Community Gardens and Non-capitalist Production in South-Eastern British Columbia

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Abstract

The public produce model of urban farming or community gardening differs in significant ways from the capitalist economy. These spaces may offer an alternative pro-social ethics at the point of production. Although spaces explored in this work exist far apart from one another geographically, they represent examples of what might be considered a form of utopian socialism operating in parallel to the economy at large, but they lack political representation. This study focuses on three food growing spaces in South-Eastern British Columbia, using Community Based Participatory Research (CBPR). Such spaces provide social and environmental benefits that markets often fail to address, and the people involved recognize this challenge. It is argued that financial precarity warrants development of consistent funding streams as part of a provincial health program to address food sovereignty, while helping mitigate devasting impacts of climate change and the atomization of the individual.

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I Preamble / Researcher Positionality

The author's interest in the topic stems from a role in working with a non-capitalist agricultural organization located in Kamloops, British Columbia. It has been arguably successful and appears relatively isolated. The predecessor of this space, the Butler Urban Farm, was the Kamloops Public Produce Project (KPPP). Though the names may be different, these are functionally the same project that has at times survived, and at times thrived, the turbulence of a volunteer-driven project on three separate land plots throughout the city (Quist, 2021, pp. 23-35; Reid and Bessenger, 2018). After several years of the KPPP on Victoria Street, it was moved to the North Shore on Elm Avenue, as well as the current space of the Butler Urban Farm at the corner of Wilson Street and Clapperton Road. In the years I have spent working at both the Elm and Clapperton sites, I have watched the old donor list sign of the KPPP grow sun-bleached, be removed (as the Elm site struggled and eventually developed into supported housing), and ultimately be torn apart and partially repurposed into building material at the Butler Urban Farm. The fate of this sign has felt somewhat symbolic of the various forms this project has gone through. After many iterations the integral work of so many can so easily go unrecognized as things change form and we inherit their successes. Ironically, the names of those who put the most work into the KPPP over the years were not on the donor list.

The Kamloops Food Policy Council (KFPC) is the longest running organization of its kind in Canada. Established by Laura Kalina and Paula Rubinson in 1995, the KFPC has a mandate of advocating for and creating a regenerative, sovereign, and just food system in the Kamloops area (Kamloops Food Policy Council, n.d.). I was introduced to the KFPC while wandering through Riverside Park, contemplating my next meal with a friend. A passerby recommended we attend the monthly potluck. I was familiar with the Kamloops Public Produce Project and along with a few anarchist friends had ambitions to turn a few otherwise vacant lots downtown toward the public produce model by "guerrilla gardening." None of this reached fruition. A few years later I would be employed by the KFPC at the Gleaning Abundance Program, a fruit recovery program that collects excess fruit from neglected or otherwise over-productive fruit trees in the city and distributes them among volunteers, non-

governmental organizations (NGOs), and those who reside on the same property demarcations as the trees. This was in 2017, and it was here that I was introduced to a driving force behind a local meal program that had acquired permission to use a much larger vacant plot of land on the North Shore that would become the Butler Urban Farm.

The following summer I was offered a student position with the Jubilee Urban Municipal Project (JUMP) to work on their public produce gardens. One was located on Elm Avenue, and the other one was at the corner of Wilson and Clapperton. Having been raised on stories of garden raiding from my father during his food insecure childhood, I embraced the radical idea of public produce as a social justice approach with enthusiasm: What if we intentionally created open access spaces for people to raid gardens from? I struggled to keep up with the demands of these spaces. Under my watch, the Elm Avenue space was a disaster. Almost every day I would find a few syringes, which made volunteer recruitment challenging. The space was virtually impossible to keep orderly with the amount of foot traffic that would move through. But the one on Clapperton, only blocks away, covered in mulch, was reasonably productive. The space at Clapperton began as a demonstrative and productive permaculture garden that used neither synthetic fertilizers nor pesticides – in effect aiming toward an organic approach while lacking funds for organic certification. It would offer haphazard community composting and produce available for anyone willing to come and pick it. This legacy would carry on in the form of the Butler Urban Farm years later. Both spaces were under the same management with wildly different results. Ultimately, our project moved to Clapperton, where things were routinely picked before they were ready.

This did not go without significant challenges, which have been well documented by Quist (2021, pp. 27-29). From 2017 to 2020, the Elm and Clapperton Gardens, as we called them, experienced several setbacks. In 2020 with the coronavirus crisis I was encouraged to return to this position, which would be called “Farm Manager” and now sponsored by the KFPC, to get the project back on track in the face of empty supermarket shelves and a disastrous 2019 season. The leadership at the KFPC, especially Sandra Frangiadakis and Jesse Ritcey believed in the Clapperton project and would oversee its success. Having spent a couple years thinking about how horribly wrong my 2017 springtime aspirations of an urban communist oasis had gone that year, I quietly returned with excitement (and a plan) to get the

project up and running again. Within a month, Caitlin Quist appeared at this project, initially to document it, and we began working together on what became the Butler Urban Farm. We spent many hours talking about the past few years in that space while weeding, and she would become the most important person in that space over the following years as her knowledge of it quickly equaled and then surpassed my own. From 2021-2023 the KFPC would employ her as a Community Coordinator at the farm. My role was to provide basic upkeep of infrastructure and to coordinate on-the-ground volunteers.

The system we created worked better than expected, and provided the basis of my drive to better understand, if, where, and how spaces that function similarly to this operate elsewhere. My inspirations were unequivocally communistic (Hardt, 2010). The 'commons' space was always meant to be the dominant force here, taking up over 75% of the growing area. Concessions in the direction of the private model were made in an ironic nod to Lenin's New Economic Policy (one hundred years earlier) following a few turbulent years from 2020 onward (Žižek, 2017, p. xxvi-xxix; Lenin, 2017/1922, pp. 29-38). The share of private beds in the overall growing space has shrunk dramatically as the overall growing space has expanded.[1] A 'checkout' system mimicking a library checkout (in this case with a scale to record weights) was implemented, and premature harvests dropped substantially. Focusing on educating passersby about the project increased involvement and harvests. Most people that showed up tended to be surprised that anything like this could exist on the North Shore at all, let alone thrive. It functioned in a fundamentally different way from most community gardens, and had taken on the vision of the KPPP. At the time I did not realize we were the literal successors of the KPPP. I found myself wondering, often, where and how other projects like this might be functioning. This wonder that has led to this research project.

Naturally, my involvement in this space, which was the culmination of countless hours of anonymous volunteer and paid labour, and personally, of ideas of social progress and horticultural work, has inspired this study. It has undoubtedly affected this research. To put it in no uncertain terms: the author of this study is a product of this model with certain ideas about how and why these spaces function (or do not). That said, I have strived to

[1] Today the 'semi-private plots' make up less than 10% of the total Butler space, and changes to this must be decided by a committee of community members that have been invested in the project for more than one year.

maintain an open mind and a non-proscriptive approach to this research. Though dedicated to collective production within the 'commons,' the ways these spaces can function are virtually endless and likely diverse. In many respects the topic has been the culmination of many hours under the sun wondering whether others are doing similar things, for similar reasons, not far from us that we might not know about. In community-based models that operate for use rather than exchange, there is little incentive to advertise, and scant time to research similar projects. Indeed, the 'word getting out' beyond the community can at times be seen as problematic, as great influxes of unfamiliar people necessitate a pivot in labour toward education and rule explanation until practices become common knowledge (Ostrom, 1990/2015). Stories abound within the NGO sector generally of projects growing too fast and imploding.

Needless to say, the links between food security, food sovereignty, land access, and the necessity of building positive relationships with the land are linked in a significant way to social justice and human rights issues. My approach to this question has always been a material one: while personal feelings and the politics of representation are doubtlessly popular contemporary political issues, it is my assertion that material production, and our relationships to the land, are the issues that stand to unite people of diverse beliefs and backgrounds. They can in fact melt away many prejudicial and antisocial practices endemic in the contemporary world. Nowhere was this clearer to me than in my time at the Butler Urban Farm. This perspective is echoed in several interviews here, and not at my behest.

In this study, I have set about to study comparable projects using a loose definition of the social categories used in Kamloops to document an anomalous phenomenon under capitalism. It is my belief that the communal space here represents a microcosm of something different from the way our society tends to operate. This is functioning well enough to warrant further study of similar projects that may surround the adjacent region. This study represents one attempt to do so. The precariousness of such a project naturally warrants the question: How do communally-run gardens in South-Eastern British Columbia depart from the capitalist mode of production and/or create change in the areas they develop, and how do those involved in these spaces view their actions in the context of the economy as a whole?

II Theoretical Lens: What is Non-capitalist Production?

It thereby comes to pass that while population is packed ever more closely together in the urban environment, the atomization of social life proceeds apace. In its most fundamental aspect, this often noticed phenomenon can be explained only by the development of market relations as the substitute for individual and community relations. The social structure, built upon the market, is such that relations between individuals and social groups do not take place directly, as cooperative human encounters, but through the market as relations of purchase and sale. Thus the more social life becomes a dense and close network of interlocked activities in which people are totally interdependent, the more atomized they become and the more their contacts with one another separate them instead of bringing them closer.

- Harry Braverman *Labor and Monopoly Capital* (1974/1998, p. 192)

A: Introduction: Understanding Capitalist Production

Capitalist production is a system of production in which wealth is both socially produced and privately appropriated in a process of continual surplus-value extraction and capital reinvestment (Marx, 1867/1967). This system of production has overwhelmed nearly every facet of the spatial environment in the industrialized global North, while commodifying previously untapped resources via primary accumulation or accumulation by dispossession (Harvey, 2003). While the system ultimately rests on the institution of private ownership with possible recourse to violence, the values associated with capitalism permeate society. Hegemony can be loosely defined as the political influence exerted by a group that wins consent without resorting to direct coercion or violence (Smucker, 2017, p. 261). Literature critiquing this system of production is ubiquitous, yet it is infrequent that this system is subverted in a material manner.

Marx famously outlined the definitive attributes of this system in three volumes a century and a half ago. Insisting that economic relations between humans and their environment shape the political and social constructs of human societies, Marx (1867/1967) offers a descriptive structural critique of capitalist production in *Capital Vol I.* That this volume was the only published in his lifetime is telling of the importance the author placed upon the material productive processes of human societies as being the key organizing

ground for social and political movements. The two subsequent volumes focus on the circulation of capital, and the system as a whole, respectively.

Marx (1867/1967) concludes with a scathing critique of a form of capitalist colonialism, or primitive accumulation, in which previously collectively held or commonly held land is brought under the domain of capitalist production. This is positioned as the fundamental truth of capitalist production: unmitigated control of land in space and labour-power in time. This phenomenon is most developed within industrialized urban centres, where people tend to relate to one another economically through anonymized commodity exchange. Commoning and decommodification could be interpreted as the opposite of this process. It may carry an even more significant implication in its relation to food, and especially so if occurring in a commons-based productive form (Kuljay et al, 2021; O'Neill, 2019, p. 118).

In urban environments in the industrialized North, the commodification of land and labour oriented toward a profit overwhelms nearly every facet of human life. In such a context, we may begin to question ways we might begin to subvert this tendency in an attempt to return to more sustainable methods of collectivism that erode the ideology of privatization in a materially embodied manner. More orthodox Marxian analyses tend to view the workplace as the primary site of struggle where workers push back against the logic of capitalist production. Where production occurs and humans work together, sites of resistance to exploitation are bound to emerge. This resistance is at odds with the interests of the owners of capital. But what if there is no owner, and no systemic exploitation in a productive process? The focus of this study takes a revisionist Marxian approach toward social change in this context, exploring locations of tangible production that are anomalous to the system as a whole.

Industrial production, to Marx (1867/1967), matters because it is the site of socialized labour, if private appropriation, where the production of material goods necessary to sustain human life, and exploitation, simultaneously occur (p. 197). Ghorayshi (1986) refers to these as *units of production*. It is in this context that in spite of overwhelming neoliberal socioeconomic trends in Western societies, some alternative community garden and farming spaces may demonstrate a differing tendency within urban environments. Such spaces offer

both a socialized site of labour oriented toward the production of material goods, while lacking key aspects of the system as a whole within the unit, such as private appropriation or surplus-value extraction. Other sites in urban areas that may fit this category might include intentional communities, communes, NGOs, co-operatives, temporary protest economies, community kitchens, and tool/resource sharing spaces such as the geographies of the "makerspace" movement. Non-urban non-capitalist units of production may include agricultural co-operatives, community forests, and Indigenous approaches to communal land access and relational land-based practices (Grenz, 2024; Coulthard, 2014, p. 60; Simpson, 2017, pp. 76-79).

Within the capitalist workplace, workers are alienated in three fundamental ways as identified by Marx. Firstly, in participating in working for a product they have no control over outside of work hours, they are alienated from the product of their labour (Marx and Engels, 1844/1975, p. 272). The worker is alienated from the entire production process itself, in that work ceases to be under the labourer's control and is instead controlled by the mandates of the owner of the workplace, rendering work less meaningful (p. 274). Finally, the worker is alienated from his *species-being,* or humanity itself (p. 276). Private property results from this process of alienation, giving a geographic terrain on which the process can unfold anew (p. 279). All of this occurs in a ceaseless drive toward capital accumulation, rationalized by the regime of private property, in which the ability to work is purchased as a commodity from the worker by the business owner and disposed of accordingly (Marx, 1867/1967). Labour produced under free conditions may be said to be unalienated.

One of the driving forces behind the capitalist system is the drive toward privatization and commodification. Harvey (2003) has broadened this concept beyond the land. Disputing the temporal fixation of primitive accumulation in Marx as happening prior to expanded reproduction, capitalist production to Harvey appears to proliferate along with this process of dispossession or enclosure as part of a continuous process (p. 144). Using the term "accumulation by dispossession" to describe this, the process of so-called primitive accumulation continues under neoliberal capitalism in the form of a new enclosures: the privatization of public resources, and the commodification of hitherto commonly held or non-commodified resources like genes, water, and air (p. 148). This is not new to neoliberal

capitalism, but proceeds with an accelerated vigor under these conditions, in response to the crisis of overaccumulation, backed by state powers (p. 152). To Harvey "the general thrust of any capitalistic logic of power is not that territories should be held back from capitalist development, but that they should be continuously opened up" (p. 139).

This occurs to solve the issue of overaccumulation of capital, which became a substantial problem in the late twentieth century (p. 149). The subject of neoliberal policy reforms following the 1970s has been a well-documented phenomenon. Scholars have noted trends in socioeconomic structure that coincide with the emergence of anti-public and pro-privatization policy and ideology emergent throughout the 1960s and 1970s (p. 157). Piketty offers a mass of data on economic shifts in income and wealth distribution throughout the twentieth century, lending a substantial body of evidence for this well-studied economic phenomenon of wealth and income polarization, specifically in industrialized northern societies (2014, p. 24).

The material basis of accumulation by dispossession inculcates an environment conducive to ideological developments to justify its occurrence. Expropriative practices must have some sort of ideological justification to support the action. These can range from appeals to religion, to moral/secular reasoning, and to science, depending on where the values of society are at. These values are linked to the material productive process and reflect the interests of the dominant classes within the social structure. As once ubiquitous commonly held resources disappear from the daily lives of people in the west under neoliberal capitalism, ideological justifications increasingly emerge in the form of scientific and economic arguments to justify the expropriation. These change form as appeals to religion and morality lose ground within the industrialized global north. In this context they move toward 'scientific' discourses like that of Hardin's (1968) "Tragedy of the Commons", which lends a positivist tinge to a cultural project of privatization and exploitation of commonly held resources. Despite well-grounded and adequate critique of both Hardin's thesis and the overtly racist views he espoused, the staying power of the *tragedy* remains as perhaps *the* most significant ideological force within Western societies as relates to the concept of commons (Locher, 2016, p. 306). In such a cultural environment, incubating sustainable social practices around commonly held resources becomes something of a subversive act.

While a great deal of literature exists critiquing this system, these arguments may amount to little when they fail to change the relations of production in a lasting way, or even a material way at all. The questions about how to do this constitute the key points of dispute between the communists and anarchists of the late nineteenth century. While Marx and Engels (1848/1967) may have critiqued such endeavors as 'utopian socialism,' these arguments themselves rest on negating the efforts of Owen and others as coming from a setting in which the industrial working class is insufficiently developed to be seen as a realistic agent of change (Marx and Engels, 1848/1967, p. 115; Buber, 1949/1988). This description has pertinence in the early twenty-first century. To Marx, the tendency of capitalist production renders such socially-focused endeavors increasingly marginalized and insignificant as they move 'against the current' of the overall mode, subjugating them to a precarious status not leading to substantive political change.

A core characteristic of the capitalist social structure is private property. Private property and notions of private property preclude exchange-based interactions in capitalist economies, which are ubiquitous. Tropes about the "Tragedy of the Commons" are ubiquitous (Hardin, 1968). Yet many non-commodified resources continue to exist, and in some instances new non-commodified resources may even come into existence via productive and distributive mechanisms that are insulated from the system, effectively bucking the overall trend toward privatization and commodification (Ostrom, 1990/2015). They may or may not be constructed to deliberately subvert this overwhelming socio-economic compulsion toward private accumulation, and serve the human and environmental interests that fall outside of the bounds of capital. It is worth exploring where examples of this system are subverted or otherwise negated in favour of common property regimes. As noted previously, these agents, spaces, and organizations are the focus of this study.

How human beings produce, shelter, feed, and consume matters. At times some social movements have embraced decommodification of resources to insulate supporters from the poverty rooted in this system of production while simultaneously demonstrating solidaristic productive mechanisms. Powerful social movements have embraced the most radical elements of Marxian materialism in their actions and attempted to alleviate social inequality while politicizing its causes, in effect merging the political struggle with the social struggle

as critiqued by Buber (1949/1988). These range from the Black Panther meal programs to union resistance to British Prime Minister Margaret Thatchers' shutting of the coal mines to the current endeavors of Co-operation Jackson (Vernon, 2022, pp. 121-123, 130; Akuno et al, 2023). Many others have embraced socialized non-capitalist productive and distributive mechanisms in their resistance to the system, though scant evidence exists drawing overtly recognized connections between these phenomena, as in the potlatch (and subsequent repression) within the Pacific Northwest of North America (Lutz, 1992). Radical political projects are in no way requisite to initiate alternative productive forms.

Sectors Deviating from Capitalist Production

Numerous authors have discussed firms and even sectors anomalous to the capitalist productive process. This has resulted in the further categorization of the economic system into various subsets in which production, distribution, and purpose deviate from the capitalist norms. The most common operable economic categories that overlap with *non*-capitalist production include the state sector, the non-profit sector, the social/solidarity economy, common pool resources (CPRs) and commons-based systems. These existing categories both clarify and overlap the phenomenon of non-capitalist production in various ways, yet they are themselves inadequate in that they tend to ignore the elements of material production that are central to Marx's emphasis on the workplace (1867/1967; Marx and Engels, 1848/1967). While the non-profit sector and solidarity economy both contain workplaces geared toward what often amount to non-capitalistic ends, these frequently lack tangible inputs (raw materials and means of production) and outputs (products), which is key to a materialist analysis. CPRs on the other hand, are often very material. As noted by Vivero-Pol, the concept of *commons* is at times so conceptually broad as to include a great deal of nebulousness (2019, pp. 26-27). Often it is lacking a material basis (p. 3). Yet both CPRs and tangible commons encompass Ostrom's (1990/2015) *resource streams* that do not necessarily reflect the clearly delineable inputs and outputs associated by Marx with the workplace of the capitalist economy.

The contemporary capitalist economy is frequently divided into three sectors based on institutional form and intent. The mainstay, capitalist economy, was identified in detail by

Marx (1867/1967). This sector is driven by social production, private profit, and the accumulation of capital. The state-led economy, led by the state in terms of governance, service provision, or more rarely production, can be said to represent a second pillar (Pearce, 2009). This state-led sector was also widely presented as the alternative form to capitalist relations until the mid-twentieth century (Locher, 2016, pp. 304-305; Pearce, 2009, pp. 26-27). A third pillar can be considered the social or solidarity economy, made up of non-profit organizations, community organizations, and in some respects co-operatives (Amin, 2009, p. 4; Pearce, 2009, p. 26). This sector is set apart from the capitalist economy and the state sector in being driven by neither top-down government-led initiatives nor profit, with ostensible social goals their reason for existence (Amin, 2009, p. 4). To Fong and Naschek (2022), this third sector is the source of an impotent politics that emerged with the ascent of neoliberalism. This sector appears to be incapable of challenging the power of capital, largely due to its position in society as a source of resource provision that is necessarily dependent on wealthy donors and a culture that emphasizes 'doing-for' rather than 'doing-with' (p. 124). This might be thought of as the drive toward charity over solidarity.

Within the solidarity economy and/or NGO sector more broadly, non-capitalist enterprises easily form a novel subsection best identified by Gibson-Graham (2009). This is only loosely defined by Gibson-Graham, who situates these within a 'community economy' – a paradigmatic conceptual shift beyond capitalist/state/solidarity differences (pp. 67-77). These are then further divided into the dominant social form within the non-capitalist enterprise: which may be communal, independent, feudal, or slave.

Table 1: Economic Sub-sectors and Production

	Material Production	Form of Value Driving Production	Social or Private Production	Appropriation of Product / Social Form	Capital Accumulation as Goal
Capitalist Economy	Often	Exchange	Social or Private	Private	Yes
State Economy	Possible	Exchange or Quota	Social	Private/Public	Yes and No
Solidarity Economy	Possible	Exchange or Use	Social	Communal	Yes and No
CPRs	Possible	Exchange or Use	Social	Communal	Possible
Co-operative Enterprises	Often	Exchange	Social	Communal or Private	Often
NGOs	Rarely	N/A	N/A	N/A	No
Commons-based	Possible	Use	Either	Communal	No
Community Gardens	Yes	Use	Usually Private	Private	No
Urban Farms	Yes	Often Exchange; Sometimes Use	Either	Private or Communal	Possible
Public Produce	Yes	Use	Either	Communal or Private	No
Non-capitalist Enterprises	Yes	Use or Exchange	Social	Communal or Private (independent, feudal, or slave)	No
Communal NCUP	Yes	Use	Social	Communal	No

It is frequently invoked that capitalist production is the exception to the historical norm rather than the historical norm itself on the basis of non-capitalist social forms being predominant for most of human history. These forms of production can be as diverse as the various cultures from which they arose (Graeber and Wengrow, 2021). Economic formations that are non-capitalistic in this study are looked at specifically in the sense that they are communal, separating them from feudal, slave, or independent forms of non-capitalist

enterprises categorized by Gibson-Graham (2006, pp. 67-77). Productive forms anomalous to the capitalist mode of production are more common within the rural environments in British Columbia. These might include the prominence of 'independent' non-capitalist productive relations on family farms within the conventional agricultural system, or the 'communal' non-capitalist productive forms frequently exhibited by First Nations communities in hunting, fishing, and plant harvesting practices.[2] In urban environments, both of these phenomena contrast more sharply with their surroundings and can far more rarely be said to emerge from the urban environment itself, dependent as they are on CPRs. The definition given here is specifically geared toward looking at areas where the dominant form of social relations (capitalism) is being subverted in a practical and material way. Within the household, non-capitalist production and procurement of resources is normalized as (often unremunerated female) domestic work (Foster and Clark, 2018). For this reason, this study focuses on communal non-capitalist productive spaces that involve more than one family and subvert private-property style social relations. This accounts for these definitional issues, while remaining true to sites significant enough in scope for Marx's law of value to otherwise apply to a comparably significant productive unit in the capitalist economy (Ghorayshi, 1986, pp. 149-151).

While Gibson-Graham adequately identifies four types of non-capitalist enterprises, little detail is given beyond this, and no detail that separates a *productive* from a *non-productive* non-capitalist enterprise. This question is sidestepped by Gibson-Graham as one of the "thorniest issues to emerge from Marxian political economy" – what constitutes productive and unproductive labour (2006, pp. 93-94). Below is a loose definition based on an admittedly crude materialism: that a firm is productive if it is taking natural resources/raw materials and means of production, and using the labour-power of human beings to change the form of this raw material into a tangible, physical product destined to satisfy a human need or desire. This is not simply to imply that office work or non-physical labour is definitionally 'unproductive.' This definitional restriction is done in the interest in staying true to the materialism of Marx, if for nothing else than for clarity of area of study in

[2] These hunting and fishing practices, often non-capitalistic in nature, have been sustaining these populations and the lands they inhabit from 'time immemorial.'

(perhaps overly) concrete terms (Marx, 1867/1967). The debate on what constitutes productive labour unfolds elsewhere (Graeber, 2018).

Non-capitalist production geographies, and the goods produced by them, frequently qualify as a specific type of common pool resources (CPRs) as defined by Ostrom (1990/2015). Our approach to CPRs, or resources that fall outside of capitalist economic rationality, can be considered a materially embodied ideological arena exerted by the overall superstructure of capitalist production and those exploited and marginalized by it. I argue in this thesis that the deliberate construction and maintenance of CPRs as a part of the *productive process* is a significant development in urban environments. It asks how people perceive their actions here in relation to the capitalist economy more broadly. Though these spaces are relatively small in their relation to the economic system in its entirety, what non-capitalist productive spaces may represent in the context of the broader social structure (and social metabolism) is potentially significant. Functional alternatives to private, exchange-based systems endemic to our current economic mode may prove in practice that alternative productive forms may in fact come to exist more broadly. Their implementation and management matter. Where these occur also matters. Without local concrete examples, many ideas remain ephemeral. These tendencies in South-Eastern British Columbia may be most pronounced in a particular form of community garden often, but not exclusively, associated with Nordhal's (2014) public produce.

B: The Qualitative Significance of Non-capitalist Production

In general, Western societies operate within what Foster, York, and Clark, drawing on Marx, refer to as a *metabolic rift* between town and countryside in terms of nutrient depletion/accumulation and nutrient cycling, including carbon (2010, pp. 45-46). Metabolic rift encompasses the multiple ecological crises our species now face as hitherto 'closed' ecological processes are delinked from natural cycles and wind up as pollution, while linking them specifically to the system of production identified by Marx in driving the process. Some community garden models may offer an attempt to re-localize some amount of food production and nutrient cycling to repair or reduce this rift. Where the logic of private appropriation and accumulation are hegemonic, we would be well served to study where

functional alternatives, however small, may spring up and what kind of political consciousness they might produce. It is thus from multiple angles that community gardens and community farms may, in some cases, represent a small archipelago of alternatives to the dominant capitalist mode. Firstly, in offering geographic sites of collectivized production, not based on commodified labour or the private appropriation of surplus-value, the trends toward commodification and alienation of labour are minimized. Secondly, in focusing on nutrient recycling as part of an environmentally conscious program, the metabolic rift is similarly reduced.

This was recognized by Marx in the significance he placed on the emergence of the Paris Commune of 1871 (Marx and Lenin, 1968). Here a functional alternative system was violently crushed on a municipal scale by multiple states. The contradictions between political struggle and social struggle in forming a praxis are explored in detail by Buber (1949/1988). Buber notes that while drawing on the examples of so-called 'politically impotent' utopian socialists, these arguments have rested upon the achievements that have been won by the co-operative and communal economies (so-called utopian socialists) that struggle to survive and proliferate under the capitalist mode of production and fail to change the overall political structure (Marx and Engels, 1848/1967, pp. 114-118).

Marx's Dual Nature of Commodities

Marx's analysis of the capitalist productive process begins with the commodity, an item generally considered useful that is produced to be exchanged on the market (Marx, 1867/1967, pp. 35-36). The drive to produce ever-greater commodities at lower prices drives the capitalist system to expropriate land in space and labour-power in time. The broader process of accumulation by dispossession is rooted in countless incidents of *commodification*, or the process by which objects and ideas previously not on the market are brought onto the market with the intention to be bought and sold.

If the commodity is the atom of capitalist production and the drive to produce and sell driven by exchange-value then it is worth exploring where consumable resources are produced with the intention to not be commodified, or are otherwise collectively produced and intended to be open-source resources, produced explicitly for *use* rather than *exchange*

(Marx, 1867/1967, pp. 35-41). To Marx "[t]he mystical character of commodities [under capitalist production] does not originate […] in their use value" (1867/1967, p. 71). The alienated surplus-value embedded within the commodity that is sold by the capitalist is at the root of capital's power over labour. This is only realized upon exchange, which is the overwhelming motive that drives the production/accumulation process: sales and the realization of exchange-value (p. 151). The output products defined by Marx as commodities are comparable to Ostrom's term *resource units* which encapsulates the alienability of the object in question, but removes the implicitly productive element inherent in Marx's definition as it would pertain to an object. Resource units might be natural resources, or output products of a common productive process (Marx, 1867/1967, Ostrom, 1990/2015, p. 30).

Marx's Units of Production

The basic unit of capitalist production to Marx (1867/1967) is the workplace. These are referred to by Ghorayshi as *units of production*. It is inferred that a minimum number of five workers is needed within a workplace in order for the law of value to apply (Marx, 1867/1967, p. 324; Ghorayshi, 1986, pp. 149-151). As the system expands, it tends to consume or render inoperable non-capitalist modes of production. The colonization of the Americas and Australia are emblematic of this process, whereby Indigenous peoples are separated from their land, which is then altered and partitioned in ways that prevent the mobile nature of hunting, gathering, and traditional forms of agriculture. This displaces Indigenous inhabitants that then are forced to become dependent upon market and commodity relations in order to feed, clothe, and house themselves (Marx, 1867/1967, pp. 713-774; Coulthard, 2014, pp. 7-11).

In this sense, the development of commonly-held productive forms occurring within the heart of capitalist production, the urban environment, may in some respects be considered the opposite of primitive accumulation, in which commonly held lands are privatized and brought into the capitalist system as commodities. Provided spaces of *non-capitalist units of production* (NCUP) actually exist in these environments, which can be assessed from a distance, to what extent are these projects subverting the logic of capitalism? How do the

people operating these spaces perceive what they are doing in relation to the larger economy? Community gardens are a well-documented phenomenon in urban areas in the early twenty-first century. How these may become sites of voluntarism, collective empowerment, or self-advocacy, especially within the British Columbia interior, is insufficiently studied.

Though key tendencies of capitalist production are actively curtailed within, spaces denying some key tendencies of the capitalist production process are not themselves immune from other underlying logics from the economy more broadly. Nor can they fully 'de-link' from the system, despite whatever well intentioned radical tautologies may proclaim (Kuljay et al., 2021). Waged labour and private property may remain as obvious interfaces to the broader economy in a limited way beyond the spaces themselves. These logics are themselves at times unique and at times common across management of similar spaces.

Commons and Food Commons

The notion of the commons has a long and contested history. Though the notion of the commons is far from uniform, a common good is best described as "a specific resource that is shared with and benefits all or most members of a given community. Commons, owned in common or shared within the community, satisfy needs that go unmet by either markets or institutions" (Vivero-Pol et al., 2019, p. 6). These encompass material and non-material things, such as food, that may move against the tendencies of neoliberal capitalism such as private property, exchangeability, and exclusion. Often this is done implicitly (Vivero-Pol, 2019). Food commons as a concept is an emerging and materially embodied form of the commons denoting a specific social approach toward a specific material resource.

Ostrom's Common Pool Resources

To Ostrom (1990/2015) CPRs refer to "a natural or man-made resource system that is sufficiently large as to make it costly (but not impossible) to exclude potential beneficiaries from obtaining benefits from its use" (p. 30). These are then further distinguished between *resource streams* and *resource units* (pp. 30-32). The output products of our working definition of NCUPs qualify as resource units derived from CPRs. Many CPRs would not qualify as NCUPs as labour-power is in no way requisite. NCUPs and CPRs are both

overlapping and different phenomena. In both cases groups of people work together toward common ends, usually in environments in which private property relations are not the defining logic.

NCUPs are relatively rare economic phenomena when contrasted with the overall economic activity, or even any one of the capitalist, state, or social economy pillars identified by Amin (2009) in urban environments in British Columbia. Yet some community gardens, makerspaces, and protest spaces actively embody this form. This can be defined on anomalous socioeconomic attributes that are nuanced to the form of production under study.

C: Operationalizing a Definition of Non-capitalist Production for Community Agriculture

Spaces in which communal production is occurring may suggest a broader contest with the socioeconomic system itself: areas open to decommodification may well be attempted to be taken out of the market mechanism more generally, as has occurred with services like healthcare in many industrialized nation-states. In addition to state-based models of production, it might be possible to reimagine what production (rather than mere service provision) might look like when they are run by organizational forms, often NGOs, that are neither businesses nor the state: operating within the solidarity (or social) economy. The social economy may be defined as encompassing "commercial and non-commercial activity largely in the hands of third-sector or community organizations that gives priority to meeting social (and environmental) needs before profit maximization" (Amin, 2009, p. 4). Exempting these two pillars (capital and the state) leaves us with the social (or solidarity economy) within which NCUPs may be situated in Western societies. For the purpose of this study, only garden or farm-based NCUPs were contacted, though some interviewees were also associated with kitchens that might qualify under only slightly differing criteria used for urban farms and community gardens. The factors used to determine whether a community garden or urban farm qualifies as a NCUP for this study are as follows.

1: Situated Within Urban Environments

Key to the public produce model is 'the public.' Though many rural-based communes and intentional communities exist in British Columbia, and may well otherwise qualify as NCUPs, a deliberate choice has been made to focus on spaces in urban environments. These spaces more sharply deviate from their surroundings in that urban environments are arguably more densely commodified, creating an arguably sharper contrast with their immediate surroundings. They are also more likely to be observed by a larger cast of people given higher population densities in urban versus rural areas. Statistics Canada defines "urban" as "those continuously built-up areas having a minimum population concentration of 1,000 persons and a population density of at least 400 persons per square kilometer based on the previous census" (Statistics Canada, 2019).

2: 50%+ Communal Produce

A typical community garden is often an agglomeration of individual garden beds, often behind a fence. In typical community gardens, a bed will usually have one or at most a few users, arranged in a manner that designates each specified individual private rights to each individual bed. This is known as the 'allotment' style of 'private plots.' Within the spaces in question, this is not to be the case. NCUPs will have fifty percent or greater space devoted to communal production on commonly-held land shared between a number of users. This selects for attributes of a commons-based or CPR system.

In formulating a definition of non-capitalist production, a given percentage of the total garden area or produce must be going directly toward use and is not to be sold on the market. To operationalize this, an (admittedly low) minimum quantity of fifty percent of total land area or produce must be intentionally devoted to food not going for sale on the market, but to be used. This draws on distinctions between production for *use-value* and production for *exchange-value* adopted by Marx in identifying a distinction that sets industrial capitalism apart from earlier economic modes (1867/1967 pp. 35-41). Intentionality of decommodification sets this apart from overproduction or dumping of produce in situations of abundance simply because it may not or cannot be sold. While trades and exchanges are

virtually inevitable in such environments, these are not the basis of the productive form in a NCUP. NCUP spaces must be used in a form that does not replicate private property relations in order for a collective association to be established between more than one user of a CPR (land) that is used to create output products. This means any allotment system in the areas in question is less than 50% of the overall area under cultivation.

3: Five or More People Involved

As noted above, this takes the form of a category deduced by Ghorayshi (1986) from Marx (1867/1967) that a workplace employing five or more labourers is large enough for the law of value to apply in a productive setting in a workplace within the capitalist economy of a comparable magnitude of labourers.

The law of value is used to determine the worth of a commodity on the marketplace. This is determined by an average amount of socially relevant labour embedded within a product to affix a price to a given commodity on the marketplace. This law can be described as the way in which the capitalist economy self-regulates the amount of labour to expend in any given sector based on average labour efficiencies contained within commodities. In order for this law to apply to a unit, Marx accepts a number greater than five individuals to be working within the unit of production (Ghorayshi, 1986, p. 149). To draw a parallel significance to a capitalist unit as analyzed by Marx of a comparable magnitude (ie that the unit is significant enough to otherwise warrant a price on the marketplace) an NCUP space necessitates five or more individuals collectively working to produce within the space to be of interest in this study. This also reflects the communal character of a specific type of non-capitalist enterprise as described by Gibson-Graham (2006), and a ‘commons’ that is sufficiently inclusive of multiple labourers. In this sense, the number five both overlaps with a magnitude of significance related to production for Marx, and is arbitrary in establishing a significant enough number involved to be considered social.

4: Not Restricted to One Family

Within the family unit, a great deal of non-market labour may present itself. This may involve more than five people within one family unit. Removing the kinship element of this

relationship changes the scope of what kind of production might be occurring, from household work to work that is likely to include more diverse elements more closely resembling a typical capitalist unit of production in British Columbia. This is implicit within the terms "*public* produce" and "*community* garden" but not in "urban farm."

5: Tangible Outputs

Lastly, the space and group must actually and clearly be producing a tangible material good: in this case food, a clearly delineable product resulting from a mixture of the natural world, raw material, and human labour-power. It is this last piece that sets these spaces apart so clearly from other aspects of the social economy and NGO sector more broadly: while many aspects of the social economy or the NGO sector may include many people meeting the above requirements working toward common ends that may or may not be deliberately non-capitalistic, these workplaces frequently lack tangible output products that can act as tangible indicators that any material production is actually happening. In many cases, the intention may not be to produce tangible outputs at all, and is explicitly to achieve a social goal, or remediate some of the negative affects associated with capitalism: such as protecting the environment, ensuring access to healthcare, or to promote education (Gibson-Graham, 2006; Amin, 2009). This is not to suggest that these are not worthy goals, but that they lack clear and tangible inputs and outputs that might otherwise typically be commodified in the broader economy. As such, they do not exemplify anything unusual to the capitalist mode from a material or productive standpoint. Non-capitalist enterprises (and NCUP) may be thought of as being a more strictly defined part of the social economy. This definition is perhaps more crudely materialist in its analysis which draws directly upon Marx's (1867/1967) definition of capitalist production. In a NCUP, production may be one of many simultaneous goals.

6: (Implicit to this Study): Not Found on Indigenous Reserves

It could easily be argued that the dominant populations conducting production in a non-capitalist way in Canada are Indigenous. These exist both rurally and in urban environments. Indeed, in the process of searching for NCUPs, several projects that would

qualify as NCUP as per the above criteria emerged that are run by First Nations in British Columbia. Contacts from projects that might fit the definition of NCUP that are run on Indigenous Reserves or by First Nations groups were not sought. Though this may at face value constitute a glaring omission (and indeed it is substantial), the emphasis sought here is on the contrast between the highly commodified form of life that is dominant within the settler-colonial society that is Canada within urban environments and the NCUP as exceptional, rather than in areas where non-capitalist relations may in fact be far more prevalent, which are often rural.

III Relevant Literature

To define and understand capitalism, one must understand Marx (1897/1967). Marx and Engels (1848/1967) provide a series of categorical definitions used to identify emancipatory political projects. Materially embedded forms of struggle are often dismissed at this point in their writing in favour of more overtly political routes to power. The section on Critical-Utopian Socialism and Communism provides a categorical definition with which to understand this route of struggle or emancipation. Utopian socialism is described as an effort toward proletarian emancipation in which the proletariat is insufficiently developed to put forward a general political program aimed at the restructuring of society. They are thus condemned to peaceful, "small experiments, necessarily doomed to failure," that may serve as examples to inspire a more developed political movement in the future (p. 116).

Nearly a century later, Buber (1949/1988) extrapolates upon ideas of liberation from capitalist production with an eye to critiquing the political project in the Union of Soviet Socialist Republics [USSR]. This critique favours the more co-operatively based and admittedly 'utopian socialist' elements of social struggle embodied in the form of co-operatives and communes as a form of social struggle. Utopian socialism can here be defined as a form of social justice organizing that emphasizes practice over politics. This he contrasts to the political struggle developed by Marx and embodied in the former USSR. Buber critiques the subsumption of the social struggle to the political struggle in Marxian theories of emancipation (1949/1988). Noting contradictions between the politics espoused by Marx and the 'actually existing' resulting examples of the social revolution Marx advocates for, Buber argues in favour of a shamelessly utopian socialist approach toward the egalitarian politics of the world socialist or communist movement. Buber advocates for political or social principles determined not through an either/or approach toward politics/social struggle, but on a case-by-case basis.

Arguing that the co-operative movements and independent Soviets that had been amalgamated under the Soviet state were morphed beyond emancipatory potential via centralization, Buber concludes that the political motive had yet to find ample reason to again subsume itself to the social motive following a successful revolution. This creates a

paradoxical situation in which debates on the relevance of utopian socialism by necessity fall flat: to Buber both the political motive and the social motive are part of a synthetic dialectical process and must not subsume one another in any absolute sense. Buber concludes his work with a bold proposal arguing that the settler-colony of what would later become the state of Israel best exemplifies his proposal of a co-operative and polycentric struggle beyond capitalism, relying neither on a vanguard party or the impotent politics espoused by Bakunin. Buber rejects both Bakunin and Marx in favour of the practical and holistic nature of the contradictions between these two positions. This take, an admittedly "utopian socialist" (and colonial) endeavor, offers a way out of the political dilemma that becomes hyper-focused on achieving and maintaining state power. Vettese and Pendergrass (2022) offer a persuasive defence of utopian thinking in a bold proposal for planetary sustainability and equality that draws heavily upon the utopian tradition with a firm commitment to planetary boundaries and relatively egalitarian social relations.

Fong and Naschek (2022) take an opposing approach in identifying core features of the contemporary 'third sector' which they refer to as *NGOism.* This sector, it is persuasively argued, has a stultifying effect on political change. They are worth quoting at length on the phenomenon:

> So as to defuse rather than stoke political conflict, nonprofit activity is technocratic; the ideal is to avoid the messy world of politics by empowering well-trained professionals to manage away social problems. Second, it is oriented toward the provision and improvement of services, both because these services defuse political opposition but also because they fracture and depoliticize constituencies, in such a manner that any failure of service delivery is always met with the reply: "Better services!" Finally, the third sector is fixated at the level of "communities" in order to limit the scope and ambition of social reforms but, more important, because the amorphous concept of "community" can be molded so as to privilege private interests and develop a leadership class of "community representatives" that legitimate those interests (p. 118).

Due to the often significant role of the NGO sector in sponsoring or anchoring NCUP spaces, such critique must hold significant weight as applies to a sector often associated with 'do-gooderism' (p. 124).

Amin (2009) edits an extensive work on the solidarity economy, a concept used throughout this study as the sector within which the NCUPs are situated. Gibson-Graham

(2006) attempts to create a foundational text laying the basis toward a community economy, a paradigmatic conceptual shift beyond the solidarity economy. Where this work is most valuable is in its identification of non-capitalist enterprises within an alternative economic sector. These are then subdivided into various categories based on size and social relations present within the firm: slave, feudal, independent, and communal (p. 65). Of these subdivisions identified by Gibson-Graham, a focus will be maintained on communal non-capitalist relations. Central to this research paper is the concept of *public produce*. Nordhal (2014) conceptualizes and documents public produce projects from around the North American continent, specifically in urban environments on publicly held land. Many of these public produce projects fit a definition of NCUP outside of the area of study. Many do not. Nevertheless, this is a major contribution to the literature and includes at least one example from the interior of British Columbia, specifically in Kamloops.

The Kamloops Victoria Street space is well documented by Nordahl (2014) in interviews with members of the KPPP. Reid and Besanger (2018) also document the rise and success of the KPPP. Drawing on the work of Nordhal (2014), they provide an institutional and historic basis from which to understand one NCUP that has been used by subsequent authors. They are worth quoting at length on the significance of public produce projects:

> Unlike most community gardens, public produce gardens are not gated, and individually leased plots do not exist. The food belongs to no one specifically and is accessible to everyone. Furthermore, anyone can contribute to the space through watering, weeding, and general maintenance; and no one is restricted from entering the space. In a public park, you can enjoy the space freely but you cannot pick the flowers or plant something in the garden beds. In community gardens, you most often have a key, a designated lock, and a sense that whatever you plant will be yours to eat when it is ready. In a public produce garden, there are no guarantees that what you planted will be there when you want it. At the same time, you can take anything you want and contribute however you please. The space itself invites public engagement and challenges the sense of ownership that so frequently dictates public behaviour in urban spaces (Reid and Besanger, 2018, p. 163).

This demonstrates a clear connection between public produce and NCUP when these are operated by more than five people.

Quist (2021) and Smith (2023) document in various ways how a space operating on this model functions, both materially, and socially. Quist's (2021) study is the authoritative document on the KPPP/Butler Urban Farm project in its current form. In the years since

2020, though the Butler space has expanded, it has not changed its overall form. Indeed, the public produce form built here has provided a foundation for other projects that expand well beyond food production: there is now an active seed library, a functional tool library, and most dramatically and recently, a 'space for makers' to build things and process food beyond the basic farm space. This all operates, loosely, on this model which overlaps with non-capitalist production (Personal Observations, 2023).

Guitart et al. (2012), cited in Cody define community gardens as "open spaces which are managed and operated by members of the local community" focused on food production (2018, p. 106). Ilieva et al. (2022) define urban agriculture as "inclusive of all food-producing urban cultivation practices, including community gardening, allotments, and urban farms, except for indoor hydroponic facilities" (p. 12). The terms *community gardens* and *urban farms* and their derivatives will be used interchangeably. Though differences in level of scale and participation are often implied, the two categories both serve a similar function when applied to the relatively small cities of the urban British Columbian interior. Taken on their own, there is no implicit divergence from the overall mode of production in either of these terms: neither embody non-capitalist relations as categories.

Published research on community gardens and urban farms is substantial. Ilieva et al. go so far as to describe this research as comprising a "fledgling sub-discipline in the social sciences" (2022, p. 12). Conducting a meta-analysis of 272 peer-reviewed articles on the topic reveals an overwhelming amount of evidence, often specific in its nature, of benefits with voluntary participation in such spaces that include (but are not limited to) improvements in mental health, improvements in physical health, feelings of fulfillment and increasing community resilience in the face of hardship, in addition to inevitable gains in knowledge relating to the experience (Ilieva et al., 2022, p. 6-10). This is reflected in the case studies by Cody (2018), Biazoti and Sorrentino (2022), and San Ward et al. (2022).

Ilieva et al. note that on average, between 2015-2019, thirty-four peer reviewed articles on the subject of urban farming are produced per year, with a majority of the work case studies that are not generalizable (2022, p. 5, 17). Despite the vast number of articles on the subject reviewed by Ilieva et al., no published case studies, within the British Columbia interior could be found (p. 5).

Eshelman, (2016) writes an extensive dissertation on the social ownership of community gardens in the United States, which includes a substantial section on communal plots that would likely fit the definition of public produce and/or NCUP. He documents the views of those gardening within these spaces as well as where much of the produce generated within these communal areas goes: to community advocacy and NGO organizations (p. 12). The majority of the gardens donating what appears to be excess produce, as surveyed by the American Community Gardening Association, are faith-based (p. 111). While the emphasis on the ownership models and social structure governing these spaces is significant in this case, the specifically communally tended areas under investigation neither reach beyond the United States geographically, nor go beyond a few paragraphs in Eshelman's study.

Koop-Montiero (2021), uses social disorganization theory to analyze the effects of community gardens on crime in nearby Vancouver. Paraphrasing Shaw and McKay's (1942) work on crime and delinquency, Koop-Monteiro describes the approach of social disorganization theory as being an

> assertion that characteristics of place regulate rates of delinquency more than individual characteristics (such as ethnicity) by affecting the capacity for informal social control within communities. Chief in their theory of place is the importance of neighbourhood-level characteristics (such as median income or the availability of constructive leisure activities) that may influence crime (2021, p. 24).

Noticing a lack of research on crime rate reduction around community gardens, they investigate property crime in the area statistically analyzing existing data sets and find significant results. It is revealed that on average, over a ten-year period, each new neighborhood community garden correlated with a drop in 49 property related crimes within an average Vancouver neighbourhood. This represents a greater correlation than other factors such as median income, home ownership, population size, and visible minority population (pp. 32-34). These findings are significant because they demonstrate that this relationship exists within the cultural context of urban South-Western British Columbia, if not the South-Eastern quarter of the province. This is evidence of a widespread trend that is backed up by the findings of Ilieva et al. (2022) that increased community resilience is a common correlation with the presence of community gardens in a nearby place.

This study is limited to Vancouver. It is also not a spatial analysis, meaning that more detail on where within these neighbourhoods the crime was occurring are not accounted for. This study is also limited in the limited number of variables that it accounts for. The author notes that size and level of commercial and residential land use are not considered, which may also affect levels of property crime in a given neighbourhood (Koop-Montiero, 2021, p. 36). Nor does it investigate the social processes occurring around or within these gardens that may be leading to this suggestion (p. 37). It is also limited in that it is a quantitative analysis on property crimes, and not a qualitative assessment of the material or social changes resulting from these gardens, and the relationship between these changes and self or collective perception by those spending their time in and around them.

Community gardens and urban agriculture are often paired with notions of sustainability. Dorr et al. (2023) analyze 72 urban agricultural sites in five countries to assess the range of practices present in these spaces and to compare them with conventional farming practices. Research demonstrates a wide range of resource efficiency and production levels associated with the practice, from more efficient than conventional agriculture to less efficient than conventional agriculture, depending on a variety of factors. The sites are associated with bringing a greater density of biodiversity to the urban environments hosting them. This study's focus remains on quantities of inputs and outputs across spaces, rather than on the qualitative aspects differentiating the spaces from the overall mode of production. Nevertheless, the community gardens and urban farms are distinguished between private allotment forms and communal gardening forms. It is found that communal garden forms tend to cultivate more area with food plants than private allotment gardens, but overall plant cultivation remains lower largely owing to setting aside non-cultivated gathering spaces for gardeners (2023, p. 7).

Not all change associated with community gardens is positive. Gentrification and concerns of chemically-exposed food are real problems that regularly appear around these sites. Lupolt et al. (2022) suggest that contamination of sites within brownfield developments with heavy metals is not of a substantial risk in urban farming in Baltimore (p. 17). However, where such contamination may not in fact be a risk, the perception of such may still dissuade people from participating in projects or choosing to consume the food from these gardens (p.

2). This might inhibit organization and advocacy in these spaces based on this stigma, not just in Baltimore but elsewhere.

It is noted that many urban farms are short-lived. An analysis of the management structures in Toronto by Jacob and Rocha (2021) suggests that there are substantial links between gardens with administrative support and their collective abilities to problem-solve within Toronto. Unlike labour unions, which may tend to show up out of an already shared workspace, community gardens may show up sporadically in spaces that are not yet shared, implying that a networking and advisory role may be crucial at an early stage in getting these projects off the ground (p. 560). They also note that the administrative support for such gardens tends to decline over time, due to negative factors, such as lack of consistent funding, and positive factors, like increases in community participation over a project that is already functioning to a point where it is simply less necessary (p. 569). This reflects the meta-analytical findings of Ilieva et al. (2022) that the development of community resilience often decreases dependence on outside factors over time.

Literature frequently overlooks or ignores the differences within community gardens and urban farms of ‘communal’ space, which community members may cultivate collectively, and ‘private’ space, which may exist in a larger space that belongs to the community, but is itself cultivated by the individual, for the individual, and excludes socialized production. Often referred to as ‘allotment’ gardens, this arrangement is referred to occasionally as the ‘private plots’ system of gardening. This distinction is key to this research. Of specific interest is the presence of communal growing space, often identified with the concept of public produce or food commons, which may represent a more substantial microcosmic ‘rift’ with ideas of capitalist production within the realm of such projects. Public produce models, in a general sense, conform to this definition, but only reach a threshold significant enough to register to Marx, and therefore the definition of NCUP when more than five individuals are involved. Biazoti and Sorrentino (2022) thoroughly document a communal garden space not identified as a public produce project in São Paulo, Brazil. Urban farms may be privately sectioned, communal, or a mixture of both. Cody (2018) notes the presence of both in Lamud, Peru, with surpluses going to a school kitchen

which also serves as a community hall (p. 10). How collectively produced goods are appropriated also warrants further study.

Perhaps most significantly absent is evidence of expanded collective action or political consciousness in and around these spaces. Literature on the benefits from community garden spaces tends to focus on individual benefits, such as improved mental wellbeing (San Ward et al., 2022), or broadly collective benefits, such as decreased urban heat retention and its associated health issues (Zhang et al., 2022). A broad, progressive analysis of such projects might seek out evidence of developing community self-advocacy, anti-capitalist sentiment, class consciousness, evidence of a broadened agency that grows beyond the boundaries of the productive space in question, or how significantly these spaces may depart from the dominant mode of production.

Eliasoph (2013) documents the intricacies and blurred lines that exist between volunteering and political activism, which are often seen as categorically different activities yet have substantial overlap. Nevertheless, people routinely engage in both activities for similar reasons, and the differences between these two concepts are blurred at best. In the case of food work, there is often little distinction between volunteering and political activism. In this sector, especially, the two are often merged.

Eliasoph notes a difference between strategies, in which activists focus on attracting attention while volunteers can often focus on proving alternatives by doing them, or providing a perceived service or need that is otherwise lacking. The fusion of these differences has major implications, and the topic of community gardens and food is mentioned directly as a method to teach people how to grow, manage, and cook food that is healthier for the individuals and healthier for the planet. This can occur alongside or as a demonstration of alternatives, coupled with more overt political organizing around these issues (p. 61). The Kamloops Food Policy Council, for example, is a food advocacy organization that runs multiple programs to promote food literacy, and alleviate poverty while promoting the idea of food commons (KFPC, 2024).

Kuljay et al., (2021) argue for expanding the commons as an explicit path toward the decommodification as it relates to the food systems within Canada. This offers an

Indigenous-aligned "intellectual and political pathway for decommodification and liberation of enclosed and privatized food systems" (p. 246). The commons are described as being

> about pulling together and sharing material or immaterial resources in an ecological way that is shaped by the cycles of nature and human needs. And it also implies engaging in an inclusive and collective decision-making process so as to regenerate the resources that make food possible, provide benefits to all members of the community in a just and equitable way, and ensure a viable future for the next generations (p. 247).

These values are overtly seen as at odds with the system of capitalism that produces the private industrialized food systems model:

> lenses of commons and commoning allow us to recognize that the industrial agri-food system is rooted in the enclosure and appropriation of the capacity of living and non-living beings to reproduce and regenerate themselves, and subordinate them to profit and accumulation. As that, commons and commoning are radically transformative and incompatible with the commodification that is core to the capitalist agri-food system (p. 250).

Vivero-Pol (2019) posits *food commons* as a useful category and praxis for such work. Vivero-Pol et al. (2019) edit a substantial body of work on the topic of food as commons that includes the work of many authors with substantial overlap with the area of study in *The Routledge Handbook of Food as a Commons,* cited extensively here.

Koberinski et al. (2022) discuss policies oriented toward the Indigenization and re-commoning of food systems in Canada by embracing the idea of food commons. The authors critique the Canada Food Policy approach of emphasizing commodified market-based solutions which authors claim "reinforc[e] (sic) the existing food system as if it were the only food system" (p. 157). The existing capitalist food system is far from the only food system. This is especially true for Indigenous peoples, who often rely on a gifting economy that is land-based, and embodies non commodified food commons. This research is significant in its substantial conceptual overlap in approach and in policy proposals explored below.

Community gardens and farms as a counterhegemonic force are brought up in two articles on the subject, existing in relatively distant places from British Columbia. Cody conducts such a study, exploring the creation of "organic subjects" in a community garden that has positioned itself against anti-ecological practices as they emerge within conventional agriculture (2018, p. 106). The approach and theoretical bases of community gardening

explored here are grounded within the Freirean tradition, which focuses on collaborative liberatory education practices that affect all involved in the process, not just the students, in a struggle for collective empowerment against oppressive systems (Freire, 1968/1970). Cody offers a substantial case study on the subject, with a focus on a small village far from the British Columbia interior. This is specifically of interest when looking to social change that may come about because of a project, to affect factors outside of a project. Women participating in the community garden in Lamud, Peru, are acutely politically aware of ecological issues stemming from conventional agricultural practices nearby them. They teach and attend workshops in Lamud, and present in Lima on alternative practices (p. 114). To Cody (2018) this is a demonstration of a Freirean engaged pedagogy, and evidence of a counterhegemonic force making an appearance within this global archipelago. Smith interviews participants in Kamloops, British Columbia associated with the solidarity economy. Notions of issues associated with capitalism are a cause for action in this sector at the Butler Urban Farm (2023, p. 62). She documents anti-capitalist sentiments within some projects that are known by the author to qualify as NCUP, though they are not investigated on the basis of this anomalous status in her study.

Gobudhone and Dombroski (2023) draw connections between Maori-run community gardens and farms in Aotearoa/New Zealand as demonstrating an Indigenous-led and relational approach toward soil health and food systems as embodied in soil, nutrient recycling and education. This is done as an engaged educational practice with those involved in the gardens/farms and local education system. The authors link these practices with metabolic rift.

Ghorayshi (1986) documents conventional farms within Canada while questioning to what degree conventional agriculture in Canada conforms to the overall mode of production. She creates and acknowledges multiple definitions of capitalist agriculture, drawing on Marx (1867/1967) and others, to demonstrate that to a great degree, many farms within Canada at the time may not be definitionally capitalist by relying heavily or predominantly on uncompensated female or family labour to turn a profit (Ghorayshi, 1986). In spite of this, the trend *is* toward the intensification of capitalist tendencies on Canadian farms. Most significant to this research is Ghorayshi's definitional approach toward capitalist and non-

capitalist units of production, deduced from Marx (1867/1967), adopted here, and operationalized.

Biazoti and Sorrentino (2022) conduct a study of multiple community farms in São Paulo, where they note the presence of "unique forms of management confronting institutional power" (p. 1). Again echoing Freire (1968/1970), there is a thorough documentation of gardens as practical learning spaces which frequently validate and resuscitate knowledge passed down through familial lines. This is refracted through an emancipatory lens as communities empower themselves within common space (Biazoti and Sorrentino, 2022, p. 11). It is also noted, rather explicitly, that these are not leading to greater political organization beyond the projects themselves, and the reclamation of urban spaces within the city (2022, p. 13). This does not preclude this from happening elsewhere or in other contexts, nor are these spaces investigated here on the basis of their productive model.

Ostrom (1990/2015) writes extensively of common pool resources (CPRs), drawing several examples from around the world ranging from decades to thousands of years in composition. Ostrom describes common characteristics of the social institutions that have sprung up around these and suggests that they can be applied in variation to successful CPRs (1990/2015). Many of Ostrom's CPRs fit Ghorayshi's (1986) deductive definition of non-capitalist production. In many cases, CPRs may be less productive and more distributional. Often these are situated in rural societies far from British Columbia's South-East.

Locher (2016) notes that it was under the ascendence of neoliberalism that the notion of 'commons' came to take on a life of its own within the development discourse. This was an era of general retreat from state-based production and welfare politics, and marked the academic careers of both Hardin and Ostrom. USAID, an NGO notorious for pursuing American geopolitical interests, was instrumental in this transformation in the context of the Sahel crisis in the 1960s and 1970s. This crisis in sub-Saharan Africa was a highly publicized case of overgrazing and desert expansion that simultaneously bolstered US hegemony in the region, and initially 'proved' Hardin's (1968) tragedy in the minds of many Americans. This also allowed those associated with the emerging 'commons' paradigm, such as Ostrom, to cut their teeth in resolving the issue, marking the beginning of her prestigious career (Locher,

2016). Vettese (2024) notes that this was the era that built Ostrom's career, and that many neoliberal tendencies and cultural assumptions bleed through in her work.

While lacking a comprehensive analysis of capitalist production and the role of exploitative productive relations generally, Henrich (2015) persuasively argues that culture is a determinate factor of human action (p. 196). This takes the form of cue and rule-following early in childhood and transfers across the life course to in-group behaviours (p. 193). To Henrich it is something of a moot point to proclaim certain elements of human behaviour as emblematic of a natural tendency: if anything, what we can observe of human nature is to be found in rule-following and norm creation, regardless of institutional arrangement (p. 328). The rules and norms we create and enforce in our day to day lives will indicate, to a greater or lesser extent, the behaviours that we carry out in relation to each other and to our environment (p. 330). This indicates that the expectations we hold toward things, including commonly held resources, will in some way affect the way we behave toward them. This has major implications that cross the boundaries of Hardin's (1968) thesis, which ultimately claims that commonly held resources can only be held together with recourse to coercion. A great deal of Ostrom's (1990/2015) work is devoted to rule formation, adoption, and adaptation via non-coercive means (pp. 50-55).

Lavie (2023) offers the cooperative economy as a solution to many issues that are prevalent under capitalist production. Contrasting the model as an alternative to both capitalist production and state-based models, Lavie writes of generalizable social feedback loops that pertain to pro-social and opportunistic behaviours. These behaviours can set the tone for social outcomes that might emerge within CPRs and NCUPs. Lavie notes the cascading effects of voluntary support and pro-social behaviour can quickly catalyze and spread, informing social norms (pp. 144-146). Lavie's work is limited in being a work of economic theory that utilizes social theory with language that is not necessarily congruent with the concepts explored here. Nevertheless, this work is significant in noting social trends that can occur in commonly held spaces, while looking beyond the hegemonic economic system to build practical answers to many social issues that are often externalized by business, capitalist production, and the state, based in the production process.

Braverman (1974/1998) details the trend toward increasingly specialized and differentiated tasks that emerge within developed capitalist economies. While the skillset of the overall society becomes more specialized and more diverse on a macro level, individuals and communities increasingly lack the diverse skillsets that in earlier times would have been crucial to their survival in a process of *deskilling*. The skillset needed in the workplace is specific and commodity relations routinely leave individuals lacking key skills, which can easily be seen around food preparation and growing (pp. 189-192, 256). The mandate of local food policy councils can be seen as a reaction to this tendency within a single sector of the economy by bridging skill development with food security with notions of sovereignty and collective empowerment.

Sendra and Sennet (2020) propose that cities and municipalities deliberately set aside spaces and plan for disorder. Such plans allow for organic community development and embodiment within the urban environment. Setting asides spaces to be deliberately 'unfinished,' with access points to things like energy and water infrastructure, allows room for residents and users of such spaces to improvise activities within such spaces that can be uniquely novel and responsive to the desires and needs of users (Sendra and Sennet, 2020). While they do not extrapolate on urban agriculture at all, policy for 'disorderly spaces' has precedent globally in urban environments. Deliberately setting aside spaces for such sporadic activity will be explored in greater detail in the policy proposal section of this thesis.

There exists a proliferation of community gardens and urban farms. While many of these projects may be short lived for a myriad of reasons, they offer individuals and communities substantial benefits – ecological, social, psychological, and economic – which are well documented in the literature. Those participating in these projects are frequently aware of this, at times positioning themselves in opposition to greater socioeconomic trends, and possibly creating microcosmic solidaristic alternatives to capitalist production in the process.

By producing with unalienated labour collectively for use rather than exchange, characteristics that are definitional to the capitalist workplace are subverted. Re-commoning in a productive environment that is inherently open to all might be considered a negation of primitive accumulation (O'Neill, 2019, p. 118). At times these projects subvert multiple

tendencies of capitalist production, such as commodification, exchange, wage exploitation, etc. and the people involved may be aware of this. They may even move toward social and environmental justice related advocacy. In South-Eastern British Columbia, this phenomenon has gone largely unstudied.

IV Approach, Methodology, and Methods

Approach

This research applied Community Based Participatory Research [CBPR] after years involved with an NCUP. Research was conducted using a qualitative mixed methods approach, mixing literature, site visits, past experience, and interview material. Following a process that filtered for sites demonstrating NCUP using the distinct set of criteria defined above, contacts were sought within various urban agriculture projects in South-Eastern British Columbia.

Methodology

CBPR encompasses a broad range of practices situating the researcher within a community oriented toward community empowerment (Wallerstein, 2021). Drawing on the tradition of emancipatory political and educational practice associated with the work of Freire (1968/1970), CBPR has emerged as a leading community engaged research method (Wallerstein and Duran, 2018, pp. 18-20; Wallerstein, 2021, p. 252). CBPR is chosen as an appropriate research methodology due to its orientation for responsiveness and reciprocity in research participants and involved communities.

Israel et al. (2012) suggest seven core components of conducting CBPR in a health setting. Chief among these components is an emphasis on developing research to reflect and advance the interest of those involved in its production. In this case, my role within the food policy related spaces in and around Kamloops for nearly a decade prior to conducting the interviews for this thesis abetted this process. Contacts within the KFPC and a familiarity with the regional food sovereignty landscape enabled more distant contacts and participation from relatively distant locations. As such, there were limitations in significant community involvement in some locations given geographic distances between projects. Email and phone correspondence have been used to supplement this distance.

Central to CBPR is the notion of community involvement and reciprocity in the research process. As such, this thesis is intended not simply to document an anomalous

productive process to capitalism, but as an attempt to integrate these projects on the basis of common characteristics in an attempt to help them succeed. This research has moved through the first four stages of the seven core components identified by Israel et al. (2012), which involve forming, assessing, and identifying relevant research related to the communities participants come from. The fourth involves developing policy research to abet this. The fifth through seventh core components involve the interpretation and dissemination of relevant findings to the groups involved, and the maintenance of the CBPR relationships in the interest of those involved in conducting the research. The completion and dissemination of this research project is expected to allow for some degree of synthesis and communication across NCUP projects that might lead to further cohesion among NCUPs surveyed. It is my hope that the product of this research is able to further enable those involved in this study to network and learn from one another in terms of being a part of a small and diffuse but clearly identifiable regional movement, and to perhaps even share knowledge, best practices, and practical resources among themselves.

Methods

Existing contacts with the KFPC were sought for research participants using a snowball sampling methodology. Contacts were solicited for knowledge of spaces that met the above criteria for a NCUP. This turned up one marginally connected space in a nearby community, as well as a number of similar projects that do not meet the definition of NCUP as formulated above. Secondly, a basic search on various search engines turned up several other spaces and projects in the designated research area. These spaces were then investigated on the basis of whether they qualified as NCUPs. It is expected that there are more projects in the area that are not listed. Contacts were also sought online through FarmFolkCityFolk and YoungAgrarians.

Following Research Ethics Board approval in June of 2023, representatives of these gardens were then contacted via email with a short introduction and a recruitment poster informing them of this study with an invitation to participate.[3] Snowball sampling was then used to identify willing participants directly from each space. In some cases, participants

[3] See Appendix E

recommended others to be interviewed. All research participants were volunteers at one or more NCUP site within the last two years. Among these participants was one current employee and one former employee of two separate spaces in question, respectively. As noted above, my experiences with the Butler Urban Farm have offered a substantial base to draw on in terms of what day-to-day operations can be like in these spaces. Where issues have been consistent, I have avoided citing my own observations where possible and used Quist's (2021) research extensively. Throughout the course of this research, it was revealed that the project in Kamloops is being observed and intended to be replicated in other locations that did not give formal interviews or fill out consent forms.

Reasons for involvement in political activism or community work can be quite nuanced and diverse (Eliasoph, 2013). Interviews were sought to offer a room to explore this nuance in a way that might be lost with other research methods. Prospective participants were given the option to bring our discussions to a focus group or an interview. In all cases, participants chose to be interviewed rather than to join small focus groups, citing time commitments requisite for coordinating larger groups for a longer period of time per individual involved. The NGO sector is rife with unpaid and underpaid labour. Every effort was made to respect the schedules of participants.

Research participants were given a waiver (via email) informing them of their rights as research participants, as well as access to mental health resources should any latent personal or political issues be raised by our interviews. Where waivers were unable to be signed (software issues in one case) the document was reviewed and consent given verbally prior to the interview. Interviewees by default were offered to use pseudonyms to protect anonymity in these interviews. In all cases participants requested that their given names be used and this supported transparency in these processes and communities. Prior to and following any recorded interviews, participants were given an opportunity to ask questions and express concerns they might have about the research process. All participants were entered into a draw for a gift card to a BC-based organic seed company. All persons interviewed were from different sites, with no overlap between participants and sites.

Research was conducted using semi-structured interviews. This choice was made to allow greater room for nuance in delving further into certain aspects of NCUP and

involvement. Interviews were scheduled to between 30-40 minutes. Interviews were reflected upon with writings on the Butler Urban Farm and our experiences there, leaning on Quist (2021) which gives a detailed account of basic operations of an NCUP in Kamloops.

Interviews ran individually for up to one hour apiece. A series of ten questions were asked throughout the interview with slight deviations. Interview questions began with a description and overview of the spaces themselves, how they function, and their place in the capitalist economy as a whole.[4] Often these flowed naturally, like a conversation, and participants frequently anticipated the next question before it was revealed or asked. Topics discussed ranged from the physical locations of the gardens to the reasons for their existence, to the social issues these gardens were attempting to address (if any), to questions of situating the project within the capitalist economy as a whole. Additional follow-up questions were improvised to clarify points raised. A total of eight interviews from three locations in three municipalities were conducted and recorded either via Zoom or, where possible, in person. Conversations were allowed to flow organically with occasional prompts to keep within the allotted time. Interviews that went over time were fairly relaxed. In all cases, participants were given an opportunity to express concern or add to topics discussed via email. In three cases, participants issued follow-up emails to clarify or add to a topic that was discussed. All participants were given an opportunity to express what they would like represented most about their projects. While no participants felt a need for strict anonymity and requested their names be used, an effort has been made to adhere to the spirit of the research ethics board application submitted, and therefore obscure the locations in question given the political questions asked in the context of projects. As such, the names of projects, municipalities, and co-workers have been changed or obscured.

Key themes were highlighted in notes taken throughout each interview. Interview recordings were saved to an encrypted USB drive and stored securely. These interviews were transcribed at a later date to further explore key themes that emerged across interviews. All transcripts were sent to respective participants for revision and approval. Questions of research distribution were addressed in all interviews: participants were invited to provide

[4] See Appendix C

their email address to receive a finished copy of the research. Interviews were conducted from December 2023 to May of 2024.

Study Challenges

This study was limited by location, the parameters of NCUP sought, and the number of responses and interviews that could be arranged. Interviewing participants from urban agriculture projects from outside of one's municipality is a challenge that is commonly reported across urban agriculture studies (Dorr et al., 2023, p. 12). Given that most of the interviews occurred over the winter season, site visits, as were originally intended in the research proposal were not possible in all cases. The results of this study must be viewed as specific to the three NCUPs in question and should not be generalized.

V Results:

Results demonstrate both site-specific attributes and attributes that apply across the three NCUP sites examined. Sites differ in terms of enclosure, access, and participants interviewed. Concerns about many of the environmental and social issues exacerbated, if not created, by global capitalism were identified.

Site Description: Site A

Site A is situated in a city in the South-East of the province. The space is next to an apartment complex and a playground on a city park that is leased from the city annually. The space has historically relied on Canada Summer Jobs funding to cover a summer student to work a few hours per week in this space, sought through an adjacent supportive NGO. This funding has been inconsistent, leading to greater responsibilities taken on by volunteers. In previous years, summer student funding was available seasonally, which allowed for greater development and co-ordination of the space. Funding is managed by a Food Action program, with significant overlap and support with other NGOs. The entirety of the garden is dedicated to public produce, with a small section of land allocated to the local Métis Society to grow and harvest vegetables. The site is fenced and gated to prevent the intrusion of wildlife, but not locked. The site hosts a pergola and a porta-potty for public use. It is near a playground and public park. The space is adjacent to the greenbelt of the city. Produce is collected by individuals, the local food bank, and the Métis Society. It exists on approximately one tenth of an acre. Three participants involved in this space were interviewed.

Map A: Site A from 150 metres

Site Description: Site B

Site B is situated in a town in the Rocky Mountain region of British Columbia. The space is sponsored by the local food bank. It is located on municipal land that is leased by the local food bank at a favourable rate. It is built as a public produce garden, with approximately 40% dedicated to allotments and 60% to communal produce. The space is mostly overseen by one staff member whose job includes, but is not limited to, garden maintenance and coordination with strong volunteer participation. It is moving increasingly in the direction of public produce which was launched alongside a seed swap in March 2024. It is managed by the food bank, with approximately eight hours of paid labour per week. Historically, the food from this garden has been distributed via the food bank. For the 2024 season, the intention is to begin splitting the produce among those volunteers who garden the site. It exists on approximately one fifth of one acre. The space is fenced, but not locked. One participant involved in this space was interviewed.

Site Description: Site C

Site C is located in a city in the south-central interior. This site has a long history, as the garden that began with a public produce garden in 2010 documented by Nordhal (2014), Reid and Bessanger (2018), and Quist (2021). It has moved and changed locations several times. The current iteration of this project, which has a consistent lineage, is on a lot owned by a local auto dealership in a working-class neighbourhood across the street from a Food Bank. Relations between the owner of the lot and producers are favourable, if distant. The local food policy council acts as an anchor and supporting institution. The space is fenced next to adjacent plots of land on three sides, but the road side perimeter has no fencing. Approximately 75-90% of the space is gardened communally, with a small section set aside for individual volunteers to individually garden and to distribute produce as they see fit, deviating from the public produce model and replicating an allotment model more typical of community gardens in North America. Apart from a small sign, no clear distinction exists between the 'plot' beds and the commons space. The space has the most reliable funding of the three projects investigated, both through the Canada Summer Jobs program, and through additional grants that the sponsoring NGO has been able to provide. As such, the site is able to employ one to two staff members at 20-30 hours per week throughout the summer months. The entire garden exists on approximately one acre and crosses legal property lines on two residential lots as well as city held land bordering a nearby roadway. Four participants involved in this space were interviewed.

Map C: Site C from 150 metres

Findings Across Three NCUP Sites

All three sites investigated had a positive relationship with the title holders of the lands they use. For Sites A and B, the land arrangement enabling the public produce gardens is a hybrid of municipal government ownership with NGO sponsorship. All sites interviewed demonstrate organic and regenerative practices, including composting and regenerative or naturally occurring pest reduction and fertilizing plans that do not involve synthetic fertilizers or commercial pesticides. This demonstrates a trend in these spaces away from output maximizing practices that are associated with ill effects on public health and natural systems, and toward practices that close loops and mitigate nutrient and resource loss. Community composting initiatives in these spaces turn food waste into organic compost. This food waste is otherwise associated with the potent, if short lived greenhouse gas methane resulting from anaerobic decomposition in landfills. The compost is used on the gardens. In place of using pesticides, practices associated with organic and regenerative agriculture like increases in biodiversity and crop rotation are used to decrease the relevance and occurrence of large pest outbreaks. This demonstrates multiple tendencies at odds with metabolic rift.

The interviews conducted showed an overall support for the model as a method of public engagement and education as a response to crisis that has a positive effect on the surrounding area. In all interviews, an emphasis on various social and environmental goals via promoting food security as the overarching reason for the production occurring was noted. As a model, all three spaces in question are gardened communally, via a public produce model popularized by Nordhal (2014) in which all may appropriate garden produce at will without imposed limitations, as well as work within or contribute to the gardens themselves with minimal structure or oversight. All demonstrate novel issues and benefits associated with other CPRs and commons-based systems. The bulk of the produce generated within the gardens goes to various social projects within the neighbourhoods, such as food banks, community kitchens, or neighbourhood gatherings. Individuals and families may also stop by and collect produce. Volunteering in the spaces is not necessary to appropriate produce. The intention and distribution of the produce is inconsistent with Marx's distinction between the simultaneous dual nature of commodities, use and exchange. Collectively produced goods are specifically destined for use, but not sale (1867/1967, pp. 35-41). Produce is free, decommodified, and accessible to anyone able to enter the garden space or receive a delivery from someone associated with the space.

The distribution of produce is oriented toward the public. The majority of beneficiaries of the local project are those facing varying forms of economic insecurity, either via separate organizations or as individuals. This reflects the intention of the public produce model as advocated by Nordhal (2014, p. 100). Anyone is free to take produce from the garden, with an emphasis, and formal links, placed on social organizations that can use the food to provide further services for people who may otherwise lack food security (Pat Chisholm, 2023). The model is inherently equitable for any able to physically access the space. Social organizations may also claim from the harvests. Such organizations claim a plot to operate for their sole intended appropriation, should they choose to do so in both Sites A and B.

Links Beyond the Gardens

In the projects examined, other social/solidarity economy organizations feature prominently. Glenn Hilke, a founder associated with Site C and a local anti-poverty advocate, describes these indirect, cashless interactions while drawing attention to the wider capitalist economy and social economy as follows:

> [T]he garden, I would say, works on a wonderful pairing of barter system and volunteerism. And I would say the third part of it would be, related to barter, a kind of commodities exchange where other programs, whether they be for-profit or not-for-profit offer certain essentials that the garden needs. And it could be everything from seeds to plants for production and sometimes equipment, in exchange for you know, a future stakehold [sic] in what the garden produces. And so you know, the big difference from all the traditional models that are out there is that this garden has seemed to be able to maintain itself on very little money over the years and a lot of passion. And so you know, the passion part of things is absolutely essential in a program like this because, again, it's not individualized from the beginning right to (you know, the beginning of gardening season) right to the very, very end. It's only going to be successful if it works as a collective. And the collective has to be as broad a spectrum as possible. Not just people who are in the garden, you know, day in and day out or week by week, but also people that are on the periphery, external agents if I could say that, make a contribution to the garden because they believe in the spirit of it and it relates in some way or another to what they're doing, and they also know that it benefits the community as a whole.

In the context of Hilke and the Site C project more generally, much of the harvest produced is sent to a community meal centre. Differing from a conventional soup kitchen or charity model, the space is set up to resemble a restaurant that is not based on cash exchange.[5] In Site B, Liz describes the relationships with the town and districts.

> It is wonderful because like you have the [Town B food bank] and then there's another organization called [local food policy organization] that I'm a part of and we kind of work together on a lot of things including asking the town for funding and both organizations have received very positive conversations with the town and with the regional district. And just being able to like, get that continued support and that recognition for that work we're doing for local food culture and local food security it makes you feel really good. We know that we have their support when it comes to using that space for gardening and growing food and teaching people food literacy (2023).

[5] It should be noted that during the revisions process of this study, this space tragically lost a years-long battle with a coalition of opposed developers and municipal government. The space was purchased by a realtor opposed to the project who terminated the lease.

Historically, most of the food at Site B has gone through food bank channels. A similar arrangement exists in Site A, in which inconsistent funding streams have led to a coalition of solidarity economy organizations to support the space.

Some Issues Associated with the Model

Issues around distribution vary within these spaces by season and day. Some of these reasons may be obvious. In the absence of a locked gate, or in some cases even a fence, anyone can show up and take produce at any time. This leads inevitably to cases in which individuals or groups appropriate resource units from the spaces, such as produce or more problematically tools, without an eye to being engaged in the project itself beyond this action by showing up at night or in the morning when the space can reasonably be expected to be free of volunteers. This is a core issue associated with CPRs by Ostrom (1990/2015) as 'free-riding' on benefits without reciprocity, and its dominance in CPRs is the essence of Hardin's (1968) "Tragedy of the Commons."

Issues revolving around open-access spaces and free-riding are noted extensively by Ostrom (1990/2015) as regular issues associated with CPRs. Whether CPRs are able to find ways of working through these issues is a determinate factor in their survival.

> [O]ftentimes some of the produce is picked too early and so that is you know, we're seeing the broccoli, it's just starting to grow, we're gonna pick it now. And so some of the food is picked that way. It's usually community members. That's one piece where the produce goes (Seamus Damstrom, 2023).

There is little accountability for 'appropriators' in this context, and this can be frustrating. A notable incident in which an entire row of potatoes went missing from Site A was recalled with disappointment by participants. Yet the process works in both directions: some appropriate produce without intention of volunteering, but some also volunteer with little intention of taking:

> We have people come and only work, and hardly take anything at all. Often they sometimes have their own gardens, or whatever that might be, but they're certainly wanting to ensure that there's enough left for those who really are dealing with food insecurity (Pat Chisholm, 2023).

This generates some sense of ambivalence for distribution: those who feel a need to take produce can readily do so. This leaves the quantity of produce to be taken solely up to the individual, and questions of equitable access to be sorted out organically and on a case-by-case basis. Volunteers often have no idea where produce may wind up, but continue to donate labour and time. The appropriation of produce by any and all is part of the public produce model. How this happens is another question that volunteers, employees, and appropriators must sort out.

Monitoring and Enforcement Costs

Given their relative rarity when contrasted with private institutions, NCUPs and CPRs are not institutions that many individuals in urban environments in British Columbia are likely to engage with on a regular basis. Congruently, customs around how best to appropriate from CPRs or NCUPs is lacking in a general sense. Places in which typically commodified resources reappear as non-commodified resources rarely occur in neoliberal society, and are often limited to public libraries or foodbanks. This makes such organizations uniquely positioned to launch or act as anchor institutions for NCUPs or public produce projects given the familiarity of similar social arrangements in the fulfilment of their broader mandate. Unorganized appropriators should be expected to act in a selfish way, firstly because anti-co-operative behaviours are deeply ingrained in western societies (Hardin, 1968; Henrich, 2015; Lavie, 2023; Locher, 2016). Secondly, because knowledge of how to approach or appropriate resource units, whatever they may be, in CPRs is diverse and uniquely nuanced in each case, where developed appropriation practices exist at all. Because of this relative rarity, most would-be appropriators are unacquainted with the space. They therefore lack the socialization necessary to know the rules, norms, and customs of a space that others may knowingly flaunt (Ostrom, 1990/2015, p. 40).

At a certain point, social customs associated with spaces are adopted and become norms. In any social space, be it a business, a workplace, or a bathroom, there are social norms that are unconsciously followed (Henrich, 2015). In the context of non-capitalist production, CPRs, or commons-based distribution we might think of how a library functions. No money is actually exchanged, yet there are both cultural and physical basic safeguards

that are well known to encourage behaviours that are conducive to the continued functioning of the space. Few steal from libraries, and few would argue that these institutions do not work. A few missing books do not impede the overall functioning of the library. The social customs associated with appropriation of library books (and other materials) are widely known and adopted, allowing the system to function smoothly. Alternatively, widespread flaunting of rules may easily pass a tipping point that can spiral into Hardin's 'tragedy.'

In Site A and Site C, as with many public produce projects, questions of fairness may arise with what others may perceive to be unfair appropriative practices of collectively produced goods. A common way of resolving this is to associate or appoint a chief steward or to hire a labourer to help set, monitor, and enforce appropriation practices associated with the spaces. Monitoring and enforcement costs can take up a great deal of resources, including time for CPRs. Funding is routinely inconsistent, if not short, for such projects in South-Eastern British Columbia as elsewhere (Pat Chisholm, 2024; Seamus Damstrom, 2023; Koop-Montiero, 2021). As Ostrom notes, "the availability of low-cost facilities for recording and disseminating information about regulated activities will also decrease monitoring costs" (Ostrom, 1990/2015, p. 204). Given the paucity of institutions that function like this in urban environments, (both production and provisions of commons resources) 'low-cost facilities' may not be widespread and may vary widely between spaces, even in similar cultural contexts. This makes their implementation often innovative, unstandardized, and costlier in terms of time, whether a paid position exists or not. The Butler Urban Farm uses a system of chalkboards, a counter, a scale, and a notebook to record harvests and to create an informal system of accountability at the main entrance (Quist, 2021, p. 15). As obvious as this necessity might be in hindsight, this took multiple seasons of summer students and volunteers to learn to implement, and greatly improved co-operation from appropriators (Personal observations; Quist, 2021). The use of culturally relevant symbols may drastically reduce difficulties associated with recording and disseminating relevant information. Some form of standardization across NCUPs might help with this, if reducing diversity of practices between spaces. Nevertheless, there are trade-offs between institutional diversity/local relatability and efficiency when co-operative endeavors move toward centralization or standardization (Buber, 1949/1988).

Labour and Funding

One of the single biggest issues facing these projects is the uncertainty of and lack of a consistent and dedicated labourer. In spaces operating from NGO sponsorship or volunteers, funding is often precarious. In the case of City A, a labourer (funded by the Canada Summer Jobs Program) has occasionally found an hour or two per week to maintain the site through partnership organizations. All participants from Site A agreed that this has been helpful. There is a clear indication across sites that these NCUP spaces function better with some form of paid support. Ostrom's analysis within CPR institutions suggests that a dedicated individual or set of individuals must be in place in order to ensure that the rules apply and that their followers do not suffer the fate of becoming "suckers" who lose out on benefits of NCUPs by following rules widely flaunted (1990/2015, pp. 94-98). The benefits of following the rules or customs must be greater than the benefits of not following the rules or customs in order for a CPR to be sustained, and this takes work to establish and maintain (p. 30). This is often in ways that render linear quantitative production less efficient than the market might otherwise compel. A dedicated labourer can help support these practices and educate CPR appropriators.

Though these projects may be in place by and for the communities they operate in, having an effective, if not dedicated individual that has a determined role to be the primary caretaker of the space can be pivotal to their success or failure (Quist, 2021, pp. 33-37, Seamus Damstrom, 2023). Though often in CPRs individuals follow rules for reasons that are not coercive, to Ostrom:

> Almost all organization is accomplished by specifying a sequence of activities that must be carried out in a particular order. […] Making the switch, however, from independent to co-ordinated or collective action is a nontrivial problem. The costs involved in transforming a situation from one in which individuals act independently to one in which they coordinate activities can be quite high. And the benefits produced are shared by all appropriators, whether or not they share any of the costs of transforming the situation (1990/2015, pp. 39-40)

The importance of this social infrastructure in the context of the Butler Urban Farm is explicitly mentioned by Torres (2020) as cited in Smith: Torres identifies the success of the

social infrastructure of the farm in an urban environment with the project's success that year (2023, p. 96).

Inconsistent or bad seasons can occur in any gardening or farming operation. Yet in NCUP spaces, those involved must cope with an additional, if not primary economic factor associated with the social aspects of the space: inconsistent funding and/or a lack of compensated labour. In both Site A and Site C, there are stories of poor seasons in which inconsistent funding or a perceived lack of effort on the part of dedicated labourer reduced success. Problems easily arise resulting from missed upkeep or the inability of passionate participants to maintain their responsibilities in the face of joblessness or a requirement to work elsewhere and the demands it can place on other volunteers.

Seamus Damstrom (2023) insists that a dedicated worker, with stable funding, making a livable wage may be the best way to ensure the success of these projects. The inconsistent funding cycles associated with grant-writing and bad years is problematic. As a former summer student employed in the space, he mentions a particular year where "It was almost as if I had to start over again" upon revisiting the location, before divulging the need for a fair, living wage for someone to maintain elements of the site following an inconsistent funding.

This was mirrored in Site C. On this topic, Glenn Hilke (2024) asserted

> You know, that's been one of the challenges when we're working in a model that is essentially socialist to anti-capitalist, I would say that it's one of the biggest challenges in one of these models is "how do you sustain something like that?" The garden has been fortunate to receive over the years, I think without exception, access to federal funds from the Canadian Government for what's called the Canada Summer Jobs Program. And that has enabled the garden to sustain itself over the course of the years and some years it's only been one or two summer positions that have been available and in other cases it's been more. But the collaboration with other societies like the [food policy council] has enabled the garden to sustain itself as well financially through exchanges of services, equipment, volunteers from both societies as well. And then of course there are the individuals in the community that find out about the garden and decide that they want to participate. But you know to have a program as big as the garden has evolved, year after year, you know, begs the question: does it need to have a full-time employee and/or part-time employees assisting and what are the titles for those positions, and of course: Are these year-round positions or are they seasonal positions? So the answers to these questions are not easy.

It is noted that early administrative support is a strong predictor of the ability of communities to problem solve and community gardens to last in Toronto. Administrative support tends to decline over time due to both positive factors and negative factors (Jacob and Rocha, 2021, p. 560, 569). Community resiliency may then supplement this support (Ilieva et al., 2022). Though these spaces may not conform to models typical of business ventures, initial investment in the space can set the stage for greater community involvement and sustenance. It is inevitable that some practices will be found to be more useful than others. Some may be loosely generalizable, while others will be project-specific.

Though problems were noted with what Ostrom (1990/2015) calls 'free-riding' appropriators, all interviewees identified with the NCUP model in some form or another. Noting differences between the model and the way the economy tends to operate, the nature of the model, while based qualitatively on producing food, is not based strictly for quantitative production. It is based as much on education, community building, and demonstration of alternative, sustainable agricultural or gardening practices, often viewed in the context of crisis. Nearly all interviewees were content with the model, though in some cases tradeoffs were identified between the community-building potential, if inefficient nature, associated with the public produce model, and the relative efficiency, if exclusionary nature, of the private, fenced, and/or market model.

Shannon MacArthur (2024) noted that the distribution of the produce is

> [A]s varied as the strata of society. There are people who have lots of money. And they don't need to have their food supplemented with community food. However, they are bereft of the community, the company of the community, and through the gardens they can be a part of that. The people who need food often are working so hard in order to put their kids in daycare and taking care of their parents and all the rest of it. People have different needs and we need to have different (…) all people need to be included in this.

This demonstrates that while connected to the labour market and not immune from questions of funding, the emphasis within these projects appears oriented more toward fostering an inclusive co-operative productive environment than an emphasis on linear productivity. They are oriented toward a multifaceted approach to overlapping social and ecological issues.

The NCUP Model in the Broader Economy as Described by Participants

All participants noted NCUP and public produce spaces as differing in some way from the broader economy, if not the capitalist productive process explicitly.

On the Distinction Between Production for Use and Production for Exchange

Responses to questions of buying and selling produce as connected to these spaces generally framed cash/commodity exchange to be outside of the spirit of the projects. The projects have goals that are intentionally socially or environmentally driven rather than profit oriented. Deviating from this path of prioritizing commons over commodification may be necessary in the broader socioeconomic circumstances beyond the project. Yet this appears to be considered an endeavor out of line with the ideas within the project across all three sites. These goals are ideas consistent with the values of the solidarity economy as described by Amin (2009, pp. 4-6) and of those associated with the commons (Vivero-Pol et al. 2019). In the NCUPs in British Columbia's South-East, this might include community development, food security, waste reduction, promotion of biodiversity, education, and (more conventionally) quality and quantity of output. The inevitability of interfacing with currency and commodified social relations, beyond a dedicated labourer, was recognized both around the NCUPs and in any efforts made toward expansion of programming, either within the NCUP itself or in tandem with/adjacent to the NCUP.

When asked about buying and selling produce within these spaces, Melissa Maslany (2024), a volunteer with Site C, noted that this may make sense as an addition to the public produce garden in terms of value-added product creation:

> [Y]ou need funds to run a garden and it can be really challenging to have reliable grant funding. So it's one way to subsidize the garden, but also the way it is is really impactful to the community having like, free produce that people can access really readily and the diversity of food there as well is amazing. So if there was some sort of buying and selling I think it would look a bit different from like, any community member coming to buy produce there, I think that like, if there was value-added products or something being sold… I could imagine that because there's additional work in there. But yeah. I don't think it [the collectively managed area of the garden] should change.

This sentiment was echoed by Pat Chisholm (2023), from Site A:

> [P]art of our mandate is not just to grow food in our garden, but to grow gardening as an activity in our community, and as a way of improving food security in our community is to encourage other people to garden if they have that capacity, and so we feel like we're contributing to that by providing those perennials, especially to take away. And we've never discussed selling any pickable food, you know, any of our seasonal produce, we've never thought about that. Because it gets used […] I don't really see a… It doesn't really fit with our original vision. I don't know what that vision will look like when I'm long gone, but we'll see.

A similar idea was expressed in Site B:

> I was on the periphery, you know? And so knowing that I was hired for this because I made my love and passion apparent for this and put that out into the world, it's really quite wonderful. I met [Kate] this way and who shares this passion and that we both have an opportunity through our jobs to try and share that and instill that in others its very holistic it's very detached from treating food as a commodity, and actually just treating food as something that brings us together and makes us feel good (Liz, 2024).

The issue of interfacing with the broader economy via buying and selling commodities, while frowned upon within the space, is seen as a possible direction for growth and development of the communities and societies that exist outside of and as complimentary to the projects. This is described by Amin (2009) as a relatively common feature of the solidarity economy. To Glenn Hilke (2024) of Site C:

> Well, what I've discovered over the years is that there is more than enough food to go around to assist people who are food insecure. And I think given the level of overproduction and inefficient inventory control by the major box stores, the supermarkets in town, I think there is a role for a community garden to partner with other not for profit societies that address issues of food insecurity in our community to actually open up an alternative food market that is not based on the traditional capitalist system and may even go further than the traditional food co-op model where there can be a combination of food purchased at a very-very reasonable price, but also food that is free for people that would be made available free because given most likely Interior Health safety protocols, the best due dates, all of that, there would have to be some kind of a waiver system that would free a co-op type model like this to be able to distribute food that is perfectly fine for consumption but is not allowed to be sold in a traditional manner. And so what would that look like? I mean it would be a combination of maybe something like a 'free store' and a workers' co-op and a members co-op as well. So I think there is a space for that. And it's something that doesn't exist in our community right now.

This connection to co-operatives indicates a potential economic alternative noted by Lavie (2023) in terms of value-added or co-operatively produced commodities outside of the business models that are most typical in capitalist economies. This offers a greater degree of

social control over the productive and distributive processes of enterprises that conform to neither business nor government leadership and distribution structures and are more responsive to the communities they emerge from. What is explicit here is an aversion toward selling of food with the public produce project, and a determination to maintain the project as a space in which the food is available to anyone for free. Liz, (who reminded this was a personal, and not organizational opinion) voiced a strong aversion to commodification at Site B:

> I'm not growing this garden for it to be a commodity. We're growing it, and our aim with our program is to show people how to grow food for themselves and work towards food security. You know, obviously a small garden in the town isn't going to solve everyone's food insecurity problems but it does give people a little bit more autonomy and a little bit more empowerment. So one would hope that the participants will use the food they grow and also the education that they glean from the workshops that we put on because (we host food preservation as well as growing) and you know, eat that food and share that food but not sell it. I'm quite involved in the farmers market as well and I would be really surprised to see anybody kind of maybe using our consignment table to sell food bank food. […] With being in a small town people know each other. And the people that have expressed interest in the garden – if I'm not acquainted with them, I'm at least aware of them. This is just the people so far that have expressed an interest. And, anecdotally, I can't really see anybody being in that mindset of like 'I'm going to grow this food to sell it.' It's not something we've discussed in policy around the program, but my personal feelings toward it would be like, I don't know, it's not what we're doing this for (2024).

This sentiment was echoed by participants across all projects, while in one interview the idea of shifting the model away from the 'public produce' model toward a format of individualized beds more typical of other community gardens, or a hybrid of the two by expanding the overall space was noted as a possibility to increase productivity (Robert Holmes, 2023).

At Site A, the organizational form that oversees the public produce garden once oversaw a limited, separate, commodity-exchange based garden that was geared more explicitly toward maximizing production as a fundraiser. This garden experienced its own set of issues. In this case questions arose of what actually constitutes maximization of production when so many factors must be accounted for:

> [W]e were trying to grow beets and ingredients that we were going to use to create like this hummus that we would sell at the farmers market, and then that money would go in and then we were – it was like a social enterprise kind of idea. What we

> found out was that we couldn't have all of this there because people were taking it. So we actually had to rent a plot at the other community garden and grow the stuff we needed so that we had consistent yields, and we knew how much we were growing and we knew no one was going to come and pick it. Which again, I think that's a really interesting reflection to think about… (Seamus Damstrom, 2023)

What is clear here is a recognition of, and an intentional distinction between, a relationship between the open-access nature of the public produce garden as part of its mandate and it also being an optimally productive garden in a conventional sense. A clear choice has been made here that perhaps compromises the overall productivity of the space in favour of keeping it accessible to all and remaining unlocked. All interviewees from Site A as well as several from Site C noted a limitation in how productive the public produce garden could actually be when anyone could access it at any time. Developed appropriation practices associated with CPRs may mitigate this (Ostrom, 1990/2015). Simultaneously, the commodified, fenced garden may be more oriented toward a maximization of production without this limitation. But what does it mean to actually maximize production when this might mean excluding people or perhaps making unsustainable choices that are known to compromise the environment? The volunteers at Site A are in a unique position to contemplate, side by side, two models, and volunteers and workers within these spaces do exactly this. Practices associated with sustainability (no pesticides, etc.) were still used in both cases, but the question of what it means to simultaneously be sustainable, inclusive and accountable to the public, and productive enough to sell on a market are exposed in a way that might otherwise be missed, and limitations and intention of each model were noted by those involved.

On the NCUP/Public Produce Model in the Broader Economy

Interviewees noted significant links between their activities in the gardens and the issues they see in the world, as well as a connection to this being a small practical action connected to positive social and environmental changes. Beyond anything else, this form of community garden, and the projects associated with them, are seen as being a response to interconnected environmental, economic, and social crises. They are intended to be demonstration and education spaces oriented toward remediating socioeconomic and/or environmental issues. In some cases, these were explicitly connected to the capitalist system

of production. All interviewees noted that their public produce projects occurred as a response to multiple and overlapping economic and/or ecological crises; with the economic crisis felt most acutely from the housing sector, and the ecological crisis felt most acutely through severe weather patterns and drought. Through shared voluntary labour, the spaces facilitate discussions that range from garden/agricultural practices to broader social and environmental issues from which they sprung. In so doing, like other community gardens, the NCUP spaces embody a community resilience and agency in the face of adverse social and environmental conditions, as has been noted in the literature on community gardens by a wide range of authors (Ilieva et al, 2018).

In the broader scale of the economy, quantitatively, what is produced in these spaces is seen as relatively small and non-threatening to the dominant private, exchange-based commodity system. This view was most prevalent from Site A, which is also geographically the smallest investigated. All participants in Sites A and B asserted that the public produce model, at this time, poses no significant threat to supermarkets, local farmers, or business as usual. Nevertheless, some in Site C would like it to have more of an impact in challenging conventional production models. A local supermarket in Municipality A is in fact highly supportive of the project (Pat Chisholm, 2023). When asked of the relationship to the capitalist economy as a whole, every respondent differentiated their project from the capitalist system of production in some way. In many cases, specifically associated with Sites B and C, it was further indicated that the respective project represented something of an alternative model to that system, deliberately oriented toward reducing exchange-based barriers and biases implicit within the private property-based system of commodity relations. Yet this was not framed as an anti-capitalist project. This sentiment is perhaps best summarized by Liz at Site B, linking the intention of the garden to the problems she sees in the world:

> I don't like a lot of things about the industrial food complex. And I'm very passionate about locally grown fresh organic produce and equitable access to said produce. And [my coworker] also shares this passion and we have come up with and are going to do this communal growing program to hopefully, [like I said before], empower people and know that they can actually grow their own food. And take at least some control over the produce that they're getting and learn that like .. I don't know, it's quite a holistic sort of thing that we've got on the go. And it's not about money or affordability. We just, we don't want to bring any of that into this space. We want it

> to be like, a relaxing, soothing kind of … the way [my coworker] and I view gardening and growing food we want to share that. And I think that's something you can't buy in a store. At all. Does that make sense? (2024).

For some the intention may not be to challenge or pose a threat to conventional models of agriculture, sale, or business institutions, yet contradictions were noted between these two models. For others, the intention is to challenge conventional models by demonstrating another possibility in the face of an economy focused foremost on capital accumulation:

> The economy as a whole should be put in a hole and dug in. Deeply. The community garden is organic and […] it is tended with love and the nutrients are enhanced by the love. And there is a power that is infused into the things that are created and nurtured in that way that is not available to that, to the machines that rip the mycelial networks apart and I'm sorry… What is being done in our world to feed us is killing us. And it's killing our great mother as well. And it is criminal what they are doing. And it has to change. […] I'm kind of passionate about that (Shannon MacArthur, 2024).

On the NCUP Explicitly in the Context of Capitalist Production

Broadly speaking, capitalism appears to be the common theme linking the overlapping crises (housing, affordability, food security) to which the model has sprung up as a reaction to.

> Once again, I mean right now the main narrative around food security, even in the most capitalist centred circles is that corporations are gauging customers and clients with prices that do not at all reflect the cost of their production. And so that the retail model, which is purely based on capitalist supply and demand, is totally out of control and out of whack with no transparency and seemingly no regulations where you know the federal government of Canada is threatening to do, I don't know what, but you know that there's not a whole lot that they can do, you know, when these you know, enormous corporations are writing policy for them anyway (Glenn Hilke, 2024).

When asked about the links between the capitalist system and the garden, Robert Holmes described capitalism as both a condition of modern existence and something that affects our lives in terms of inflation and wealth inequality. Concerns about price and the devaluation of currency, as well as global instability, were noted as obvious factors to consider in relation to material production and the imperative to grow food:

> We all believe in capitalism. We all have bank accounts, right? We don't want the banks to fail, and seriously! Here's the thing! What people are missing on inflation,

> right is that it's all about the devaluing of the Canadian dollar. Right? Every time you turn around, and yesterday the US dollar got hit two percent or so. And we're a tag onto the US dollar. And I measure it in silver. Before COVID I could get a bag of groceries for two ounces of silver. And today, before silver takes off in value, a bag of groceries is two ounces of silver. Right? It's the devaluing of the currency that's causing grief. […] So I mean that's capitalism for you. [laughter]. The capitalists decide the value of the currency, and they're in the process of wiping out the currency. And the garden: What's a pound of carrots in Canadian dollars? It's creeping up also, isn't it? So that's a big separate study there (Robert Holmes, 2023).

This was immediately linked to education around wealth disparity:

> Are you familiar with the work of a French economist by the name of [Thomas] Piketty? I just had to scan through there and get a few things out of his study, and I gave the book to the library […] and I don't know if it's ever been taken out. But I mean think about it, seriously! Before the French Revolution, the die was cast as to who were going to be the landowners and […] the rentiers [laughter]. So I mean we're just a bunch of peasants out here, living in a paradise because we do have rent controls in this province. Think if you were living in another province, and they could evict you if you didn't pay 100% upcharge on your rent! What's going on in Canada? Now. That's philosophy! (Robert Holmes, 2023).

This sense of inequality and economic hardship as contrasted with the public produce model was echoed by Melissa Maslany of Site C, noting the relationship between unreasonably high food costs and the decommodified produce available at the garden:

> The concept behind [Site C], everyone deserves food, is such a polar opposite to what we are seeing in grocery stores today under capitalism and monopolies. The cost of food today is so high and it seems like more and more people are swiping food from stores and more theft prevention is being put in place because of this, but who is stealing from who?... On the opposite end, at [Site C] you can't really steal food (2024).

Glenn Hilke of Site C further noted issues associated with wealth disparity and overlapping crises affiliated with capitalist production:

> You know, the 'perfect storm' encapsulates everything right now. Every aspect of a person's existence. And you know, the only people that it's not impacting are people who, you know, literally are in the upper echelons of income and literally can speak about having disposable income. Which is a pretty strange concept when you think about the number of people suffering because they don't have any income (2024).

In some respects, the gardens are explicitly differentiated from this system of production which is viewed as causing these crises. When asked of the links between the garden and the capitalist system of production, Shannon MacArthur noted:

> What it brings up for me is they should be worried. The capitalist system. And honestly I don't care if they're worried. I want them to be replaced. They have created the world as we know it. And I'm not impressed. I … We have been dumbed down and disrespected in *so many* ways. They have us fighting wars *for them*. We are on the streets *broken by them* and their corporations. *Fascism*: I'm sorry, that's a swear word in some places, but you know, that's what it is. Here we are. Stuck in it. With our heads up… in … dark places (2024).[6]

That the idea of linear, alienable inputs and outputs, endemic in our current system of production, are challenged in a material way here was raised on several occasions. Participants are "trying to create circular, not linear" economic form that may run parallel to that system but that is qualitatively different. This attempt is associated with natural systems and systems that mimic natural systems in both a literal and analogical sense, like compost and life itself (Pat Chisholm, 2023). Yet such visions of organic and reciprocal systems are not exclusively contrasted *to* capitalist production, but may be seen as being endemic to the market system itself, in which elements compensate for one another. It is in this context that Seamus Damstrom (2023) noted that "The local food system is a living, breathing thing." This also echoes Raworth (2016) in a conceptual, circular and reciprocal economy that is more responsive to community and environmental interests than the 'linear' system we are accustomed to of inputs, outputs, and the inherent externalities of the current form of the capitalist firm. In the material landscape, these words may reflect an attempt at remediating what Foster has promoted as a *metabolic rift* within the ecosphere that is endemic to capitalist production, recirculating some amount of what is diverging via metabolic rift in terms of nutrient cycles (Foster, Clark, and York, 2010, pp. 45-47).

The overlapping crises of late capitalism noted by many research participants are largely what the public produce gardens appear to attempt, in some small way, to ameliorate. Among the participants interviewed, these key crises included a crisis of wealth disparity, embodied most explicitly in the housing and food security crises; and the ecological crisis, best exemplified in a destabilized climate and governments which are unwilling or unable to make the changes necessary to resolve these issues. That the gardens act as spaces for discussion, agency, and discovery were also common themes.

[6] "Dark places" is likely here an allusion to the utopian fiction of Ursula Le Guin, writing of tough lessons of humility for humankind (cited in Vettese and Pendergrass, 2022, p. 172-174).

Links to the Housing Crisis

Participants from all sites investigated demonstrated a concern with the housing crisis in British Columbia. A lack of and need for affordable housing drives up living expenses for many, while many others can no longer afford places to live. In both Site A and Site C, issues of sheds being used as temporary shelters for unhoused people have been recurring issues (Seamus Damstrom, 2023; Melissa Maslany, 2024). All interviewees expressing concern here noted the crisis as a structural housing crisis, not an identity-based 'homeless problem.' Robert Holmes notes that this is an issue that is present across the country, and many of our institutions remain caught up in obsolete development paradigms, specifically government:

> And housing is the number one issue across Canada. We know why we got here: it's because we threw away the book on community housing in the 1990s and all we got were a bunch of condominiums and country lots. There's nothing here to attract anyone that's earning less than $100 000 a year to live in. Nothing! Nada! And the city just finds two or three million to throw at a rink! Is hockey more important than housing? You know, seriously, they still think like they're in 1955: right? build a nice house, a nice bungalow, and have a green lawn, and take the free water and sprinkle it on the lawn [while in a drought]. That's the mentality! (2023).

The "book on community housing" that was thrown away likely refers to housing policy moves made under Canadian Prime Minister Brian Mulroney in 1993, when the federal government withdrew from financing social housing. This left the responsibility solely to the provinces, and eliminated much of the support for social housing and housing co-operatives that had been built up over five decades. This caused a large-scale implosion of the development model for low and middle-income housing across the country (Carroll and Jones, 2000). Though communities have at times self-organized within the wake of these cuts, the problem has not been resolved (Sousa and Quarter, 2004). In the ensuing years, this has in fact been compounded by surging land and rental prices within British Columbia. To Glenn Hilke, of Site C, the housing crisis is linked explicitly to a crisis of the capitalist system:

> [T]his is part of the crisis that we're in in terms of the capitalist system where housing is unaffordable, and because housing is unaffordable, everything else becomes unaffordable. People, as opposed to, you know, the model of not paying more than thirty percent of your income towards rent, we see people on average fifty percent and for some people who have physical and mental health challenges and have

> multiple barriers to employment: one hundred percent of their monthly income is going to rent. And so therefore they don't have any money left for food, medication, transportation, you know, all of the essentials (2024).

That community gardens can act as levers for gentrification or increased property values is noted by Ilieva et al. as a commonly documented negative effect associated with the practice (2022, pp. 16-17). A direct correlation between the garden and a new housing development was noted by Pat Chisholm (2023) from Site A:

> It's interesting, there is an apartment building right beside us and that apartment has been changed over from rental to individual ownership. They've condo-ized it. And on their website for the selling their real estate, one of the things that is a great advantage to that building is that there is a garden, a community garden right beside the building. And we are getting, we've had several of the people who rented there were involved, but now those people are being moved out because they can't afford to buy, and new people are moving in. And it's a different, I would say a different group of people that are moving in, obviously, buying these condos, and we have had a ton of interest from these people moving in. But it was interesting when we realized that we were, the garden was being used as a selling point for the condos and somebody said "Maybe we should ask for a commission on the sale of every condo… Be donated to the garden," you know..?

This reflects a certain irony in that a form of 'value' inherent in the NCUP may itself be reflected, and profited from, by the proprietors of the adjacent commodified spaces. In such cases, it is possible for this value to be partially absorbed within the private sector.[7]

Links to Environmental Crises

The most overwhelming and consistent issue every single participant linked to their actions in the NCUP is the question of growing food in a decreasingly stable and predictable climate. As carbon dioxide and methane emissions increase, the long-term stability of weather patterns is jeopardized. This takes the form of higher probabilities of severe weather events and the disruptions they cause (Gillett et al., 2022, p. 13). These have been demonstrated within the region in the form of increasingly severe dry wildfire seasons in the summer and unusual precipitation patterns in the winter (Province of British Columbia, 2023a). This is evident in changes that participants see within the public produce gardens:

[7] It is worth noting that as of November 2024, the land on which Site C is situated has traded hands, with adjacent lands planned for the development of affordable housing.

> So like the climate piece. I think that's the other piece that we've seen and that I've seen and coming back into it, our growing season it was – I always felt – when I was working in the garden, that I was behind, because it was like May […] our growing seasons have changed. Either they're getting shorter or like last year we were able to, Pat was able to plant corn in like March! Like we were worried about the frosts and everything. So that broader change in climate is happening. And we're seeing it right now (Seamus Damstrom, 2023).

Concerns about the driver of climate change and government inaction in the face of its cause, the burning of fossil fuels, was noted by another volunteer from Site A. Robert Holmes (2023) notes that:

> [b]ig diesel trucks come every day to our door to take away compostable waste because we've got a landlord who doesn't live up to the expectations to provide a container, A: for recycling, and B: compost! Our municipal government in good old British Columbia are totally in non-compliance with COP-28! Totally! Right? And the good old three Rs that we learned to practice and by bylaw supposed to be doing in 1980, we're still not doing it effectively.[8] […] I see things every day and I encourage people every day, please bring your compostable waste! Right? And you know, put it to the worms and the worms will restore the soil. It's a simple concept: Come and hang out! Pick up a spade now and then! Weed our crops!

This indicates both an interest in and astute awareness of international political agreements and the failure of our political institutions to follow through on our commitments. It links composting and soil building activity in the garden to a practical form of climate change activism and deliberate environmentally sustainable forms of food production that our government is not taking, all the while, in some small way repairing or mitigating broken nutrient cycles.

Participants attempt to contribute, in some small way, to the alleviation of greenhouse gas emissions and nutrient depletion by encouraging a more sustainable form of food production. Examples matter, and the people contributing to these spaces act as educators demonstrating the possibility of alternative productive forms. At the same time, they recognize that the perils of a rapidly changing climate pose a significant obstacle to the sustenance of human civilization, let alone garden produce. In doing so, participants offer attempts at closed-loop and sustainable systems, proving in practice that, as Gelderloos

[8] *Reduce, Reuse, Recycle* have long been emblematic of the waste-reduction movement in British Columbia.

(2022) claims with the title of his anarchistic polemic on the topic, that *The Solutions are Already Here.*

Issues associated with sustained funding demonstrate the separation of these two models: what is ecologically sustainable may not be economically sustainable, while what is economically sustainable may not be ecologically sustainable. This system of NCUP via public produce is recognized to be operating "in parallel" but not in competition with the capitalist economy as a whole (Pat Chisholm, 2023). When probed on the idea of selling some of the produce, Seamus Damstrom (2023) responded, it is "less about production and less about sales, more about connections."

On the Mandate of Public Produce Gardens

The gardens do not appear to be built on the basis of anti-capitalism, or even an overt critique of capitalism, though such sentiments certainly exist among many participants and are often inherent or implicit in commons-based systems (Vivero-Pol, 2019, p. 27). They are collective projects built to promote food security and/or food sovereignty and promote community empowerment while subverting the charity model. As noted poignantly by O'Neill (2019), the alienated nature of individuals under capitalism obscures the mutual dependence inherent in any society. The charity model associated with food banks, between donators and recipients, reveals this dependence, creating a stigma where our inherent mutual social *dependence* is recognized *only* in the needy. The commons-based production system demonstrated by the public produce gardens, especially when associated with food banks, represents an attempt to move beyond this paradigm.

These gardens are based on food security, education, community building, and as a practical, demonstrative response to multiple and overlapping crises around a necessity that all human beings require (food) that the market typically prevents from occurring within the dominant economic form. The commons can be seen here as an antithesis of the commodification process, as a "resistance to dispossession" that embodies not only "a commons in *use* but also a commons in *production*" [emphasis added] (O'Neill, 2019, p. 118). The public produce garden, in Site B especially given its explicit support from the local

food bank, represents a direct and materially embodied attempt at resolving not only a need, but the stigma associated with neediness through its use of commons *as site of production*.

Food Security

These spaces operate under a pro-social mandate resulting from being an offshoot of the NGO sector with an explicit mandate do this by growing food. For Liz (2024).

> And we want to know about our town you know when, and it's not uncommon even now, four years after COVID, there are shelves to be bare in our Save on Foods. We just want our town to have that resiliency, that buoyancy, And I don't think… I think that works in the opposite direction to why we have food scarcity, and that is because of the capitalist system, capitalist food systems. […]
>
> I think that our garden and the people that run it almost reactionary to the problems that we're facing right now. [Town B] for all intents and purposes is a food desert. People are hungry. People are … people who even in previous times had a lot of privilege are now finding themselves unable to access complete nutritious diets – me being one of them. That's why I started gardening in the first place.

Seamus Damstrom takes a less ambitious approach in this respect:

> I don't think it's realistic that we're going to be able to rely 100% be 'self-sufficient' but we're not in balance, because we also need to support the local food system and the local food system is a living breathing thing that looks very different. So that's also where I think the garden kind of interacts, it comes in, because it is showing, again, one piece of the puzzle of how you could support this broader kind of conversation around food security and food systems in a different way (2024).

Education

One of the core reasons the public produce projects exist is to provide an educational function. This motive was foundational for a number of the spaces. These were put together as a demonstration of food security and more sustainable ways of small-scale solution around this goal. This education occurs in both a formal and informal way. Conventionally, via organized visits and workshops, and less conventionally as organic, unplanned experimental practices and interactions.

School visits were mentioned by everyone interviewed from Site A as being foundational and inspirational for both students and volunteers. Schools visit the space for field trips and hands-on experience:

> It's a regular carbon recycling place. And when we get kids, which we do, again, and again and again and again, for my ten minute lecture on carbon recycling: that's where the key benefit is – is that we're a *teaching*, we're an outdoor classroom, for like the highschool, [they] have a program, [as] you probably do there in Kamloops, it's directed on those who want to get out in Mother Nature and learn important lessons about the environment and caring and that kind of thing. Well, that's the strongest motivation here is the educational benefits to the local schools. And the guides, and the scouts, and all these community groups that come and the lecture starts with carbon cycling, or recycling. (Robert Holmes, 2023)

Seamus Damstrom (2023) noted links between the formal and informal learning practices in the garden when:

> We would have school groups come through and we would just, you know, give permission to these young kids to just like, "go, we're going to have a scavenger hunt: get dirty! You have my permission to go and just like, get your hands mucky and just get in there," and all that kind of stuff. Then there was an experience one time where I remember seeing this child just kind of like over in the corner of the garden, just really perplexed or in deep thought and so I wanted to just go check on them. And they were holding a worm in their hand. And I was like "oh, what's up? What's like, what's going on?" And they're like "oh! This is a worm. I've only ever like seen it in pictures, or in a book!" And in my mind I thought "You've never seen a worm and you're like six years old!?" There's like… "what what what?"

In Site B, a school also has a garden bed which is tended by them within the space:

> We do partner with the elementary school over the road. The kids from the elementary school they have a bed. And that's their garden bed and they can come down and tend to it. They plant it in the spring and that's [Kate's] job as our education coordinator she hosts those workshops with those kids.[…] And also we have a forest school which hosts day camps in our garden space. So I think that being able to co-operatively use that space for these kind of programs which ultimately do good in the community – they're educational opportunities for children and local group. It would be great to see more of that (Liz, 2024)

These spaces operate as open-access education spaces. This occurs in both formal and informal ways. It revolves around developing hands-on experience and experimentation with sustainable and socially inclusive productive processes as part of a collective. They are designed in such a way to facilitate this in a land-based setting.

On the Future Direction of these Projects According to Participants

Many participants see themselves as challenging this system with aspirations to further these efforts through the development of more robust organizations crystallizing from

the social infrastructure of functional spaces, specifically in Site C. Others noted, on the basis of their garden, the idea may be limited in functionality to the one space and may not scale into other neighbourhoods effectively, this was most greatly represented at Site A. Visions of the future of these projects range from improvements within the spaces themselves to increasing the reach or even replicating the model itself elsewhere. The expressed purposes of these spaces revolve around food security and education to develop skills that may help participants and others produce their own food on other spaces, notably in home gardens or in other cultivable areas. In this sense, they are intended to spread the practices within the gardens beyond the gardens. Furthermore, there is evidence within Site C of an intention to spread the community or provision of resources beyond the space in its current form, while Site A is linked to an emerging indoor hydroponic farm. This will be used for year-round growing, allowing a greater diversity of locally grown produce in a climate in which this is not possible to do in the natural environment in these locations during winters.

Of the three spaces investigated, those associated with Site C demonstrated significant interest in expansion. All participants associated with this project voiced some form of an interest in either growing the model beyond the space itself, or deepening the impact of the public produce garden by using it as an anchor for other projects. One participant noted a hope for additional projects focused around an indoor market providing access to a greater diversity of food products. For Glenn Hilke:

> … I mean, the more we talk about it, the more we realize that this brick and mortar concept of having something that can be a potential paradigm shift is something that you know, is obviously needed, and you know, I think would take hold and get some traction given the state of the economy that we're in right now and the crisis that we're in (2024).

This visionary potential is seen by some as embodied in Site C: the garden space itself acts as a functional alternative ecological (if not economic) system that is an exemplar of a way the world might be. A proliferation of spaces like this is seen as a desirable outcome worth organizing for and educating others about, both in the local community and well beyond it. This is poignantly expressed by Shannon MacArthur on her vision for the future of Site C beyond the space:

> I have a larger vision than just [City C] and just the [C Site]. My vision is an interconnected network of community gardens that enfolds the whole earth and

> supports all of the communities everywhere with good food and good kids! You know? And this synthesis, this symbiosis, this synergy, of people and energy and resources all coming together in a place to create the environment that sits within the greater environment in a good way. That I believe is what we really need to be seeking and putting into place in our communities. Everywhere. I'm involved deeply with the educational aspect of it, the interconnection, the global connection of this. And how its going to manifest I don't know but I am deeply in the knowing that this wants to happen. And in that society, people like you who give passionately will be supported. And other people who are passionate about their family will also be supported and the education of you and them and their children and all of us are a part of the fabric of who we are as a civilization (2024).

When asked about what participants wanted to share regarding their projects, answers varied widely. Glenn Hilke, expressed a desire for a greater degree of university involvement in all aspects of the garden, moving beyond public sector education:

> [T]his relates to all departments. All programs. All degree programs. That the need for practicum students to help sustain would be a great contribution. And I would hope that's something that could be a regular part of the sustainability model of this program because practicum students are essentially volunteers, but you know they're also learning quite a bit at the same time, and members of the community are interacting with an institution that they might not otherwise have contact with (2024).

Shannon MacArthur noted that even more involvement from schools and social organizations would be beneficial:

> I really think that the schools need to be more deeply involved. I feel that the Indigenous community needs to be more deeply involved. I feel that the TRU [Thompson Rivers University] needs to be more deeply involved. All of us are aware in this time that we are, you know, we're in transition. We have a spring that is much earlier than usual. Climate crises are happening everywhere. We actually need to move the farm indoors where we can shelter our crops and work tending the soil and tending our kids and our hobbies and our interconnections out meetings and whatnot. All of this needs to be sheltered. As well as throughout our living environment in our cities. That's how I see it (2024).

The mandate at Site B was reflected as encouraging people to take the practices home with them and hopefully be more self-sufficient:

> A lot of people are drawn to the food bank garden because it's like so beautiful and it feels like such a nice safe place to be in and I think inviting community members in there to participate in it becoming such a beautiful place it's going to be talked about a lot in town and that excites me. Hopefully it will inspire others to sort of like I don't want to say 'do the same thing' but like maybe encourage people to grow more food.

Site A is linked to an emerging greenhouse production unit in which produce may be grown year-round in a similar manner to what several participants from Site C aspire toward. One participant from Site A was very interested in expanding the project (Robert Holmes, 2023). This was done on the basis of expanding the amount of food grown, rather than on the expanding the public produce model per se. In this case, the city has a parcel of adjacent land that is cultivable and Holmes is interested in seeing planted, but commitments to labouring existing spaces demand enough time from volunteers to prevent this from happening in the present.

Organic Social Connections as a Response to Crisis

One of the most consistent observations from Site A has been the socializing nature of the space, in which participants find themselves engaging with strangers on the basis of producing or harvesting food together. This is also reflected in experiences from Site C. Participants noted they often found themselves talking about issues ranging from local to global issues. This occurs as participants work together toward tangible common goals without compulsion. According to Seamus Damstrom (2023), “it’s the impact of being able to talk about things” like the unhoused, the stigma surrounding this, coupled with the equalizing nature of shared and voluntary labour that allows people to start breaking down barriers.

One would not be wrong to suggest that a social consciousness arises within these spaces uniting around food production. Robert Holmes notes that the garden offers space for socializing and dealing with forms of mental illnesses, as well as a space to discuss issues well beyond the garden, reflecting the meta analytical findings of Ilieva et al. (2022): “It provided like an oasis” in the face of the coronavirus crisis of 2020, given that community gardens were exempt from meeting bans, and provided a space for people to gather and talk about their concerns, social issues, and global political issues (Robert Holmes, 2023). A dedicated space with a common creatively-oriented project appears to allow for exposure to the unexpected, and the ability to overcome divisions as a part of a common cause of growing together. Community development occurs in this context of producing together as

well as exposure to new ideas and even life forms. Again, referring to the boy with the worm mentioned previously:

> And then I reflect again I thought "But isn't that so powerful that this space provided them with the interaction with nature that they haven't had for the six years, and been able to explore." And with that, that collective idea where you would have folks at all different stages of life come in and interact with the garden in a different way and learn something new and be able to pass that knowledge on – across generations, or, have that kind of community (Seamus Damstrom, 2023).

This is not limited to age-based knowledge transmission. Damstrom recalls:

> Some of my strongest experiences, some of my most impactful experiences have been from that garden, and it wasn't because I felt like I was growing food to support folks. I was interacting with the land that was growing food, but then I was able to meet people from all walks of life. And we had different views on certain things but we were able to like, sit in the garden and like, chat through it, or, I was able to meet people who I thought – folks who were unhoused, and I was able to meet them, and like "You guys are awesome!" This stigma, to like, break down barriers. […] I think it's the intentionality, and what is the expectation behind a garden space. AND: what does the community view as important? What are the values, like food and growing, is so much more than just nutrients, in my mind, so much more than how much we're growing, it's like the culture. And yeah, setting our expectations to think a garden could be a great space to like, facilitate some of those discussions and explore things, but not necessarily going to move the needle on some of the challenges around food security. We need a full spectrum of that.

> Eliasoph reflects this sentiment:

> When a community garden works, it is a tangible experience that leads to discoveries about the local society that participants could not have guessed by just reading about the neighbourhood. But it is not enough, because at best, they do not raise enough food for more than a few dinners for a few families (2013, p. 61).

This reflects the observations of a number of participants who flip the narrative, noting that while the food output of these spaces may remain relatively small, the example they present as an experience in community organizing and education is greater than that, with intended effects that move well beyond the spaces themselves. Liz, of Site B notes:

> It's all about, this program and the people that run it, we're all about fighting against that change that we've seen coming in the last few years. And like a little community garden in a small town isn't going to solve all the problems, but if it makes people feel good and encourages them to know that they've got a bit of power in their hands then that's definitely a goal that we've achieved if that happens it'll be a victory…

> It's definitely reactionary but that's why a food bank exists. [I]t is because people are being let down. (2024).

To Robert Holmes, "[i]f you run an effective meeting place like a community garden, there is no better place than to discuss what's happening in the world globally. While you're weeding out and watering your local gardens" (2024). This sentiment was echoed across all projects investigated. To Shannon MacArthur, in Site C:

> We need to take care of ourselves but our spirits are unhappy if we're not also helping others. And so if there is a way to show that that is happening, I think that that would help to show the value that is more than the food that is created (2024).

Liz, of Site B noted:

> […] I mean I know I work at the food bank and the reason I do it is because I just feel like the way the world and society is run now is just so unfair for so many people and they don't deserve it. And to be able to just kind of contribute towards empowering people and giving them knowledge and skills is just […] it's monumental. Like it feels like my life's work in a kind of roundabout way. It just … it doesn't play into that system at all! It can't be expressed enough! (2024).

It is evident that the three public produce gardens investigated are demonstrating and teaching practices associated with ecological sustainability. Though not overtly identified with the work of Foster et al. (2010) and with metabolic rift theory specifically by participants, a concerted effort is being made to demonstrate ways to repair this rift. By learning and providing space to increase food security from the ground up, a more 'cyclical' economic form emerges that is both literally and symbolically associated with the form of decomposition (in compost) and recomposition (in the form of edible plant matter). This is evidence of an engaged political consciousness that is challenging notions of capitalist food production by producing food in a different way, both socially and ecologically, as noted by Cody (2018) in Peru, reflecting the values of the solidarity economy as described by Amin (2009) in a productive environment that is anomalous to productive environments in the broader capitalist economy. Participants recognize this. Community development and agency are able to occur given the space and resources are available to grow food together in a collaborative way in these three NCUP sites as part of a commons-based system.

VI Discussion: Implications of the NCUP Across Three Sites

As a Productive Unit

Across projects, participants repeatedly noted two elements of the productive aspect of this farm/community garden, while implying a third and potentializing a fourth:

1: In the context of the market, production is not the primary goal.

2: Absolved from the market, production still occurs as a goal

and

3: In the context of those visiting, often they are visiting the site because it is productive.

(leading to the potential of)

4: Planned education events; Unplanned socialization and problem-solving

This demonstrates an inverse link between the *lack of incentive* toward maximization of production and the alienation of labour. In this context, the organic development of 'community' is allowed to flourish. The Site A public produce garden might not "produce a great deal but it does produce community" (Seamus Damstrom, 2023). It produces community because it also produces food, and it does so with unalienated productive labour in a social environment without expectations of commodity exchange.

Public produce gardens are oriented toward the public. In doing so, they may broaden the base of their supporting organizations, or build independent loose networks that might otherwise not exist, based on the land. Indeed, in acting, Ostrom notes, "Success in starting small-scale initial institutions enables a group of individuals to build on the social capital thus created to solve larger problems with larger and more complex institutional arrangements" (1990/2015, p. 190). Indeed, many ambitious programs start small. This is best summarized by Quist (2021):

> By putting into action a project which invites people in rather than fencing them out, and manages a space which relies on sharing over ownership, we can prove that people have the capacity to act with a community mindset over an individualistic one. While the system is not always perfect, it is worthwhile to try (p. 21).

In short, to prove alternatives, whatever they may wind up as, by building them in a material form and making them accessible to all. This is done by eliminating, on a small scale, exchange-based barriers.

NCUP in the Solidarity Economy

Within the city, links abound between NCUPs, public produce projects, and the farming and Indigenous communities on a larger scale. This is demonstrated clearly in the work of Smith (2023) who uses qualitative data to analyze food access resources in the region around the small City of Kamloops. Yet while collaboration and inspiration may be present on local scales, it appears rare for those participating in these projects to actively collaborate with those involved in other public produce projects or NCUPs of a similar nature from outside of their organizational institutions. One volunteer interviewed from Site C has participated in multiple spaces operating as NCUPs on Secwépemc Reserves, within the research area, and in Inuvik, Northwest Territories, which falls outside of the research area (Louise Marcelet, 2024). As a concept, they often lack centralized organs that might advocate for the advancement of this model more broadly within the economic system. They are chiefly used as demonstration, education, and food-security-building gardens or hubs by organizations with appropriate mandates, with varying degrees of success. The reasons for this may be twofold:

Firstly, given capitalist hegemony, it is unlikely for non-profit projects to receive funding or support on the sheer basis of productivity. Indeed, it may even be rare for an NGO to receive funding if overtly demonstrating a critical political consciousness toward capitalist production (Fong and Naschek, 2021). Were this the case, it would mean competing for ideological (if not economic) space with industrial and market farming, and conforming to the demands of production and the market. This would often, but not exclusively, demonstrate in a quantitative way, that the NCUP is comparably inefficient to a typical capitalist enterprise when measured by produce output. This is reflected in observations by research participants. The market is equated with a certain type of efficiency, and with reason (Ostrom, 1990/2015, p. 207, Vettese and Pendergrass, 2022). Other types of efficiency, such as a reduced need for marketing, or that production may be occurring on land that might

otherwise be unproductive, may easily be overlooked (Dorr et al., 2023). Yet far more than the linear market-value production of garden produce occurs, a point that is returned to time and again by all research participants: it is about the connections between all of these. The multiple functions embedded within these spaces are not so easily quantified as are the linear inputs and outputs measured in a typical unit of production or workplace. This is widely agreed upon by participants across projects. Nevertheless, these NCUP spaces, in the context of public produce link issues of housing, food security, and education through a productive process that is not oriented toward the commodity.

Such spaces move against the current of 'deskilling' as identified by Braverman (1974/1998), in which increasingly specialized labour under complex economies renders atomized individuals less capable of performing tasks that might in other times be considered essential to their survival. While the average knowledge in aggregate throughout the economy is increased over the course of capitalist development, this specialized knowledge winds up compartmentalized and polarized, between 'thinkers' and 'doers' in increasingly scientifically managed, or 'rationalized,' workplaces that in aggregate become more monotonous and less skilled for the individuals working them. The volunteer work presenting itself in NCUPs, on the other hand, is highly varied and does not conform to the market in the sense that the 'products' are not being produced for sale. Participants in these spaces gain skills while performing diverse tasks through voluntary cooperation in an informal setting intended for such interactions to occur.

Secondly, these projects appear to be formed for reasons that defy the capitalist ethos. They are constructed to fulfill multiple human or environmental needs, rather than for producing as much as possible for as cheaply as possible to turn a profit. They are thus able to become material and micro institutional embodiments of ideals that run counter to observable tendencies of capitalist production. In doing so, the communities involved are given an opportunity to define themselves in a materially embodied manner in the landscape. The unalienated nature of the labour that occurs here allows 'workers' and/or volunteers to seamlessly and organically move between physical labour, education, and problem solving. By the high standards of linear quantitative output set by capitalist agriculture or capitalist production generally, they may be relatively unproductive. However, the basis of

participation is obvious: people show up and participate when the space is actually productive in the summer, and rarely in the winter when it is not. Community members show up and grow food. They resolve problems together. They talk about global issues, and they contemplate solutions while engaging in practical, if relatively small, deliberate action, to both provide for themselves in some way, and to give back to their community in a way that mitigates the issues they have identified. It is far from an absolute utopia, but it may in times of drought and crisis, become "an oasis" (Robert Holmes, 2023).

Agency

What is clearly not observable in this study is centralized advocacy and a coherent plan to expand the model on the basis of them being NCUPs or public produce projects. An identifiable microcosmic 'parallel' non-capitalist productive model has emerged within such spaces. Yet it is clear that in the context of the broader society, there can be a great deal of uncertainty about the future of these sites. Because these are community initiatives with little economic incentive for expansion, often struggling for funding, there does not appear to be any coordinated political advocacy occurring on behalf of these three NCUPs or public produce as a model. Coordinated political action occurs as part of food movements or food banks as part of a broader mandate, but not as public produce projects or food commons. Volunteers and labourers work on their respective spaces with an emphasis on localization. The model itself may be anomalous or even radical in the context of the broader socioeconomic mode. An acute social and economic awareness is demonstrated, if not developed in these spaces. While spaces are enabled by their position within the solidarity economy, they may also be limited by their proximity and relationship to the NGO sector (Fong and Naschek, 2022). Yet their survival and proliferation may depend upon creating new categories and organizations to defend or advocate with or on behalf of a *specifically social* public produce model of community garden or urban farm. The social and environmental benefits they are correlated with warrant, in addition to their anchor institutions, more stable forms of funding. To Amin (2009):

> State support has to become part of a wide field of advocacy and intervention involving other institutions. A social movement has to grow around social enterprises,

> acting on their behalf, commanding attention, facilitating contact between them, and providing varied channels for support (p. 19).

Were there a cohesive expansionary element to these spaces, political organizing would be necessary. This question of buy-in and broader organization was raised by Shannon MacArthur with regards to the broader social economy within her city and beyond:

> How do we pull these people in to become vested, to feel like they are not only important as participants, but important as co-creators? So that they feel that they own a part of this thing that is helping other people. That healing is necessary for self-respect (2024).

The lines between volunteering and advocacy matter, and the effects of this advocacy will have differing effects depending on the types of organizations and strategies used to advocate on their behalf. Local food policy councils and food banks, frequently involved, if not leading these projects, offer one avenue of organizing, while providing a basis of social and environmental justice with which to organize from. Nevertheless, as Eliasoph (2013) notes in the context of the civil rights movement:

> It was not little local bowling leagues and singing groups that made democracy work, but the nationally "federated" associations whose members saw themselves as important political actors that did (p. 59).

In addition to local or even federated NGOs operating on a food security-related mandate, public library systems, which operate on a regional level in British Columbia, may offer another avenue of organizing due to their explicit mandate of resource provision via non-market avenues. As will be explored below, the public health system may offer another.

Summary

While views of participants vary widely, common themes exist between the issues they see in the world, their work, and the economic structure described by Marx and other critics of capitalism. These views are critical of the power of capital. This research has shown that though links and lessons exist and may be shared between NCUPs, in South-Eastern British Columbia there is not evidence that they are leading to directed *political* advocacy beyond the projects themselves by participants, and certainly not on behalf of the model at the time of this study. They are demonstrating an alternative form of production and participants see this. They are expanding and incubating novel social and environmentally

minded productive processes. Projects are often associated with a critical perspective on capitalist production.

The sites investigated form a material embodiment of another way of producing that is informed by personal values and the values held by sponsoring organizations within the solidarity economy. These values necessitate a deviation from the market to incubate, as the connective tissue ruptured by commodity relations is repaired in a setting in which production occurs but is not the primary goal. The model is viewed by participants favourably in terms of its social and environmental effects, and is seen as differing in substantial ways from elements of capitalist production. These social effects are viewed as positive, if small scale, by volunteers. Further research might be conducted (and shared) on what specific practices have made noticeable differences within such spaces in terms of co-operation and improved production and functionality of programs within the context of non-market based productive and appropriation strategies. These spaces may demonstrate an activity of labouring and volunteering based on a form of political advocacy that would be defined by Buber (1949/1988) as subsuming the political to the social, or by Marx and Engels (1848/1967) as Utopian Socialism. As persuasively stated by Vettese and Pendergrass (2022), the strength of utopian thinking comes from the "capacity to link food, land, ecology, and politics within a single analytical frame" (p. 60).

Areas for further research may include involving a greater sample size of commons-based, NCUP, and urban CPR systems. Measurement of benefits, such as food output or compost sequestration contrasted against paid labour hours invested is worthy of investigation in this region. Further research may also be inclusive of Indigenous-led NCUP spaces which are known to be cutting-edge, both within South-East British Columbia and well beyond.

VII Conclusion: NCUPs as Anchors

Toward a Health-based Food Sovereignty Approach in British Columbia

A health-based food sovereignty approach to food policy in British Columbia may help alleviate both greenhouse gas (GHG) emissions and reduce both associated supply side risks and demand side risks that will be exacerbated by climate change. Increased severity and frequency of weather hazards threaten to manifest as diverse risks, threatening the reliability of agriculture and shipping routes (Smith and Gregory, 2012, p. 24). Localizing production and encouraging organic practices may reduce some of the associated risks while lowering emissions and increasing urban biodiversity. In addition to environmental risks, those already facing food security related issues are at greater risks of climate induced food security stressors. These appear to be the primary intended beneficiaries of the public produce model, which may help inculcate a sense of community ownership and direction over such a project, while lending access to valuable resources and local knowledge about operating sustainable urban agriculture.

It is first worth separating two concepts of food justice: food security and food sovereignty. *Food security* can be said to exist when all have "physical, social, and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life" (Food and Agricultural Organization, 2006). *Food sovereignty*, coined by the movement La Via Campesina, is both inclusive of the concept of food security and adds the ability of communities to govern themselves and their relation to their productive food system – over land, water, seeds, air, and increased autonomy of producers and consumers relative to international markets and capital (La Via Campesina, 2003). Food sovereignty "starts with the concept of economic and social human rights, which include the right to food, but it goes further, arguing that there is a corollary right to land and a 'right to produce'" (Rosset, 2010, p. 191). NCUP garden spaces in Eastern British Columbia offer a functioning model embodying organization around food justice issues within urban environments in the province, using meagre currently available resources. This thesis argues for a food sovereignty approach toward food insecurity in the province that

includes a funded public produce program modeled on the NCUP spaces investigated in this study, as part of a more sweeping plan to reduce carbon emissions and improve public health. It argues that relatively simple local policy solutions may exist as safeguards to mitigate a complex problem with multifaceted risks.

Separating the issues of British Columbia's food system into two risk categories: supply side risks and demand side risks, allows for further development of risk assessment and policy proposition. Supply side risks involve the negative outcome of hazards that specifically affect the production and/or distribution of food, and/or those producing them. Demand side risks involve the negative impacts of hazards to consumers as a result of the current architecture of the food system in British Columbia. Climate change can and will exacerbate both supply side risks and demand side risks as they currently exist in British Columbia's food system.

Supply side risks tend to include low probability, high impact risks such as bad crop years, including decreased output per area of farmed land or unit of production (Smith and Gregory, 2012). They include increased precarity for farmworkers in this context, who are already racialized and marginalized in British Columbia (Cohen, 2019, pp. 137-144). Interruptions in transportation infrastructure present a proven risk to BC's food system, threatening the shelf-life of perishable food items and/or the delivery of foodstuffs to consumers (KFPC Communications Lead, 2021). Spoilage of food in transit may encourage shifts toward nonperishable foods. Ecological effects known to be associated with industrial-scale farming practices, such as ruptures in the nitrogen cycle, biodiversity loss, and soil depletion, which include GHG emissions constitute supply side risks in British Columbia's food system (Verschuuren, 2016, p. 54). Finally, a lack of land for many urban residents prevents individuals from producing more of their own food in regions currently tenable to growing.

Demand side risks include risks to consumers that result from the food system as is currently arranged. They tend to be higher probability, moderate impact risks to the individual, that taken over time accumulate and create higher impact risks. These may include unhealthy diets related to the food system and linked diseases. Cancer and cardiovascular diseases, for example, are associated with diets that are heavily centred

around meats and processed foods (Bella et al., 2017, pp. 402-410). Unhealthy diets concentrate fats in the body which absorb larger amounts of toxins such as pesticides (Dar et al., 2019, p. 125). Decreased reliability of foodstuffs lends itself to consumptive behaviours that may encourage the purchase of less healthy items as the costs of perishables increase or store shelves are emptied. Nonperishable food items are often unhealthy, and are likely to become more ubiquitous as spoilage risks increase.

Food prices are also affected by international conflicts. The occurrence of such conflicts is likely to increase as nations compete over increasingly scarce resources as exacerbated by climate change. The threat posed by climate change to national security in this regard is recognized by the US security state (Goodman and Baudu, 2023). Internationally, the escalation of the Ukraine Crisis in February of 2022, following the coronavirus crisis of 2020, has clearly accelerated inflation in Canadian food prices in recent years in a significant way (Nuño-Ledesma and Von Maslow, 2023, p. 404). This is more evident than any direct correlation between concentration in the grocery sector in Canada and food price inflation (p. 405).

Demand side risks also include social risks in the form of deskilling as identified by Braverman (1974/1998), as specialized economies reward specialized labour that reduces the overall ability of one to provide for oneself using a more complete set of skills applicable to many situations. Skills being lost in the food sector include the ability to produce and prepare one's own foodstuffs. These risks are disproportionately borne by the most vulnerable in society, and are bound to be exacerbated by climate change. These are also the primary beneficiaries of NCUP spaces in urban environments, which offer an organizing space to further develop more sovereign urban food networks as anchors.

Supply side risks and demand side risks are linked. As climate change decreases the recurrence intervals of hitherto high impact, low probability weather event hazards, it increases the probability of interruptions in transportation and farmland with greater frequency (Gillett et al., 2022). This means a restriction in supply of food is likely to increase prices and exacerbate further demand side risks. Those most vulnerable to food security issues are likely to be those most affected by these supply-side shocks as demand increases relative to supply (Munger et al., 2022, p. 818). This is likely to result in greater economic

disparity leading to poorer dietary options, and will result in decreased public health (Seed et al, 2013, pp. 457-470).

The health risks associated as demand side risks of poor diets are worthy of inquiry. Those with diets high in meats, for example, are at higher risk for cancer and cardiovascular disease (Bella et al., 2017, pp. 402-410). They are also at greater risk of depression and poor mental health (Walsh et al., 2023). Elevated health risks are linked to obesity and poor diet. These health risks are often linked to income and to price of basic foodstuffs, as well as other socioeconomic indicators such as ethnicity and gender (Munger et al., 2022, p. 818). The health sector in British Columbia has a history of running meagre programs in the name of food security that address demand side risks as an issue of public health and disease prevention (Seed et al., 2013, p. 459).

Structures are reinforced by cultural mechanisms, and the food system is no exception. Protein intake in industrialized countries is based largely on meat consumption (FAO and Our World in Data, 2024). The system of contradictory values and beliefs underlying the consumption of meat is often invisible – what Joy refers to as carnism (Joy, 2010, pp. 28-29). This indicates a lack of awareness among the population about the risks associated with meat consumption. Hegemonic and invisible consumptive choices are unlikely to be changed without some form of intervention or crisis. The South Asian community, making up over five percent of the British Columbia population, may be uniquely positioned to act as a lever on the food system of British Columbia toward a more locally produced legume and grain based diet due to a stronger history of vegetarianism from their cultural region of origin (Statistics Canada, 2023). Legumes and grains are far less resource intensive to produce a healthy nutritional profile relative to a comparable mass of conventionally produced meats by weight, reducing supply side risks (Shiva, 2016, p. 107). Legume and vegetable-based diets are also healthier in a general sense for the human body, and their promotion could reduce demand side risks exacerbated by climate change in British Columbia's food system by urban residents (Salehen et al., 2023).

A notable exception to this issue exists at the margins of the industrial food system. The meat inclusive diets of Indigenous peoples throughout Canada sustained healthy and reciprocal relationships with the land under non-capitalist modes of production from time

immemorial (Coulthard, 2014, pp. 60-64). Koberinski et al. (2022) explicitly connect these food systems to commons and food commons, conceptually separate from the highly commodified food system as it exists in Canada. The authors argue that a normative shift towards and inclusive of commons-based food systems might further empower such arrangements. This reflects the findings of Moscau (2022) that urban gardening in Winnipeg had a positive effect on Aboriginal health and wellness. Many Indigenous conceptions of health go well beyond the individual to encompass relationships to lands and non-human entities, which the existing industrial food system is clearly out of line with (Shiva, 2016; GRAIN, 2016). In this context, sustainable meat harvest and consumption often exist as a part of this more holistic understanding of health. These arrangements would often and easily fit a description of non-capitalist production. Furthermore, many First Nations communities run successful holistic food-based health programs oriented toward improving physical, mental, and spiritual well-being in the context of land-based practices (Gaudet, 2021; Robidoux, 2017). This puts many Indigenous communities in a position of leadership on this topic on this basis.

Kaplan and Garrick note that awareness is a simple, if partial, safeguard against risk (1981, p. 12). O'Riordan and Stoll-Kleeman (2015) provide a proposal toward a cohesive plan toward shifting culture away from meat-based (and otherwise unhealthy) foods toward more sustainable choices based on raising awareness. This would include interactive learning, progressive and continuous campaigns, mentoring, promotion of 'healthy food' streets and towns, and a shift away from policy measures that currently favour less healthful farming and eating choices, chiefly around the consumption of meat, toward options healthier for people and the planet. This should occur in social environments that are already conducive to learning and cultural development, such as churches, schools, and community organizations. The Province of British Columbia has the means to initiate this at the level of the public and post-secondary education systems as demand side measures. Sweeping programs conducted in the name of public health may provide a political avenue to reduce supply side risks in the food system as well as demand side risks by changing consumptive behaviours.

Environmental risk associated with GHG emissions is itself tied up in conventional industrial agriculture and forestry practices, which make up nearly a quarter of global emissions (Verschuuren, 2016, p. 54). On a planetary scale, GHG emissions are warming the average temperature of the planet and decreasing the recurrence intervals between severe weather events and therefore increasing the probabilities of associated risks (Smith and Gregory, 2012, pp. 22-25). These risks are varied and themselves become hazards that create more risks. In this sense, a changing climate is indeed a threat multiplier (Goodman and Baudu, 2023, pp. 1-19). British Columbia can expect hotter, drier summers, while increasing precipitation in the winters (Province of British Columbia, 2023a, pp. 18-19). Here, as on a planetary level, the key driver of climate change, GHG emissions, must be substantially reduced, and agriculture has a role to play in this reduction (Smith and Gregory, pp. 22-24).

The tendency toward less sustainable agricultural practices is due to the nature of the market mechanism and profit imperative of capitalism, and further exacerbated by a high concentration of wealth and power (Magdoff and Tokar 2010; GRAIN, 2016; Shiva, 2016). This is true across the metabolic rift (Foster and Burkett, 2016). Developing local small-scale alternatives to this system in the form of NCUPs may offer an opportunity to undercut both the social logic and environmental consequences encompassing both angles of the metabolic rift, effectively attacking the problem from both of its constituent elements simultaneously.

Local effects are readily apparent. The devastating fire and flood year of 2021 cut off portions of the transportation infrastructure throughout the province, disrupting the conventional food system (Gillett et al., 2022, pp. 1-13). As fire and flood evacuees were relocated, perceptions of hoarding emerged as some municipal populations expanded drastically overnight, amidst transportation cut-offs (St. Denis, 2021).

Current Notable Government Policy Interventions

The Province of British Columbia has initiatives in place that partially address risks on the supply side and the demand side of the food system. On the supply side, the Agriculture Land Reserve (ALR) has existed from 1973. This land classification was introduced with the intention to protect the limited supply of agriculturally viable land from development (Connell and Kral, 2022, p. 193). The ALR has a contested history of success in

the protection and preservation of agriculture in the province (Nixon and Newman, 2016, p. 227). Exemptions from this classification have not been insignificant in the Fraser Valley, a prime location for food production under heavy pressure for development (p. 229). Eagle et al. conclude the ALR has been successful in, at a minimum, preserving greenspace in the name of agriculture on lands that are viable for agriculture (2014, pp. 295-296). Though the amount of land under the ALR has remained stable over the course of its existence, it has been argued that much of this is owed to its expansion and that higher quality land is being replaced by land of an inferior quality through density transfers (Newman et al., 2015, p. 103). Access to land is imperative to food security (Connell and Kral, 2022, p. 192). The ALR classification has at the very least institutionalized this intention, and has led to the development of an 'agriburban' culture in the province at the rural/urban fringe that is willing to defend the land on which the food system is based (Newman et al., 2015, pp. 106-108).

To assist farmers and would-be farmers, the province promotes various subsidies to farmer training and business support in conjunction with NGOs. In recent years, British Columbia has invested in the development of a network of food hubs with the intention of creating spaces for sustainable food advocacy and value-added production (Province of British Columbia, 2024). While this funding is admirable and well-directed, it is occurring on nowhere near the scale needed to address the problem.

On the demand side, the BuyBC label program is a voluntary initiative for food producers to have their products labelled as products originating within the province, theoretically giving consumers the option to choose to consume products officially grown closer to home (within the boundaries of the province) instead of competing products. This raises awareness of product origin (Province of British Columbia, 2023b).

The British Columbia Association of Farmers Markets, in conjunction with provincial funding, offers a Farmers Market Nutrition Coupon Program (FMNCP) designed to subsidize healthy foods grown locally (BC Association of Farmers Markets, 2024). The current iteration of this program functions as a seasonal health-based subsidy to reduce costs for those experiencing food insecurity by offering coupons for those enrolled in food literacy programs, reflecting a poorly funded program along the lines of what O'Riordan and Stoll-

Kleeman (2015) advocate.[9] It is expressly equitable and aims to both educate consumers, while subsidizing locally grown produce sold in farmers markets. Scaling this program up substantially offers a key policy avenue for safeguarding against risk in British Columbia's food system.

Expressed Provincial Policy Interventions

In early 2023 the provincial government released its *Climate Preparedness and Adaptation Strategy Actions for 2022-2025*. It advocates the development of sustainable agriculture through agritech and regenerative practices "to help prepare for and mitigate climate change to ensure a food secure BC" (Province of British Columbia, 2023a, pp. 18-19). It is proposed to 'smarten' water infrastructure in the interior region for more effective and efficient watering practices (Province of British Columbia, 2023a, p. 26, 48). This addresses questions of unsustainable water use, which is posing an increasing risk to watersheds globally, including /in the interior of British Columbia (Brauman et al., 2016, pp. 1-12). The province also proposes to increase overall water infrastructure as zones move north (Province of British Columbia, 2023a, p. 48). This is a troubling move that is likely to exacerbate new risks associated with watershed depletion (Brauman et al., 2016). Trade-offs exist in any situation in which a greater amount of water stands to be used during dry periods in this region. This is especially significant when water is withdrawn from aquifer sources. While surface water flows may, in theory, be withdrawn during periods of high water and stored (and thereby replenished), this is often not the case with aquifers. Many aquifer sources are 'fossil water' sources that may be easily and permanently extinguishable within human timeframes if sustainable yield levels are not respected (Viessman et al., 2009, pp. 29-62). Surface flows, too, can be and often are depleted if sustainable yield levels are not respected (Brauman et al., 2016). The vast majority of water use globally is for irrigation of agriculture and livestock (pp. 6-7).

In May 2023, the province released two reports by advisory groups detailing intent to deal with climate change and agriculture through regenerative agriculture and agritech. The province's working group on regenerative agriculture proposes ten recommendations for the

[9] The FMNCP is inclusive of produce, meats, fish, and egg purchases from local farmers' markets.

government to act on with regard to regenerative agriculture and agritech as related to climate change (Minister's Advisory Group on Regenerative Agriculture and Agritech [MAGRAA] et al., 2023, p. 8). Two of these recommendations may easily go answered by a comprehensive urban agriculture plan as described below. On the demand side of policy safeguards, the province has expressed effectively nothing in this report as directly related to climate change.

Recommended Policy Interventions

The province and municipal governments in British Columbia can bolster safeguards relating to climate change in the food system to mitigate these risks from multiple angles. These might centre around localizing production to reduce hazards to food security in British Columbia while building food sovereignty and reducing GHG emissions associated with conventional agriculture: a key driver of climate change (GRAIN, 2016, pp. 12-17). On the demand side, interventions through the health system, or in the name of public health offer the best way to address demand-side issues, and are not without precedent. Weiler et al. note that food sovereignty and public health are increasingly viewed as linked in literature, largely owing to the more recent addition of the term 'food sovereignty' to the common lexicon relative to food security (2015, pp. 1078-1092).

Addressing supply using current programs and innovative localization programs is necessary. Firstly, the ALR must be strengthened, especially in urban areas. Allowing for zero ALR classification exemptions within city limits would prevent further development on what are often the highest quality lands, while retaining valuable food growing space nearest the points of consumption where food can be produced more efficiently (GRAIN, 2016, pp. 73-74). Furthermore, zero ALR classification exemptions should be permitted on anything classified as a Canada Zone 5 growing region or higher. These geographic zones experience less severe winter weather and are more ideally suited to growing a wide range of crops (Natural Resources Canada, 2014). They also tend to be in areas under threat of development near cities. It is noted that the ALR has led to a culture at the urban-rural fringe in 'agriburbia' in southern British Columbia that is linked to a food justice related identity that is prepared to defend ALR classification and push a food sovereignty agenda (Newman et al.,

2015, pp. 99-110). Food security and food sovereignty must be explicit policy objectives of the ALR (Androkovich, 2013, pp. 365-372).

Secondly, the province might subsidize the certification of organic farms from legitimate organic certification agencies. Organic certification is often a cumbersome, if not expensive, process in British Columbia as elsewhere (Rodale, 2010, p. 130). Nevertheless, it provides both potential for elevated income for certified farmers, and reduced risks associated with conventional farming, such as pesticide use and the 2.5% GHG emissions associated with synthetic nitrogen fertilizer production alone, not permitted in organic agriculture (GRAIN, 2016, pp. 12-16; International Fertilizer Association, 2016, as cited in Huber, 2022 p. 101). Upon making the decision to transition to organic agriculture, farmers face numerous obstacles to the transition itself, not least of which is an intimidating procedure in becoming certified by one or more certification bodies (Organic BC, 2024). Such a move might also put additional pressures on adjacent lands to reduce or eliminate pesticide use.

Thirdly, a provincial summer jobs program could be initiated for students on the basis of using otherwise vacant park/school spaces over the summer season to produce small community farms in each neighbourhood, using existing NCUP spaces as 'anchors' from which to co-ordinate these programs. These spaces are often already irrigated, saving the burden of technical know-how and start-up costs. This would assist in equitably allocating ability to grow in public spaces for those lacking access to land, and fit well with the intention of public produce gardens in South-Eastern British Columbia to act as open access learning spaces intended for people to replicate and lean on elsewhere. Such a program might build on and adapt from the precedent set by food sovereignty projects run by First Nations across Canada (Gaudet, 2021; Robidoux, 2017; Thompson et al., 2018). A well-designed program could begin to provide a network of local food growing resources at the point of production, utilizing knowledge gained through NCUP spaces in British Columbia to increase food sovereignty and food literacy while also tackling issues of social alienation, mental health, and reducing metabolic rift.[10] This echoes a similar practical "food as

[10] As noted above, *metabolic rift* is a concept introduced by Marx and popularized by Foster linking the social system of capitalism to ruptured nutrient cycles in the Earth system, such as nitrogen, carbon, and phosphorous. As such, it is uniquely positioned to address the ecological crisis from a standpoint that

commons policy lever" proposed by Koberinski et al. to adapt to climate breakdown and empower commons and public resources for Indigenous peoples by

> utilizing public properties, such as schools, libraries, municipal lands, and government buildings to initiate or amplify food commons projects. Public institutions can promote freely-accessible urban gardens, purchase and offer organic food in schools, hospitals, army headquarters and the like, include green rooftops as compulsory architectural measures, ban ultra-processed foods on their premises, or employ farmers as public servants (2022 p. 160).

This is done to empower Indigenous normative claims around food as commons, which are often at odds with the commodified food system (Koberinski et al., 2022). It is similar to Kent's (2019) recommendation of anchoring commons-based models in communities as part of a more comprehensive and sovereign food system.

Introducing a system of specifically commons-based public produce gardens in the form of NCUPs offers an opportunity to the province of British Columbia to incubate and demonstrate recommendations three and four proposed by MAAGRA et. al to the British Columbia Minister of Agriculture in 2023. These points revolve around creating "more demonstration projects that showcase the benefits and feasibility of adopting sustainable agricultural practices…" and developing "extension and support services to help producers assess the state of sustainability indicators on their farm (e.g., soil health, water, biodiversity) and make it easier to identify best practices that they can apply in their local context" (MAAGRA et al., 2023 p. 8). Such spaces in urban environments offer highly visible locations to demonstrate the province's professed commitment to agroecological practices in an interactive and community-oriented setting. They would likely, as with other small farming systems, stand up better against climate change induced environmental stressors than conventional agricultural systems due to relatively greater crop biodiversity – immediately making such knowledge more widespread (Altieri, 2010, pp. 260-262).

Fourthly, policies at the municipal level could be explored to incentivize the production of home gardens for those with access to land around their residences. Fledgling NCUP spaces in eastern British Columbia already have this mandate, and can offer

incorporates the social structure of capital accumulation that is directly linked to the disruptions within the Earth system that threaten to undermine the bases for continued life on the planet itself.

significant community organizing experience in the context of such a mandate with adequate funding. Such a move would address recommendations three and four of the ten summary recommendations by MAAGRA et al. to the Minister of Agriculture in 2023. Much of the best land for agriculture in British Columbia is occupied by urban development. Such a program has precedent in the victory gardens of the Second World War as documented by Klein (2020, pp. 166-168). Reduced water rates for households producing/distributing more than a given and substantial threshold of their own produce per season would reduce GHG emissions associated with transportation. It would contribute to creating a local food culture that is more resilient against climate shocks. Households may become less dependent on long distance travel and complex marketing chains and more reliant on local resource streams.

Municipal governments must suspend bylaws preventing the distribution of gardenside stands and lot sharing, and stand against insurance companies preventing such measures from becoming commonplace. The province might mandate insurance companies exempt neighbourhood fruit stands from insurance issues if they want to do business in the province – granting further autonomy to neighbourhoods in small scale development while removing this agency from unaccountable corporations. Following the logic of Sendra and Sennet (2022), cities might deliberately plan open forms in order to facilitate cultivation of more public produce projects by citizens themselves. Cost effective methods might include simply connecting some neighbourhood parks to water, power, and secure lockable sheds that might facilitate the organic development of urban agriculture in more spaces.

Addressing demand, increasing the scale and reach of the FMNCP is advisable. The province might further subsidize the production of food grown nearer to where it will be consumed by subsidizing local farmers via the purchase of coupons that are redeemable for greater value than the customer is spending at local farmers markets, with the difference made up for by the province. An expanded program would increase demand and both incentivize local farming and the purchase of healthier food choices by making food grown by local farmers more affordable. It would further reduce barriers to coupon acquisition present in the program's current iteration due to limited funding. Most British Columbia farmers' markets have a boundary zone delineating who may and may not sell based on a classification of local. This insulates local food producers from competition with the

industrial food system by limiting the customers' options in these spaces, as well as reducing overall transportation needs (Kamloops Farmers Market, 2023). This constitutes a potential policy intervention that is likely to bypass international and interprovincial free trade agreement penalties, as these limitations are set by the local farmers markets associations themselves.

Furthermore, incentives for the consumption of vegetable and grain products grown in British Columbia and Western Canada might follow a similar format of vouchers along the lines of the FMNCP. Incentives for consumers to visit restaurants serving locally produced legume, vegetable, and grain-based dishes would be likely to reduce risks of cancer and cardiovascular diseases associated with the consumption of meat, while edging the food culture onto a more sustainable consumptive path from the meat-dominated tendencies present in industrialized nations. Addressing this as a public health safeguard is key (Seed et al., 2013, pp. 457-470).

While the bulk of the policy shifts in agriculture must happen in rural areas, effective policies safeguarding the provincial food system against climate change related hazards may address, on a provincial level, a substantial reduction in GHG emissions that are responsible for increasing the probability of these risks by incentivizing local and organic production in urban environments. Addressing demand side risks as health hazards offers an opening to preventative medical intervention by encouraging people to eat healthier and reduce risks to themselves and their environment. NCUP spaces offer unique and replicable nodes of community praxis along these lines. Such spaces may incubate such a movement or culture as described by O'Riordan and Stoll-Kleeman (2015) from both supply and demand side angles by offering open-access spaces to unite around food issues while bolstering the solidarity economy as proposed by Amin (2009). Food sovereignty, the aspiration of developing a food system that is both capable of providing better-than-adequate nutrition for the community and is responsive to community needs, offers a lens from which to address the root causes of the issues: a lack of public control over resource provision and the ability for communities to operate autonomously.

Conclusion

Some forms of community gardens and urban farms within South-Eastern British Columbia operate as NCUP. Here the unalienated labour of a collective produces goods destined for use by the public rather than for sale on a market. These co-operatively, collectively run community gardens are associated with the public produce model popularized by Nordhal (2014). Many of the individuals involved in these projects appear to contextualize their actions as differing from the capitalist mode of production in significant ways, while associating capitalism as a significant factor linking various social and environmental issues. Participants see themselves as working, in some small way, toward a better future in growing food together. A sense of community is built in this context in locations that are relatively isolated but linked, if financially precarious. Though they are not explicitly intended to subvert capitalist production as an economic model, they may serve to exemplify better environmental and social practices that contradict the economic imperatives of more conventional forms of production while increasing community autonomy. These spaces are worthy of consistent public funding and support as part of a more holistic approach to public health and social solidarity.

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Appendices

Appendix A: List of Acronyms

ALR	Agricultural Land Reserve
BC	British Columbia
CBPR	Community Based Participatory Research
CPR	Common Pool Resource
FAO	Food and Agricultural Organization of the UN
FMNCP	Farmers Market Nutritional Coupon Program
GHG	Greenhouse Gas
JUMP	Jubilee Urban Municipal Project
KFPC	Kamloops Food Policy Council
KPPP	Kamloops Public Produce Project
NCUP	Non-capitalist Unit of Production
NGO	Non-Governmental Organization
TRU	Thompson Rivers University
USAID	United States Agency for International Development
USSR	Union of Soviet Socialist Republics

Appendix B: Interview Guide

1: Roughly how much (as a percentage of land base) of your community garden or farm is dedicated to collective production?

How well does this function and how do you feel about this?

2: Does your garden employ anyone? If so how many paid hours/week? Is this effective?

3: Where does this produce go to?

4: What are your opinions on buying and selling produce and the role of community production?

5: What do you think the future of your project holds? How can your space further maximize its impact?

6: How do you see your community garden as similar or as differing from the production process in the economy as a whole?

7: What is the connection, if any, between your community garden or farm and the changes/problems you see in the world? About the way things are distributed?

… Can you expand on that?

8: Is there anything else you'd like us to share in our study going forward about your garden?

9: Who holds the legal title to the land you operate on and how does this effect the way you organize here? (We won't tell them what you say)

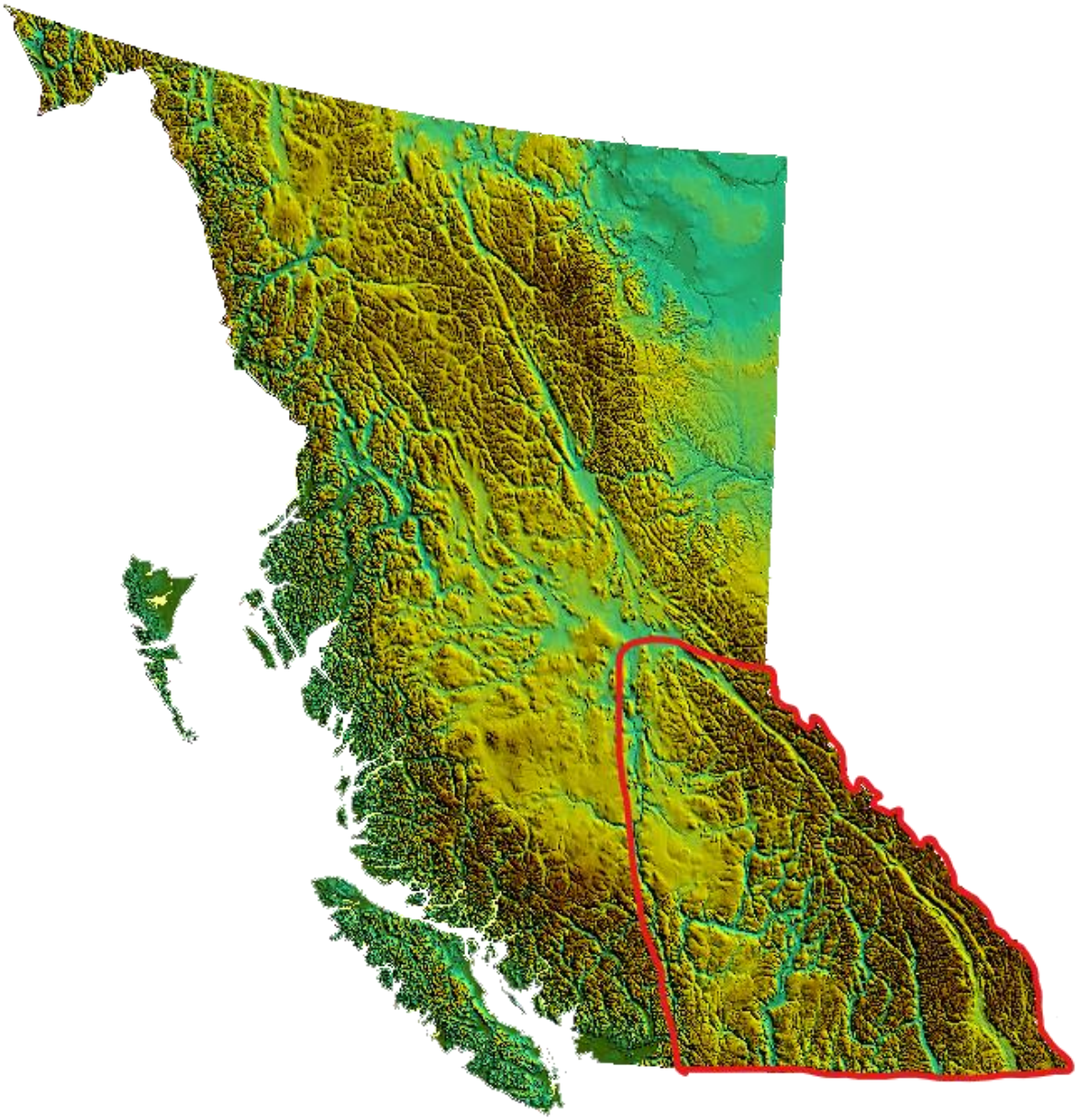
10: What is the relationship between your community garden and the capitalist system of production?

Title of Study: Community Gardens and Non-capitalist Production

Appendix C: Interviewees and NCUP Site Affiliation

Site:	*Name Citation Requested by Participant*
Site A	Robert Holmes Seamus Damstrom Pat Chisholm
Site B	Liz
Site C	Glenn Hilke Melissa Maslany Shannon MacArthur Louise Marcelet

Appendix D: Map of Study Inclusion Area South-Eastern British Columbia



Relief Map of British Columbia, Wikipedia. Public Domain.

Appendix E: Recruitment Poster

The Community Gardens and Non-Capitalist Production study is seeking research participants!

Topics relate to common productive spaces in community gardens and urban farms.

Photo: JUMP Gardens, Kamloops

To qualify, your community garden or farm must:

- *Have at least 10% of its space devoted to collective produce that is not typically traded for money*
- *Have at least five people involved*

The interview:

- Is completely voluntary
- Can be done individually, or can be done with fellow gardeners at your space. Either way, recordings will be anonymized
- Will take about 30 minutes per person
- Will involve the topic of collectively managed spaces

Participants will be entered to win a $25 gift card to West Coast Seeds.

Are you interested or do you have questions?
Contact Kevin Pankewich at 250 682 3735 or kevin-pankewich@mytru.ca.
Research conducted by researchers at Thompson Rivers University.