological sovereignty is one of the planks of community autonomy or self-sufficiency described in recent agroecology literature. While "food sovereignty has been extensively studied, debated, and reworked, technology sovereignty remains grossly underdeveloped."[540] Montenegro de Wit (2022) offers a conceptual framework for exploring the contours of what such technological sovereignty might entail, and while initiated by examining the issue of CRISPR technology in agriculture, the framework could apply to other technologies – such as automation – currently being used by the corporate food regime to shape the political ecology of food far into the future. She maintains that "technology sovereignty offers a powerful discursive claim. It insists that such hegemony is illegitimate because the design of our social system (technology included) is not the privilege of a few, but the right of all." This insistence echoes longstanding tenets of hacker culture and ethics – that information should be decommodified, and access to the processes of technological development should be universal. The contradictions and complementarities of various forms of technology with UA are far beyond the scope of this final section but form a fertile foundation for a potential wealth of future research and exploration.

Technological sovereignty in the UA context thus requires an intellectual and practical deep dive into what Haraway generally called the cyborg, and my CSI chapter focused into the cybershire, a "a new form of intersectional, regional, participatory ecological urbanity" that allows for the metropolis to develop in as yet unseen ways. What might such a cybershire be? I believe that the emergent complexities of whole communities collectively deciding such

---

[539] Erik Swyngedouw and Nikolas C Heynen, "Urban Political Ecology, Justice and the Politics of Scale," *Antipode* 35, no. 5 (November 1, 2003): 898–918, https://doi.org/10.1111/j.1467-8330.2003.00364.x.

[540] Maywa Montenegro de Wit, "Can Agroecology and CRISPR Mix? The Politics of Complementarity and Moving toward Technology Sovereignty," *Agriculture and Human Values* 39, no. 2 (June 1, 2022): 733–55, https://doi.org/10.1007/s10460-021-10284-0.

questions are far more elegant and innovative than anything I alone could project, but I will offer steps that can be taken now, as well a bit of speculation which, in the vein of Afrofuturism, provides a possible future vision that disrupts the hegemonic neoliberal dystopias which predominate.

First, those engaged in UA now see the value of, and need for, a nexus of information and material exchange at regional scale. The deputy director at Urban Tilth, reflecting on the recent pandemic experience, maintained that "the regional food shed is a priority … especially when it comes down to hard times … having some infrastructure, within a regional food shed to support people will be very, very, very valuable. … People can be siloed, people can be tunnel visioned, you know. So … there is good work involved."[541] A NRF council member agreed: "I think something that could help us out as a farm here in an urban setting as well as other farms… having a central kind of … forum for us. Some sort of a place where we can come to maybe online or even in person and, and just have conversations about, you know, what are some things that we have surplus of that we can exchange with other farms, you know, or what is it that you may not be using that we could use … it would be a great start, at least, to just bring awareness of … other projects that are happening in the in the neighborhood or in the community."[542]

Information Technology (IT), such as Geographic Information System mapping and online networking, has made slow inroads into UA; the much-decried divide (or extractive relationship) between academic institutions and their surrounding communities, and broader "digital divide," or the disproportionately low usage of IT technologies in communities of color, have created barriers. As a result, the kind of information exchange required to coordinate UA at the metro level does not take place. However, it could also, as described in the CSI chapter, immediately provide not only the framework for mass participatory planning and governance of local communities and their UA production, but also a mechanism for tracking, modeling, and visualizing the myriad materialities of flows constituting the municipal UA commons, information which could be shared with the community at large. I collaborated in 2015 with a number of local professionals – a public health professor, a community development leader, a chef, and a former CSF board member and UA activist – on the development of a nonprofit called CityFarmshare to help provide just such a networking platform. Lack of funding and other commitments drew the group apart, but some of the work was laid, including initial research and the GitHub (open-source) coding of an online application that would track vacant land lots.

Establishing and maintaining such infrastructure, not to mention the analysis and tracking of materials, would require massive amounts of labor. Bridging the rift between academia and UA with institutionalized and formal structures would provide a steady supply of motivated and supported students, who could engage in service learning and research pipelines between such UA sites and local colleges and universities. This would allow formalized (and informal) knowledge and resource exchange between these sites and local public institutions, opening up technological and educational possibilities not available to an isolated nonprofit, community group, or individual farmer. This also would allow for individuals, groups, and disciplines representing indigenous and anticolonial ontologies to help shape and craft the intersection of these technologies and the urban ecology, including the various tools available to various university and college departments such as soil and tissue analysis, remote sensing, and even computer science and engineering departments. Recent advances in these areas, and expectations

[541] Boisvert, Interview with Adam Boisvert.
[542] Interview with North Richmond Farm Council member.

about future capabilities, brings us to the purely speculative, and opens wide the door to questions about such things as indigenous artificial intelligence imaginaries and agroecological robotics (so hold onto your seats).

Municipal AI that remote senses and parses vast amounts of information regarding the materialities of flows and their connections to the ecology, guided by local and indigenous precepts and cosmovisions, and presents it to people in unprecedented ways is possible and could help guide the maintenance of a cybershire, rather than deliver algorithms to extract data value from social media users. Likewise, automation is often seen by many as the enemy of sustainable agriculture and social justice, a technology of oppression and subjugation, connected as it currently is to capitalism and large-scale mono-crop agriculture rather than agroecology, and therefore representative of a paradigm from which most UA attempts to move away. However it could also very imminently free people from some of the more menial tasks inherent in realizing a metropolitan cybershire, such as processing and transporting materials between nodes in the UA network. The exchanges in Kalundborg required not just physical infrastructure like piping but also a small, dedicated group of trucks and drivers to transport the materials; this would be necessary at scale were a massively productive, locally sourced UA system to be developed. Though driverless vehicles are still nascent technologies rife with caveats, they exist now, and it is not difficult to imagine in the very near future a fleet of autonomous municipal utility vehicles making ceaseless pickups and drop-offs between nodes in a larger web of UA activity, in much the same way that various delivery and sanitation vehicles – albeit with human drivers – do now.

George Washington Carver was called the "Father of Chemurgy"[543] because he, along with Henry Ford, envisioned a future industrial system fed by renewable inputs from farming, as did the 1938 Popular Mechanics article "New Billion Dollar Crop"[544] which described the innumerable potential uses of the fiber and hydrocarbons derived from industrial hemp. Carver represents a particular vision of Black Agrarianism at the time that saw not just food sovereignty but full material sovereignty in faming cooperatives, and thus a road towards autonomy and sustenance for the Black agrarian masses – what I am terming "triple sovereignty" now. The rise of the fossil fuel industry, urban migrations, and other factors eclipsed this possibility, but as we move in a "just transition" away from the petrochemical century towards renewable and biobased alternatives, the visions and politics of a century ago gain a new life and relevance. As discussed in the UAQ chapter, Black Agrarianism is not just a rural agrarian question, but an urban one. Carver's visions of the ability of regions to be triple sovereign becomes imaginable as a UAQ; were such materials to be distributed via a moral economy, and then the manufacturing automated by degrees, local factories could produce and distribute decommodified basic goods beyond scarcity. This would be a step towards the realization of not just the subsistence ethic that characterized the various African and indigenous moral economies, but a sustenance ethic.

This is my vision for the cybershire – one in which not only has the technological been leveraged for, not against, urban ecological health – but where people are materially liberated to find their way and their place in the world based on their passions. They have effectively become, by virtue of a system where their social reproduction is guaranteed, cyberpeasants; a Jubilee 2.0 where the shackles of wage slavery are cast off. If freedom from want sounds impossible to the average proletarian, or if African and US Black Agrarian robotics imaginaries

[543] Harold S. McNabb Jr, "George Washington Carver: Holistic Scientist for the American South," *Iowa Heritage Illustrated* 84, no. 2 (2003).
[544] Popular Mechanics, "New Billion-Dollar Crop," *Popular Mechanics Feb*, 1938, 238–238.

sound absurd to the average food justice advocate, this demonstrates the extent of false consciousness and naturalization/denial of racist technological frames that have extended from racial capitalism. In a twenty-first century where Bolivia fights to keep its lithium from neocolonial extraction and develop its own indigenous-moderated technological industries, and as African farmland and resources once again become a new site of global geopolitical maneuvering, radical new visions and transformative possibilities must be championed.

"Emancipate yourselves from mental slavery; None but ourselves can free our minds."
"Redemption Song" by Bob Marley

"I think I'm quite ready for another adventure." *Bilbo Baggins*

Bibliography

"2022-CSA-Coordinator-PT-Position-Announcement-1.Pdf." Accessed September 12, 2022. https://urbantilth.org/wp-content/uploads/2022/08/2022-CSA-Coordinator-PT-Position-Announcement-1.pdf.

"About – Planting Justice." Accessed December 27, 2022. https://plantingjustice.org/about/.

"About Us | Urban Tilth," May 2, 2012. https://web.archive.org/web/20120502075419/http://www.urbantilth.org/aboutus/.

"About Us – City Slicker Farms." Accessed October 24, 2022. https://www.cityslickerfarms.org/about-us/.

"About Your Water :: East Bay Municipal Utility District." Accessed November 30, 2022. https://www.ebmud.com/water/about-your-water.

Acey, Charisma. "Gender and Community Mobilisation for Urban Water Infrastructure Investment in Southern Nigeria." *Gender & Development* 18, no. 1 (2010): 11–26.

Acey, Charisma Shonté. "Silence and Voice in Nigeria's Hybrid Urban Water Markets: Implications for Local Governance of Public Goods." *International Journal of Urban and Regional Research* 43, no. 2 (2019): 313–36. https://doi.org/10.1111/1468-2427.12715.

Agyeman, Julian, and Jesse McEntee. "Moving the Field of Food Justice Forward Through the Lens of Urban Political Ecology." *Geography Compass* 8, no. 3 (2014): 211–20.

Akram-Lodhi, A. Haroon, and Cristóbal Kay. "Surveying the Agrarian Question (Part 2): Current Debates and Beyond." *The Journal of Peasant Studies* 37, no. 2 (April 1, 2010): 255–84. https://doi.org/10.1080/03066151003594906.

Akram-Lodhi, A. Haroon. "The Ties That Bind? Agroecology and the Agrarian Question in the Twenty-First Century." *The Journal of Peasant Studies* 48, no. 4 (June 7, 2021): 687–714. https://doi.org/10.1080/03066150.2021.1923010.

Akram-Lodhi, A. Haroon, and Cristóbal Kay. "Surveying the Agrarian Question (Part 1): Unearthing Foundations, Exploring Diversity." *The Journal of Peasant Studies* 37, no. 1 (January 2010): 177–202. https://doi.org/10.1080/03066150903498838.

Albrecht, Tamee R., Arica Crootof, and Christopher A. Scott. "The Water-Energy-Food Nexus: A Systematic Review of Methods for Nexus Assessment." *Environmental Research Letters* 13, no. 4 (2018): 043002.

Alkon, Alison Hope. *Black, White, and Green: Farmers Markets, Race, and the Green Economy*. Vol. 13. University of Georgia Press, 2012.

Allen, Robert L., and Pamela P. Allen. *Reluctant Reformers: Racism and Social Reform Movements in the United States*. Anchor Press, 1975.

Altieri, Miguel A., Nelso Companioni, Kristina Cañizares, Catherine Murphy, Peter Rosset, Martin Bourque, and Clara I. Nicholls. "The Greening of the 'Barrios': Urban Agriculture for Food Security in Cuba." *Agriculture and Human Values* 16, no. 2 (June 1, 1999): 131–40. https://doi.org/10.1023/A:1007545304561.

Altieri, Miguel A., Fernando R. Funes-Monzote, and Paulo Petersen. "Agroecologically Efficient Agricultural Systems for Smallholder Farmers: Contributions to Food Sovereignty." *Agronomy for Sustainable Development* 32, no. 1 (January 1, 2012): 1–13. https://doi.org/10.1007/s13593-011-0065-6.

Altieri, Miguel A, and Clara I Nicholls. “Scaling up Agroecological Approaches for Food Sovereignty in Latin America.” *Development* 51, no. 4 (December 2008): 472–80. https://doi.org/10.1057/dev.2008.68.

Altieri, Miguel A., and Peter Rosset. “Agroecology and the Conversion of Large-Scale Conventional Systems to Sustainable Management.” *International Journal of Environmental Studies* 50, no. 3–4 (1996): 165–85.

Altieri, Miguel A., and Victor Manuel Toledo. “The Agroecological Revolution in Latin America: Rescuing Nature, Ensuring Food Sovereignty and Empowering Peasants.” *Journal of Peasant Studies* 38, no. 3 (July 2011): 587–612. https://doi.org/10.1080/03066150.2011.582947.

Altman-Ohr, Andy. “Urban Adamah Buys Phenomenal New Site in Berkeley.” *J.* (blog), May 31, 2013. https://jweekly.com/2013/05/31/urban-adamah-buys-phenomenal-new-site-in-berkeley/.

Amadeu da Silveira, Sergio. “Aaron Swartz and the Battles for Freedom of Knowledge.” SSRN Scholarly Paper. Rochester, NY, June 1, 2013. https://doi.org/10.2139/ssrn.2399578.

Aptekar, Sofya. “Visions of Public Space: Reproducing and Resisting Social Hierarchies in a Community Garden.” *Sociological Forum* 30, no. 1 (2015): 209–27. https://doi.org/10.1111/socf.12152.

Ashby, W. Ross. “An Introduction to Cybernetics.” Chapman & Hall Ltd., 1957. http://dspace.utalca.cl/handle/1950/6344.

Ayres, Robert U., and Leslie Ayres, eds. *A Handbook of Industrial Ecology*. Cheltenham, UK ; Northampton, MA: Edward Elgar Pub, 2002.

Backyard Garden Manager. Interview with Backyard Garden Manager, August 2, 2022.

Bakker, Karen J. “A Political Ecology of Water Privatization.” *Studies in Political Economy* 70, no. 1 (March 2003): 35–58. https://doi.org/10.1080/07078552.2003.11827129.

Bazilian, Morgan, Holger Rogner, Mark Howells, Sebastian Hermann, Douglas Arent, Dolf Gielen, Pasquale Steduto, Alexander Mueller, Paul Komor, and Richard SJ Tol. “Considering the Energy, Water and Food Nexus: Towards an Integrated Modelling Approach.” *Energy Policy* 39, no. 12 (2011): 7896–7906.

Bell, Derrick A. “Who’s Afraid of Critical Race Theory.” *University of Illinois Law Review* 1995, no. 4 (1995): 893–910.

Bernstein, Henry. “Food Sovereignty via the ‘Peasant Way’: A Sceptical View.” *The Journal of Peasant Studies* 41, no. 6 (November 2, 2014): 1031–63. https://doi.org/10.1080/03066150.2013.852082.

———. “V.I. Lenin and A.V. Chayanov: Looking Back, Looking Forward.” *The Journal of Peasant Studies* 36, no. 1 (January 2009): 55–81. https://doi.org/10.1080/03066150902820289.

Berry, R. J. “Adam or Adamah?” *Science & Christian Belief* 23, no. 1 (April 2011): 23–48.

“Berryland | Urban Tilth,” August 17, 2012. https://web.archive.org/web/20120817113613/http://www.urbantilth.org/gardens/berryland/.

Bhaduri, Anik, Claudia Ringler, Ines Dombrowski, Rabi Mohtar, and Waltina Scheumann. “Sustainability in the Water–Energy–Food Nexus.” *Water International*. Taylor & Francis, 2015.

"Biosolids :: East Bay Municipal Utility District." Accessed November 20, 2022. https://www.ebmud.com/wastewater/collection-treatment/wastewater-treatment/biosolids.
Bobrow-Strain, Aaron. *Intimate Enemies*. Duke University Press, 2007.
Boisvert, Adam. Interview with Adam Boisvert, December 2022.
Bollier, David. "Commoning as a Transformative Social Paradigm." In *The New Systems Reader*. Routledge, 2020.
"BOSS Urban Gardening Institute Application Statement," November 25, 2002.
Bowles, Samuel, Herbert Gintis, and Peter Meyer. "EDUCATION, IQ, AND THE LEGITIMATION OF THE SOCIAL DIVISION OF LABOR." *Berkeley Journal of Sociology* 20 (1975): 233–64.
Braun, Adee. "The 19th-Century Night Soil Men Who Carted Away America's Waste." Atlas Obscura, 06:00 400AD. http://www.atlasobscura.com/articles/when-american-cities-were-full-of-crap.
Brenner, Neil, and Roger Keil. "'From Global Cities to Globalized Urbanization.'" In *The City Reader*, 5th ed. Routledge, 2011.
Brint, Steven. "Professionals and the Knowledge Economy': Rethinking the Theory of Postindustrial Society." *Current Sociology* 49, no. 4 (2001): 101–32.
Brones, Anna. "Food Apartheid: The Root of the Problem with America's Groceries." *The Guardian*, May 15, 2018, sec. Society. https://www.theguardian.com/society/2018/may/15/food-apartheid-food-deserts-racism-inequality-america-karen-washington-interview.
Burke, Garance. "Despite Economy, Americans Don't Want Farm Work." Associated Press. Available online: https://www. cbsnews. com/news/despite …, 2010.
Burros, Marian. "Obamas to Plant Vegetable Garden at White House." *The New York Times*, March 20, 2009, sec. Food. https://www.nytimes.com/2009/03/20/dining/20garden.html.
Byres, T. *Capitalism from Above and Capitalism from Below: An Essay in Comparative Political Economy*. Springer, 1997.
Byres, T. J. "The Agrarian Question, Forms of Capitalist Agrarian Transition and the State: An Essay with Reference to Asia." *Social Scientist* 14, no. 11/12 (November 1986): 3. https://doi.org/10.2307/3517162.
Cadieux, K. Valentine, and Rachel Slocum. "What Does It Mean to Do Food Justice?" *Journal of Political Ecology* 22 (2015): 1.
Cadora, Karen. "Feminist Cyberpunk." *Science Fiction Studies*, 1995, 357–72.
Calo, Adam. "The Yeoman Myth: A Troubling Foundation of the Beginning Farmer Movement." *Gastronomica* 20, no. 2 (May 1, 2020): 12–29. https://doi.org/10.1525/gfc.2020.20.2.12.
———. "Who Will Do the Labor in an Agroecological Transition?" *Agroecology and Sustainable Food Systems* 45, no. 10 (November 26, 2021): 1582–85. https://doi.org/10.1080/21683565.2021.1952364.
Calvário, Rita. "Food Sovereignty and New Peasantries: On Re-Peasantization and Counter-Hegemonic Contestations in the Basque Territory." *The Journal of Peasant Studies* 44, no. 2 (March 4, 2017): 402–20. https://doi.org/10.1080/03066150.2016.1259219.
Canny, Autumn L. "Lost in a Loophole: The Fair Labor Standards Act's Exemption of Agricultural Workers from Overtime Compensation Protection." *Drake J. Agric. L.* 10 (2005): 355.

US EEOC. “Cardinal Health and AppleOne Settle EEOC Race Harassment / Retaliation Lawsuit.” Accessed October 27, 2022. https://www.eeoc.gov/newsroom/cardinal-health-and-appleone-settle-eeoc-race-harassment-retaliation-lawsuit.
Carney, Judith. “The African Origins of Carolina Rice Culture.” *Ecumene* 7, no. 2 (April 1, 2000): 125–49. https://doi.org/10.1177/096746080000700201.
Carney, Judith Ann. “Black Rice.” In *Black Rice*. Harvard University Press, 2001.
Carney, Judith, and Richard Nicholas Rosomoff. *In the Shadow of Slavery: Africa’s Botanical Legacy in the Atlantic World*. Univ of California Press, 2011.
Urban Adamah. “Celebration Rentals.” Accessed January 4, 2023. https://urbanadamah.org/rentals/celebration-rentals/.
Chayanov, Alexander V. “The Theory of Peasant Economy, D. Thorner, B. Kerblay and REF Smith.” Manchester University Press, Manchester, 1986.
“City of Berkeley Revenue Contract, 8/12/2003,” August 2003.
“City Slicker Farms - 5/25/2010,” May 25, 2010. https://web.archive.org/web/20100525235348/http://www.cityslickerfarms.org/.
“City Slicker Farms - 9/11/2019,” September 11, 2019. https://web.archive.org/web/20190911093715/http://www.cityslickerfarms.org:80/index.php.
“City Slicker Farms - 10/12/2018,” October 12, 2018. https://web.archive.org/web/20181012012744/http://www.cityslickerfarms.org/.
“City Slicker Farms 2006 Annual Report,” 2006.
“City Slicker Farms 2008 Annual Report,” 2008.
“City Slicker Farms 2012 Annual Report,” 2012.
“City Slicker Farms Prop 84 Press Release,” November 10, 2010. https://www.kaporcenter.org/wp-content/uploads/2010/11/2010-City-Slicker-Farms-Awarded-Prop-84-Funding.pdf.
“City Slicker Farms West Oakland Farm Park: Grand Opening - Ecology Center.” Accessed October 3, 2022. https://ecologycenter.org/events/city-slicker-farms-west-oakland-farm-park-grand-opening/.
Clapp, Jennifer. “Food Self-Sufficiency: Making Sense of It, and When It Makes Sense.” *Food Policy* 66 (January 1, 2017): 88–96. https://doi.org/10.1016/j.foodpol.2016.12.001.
Coates, Ta-Nehisi. “The Case for Reparations.” In *The Best American Magazine Writing 2015*, 1–50. Columbia University Press, 2015.
Cohen, Abra. “Talking with A Willow with a Green Thumb.” *J.* (blog), March 28, 2014. https://jweekly.com/2014/03/28/talking-with-a-willow-with-a-green-thumb/.
contributor, Guest. “City Slicker Plans to Create New West Oakland Farm.” *Berkeleyside* (blog), June 4, 2015. https://www.berkeleyside.com/2015/06/04/city-slickers-plots-to-create-new-west-oakland-farm.
Cooksey-Stowers, Kristen, Marlene B. Schwartz, and Kelly D. Brownell. “Food Swamps Predict Obesity Rates Better Than Food Deserts in the United States.” *International Journal of Environmental Research and Public Health* 14, no. 11 (November 2017): 1366. https://doi.org/10.3390/ijerph14111366.

Corbin, C. N. E. “Enclosure-Occupations: Contested Productions of Green Space & the Paradoxes within Oakland, California’s Green City,” August 12, 2019. https://escholarship.org/uc/item/34r2d4hw.
Coronado, Gary. “To Keep Crops from Rotting in the Field, Farmers Say They Need Trump to Let in More Temporary Workers.” www.latimes.com. Accessed January 24, 2022. http://www.latimes.com/projects/la-fi-farm-labor-guestworkers/.
Cox, Chelsey. “Critical Race Theory: The Narrative Winning Local Elections for Conservatives.” USA TODAY. Accessed March 23, 2022. https://www.usatoday.com/story/news/politics/2022/02/12/critical-race-theory-local-elections/6519348001/.
Crenshaw, Kimberlé. *Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory, and Antiracist Politics [1989]*. Routledge, 2018.
Cronon, William. *Nature’s Metropolis: Chicago and the Great West*. 1st ed. New York: W. W. Norton, 1991.
Davis, Adrienne D. “The Case for United States Reparations to African Americans” 7 (2000): 5.
De la Fuente, Alejandro. “Recreating Racism: Race and Discrimination in Cuba’s ‘Special Period.’” *Socialism and Democracy* 15, no. 1 (2001): 65–91.
Desmond, Matthew. “In Order to Understand the Brutality of American Capitalism, You Have to Start on the Plantation.” *New York Times* 1619 (2019).
Dickerson, Matthew T., and Jonathan Evans. *Ents, Elves, and Eriador: The Environmental Vision of JRR Tolkien*. University Press of Kentucky, 2006.
Dinkelspiel, Frances. “Community Farm Buys 2+ Acres in West Berkeley.” *Berkeleyside* (blog), May 23, 2013. https://www.berkeleyside.org/2013/05/23/urban-adamah-buys-2-acres-in-west-berkeley.
Donnelly, Jerome. “Nazis in the Shire.” *Mythlore* 37, no. 1 (133 (2018): 81–102.
Dorsey, Cheryl, Jeff Bradach, and Peter Kim. “Racial Equity and Philanthropy,” May 2020, 19.
“Draft: Revised Program Environmental Impact Report, Water Supply Management Program 2040.” EBMUD, December 2011.
Drake, Luke. “Surplus Labor and Subjectivity in Urban Agriculture: Embodied Work, Contested Work.” *Economic Geography* 95, no. 2 (March 15, 2019): 179–200. https://doi.org/10.1080/00130095.2018.1492875.
“Drought Stages Summary.” Accessed November 21, 2022. https://www.edcgov.us/Water/documents/Stages2.pdf.
DuBois, W. E. B. *The Souls of Black Folk*. Arc Manor LLC, 2008.
East Bay Express | Oakland, Berkeley & Alameda. “EBMUD Has Yet Another Option Besides a New Mokelumne Dam,” June 3, 2009. https://eastbayexpress.com/ebmud-has-yet-another-option-besides-a-new-mokelumne-dam-1/.
Ecology Center. “Water Quality in the East Bay.” Accessed November 19, 2022. https://ecologycenter.org/wp-content/uploads/2012/05/water-quality.pdf.
Edelman, Marc. “What Is a Peasant? What Are Peasantries? A Briefing Paper on Issues of Definition.” *First Session of the Intergovernmental Working Group on a United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas, Geneva, July*, 2013, 15–19.

Ehrenfeld, John R., and Marian R. Chertow. “27. Industrial Symbiosis: The Legacy of Kalundborg.” *A Handbook of Industrial Ecology*, 2002, 334.
Elkind, Sarah S. “Industry and Water Distribution in California: The East Bay Municipal Utility District, 1920–1930.” *Environmental History Review* 18, no. 4 (1994): 63–88.
Engels, Friedrich. *Peasant Question in France and Germany*. *The Agrarian Question*. Routledge, 2021. https://doi.org/10.4324/9781003191704-4.
Eric Havens and Antonio Roman-Alcala. “Land for Food Justice? AB 551 and Structural Change.” Land and Sovereignty- Policy Brief #6. FoodFirst, 2016. https://foodfirst.org/wp-content/uploads/2016/06/UrbanAgS2016_Final.pdf.
Erisman, Jan Willem, Mark A. Sutton, James Galloway, Zbigniew Klimont, and Wilfried Winiwarter. “How a Century of Ammonia Synthesis Changed the World.” *Nature Geoscience* 1, no. 10 (October 2008): 636–39. https://doi.org/10.1038/ngeo325.
“Exempt Purposes - Internal Revenue Code Section 501(c)(3) | Internal Revenue Service.” Accessed April 1, 2022. https://www.irs.gov/charities-non-profits/charitable-organizations/exempt-purposes-internal-revenue-code-section-501c3.
Hazon. “FAQ.” Accessed May 23, 2022. https://hazon.org/adamah/adamah-fellowship-2/faq/.
WOW Farm. “Farm History,” June 15, 2012. https://wowfarm.biz/the-farm/.
Federici, Silvia. *Caliban and the Witch*. Autonomedia, 2004.
Feierman, Steven M. *Peasant Intellectuals: Anthropology and History in Tanzania*. Univ of Wisconsin Press, 1990.
“Field Notes from D-Town Farms,” 2012.
Fiskio, Janet, Md Rumi Shammin, and Vel Scott. “Cultivating Community: Black Agrarianism in Cleveland, Ohio.” *Gastronomica* 16, no. 2 (May 1, 2016): 18–30. https://doi.org/10.1525/gfc.2016.16.2.18.
Fojo, Carolina, Dayna Burtness, and Vera Chang. “Inventory of Farmworker Issues and Protections in the United States.” *Palo Alto, CA: Bon Appétit Management Company Foundation and The United Farmworkers*, 2011.
“Food Scraps Recycling :: East Bay Municipal Utility District.” Accessed November 21, 2022. https://www.ebmud.com/wastewater/recycling-water-and-energy/food-scraps-recycling.
Foster, John Bellamy. “Marx’s Theory of Metabolic Rift: Classical Foundations for Environmental Sociology.” *American Journal of Sociology* 105, no. 2 (September 1999): 366–405. https://doi.org/10.1086/210315.
“Founders Online: From Thomas Jefferson to John Jay, 23 August 1785.” University of Virginia Press. Accessed October 17, 2022. http://founders.archives.gov/documents/Jefferson/01-08-02-0333.
Francis, C., G. Lieblein, S. Gliessman, T. A. Breland, N. Creamer, R. Harwood, L. Salomonsson, et al. “Agroecology: The Ecology of Food Systems.” *Journal of Sustainable Agriculture* 22, no. 3 (July 17, 2003): 99–118. https://doi.org/10.1300/J064v22n03_10.
Frosch, R. A. “Industrial Ecology: A Philosophical Introduction.” *Proceedings of the National Academy of Sciences* 89, no. 3 (February 1, 1992): 800–803.
Galenson, David W. “White Servitude and the Growth of Black Slavery in Colonial America.” *The Journal of Economic History* 41, no. 1 (1981): 39–47.

García-Sempere, Ana, Helda Morales, Moisés Hidalgo, Bruce G. Ferguson, Peter Rosset, and Austreberta Nazar-Beutelspacher. “Food Sovereignty in the City?: A Methodological Proposal for Evaluating Food Sovereignty in Urban Settings.” *Agroecology and Sustainable Food Systems* 43, no. 10 (November 26, 2019): 1145–73. https://doi.org/10.1080/21683565.2019.1578719.

Gliessman, Steve, Harriet Friedmann, and Philip H. Howard. “Agroecology and Food Sovereignty,” July 30, 2019. https://doi.org/10.19088/1968-2019.120.

“Governance :: East Bay Municipal Utility District.” Accessed November 23, 2022. https://www.ebmud.com/about-us/board-directors/governance.

Gramsci, Antonio. *Selections from the Prison Notebooks, Edited and Translated by Quintin Hoare and Geoffrey Nowell Smith*. New York: International Publishers, 1971.

Greer, Peter, and Chris Horst. *Mission Drift: The Unspoken Crisis Facing Leaders, Charities, and Churches*. Baker Books, 2014.

Berkeleyside. “Group Aims to ‘green’ South Berkeley by Transforming Old Railroad Right-of-Way,” January 6, 2020. https://www.berkeleyside.org/2020/01/06/group-aims-to-make-south-berkeley-greener-by-transforming-the-old-railroad-right-of-way.

Grudin, Theodore Robert. “Confronting the Artinatural: Science, Wilderness and 21st Century Nature.” UC Berkeley, 2016. https://escholarship.org/uc/item/4x99d8kc.

Guérin, Isabelle, and Miriam Nobre. “Solidarity Economy Revisited in the Light of Gender: A Tool for Social Change or Reproducing the Subordination of Women?” In *Under Development: Gender*, edited by Christine Verschuur, Isabelle Guérin, and Hélène Guétat-Bernard, 286–305. Gender, Development and Social Change. London: Palgrave Macmillan UK, 2014. https://doi.org/10.1057/9781137356826_14.

Guthman, J. “Can’t Stomach It: How Michael Pollan et al. Made Me Want to Eat Cheetos.” *Gastronomica* 7, no. 3 (2007): 75–79.

Guthman, Julie. *Agrarian Dreams: The Paradox of Organic Farming in California*. California Studies in Critical Human Geography. Berkeley: University of California Press, 2004.

Haché, Alex. “Technological Sovereignty.” *For Free Information and Open Internet: Independent Journalists, Community Media and Hacktivists Take Action. Ritimo*, 2014, 165–74.

Hammack, David C. “Nonprofit Organizations in American History: Research Opportunities and Sources.” *American Behavioral Scientist* 45, no. 11 (July 1, 2002): 1638–74. https://doi.org/10.1177/0002764202045011004.

Haraway, Donna Jeanne. *Simians, Cyborgs and Women: The Reinvention of Nature*. Free Association Books, 1991.

Harkinson, Josh. “Sludge Happens.” *Mother Jones* (blog). Accessed November 21, 2022. https://www.motherjones.com/environment/2009/04/sludge-happens/.

Harlan, Louis R. “Booker T. Washington and the White Man’s Burden.” *The American Historical Review* 71, no. 2 (1966): 441–67.

Harris, Cheryl I. “Whiteness as Property.” *Harvard Law Review* 106, no. 8 (1993): 1707–91. https://doi.org/10.2307/1341787.

Harvest of Loneliness. Documentary, 2010.

Heckler, Nuri. “Whiteness and Masculinity in Nonprofit Organizations: Law, Money, and Institutional Race and Gender.” *Administrative Theory & Praxis* 41, no. 3 (July 3, 2019): 266–85. https://doi.org/10.1080/10841806.2019.1621659.

Henry, Sarah. “Faith-Based Urban Farm Opens in Berkeley.” Berkeleyside, June 20, 2011. https://www.berkeleyside.org/2011/06/20/faith-based-urban-farm-opens-in-berkeley.
———. “Urban Adamah 2.0: An Urban Farm Poised for Growth.” Civil Eats, May 5, 2014. https://civileats.com/2014/05/05/urban-adamah-2-0-an-urban-farm-poised-for-growth/.
———. “Urban Farmer Willow Rosenthal Plants Seeds in Berkeley.” *Berkeleyside* (blog), March 4, 2011. https://www.berkeleyside.org/2011/03/04/urban-farmer-willow-rosenthal-plants-seeds-in-berkeley.
Heynen, Nik. “Urban Political Ecology II: The Abolitionist Century.” *Progress in Human Geography* 40, no. 6 (2016): 839–45.
Heynen, Nikolas C., and Erik Swyngedouw. *In The Nature Of Cities: Urban Political Ecology and The Politics Of Urban Metabolism*. Taylor & Francis, 2006.
Hollinger, Veronica. “Cybernetic Deconstructions: Cyberpunk and Postmodernism.” *Mosaic: A Journal for the Interdisciplinary Study of Literature* 23, no. 2 (1990): 29–44.
Holmes, Seth M. “‘Oaxacans like to Work Bent over’: The Naturalization of Social Suffering among Berry Farm Workers.” *International Migration* 45, no. 3 (2007): 39–68.
Holt-Giménez, Eric. *A Foodie’s Guide to Capitalism: Understanding the Political Economy of What We Eat*. NYU Press, 2017.
Holt-Giménez, Eric, Annie Shattuck, and Ilja Van Lammeren. “Thresholds of Resistance: Agroecology, Resilience and the Agrarian Question.” *The Journal of Peasant Studies* 48, no. 4 (2021): 715–33.
San Francisco Business Times. “How Career Developer Rich Robbins Guided Wareham Development to Success (Video).” Accessed January 2, 2023. https://www.bizjournals.com/sanfrancisco/news/2018/11/08/rich-robbins-wareham-development-most-admired-ceo.html.
KQED. “How Does Oakland Turn Food Scraps to Soil?” Accessed November 22, 2022. https://www.kqed.org/news/10884334/how-does-oakland-turn-food-scraps-to-soil.
Hussenot, Alexandra. “The ‘Cyberpunk Movement.’” Immersionn Website, March 19, 2022. https://www.immersionn.com/post/the-cyberpunk-movement.
Hyden, Goran, and Göran Hydén. *No Shortcuts to Progress: African Development Management in Perspective*. Univ of California Press, 1983.
Iles, Alastair. “Learning in Sustainable Agriculture: Food Miles and Missing Objects.” *Environmental Values* 14, no. 2 (May): 163–83.
Iles, Alastair, and Robin Marsh. “Nurturing Diversified Farming Systems in Industrialized Countries: How Public Policy Can Contribute.” *Ecology and Society* 17, no. 4 (2012): art42. https://doi.org/10.5751/ES-05041-170442.
Interview with Adamah Fellows, November 2019.
Interview with Former NRF Council member, July 22, 2022.
Interview with North Richmond Farm Council member, June 10, 2022.
Interview with Urban Adamah Farm Director, November 27, 2022.
Isenberg, Nancy. *White Trash: The 400-Year Untold History of Class in America*. Penguin, 2017.
Jacobsen, Noel Brings. “Industrial Symbiosis in Kalundborg, Denmark: A Quantitative Assessment of Economic and Environmental Aspects.” *Journal of Industrial Ecology* 10, no. 1–2 (2006): 239–55. https://doi.org/10.1162/108819806775545411.

James, C. L. R. *The Black Jacobins: Toussaint l'Ouverture and the San Domingo Revolution*. 2. ed., Rev. New York: Vintage Books, 1989.
Jansen, Kees. "The Debate on Food Sovereignty Theory: Agrarian Capitalism, Dispossession and Agroecology." *The Journal of Peasant Studies* 42, no. 1 (January 2, 2015): 213–32. https://doi.org/10.1080/03066150.2014.945166.
Jones, Carolyn. "Berkeley Jewish Farm Mixes Agriculture, Learning." SFGATE, February 3, 2012. https://www.sfgate.com/bayarea/article/Berkeley-Jewish-farm-mixes-agriculture-learning-2975470.php.
"June 2014-August 2022 Urban Water Supplier Monthly Reports (Raw Dataset)." California State Water Resources Control Board. Accessed November 27, 2022. https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/docs/2022/uw-supplier-data100322.xlsx.
Kautsky, Karl. *The Agrarian Question: In Two Volumes*. London ; Winchester, Mass: Zwan Publications, 1988.
Kawa, Nicholas C., Yang Ding, Jo Kingsbury, Kori Goldberg, Forbes Lipschitz, Mitchell Scherer, and Fatuma Bonkiye. "Night Soil: Origins, Discontinuities, and Opportunities for Bridging the Metabolic Rift." *Ethnobiology Letters* 10, no. 1 (2019): 40–49.
Kelley, Robin D. G. *Hammer and Hoe: Alabama Communists during the Great Depression*. University of North Carolina Press, 1990.
Kennedy, C., S. Pincetl, and P. Bunje. "The Study of Urban Metabolism and Its Applications to Urban Planning and Design." *Environmental Pollution* 159, no. 8–9 (August 2011): 1965–73. https://doi.org/10.1016/j.envpol.2010.10.022.
Kim, Myeung Ju, Ho Chul Ki, Shiduck Kim, Jong-Yil Chai, Min Seo, Chang Seok Oh, and Dong Hoon Shin. "Parasitic Infection Patterns Correlated with Urban–Rural Recycling of Night Soil in Korea and Other East Asian Countries: The Archaeological and Historical Evidence." *Korean Studies* 38, no. 1 (2014): 51–74.
Kitroeff, Natalie, and Geoffrey Mohan. "Wages Rise on California Farms. Americans Still Don't Want the Job." *Los Angeles Times* 17 (2017).
Kloppenburg, Jack, John Hendrickson, and George W. Stevenson. "Coming in to the Foodshed." *Agriculture and Human Values* 13, no. 3 (1996): 33–42.
Koohafkan, Parviz, Miguel A. Altieri, and Eric Holt Gimenez. "Green Agriculture: Foundations for Biodiverse, Resilient and Productive Agricultural Systems." *International Journal of Agricultural Sustainability* 10, no. 1 (2012): 61–75.
Koont, Sinan. "A Cuban Success Story: Urban Agriculture." *Review of Radical Political Economics* 40, no. 3 (September 1, 2008): 285–91. https://doi.org/10.1177/0486613408320016.
Lamb, S, and N Allen. "Create a Garden Pond for Wildlife." *2002*, 2002, 8.
Langellotto, Gail Ann, Andony Melathopoulos, Isabella Messer, Aaron Anderson, Nathan McClintock, and Lucas Costner. "Garden Pollinators and the Potential for Ecosystem Service Flow to Urban and Peri-Urban Agriculture." *Sustainability* 10, no. 6 (June 2018): 2047. https://doi.org/10.3390/su10062047.
"Large California Water Authority to Switch to Chloramine for Disinfection." Accessed November 19, 2022. https://www.wateronline.com/doc/large-california-water-authority-to-switch-to-0001.
Latour, Bruno. *We Have Never Been Modern:* Cambridge, MA: Harvard University Press, 1993.

Lenin, Vladimir I. “The Agrarian Programme of Social Democracy in the First Russian Revolution.” *Collected Works* 13 (1907): 239.

Lindemann, Justine. “‘A Little Portion of Our 40 Acres’: A Black Agrarian Imaginary in the City.” *Environment and Planning E: Nature and Space*, October 13, 2022, 25148486221129410. https://doi.org/10.1177/25148486221129408.

Littlefield, Daniel F., and Lonnie E. Underhill. “Slave ‘Revolt’ in the Cherokee Nation, 1842.” *American Indian Quarterly* 3, no. 2 (1977): 121–31. https://doi.org/10.2307/1184177.

Liu, Jeremy. Interview with Jeremy Liu, March 4, 2020.

López-Ridaura, S, O Masera, and M Astier. “Evaluating the Sustainability of Complex Socio-Environmental Systems. the MESMIS Framework.” *Ecological Indicators*, Hyatt S.I., 2, no. 1 (November 1, 2002): 135–48. https://doi.org/10.1016/S1470-160X(02)00043-2.

“Los Vaqueros Reservoir Joint Powers Authority Formed :: East Bay Municipal Utility District.” Accessed November 30, 2022. https://www.ebmud.com/about-us/news/press-releases/los-vaqueros-reservoir-joint-powers-authority-formed.

Martinez, Rhea Trotman. “An Evaluation of the Productivity of the Native American ‘Three Sisters’ Agriculture System in Northern Wisconsin.” Thesis, University of Wisconsin-Stevens Point, College of Natural Resources, 2007. https://minds.wisconsin.edu/handle/1793/81177.

Marx, Karl, and Friedrich Engels. *The Communist Manifesto*. Penguin Classics Deluxe Edition. New York: Penguin Books, 2011.

Mascarenhas, Michael. *New Humanitarianism and the Crisis of Charity: Good Intentions on the Road to Help*. Global Research Studies. Bloomington: Indiana University Press, 2017.

Mazoyer, Marcel, and Laurence Roudart. *A History of World Agriculture: From the Neolithic Age to the Current Crisis*. NYU Press, 2006.

McClain, Paula D., Niambi M. Carter, Victoria M. DeFrancesco Soto, Monique L. Lyle, Jeffrey D. Grynaviski, Shayla C. Nunnally, Thomas J. Scotto, J. Alan Kendrick, Gerald F. Lackey, and Kendra Davenport Cotton. “Racial Distancing in a Southern City: Latino Immigrants’ Views of Black Americans.” *The Journal of Politics* 68, no. 3 (August 2006): 571–84. https://doi.org/10.1111/j.1468-2508.2006.00446.x.

McClintock, N. “Why Farm the City? Theorizing Urban Agriculture through a Lens of Metabolic Rift.” *Cambridge Journal of Regions, Economy and Society* 3, no. 2 (July 1, 2010): 191–207. https://doi.org/10.1093/cjres/rsq005.

McClintock, N., and J. Cooper. “Cultivating the Commons: An Assessment of the Potential for Urban Agriculture on Oakland’s Public Land.” UrbanFood. org, 2010.

McClintock, Nathan. “A Critical Physical Geography of Urban Soil Contamination.” *Geoforum* 65 (October 1, 2015): 69–85. https://doi.org/10.1016/j.geoforum.2015.07.010.

———. “Assessing Soil Lead Contamination at Multiple Scales in Oakland, California: Implications for Urban Agriculture and Environmental Justice.” *Applied Geography* 35, no. 1–2 (November 2012): 460–73. https://doi.org/10.1016/j.apgeog.2012.10.001.

———. “Cultivation, Capital, and Contamination: Urban Agriculture in Oakland, California.” UC Berkeley, 2011. https://escholarship.org/uc/item/2vk2w7jq.

———. “From Industrial Garden to Food Desert: Unearthing the Root Structure of Urban Agriculture in Oakland, California,” 2008.

———. “Radical, Reformist, and Garden-Variety Neoliberal: Coming to Terms with Urban Agriculture’s Contradictions.” *Local Environment* 19, no. 2 (February 7, 2014): 147–71. https://doi.org/10.1080/13549839.2012.752797.
McClintock, Nathan, and Jenny Cooper. “Cultivating the Commons an Assessment of the Potential for Urban Agriculture on Oakland’s Public Land,” 2010.
McClintock, Nathan, Christiana Miewald, and Eugene McCann. “The Politics of Urban Agriculture: Sustainability, Governance and Contestation.” In *The Routledge Handbook on Spaces of Urban Politics*, 361–74. Routledge, 2018.
McCutcheon, Priscilla. “Fannie Lou Hamer’s Freedom Farms and Black Agrarian Geographies.” *Antipode* 51, no. 1 (2019): 207–24. https://doi.org/10.1111/anti.12500.
McLaughlin, Paul. “Rethinking the Agrarian Question: The Limits of Essentialism and the Promise of Evolutionism.” *Human Ecology Review* 5, no. 2 (1998): 15.
McMichael, Philip. “Commentary: Food Regime for Thought.” *The Journal of Peasant Studies* 43, no. 3 (May 3, 2016): 648–70. https://doi.org/10.1080/03066150.2016.1143816.
McNabb Jr, Harold S. “George Washington Carver: Holistic Scientist for the American South.” *Iowa Heritage Illustrated* 84, no. 2 (2003).
McPherson, Murray B., and William J. Schneider. “Problems in Modeling Urban Watersheds.” *Water Resources Research* 10, no. 3 (1974): 434–40.
McWilliams, Carey. *Factories in the Field: The Story of Migratory Farm Labor in California*. University of California Press, 2000.
Mechanics, Popular. “New Billion-Dollar Crop.” *Popular Mechanics Feb*, 1938, 238–238.
“Media | Urban Tilth,” May 29, 2013. https://web.archive.org/web/20130529133533/http://www.urbantilth.org/news/.
“Medieval Friars Were Riddled with Parasites.” Accessed November 21, 2022. https://www.science.org/content/article/medieval-friars-were-riddled-parasites.
Mello, Marcelo. “Skilled Labor, Unskilled Labor, and Economic Growth.” *Economics Letters* 100, no. 3 (2008): 428–31.
In These Times. “Michelle Obama, How Does Your Garden Grow?” Accessed November 27, 2022. https://inthesetimes.com/article/michelle-obama-how-does-your-garden-grow.
Middleton-Manning, Beth Rose, Morning Star Gali, and Darcie Houck. “Holding the Headwaters.” *Decolonization: Indigeneity, Education & Society* 7, no. 1 (2018): 174–98.
Miller, Daniel. Interview with Daniel Miller, 2017.
Miller, Ethan. “Solidarity Economy: Key Concepts and Issues.” *Solidarity Economy I: Building Alternatives for People and Planet*, 2010, 25–41.
Milner, H. Richard. “Race, Culture, and Researcher Positionality: Working Through Dangers Seen, Unseen, and Unforeseen.” *Educational Researcher* 36, no. 7 (October 1, 2007): 388–400. https://doi.org/10.3102/0013189X07309471.
Minkoff-Zern, Laura-Anne. “Race, Immigration and the Agrarian Question: Farmworkers Becoming Farmers in the United States.” *The Journal of Peasant Studies* 45, no. 2 (February 23, 2018): 389–408. https://doi.org/10.1080/03066150.2017.1293661.
Mollett, Sharlene, and Caroline Faria. “Messing with Gender in Feminist Political Ecology.” *Geoforum* 45 (March 2013): 116–25. https://doi.org/10.1016/j.geoforum.2012.10.009.

Montenegro de Wit, Maywa. “Can Agroecology and CRISPR Mix? The Politics of Complementarity and Moving toward Technology Sovereignty.” *Agriculture and Human Values* 39, no. 2 (June 1, 2022): 733–55. https://doi.org/10.1007/s10460-021-10284-0.

Moses, Marion. “Pesticide-Related Health Problems and Farmworkers.” *AAOHN Journal* 37, no. 3 (March 1, 1989): 115–30. https://doi.org/10.1177/216507998903700304.

Moyo, Sam, Praveen Jha, and Paris Yeros. “The Classical Agrarian Question: Myth, Reality and Relevance Today.” *Agrarian South: Journal of Political Economy* 2, no. 1 (April 2013): 93–119. https://doi.org/10.1177/2277976013477224.

Mt.Pleasant, Jane. “Food Yields and Nutrient Analyses of the Three Sisters: A Haudenosaunee Cropping System.” *Ethnobiology Letters* 7, no. 1 (2016): 87–98.

Murphy, Gretchen. *Hemispheric Imaginings: The Monroe Doctrine and Narratives of US Empire*. Duke University Press, 2005.

Urban Adamah. “Nate Looney.” Accessed October 9, 2022. https://urbanadamah.org/team/10905/.

Neumann, Roderick P. *Imposing Wilderness: Struggles over Livelihood and Nature Preservation in Africa*. Vol. 4. Univ of California Press, 1998.

Newell, Peter, and Dustin Mulvaney. “The Political Economy of the ‘Just Transition.’” *The Geographical Journal* 179, no. 2 (2013): 132–40. https://doi.org/10.1111/geoj.12008.

News, A. B. C. “Parents Outraged after 5th Graders in South Carolina Pick Cotton, Sing Songs on Field Trip.” ABC News. Accessed October 17, 2022. https://abcnews.go.com/Politics/parents-outraged-5th-graders-south-carolina-pick-cotton/story?id=61238078.

Nicholls, C.I., M.A. Altieri, M. Kobayashi, N. Tamura, S. McGreevy, and K. Hitaka. “Assessing the Agroecological Status of a Farm:A Principle-Based Assessment Tool for Farmers.” *Agro Sur* 48, no. 2 (2020): 29–41. https://doi.org/10.4206/agrosur.2020.v48n2-04.

Nickels, Ashley E., and Kirk A. Leach. “Toward a More Just Nonprofit Sector: Leveraging a Critical Approach to Disrupt and Dismantle White Masculine Space.” *Public Integrity* 23, no. 5 (2021): 515–30.

Nittle, Nadra. “The Racist L.A. City Council Tape Wasn’t a Surprise to This Black Angeleno.” The 19th, October 19, 2022. https://19thnews.org/2022/10/racist-l-a-city-council-tape-not-a-surprise/.

“North Richmond Urban Educational Farm | Contra Costa County, CA Official Website.” Accessed November 27, 2022. https://www.contracosta.ca.gov/4981/North-Richmond-Farm.

“Notes from Cuban Field Research,” 2010.

East Bay Express | Oakland, Berkeley & Alameda. “Oakland’s Trash Program Promotes Waste,” July 15, 2015. https://eastbayexpress.com/oaklands-trash-program-promotes-waste-2-1/.

Office, U. S. Government Accountability. “Private Water Utilities: Actions Needed to Enhance Ownership Data.” Accessed November 29, 2022. https://www.gao.gov/products/gao-21-291.

“Our Team – City Slicker Farms.” Accessed May 6, 2022. https://www.cityslickerfarms.org/about-us/our-team/.

Oyakawa, Michelle. “Building a Movement in the Non-Profit Industrial Complex.” PhD Thesis, The Ohio State University, 2017.
“PARKS AND RECREATION ADVISORY COMMISSION,” 2006, 6.
Parson, Jack. “The Peasantariat and Politics: Migration, Wage Labor, and Agriculture in Botswana.” *Africa Today* 31, no. 4 (1984): 5–25.
Patel, Raj. “Food Sovereignty.” *The Journal of Peasant Studies* 36, no. 3 (July 2009): 663–706. https://doi.org/10.1080/03066150903143079.
Pendall, Rolf. “Bay Cities and Water Politics: The Battle for Resources in Boston and Oakland.” *American Planning Association. Journal of the American Planning Association* 66, no. 3 (Summer 2000): 336.
Pepper, Ian L., Huruy Zerzghi, John P. Brooks, and Charles P. Gerba. “Sustainability of Land Application of Class B Biosolids.” *Journal of Environmental Quality* 37, no. S5 (September 2008): S-58-S-67. https://doi.org/10.2134/jeq2007.0321.
Perkins, Tom. “Maine Bans Use of Sewage Sludge on Farms to Reduce Risk of PFAS Poisoning.” *The Guardian*, May 12, 2022, sec. Environment. https://www.theguardian.com/environment/2022/may/12/maine-bans-sewage-sludge-fertilizer-farms-pfas-poisoning.
Peters, Christian J., Nelson L. Bills, Jennifer L. Wilkins, and Gary W. Fick. “Foodshed Analysis and Its Relevance to Sustainability.” *Renewable Agriculture and Food Systems* 24, no. 1 (2009): 1–7.
Ploeg, Jan Douwe van der. “Peasant-Driven Agricultural Growth and Food Sovereignty.” *The Journal of Peasant Studies* 41, no. 6 (November 2, 2014): 999–1030. https://doi.org/10.1080/03066150.2013.876997.
Polanyi, Karl. *The Great Transformation: The Political and Economic Origins of Our Time*. Beacon Press, 2001.
Pollan, Michael. *The Omnivore’s Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 2006.
Pollard, Georgia, James Ward, and Philip Roetman. “Water Use Efficiency in Urban Food Gardens: Insights from a Systematic Review and Case Study.” *Horticulturae* 4, no. 3 (September 2018): 27. https://doi.org/10.3390/horticulturae4030027.
Popkin, Samuel. “The Rational Peasant.” *Theory and Society* 9, no. 3 (May 1, 1980): 411–71. https://doi.org/10.1007/BF00158397.
“Port of Oakland to Buy Renewable Energy from EBMUD.” Accessed November 22, 2022. https://www.ajot.com/news/port-of-oakland-to-buy-renewable-energy-from-ebmud.
“Proposition 84.” Accessed January 1, 2023. https://bondaccountability.resources.ca.gov/p84.aspx.
Rampton, Sheldon. “Sludge, Biosolids, and the Propaganda Model of Communication.” *NEW SOLUTIONS: A Journal of Environmental and Occupational Health Policy* 12, no. 4 (February 2003): 347–53. https://doi.org/10.2190/05Y2-PW2V-C485-CRKD.
Ramsey, Abeni. Interview with Abeni Ramsey, 2015.
“REVENUE Contract - # R6119 - Date Executed_ 8_12_2003 - BOSS Urban Gardening Institute Urban Gardening License,” August 12, 2003.
Ribera-Fumaz, Ramon. “Moving from Smart Citizens to Technological Sovereignty?” In *The Right to the Smart City*, edited by Paolo Cardullo, Cesare Di Feliciantonio, and Rob Kitchin,

177–91. Emerald Publishing Limited, 2019. https://doi.org/10.1108/978-1-78769-139-120191013.
Rickford, Russell. "'We Can't Grow Food on All This Concrete': The Land Question, Agrarianism, and Black Nationalist Thought in the Late 1960s and 1970s." *Journal of American History* 103, no. 4 (March 1, 2017): 956–80. https://doi.org/10.1093/jahist/jaw506.
Robinson, Cedric J. *Black Marxism: The Making of the Black Radical Tradition*. Chapel Hill, N.C: University of North Carolina Press, 2000.
Rollock, Nicola, and David Gillborn. "Critical Race Theory (CRT)." *British Educational Research Association*, 2011.
Roman-Alcalá, Antonio. "Broadening the Land Question in Food Sovereignty to Northern Settings: A Case Study of Occupy the Farm." *Globalizations* 12, no. 4 (July 4, 2015): 545–58. https://doi.org/10.1080/14747731.2015.1033199.
Urban Adamah. "Royce Rose." Accessed October 9, 2022. https://urbanadamah.org/team/royce-rose/.
Ruef, Martin, and Ben Fletcher. "Legacies of American Slavery: Status Attainment among Southern Blacks after Emancipation*." *Social Forces* 82, no. 2 (December 1, 2003): 445–80. https://doi.org/10.1353/sof.2004.0024.
Rynk, Robert, Maarten van de Kamp, George B. Willson, Mark E. Singley, Tom L. Richard, John J. Kolega, Francis R. Gouin, et al. *On-Farm Composting Handbook (NRAES 54)*. Northeast Regional Agricultural Engineering Service (NRAES), 1992. https://ecommons.cornell.edu/handle/1813/67142.
Sáenz, Rogelio. "The Rising Relative Presence of Whites in Majority Non-White Cities." *American Behavioral Scientist* 66, no. 11 (2022): 1558–81.
Samimi, Jennifer Ceema. "Funding America's Nonprofits: The Nonprofit Industrial Complex's Hold on Social Justice" 1, no. 1 (2010): 17–25. https://doi.org/10.7916/D8QC0DC7.
Sankey, Kyla. "From Survival to Self-Governance: A Comparison of Two Peasant Autonomy Struggles in Colombia's Coffee and Frontier Regions." *Journal of Agrarian Change* 22, no. 3 (2022): 506–28. https://doi.org/10.1111/joac.12465.
Saxton, Dvera I. "Strawberry Fields as Extreme Environments: The Ecobiopolitics of Farmworker Health." *Medical Anthropology* 34, no. 2 (March 4, 2015): 166–83. https://doi.org/10.1080/01459740.2014.959167.
Sbicca, Joshua. *Food Justice Now!: Deepening the Roots of Social Struggle*. U of Minnesota Press, 2018.
Schless-Meier, Adrien. "This Urban Farmer Is Growing Jobs in Her Richmond Community." KQED, Civil Eats, January 19, 2015. https://www.kqed.org/bayareabites/92243/this-urban-farmer-is-growing-jobs-in-her-richmond-community.
Diverse: Issues In Higher Education. "Scholars Ask Why Latinos View Blacks Poorly," July 11, 2006. https://www.diverseeducation.com/demographics/latinx/article/15082245/scholars-ask-why-latinos-view-blacks-poorly.
Schulman, Michael D., and Barbara A. Newman. "The Persistence of the Black Farmer: The Contemporary Relevance of the Lenin-Chayanov Debate." *Rural Sociology* 56, no. 2 (1991): 264–83. https://doi.org/10.1111/j.1549-0831.1991.tb00436.x.

Scott, James C. *The Moral Economy of the Peasant: Rebellion and Subsistence in Southeast Asia*. Vol. 315. Yale University Press, 1977.
Sepetys, Kristina. "'This Could Be Our Victory Garden Moment': Gardening, Homesteading See a Resurgence in the East Bay." Berkeleyside, April 9, 2020. https://www.berkeleyside.org/2020/04/09/this-could-be-our-victory-garden-moment-gardening-homesteading-sees-a-resurgence-in-the-east-bay.
"Service Area :: East Bay Municipal Utility District." Accessed November 21, 2022. https://www.ebmud.com/about-us/who-we-are/service-area.
Shanin, Teodor. "The Peasantry as a Political Factor." *The Sociological Review* 14, no. 1 (March 1, 1966): 5–27. https://doi.org/10.1111/j.1467-954X.1966.tb01148.x.
Siegner, Alana Bowen, Charisma Acey, and Jennifer Sowerwine. "Producing Urban Agroecology in the East Bay: From Soil Health to Community Empowerment." *Agroecology and Sustainable Food Systems* 44, no. 5 (May 27, 2020): 566–93. https://doi.org/10.1080/21683565.2019.1690615.
Simmons, Andrew. "Rodney Spencer and the Struggles and Rewards of a West Oakland Urban Farm." San Francisco Chronicle, April 27, 2018. https://www.sfchronicle.com/food/article/Rodney-Spencer-and-the-struggles-and-rewards-of-a-12869555.php.
Slocum, Rachel. "Anti-Racist Practice and the Work of Community Food Organizations." *Antipode* 38, no. 2 (March 2006): 327–49. https://doi.org/10.1111/j.1467-8330.2006.00582.x.
———. "Whiteness, Space and Alternative Food Practice." *Geoforum* 38, no. 3 (2007): 520–33.
Slocum, Rachel, and Kirsten Cadieux. "Notes on the Practice of Food Justice in the U.S.: Understanding and Confronting Trauma and Inequity." Minneapolis, MN: University of Minnesota, 2015. http://jpe.library.arizona.edu/volume_22/Slocumcadieux.pdf.
Smit, Jac, Joe Nasr, and Annu Ratta. "Urban Agriculture: Food, Jobs and Sustainable Cities." *New York, USA* 2 (1996): 35–37.
Smith, Neil, and David Harvey. *Uneven Development: Nature, Capital, and the Production of Space*. University of Georgia Press, 2008.
Southern, Jacquelyn. "Blue Collar, White Collar: Deconstructing Classification." *Class and Its Others*, 2000, 191–224.
"Spiral Gardens Community Food Security Project, Berkeley, CA." Accessed October 26, 2022. http://www.spiralgardens.org/about.html.
Staff. "Urban Tilth Plants Permanent Roots with North Richmond Land Acquisition." *Richmond Standard* (blog), September 21, 2021. https://richmondstandard.com/richmond/2021/09/21/urban-tilth-plants-permanent-roots-with-north-richmond-land-acquisition/.
———. "Warehouse Project near North Richmond Farm Faces Opposition." *Richmond Standard* (blog), February 22, 2022. https://richmondstandard.com/richmond/2022/02/22/warehouse-project-near-north-richmond-farm-faces-opposition/.
Stampp, Kenneth M. (Kenneth Milton). *The Peculiar Institution : Slavery in the Ante-Bellum South*. New York : Vintage, 1956. http://archive.org/details/peculiarinstitut00kenn.

Stauber, John C., 1953-, Sheldon Rampton, and 1957-. “Toxic Sludge Is Good for You.” Common Courage Press, 1995. https://scholar.google.com/scholar_lookup?title=Toxic+sludge+is+good+for+you&author=Stauber%2C+John+C.+%28John+Clyde%29&publication_year=1995.

Suratos • •, Pete. “East Bay Nonprofit to Receive $10 Million in Climate Change Fight.” *NBC Bay Area* (blog). Accessed January 4, 2023. https://www.nbcbayarea.com/news/local/climate-in-crisis/richmond-nonprofit-to-get-millions-climate-change/3062598/.

“Sustainability Energy Committee Presentation.” Presented at the Biosolids Handling Managment Briefing, January 25, 2022.

Swyngedouw, Erik. “The City as a Hybrid: On Nature, Society and Cyborg Urbanization.” *Capitalism Nature Socialism* 7, no. 2 (June 1996): 65–80. https://doi.org/10.1080/10455759609358679.

Swyngedouw, Erik, and Nikolas C Heynen. “Urban Political Ecology, Justice and the Politics of Scale.” *Antipode* 35, no. 5 (November 1, 2003): 898–918. https://doi.org/10.1111/j.1467-8330.2003.00364.x.

Tao, Wang. “Interdisciplinary Urban GIS for Smart Cities: Advancements and Opportunities.” *Geo-Spatial Information Science* 16, no. 1 (March 1, 2013): 25–34. https://doi.org/10.1080/10095020.2013.774108.

The Intercept, Deconstructed. “Deconstructed: The Implosion of Progressive Organizing.” The Intercept. Accessed September 17, 2022. https://theintercept.com/2022/06/14/deconstructed-podcast-progressive-organizing-callout-culture/.

Urban Adamah. “This Place.” Accessed January 2, 2023. https://urbanadamah.org/the-farm/this-place/.

Thompson, E. P. *Customs in Common: Studies in Traditional Popular Culture*. New Press/ORIM, 2015.

———. “The Moral Economy of the English Crowd in the Eighteenth Century.” *Past & Present*, no. 50 (1971): 76–136.

“Threat of Nearby Development Looms Over North Richmond Farm,” February 28, 2022. https://richmondpulse.org/2022/02/28/threat-of-nearby-development-looms-over-north-richmond-farm/.

Tornaghi, Chiara. “Urban Agriculture in the Food-Disabling City: (Re)Defining Urban Food Justice, Reimagining a Politics of Empowerment.” *Antipode* 49, no. 3 (2017): 781–801. https://doi.org/10.1111/anti.12291.

Tornaghi, Chiara, and Michiel Dehaene. *Resourcing an Agroecological Urbanism: Political, Transformational and Territorial Dimensions*. Routledge, 2021.

Tsu, Cecilia. “‘Independent of the Unskilled Chinaman’: Race, Labor, and Family Farming in California’s Santa Clara Valley.” *Western Historical Quarterly* 37, no. 4 (2006): 474–95.

Tuomala, Virva. “Towards Inclusive Urban Food Supply Chains.” *Food Supply Chains in Cities*, 2020, 1–32.

Urban Adamah. “Urban Adamah: About.” Accessed May 23, 2022. https://www.urbanadamah.org/about/.

Koret Foundation. “Urban Adamah: Connecting to Jewish Roots.” Accessed February 23, 2022. https://koret.org/grantee-stories/urban-adamah-connecting-to-your-jewish-roots-through-the-earth/.
“Urban Adamah: Website.” Accessed February 15, 2018. https://urbanadamah.org/.
Earth Island Journal. “Urban Agroecology: A Lighthouse of Sustainability.” Accessed October 26, 2022. https://www.earthisland.org/journal/index.php/articles/entry/urban_agroecology_a_lighthouse_of_sustainability/.
Alameda County Resource Conservation District. “Urban Farms Mini-Grant Program.” Accessed February 28, 2018. http://acrcd.org/GrowingLocal/UrbanFarmsMiniGrantProgram.aspx.
“Urban Tilth.” Accessed February 15, 2018. http://www.urbantilth.org/.
“Urban Tilth » 5% Local Coalition,” April 12, 2009. https://web.archive.org/web/20090412194816/http://www.urbantilth.org/site/?page_id=48.
“Urban Tilth Press Advisory,” February 16, 2022. https://urbantilth.org/wp-content/uploads/2022/02/UT-Feb-18th-Press-advisory-1.pdf.
Oregon Tilth. “Urban Tilth: Reclaiming Community.” Accessed June 20, 2022. https://tilth.org/stories/urban-tilth-reclaiming-community/.
Veenhuizen, René van, RUAF Foundation, International Institute of Rural Reconstruction, and International Development Research Centre (Canada), eds. *Cities Farming for the Future: Urban Agriculture for Green and Productive Cities*. Silang, Philippines : Ottawa: RUAF Foundation : International Institute of Rural Reconstruction ; International Development Research Centre, 2006.
Urban Tilth. “Verde Garden Welcomes Common Vision.” Accessed October 3, 2022. https://urbantilth.org/news/8234-2/.
“Volunteer – City Slicker Farms.” Accessed February 20, 2022. https://www.cityslickerfarms.org/volunteer/.
Wackernagel, Mathis, and William Rees. *Our Ecological Footprint: Reducing Human Impact on the Earth*. Vol. 9. New society publishers, 1998.
Wacquant, Loic JD, and William Julius Wilson. “The Cost of Racial and Class Exclusion in the Inner City.” *The Annals of the American Academy of Political and Social Science* 501, no. 1 (1989): 8–25.
Walker, Richard. “The Conquest of Bread: 150 Years of California Agribusiness.” *New York*, 2004.
Wang, Tianyi, Craig Cessford, Jenna M. Dittmar, Sarah Inskip, Peter M. Jones, and Piers D. Mitchell. “Intestinal Parasite Infection in the Augustinian Friars and General Population of Medieval Cambridge, UK.” *International Journal of Paleopathology*, 2022.
Washington, Booker T. “The Negro and the Labor Unions.” The Atlantic, June 1, 1913. https://www.theatlantic.com/magazine/archive/1913/06/the-negro-and-the-labor-unions/529524/.
“Water Supply :: East Bay Municipal Utility District.” Accessed November 30, 2022. https://www.ebmud.com/water/about-your-water/water-supply.

Waters, Tony. “A Cultural Analysis of the Economy of Affection and the Uncaptured Peasantry in Tanzania.” *The Journal of Modern African Studies* 30, no. 1 (March 1992): 163–75. https://doi.org/10.1017/S0022278X00007771.

Watts, Michael. “Hazards and Crisis: A Political Economy of Drought and Famine in Northern Nigeria.” *Antipode* 15, no. 1 (1983): 24–34.

Waste Dive. “‘We Can Never Get to Zero’: Organics Recyclers Face Hard Choices in Responding to PFAS Contamination.” Accessed November 20, 2022. https://www.wastedive.com/news/pfas-chemicals-organics-recycling-compost-biosolids/587044/.

Urban Tilth. “WE DID IT: We Bought the Farm!” Accessed January 1, 2023. https://urbantilth.org/news/we-bought-the-farm/.

Weidner, Brian N. “Middle-Earth: The Real World of JRR Tolkien.” *Mythlore* 23, no. 4 (90 (2002): 75–84.

Weissman, Cale Guthrie. “Whole Foods Is Becoming ‘Whole Paycheck’ Once Again.” Fast Company, February 12, 2019. https://www.fastcompany.com/90305918/whole-foods-is-becoming-whole-paycheck-once-again.

Weissman, Evan. “Entrepreneurial Endeavors:(Re) Producing Neoliberalization through Urban Agriculture Youth Programming in Brooklyn, New York.” *Environmental Education Research* 21, no. 3 (2015): 351–64.

The Sogorea Te Land Trust. “What Is Rematriation?” Accessed December 27, 2022. https://sogoreate-landtrust.org/what-is-rematriation/.

White, Monica M. “‘A Pig and a Garden’: Fannie Lou Hamer and the Freedom Farms Cooperative.” *Food and Foodways* 25, no. 1 (2017): 20–39. https://doi.org/10.1080/07409710.2017.1270647.

———. “Environmental Reviews & Case Studies: D-Town Farm: African American Resistance to Food Insecurity and the Transformation of Detroit.” *Environmental Practice* 13, no. 4 (2011): 406–17.

———. “Environmental Reviews & Case Studies: D-Town Farm: African American Resistance to Food Insecurity and the Transformation of Detroit.” *Environmental Practice* 13, no. 4 (December 1, 2011): 406–17. https://doi.org/10.1017/S1466046611000408.

———. *Freedom Farmers: Agricultural Resistance and the Black Freedom Movement*. Justice, Power, and Politics. Chapel Hill: University of North Carolina Press, 2018.

Williams, Raymond. *The Country and the City*. Vol. 423. Oxford University Press, USA, 1975.

Williams, Robin, Robert Sean Leonard, Ethan Hawke, Josh Charles, and Gale Hansen. *Dead Poets Society*. Special edition. Hartwick Classic Film Leadership Case. Burbank, CA: Touchstone Home Entertainment, 2006. https://www.lib.uwo.ca/catalogue/mediabooking/index.php?bib=b42376270.

Wilson, William Julius. *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy*. University of Chicago Press, 2012.

Wolman, Abel. “The Metabolism of Cities.” *Scientific American* 213, no. 3 (1965): 178–93.

Wood, Cirrus. “East Bay Food-Justice Movement Has Deep Roots in Black Panther Party.” *Berkeleyside* (blog), August 24, 2017. https://www.berkeleyside.org/2017/08/24/east-bay-food-justice-black-panther-party.

Wright, Rachel. “When More Is Less: Contradictions of Nonprofit Work.” *Anthropology of Work Review* 34, no. 2 (2013): 80–90. https://doi.org/10.1111/awr.12012.

whitehouse.gov. “‘You All Took a Stand,’” February 20, 2010. https://obamawhitehouse.archives.gov/blog/2010/02/19/you-all-took-a-stand.

Young, Cate. “Is This The End For ‘Urban’ Music?” *NPR*, June 15, 2020, sec. The Grammy Awards. https://www.npr.org/2020/06/15/877384808/is-this-the-end-for-urban-music.

Zinn, Howard. “The Optimism of Uncertainty.” *Amass* 13, no. 4 (2009): 12–14.

Zito, Kelly. “EBMUD Set Back by Pardee Reservoir Ruling.” SFGATE, April 18, 2011. https://www.sfgate.com/green/article/EBMUD-set-back-by-Pardee-Reservoir-ruling-2374581.php.