Food System Planning and Its Climate Justice Implications

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1. Project Rationale

Food systems and climate change are justice issues as they both: i) draw on historical legacies of racial capitalism and settler colonialism; ii) have disproportionate and unevenly distributed impacts across marginalized and exploited social groups and communities; and iii) have benefited the least from the ongoing exploitation of natural resources and people (Newell et al., 2021, p. 86). As urban dwellers increase in both total numbers and share of the human population, local governments are increasingly seen as having a role in addressing climate change (Colenbrander et al., 2018; Fisher, 2015) and food systems (Blay-Palmer, 2018; Roberts & Mullinix, 2018). Concurrently, local governments also are increasingly being critiqued and tasked to incorporate a social justice lens as a central criterion for city and food system planning (Fainstein, 2010; Horst, 2017; Horst et al. 2017), as well as a key element of climate planning (Amorim-Maia et al., 2022; Kim et al. 2018).

There is a broad spectrum of local government interventions in community agriculture, including community gardens, boulevard gardens, farm stands, and inner-city farming. As emergent food production methods that enable indoor farming such as vertical farming become more commonplace, the range of urban agriculture options broadens (Benyam et al., 2022). Complex and divergent sets of land-use legislation, policies, and practices are being employed by local governments to address, while also potentially unintentionally exacerbating, key issues facing their constituents, such as land dispossession, food insecurity, social isolation, community connectedness, social justice, etc. (Horst et al. 2017). Local climate action also consists of a large diversity of different strategies and approaches, involving both those that relate to mitigation (e.g., energy transitions, alternative transportation, etc.) and adaptation (e.g., heat regulation, stormwater management, etc.). As they do for food systems, local governments aim to address increasing climate challenges for their citizens, while also at times unintentionally creating more harms, such as gentrification that can occur with developing mixed-use walkable neighbourhoods (Jelks et al., 2021).

Urban agriculture strategies produce many co-benefits related to various sustainability objectives, such as supporting plant-pollinator relationships, providing opportunities for social interaction, improving local aesthetics and sense of place, etc. (de la Salle & Holland, 2010; Roehr & Kunigk, 2009; Waldheim, 2016). In addition, urban agriculture shares co-benefits with climate action, such as the provision of green infrastructure for temperature and stormwater regulation (i.e., adaptation) and reducing greenhouse gas emissions from food transportation (i.e., mitigation) (Reynolds et al., 2019). There have been increasing demands from civil society for municipal food and agricultural policy (Hiley et al., 2011; Morgan, 2013), and communities have made progress in this area. However, the benefits and burdens of community agriculture are not necessarily distributed equally, and agriculture must contend with inequities arising from its implementation and alteration of the urban landscape.

Community agriculture is being advanced in localities across the province of British Columbia (BC), Canada, with unequal degrees of implementation. Some local governments have been able to create stronger, more integrated food systems and climate change policies and practices than others. This is due to having and applying more financial, human, and physical resources, local government land base, political leadership, champions among local government staff, community-driven collective action, and non-profit sector vibrancy (PHABC, 2021). Furthermore, critical social justice questions remain:

- *Who is benefiting from local governments' climate/food system efforts?*

- *Who are most impacted by climate and food injustices?*

- *How are the most affected communities/peoples considered, represented, and/or participating in food system planning efforts?*

Silos in both governance and academia have resulted in gaps in understanding the intersections between food systems planning, climate action, and social justice at the local level. Accordingly, there is a need for increased understanding on how to build the capacity of local governments and food system stakeholders to embed and measure progress on climate justice efforts into food systems planning.

2. Project Background

In January 2020, the Public Health Association of BC (PHABC) received a Real Estate Foundation BC grant to explore inner-city municipal food policy and practice, focusing on Kamloops, Vancouver, and Victoria as case studies. The work involved examining current community agriculture practices and policies and ways of aligning them with community visions and outcomes. An analysis was conducted across the case studies to identify common themes and differences, to coordinate efforts, and to inform the development of stronger community agriculture policies and practices across BC. A report was created titled Urban Foodlands: A Case Study of Kamloops, Vancouver, and Victoria, which presented recommendations on how to further standardize policies and practices and reduce inequities across[1] municipalities.

Following up on next steps identified during this project, PHABC partnered with the University of Fraser Valley and Royal Roads University to begin the next phase of this project. In early 2022, PHABC was awarded a Real Estate Foundation of BC grant and the University of Fraser Valley/Royal Roads University was awarded a SSHRC New Frontiers in Research Fund (NFRF) grant.

The funded work held the following activities and objectives:

- *Review and provide feedback on an equity tool for an evaluation framework,*

- *Develop a framework for evaluating food systems policies and strategies for sustainable objectives,*

- *Create a set of performance indicators, and,*

- *Provide communication and knowledge dissemination to food system actors across BC.*

PHABC partnered with the University of British Columbia, Sustainability Scholars Program through the Sustainability Hub, and three graduate students joined the research effort to assist in the first phase of the project. The students respectively engaged in the following project activities:

1. Review of Urban Agriculture Initiatives in BC: An environmental scan was conducted of urban agriculture activities. A definition of urban agriculture was created with the intent of setting parameters that would support the environmental scan. A database was created that would enable the categorization of urban agriculture activities, which was populated through a web search.

2. Representation and Engagement Tool: An equity planning tool was adapted from the HEADSUP Framework (de Oliveira, 2012; Kerr & Andreotti, 2020) to focus on agriculture planning. A workshop was developed to support communities to answer the following questions: "How can social justice be embedded within food systems planning efforts? How can food system actors reduce the reproduction of problematic patterns of representation and engagement in determining issues and solutions?" While these questions are complex, the workshop had three components: (1) unpacking food system myths, (2) mapping social, political, and economic power relationships, and (3) applying the Representation and Engagement Tool to the local context.

3. Food Systems Planning Evaluation Framework: Comprehensive performance indicators, mapping, and evaluation framework development exercises were conducted. The project began with a literature review on existing sustainable food systems frameworks, evaluation theories and approaches, and social justice evaluation practices and indicators. An evaluation framework structure was developed based on a Logic Model structure and the data set of policy recommendations from the Urban Foodlands Case Studies of Kamloops, Vancouver, and Victoria. The findings were used to support the development of the activities, outputs, outcomes, and performance indicators mapped against the data set of policy recommendations from the case study analysis.

In addition to the above activities, the project explored the intersection between climate justice and food system planning with respect to the activities discussed above. The report focuses on this work, and it provides an analysis of urban agriculture initiatives across BC, specifically searching for instances where climate change is included in initiatives and featured on public websites. We follow with the description of an equity planning tool. This tool supports food system planning and addressing problematic patterns of representation and engagement of marginalized and oppressed groups and communities. Through the delivery of a workshop, we sought to identify how climate change was being included in community initiatives in Prince George and whether the relationship between climate change, food systems, and justice was recognized by participants as they explored power relations and assumptions around food systems and climate change. Finally, we examine how the development of a food systems planning evaluation framework from policy data across three municipalities describes climate change and where opportunities and barriers exist for assessing progress towards climate and food justice.

The following sections discuss the work done on climate justice and food systems planning. The subsequent section provides a literature review that defines climate justice and local food systems planning. Then, the report explores how each of the three project activities presented above relate to the link between climate justice and food system planning. The report concludes with a discussion on the links among the three projects and future areas of research.

3. Local Food System Planning & Climate Justice

Food planning arises as a response to increasingly distanced relationships between consumers and food systems (Soma & Wakefield, 2011). As proposed by Raja, Born & Russell (2008), contemporary food systems planning attempts to develop resilient food systems in the face of increasing trends of urbanization, agricultural industrialization, and global consolidation of the global food industry (Clapp, 2018; Nestle, 2015), as well as the impending impacts of climate change (IPCC, 2022). Local governments are increasingly seen as having key roles in developing resilient and sustainable food systems (e.g., Blay-Palmer et al. 2018; Milan Urban Food Policy Pact, 2018). Urban municipal involvement in the food system varies greatly between different provinces (MacRae & Winfield, 2016). Across the food system, where municipalities play a role in urban food system governance, generally there is no mandate for food production and supply.

Local food system planning practice is diverse and encompasses a variety of strategies and objectives, including:

- *Improving community food access (Campbell, 2004),*

- *Urban agriculture initiatives (Horst et al., 2017; McClintock, 2014),*

- *Alternative food retail, direct marketing, and farmers' market development (Raja et al., 2008),*

- *Conservation of agricultural lands (Caldwell et al., 2017),*

- *Siting and development of food and agricultural zoning (Cohen, 2018), and*

- *Sustainable food waste management (Soma, 2020).*

4.Project Activities and the Intersection between Climate Justice and Food System Planning

Contemporary debates regarding the role of local government include the potential for (and value of) localizing food chains and markets (Born & Purcell, 2004; Pothukuchi, 2009) and transitioning to sustainable food systems (Morgan & Sonnino, 2010). Scholars also focus on social and cultural issues around food and food access, examining topics such as food security (Moragues-Faus, Sonnino, & Marsden, 2017; Sonnino et al., 2016), food justice (Horst, 2017), and food sovereignty (Bowness & Wittman, 2020; Lavallée-Picard, 2016). Finally, some look at the role local governments have in food production, such as promoting/encouraging sustainable agriculture (Pothukuchi & Kaufman, 1999).

Current food systems have been critiqued for the longstanding inequities around food access and the disproportionate instances of environmental, economic, and health burdens placed on groups facing marginalization, exploitation, and oppression (Holt Giménez & Shattuck, 2011). Food justice scholarship has noted the structural inequalities that exist in the production, distribution, and consumption of food (Alkon & Agyeman, 2009; Mares & Alkon, 2011). Additionally, further risks to contemporary food systems converge around climate change impacts (Ostry et al. 2011). Increasingly, the development of resilient food systems is argued as essential for addressing supply chain disruptions, which affect cities' and regions' ability to provide food for residents (Zeuli et al., 2018).

Similarly, to food justice, the impacts of climate-related disruptions are not equally distributed across populations, with people of colour, women, Indigenous peoples, and the Global South bearing the greatest ecological, economic, and health harms (Roberts & Parks, 2007; Ciplet et al. 2015). Such inequities can be understood at global scales, such as how small island developing states (SIDS) include nations that produce the lowest volumes of greenhouse gas emissions but experience the impacts most acutely (Sealey-Huggins, 2017). The inequities can also be understood locally, presenting considerations for how local planning can be done through a climate justice lens; for example, urban heat island effects are experienced more severely depending on where people live in a city (e.g., Vargo et al., 2016) and whether they belong to a demographic that is vulnerable to extreme heat effects (e.g., O'Lenick et al., 2019). In addition, climate justice can be understood in terms of adaptive capacity, that is, whether certain communities are disadvantaged with respect to their ability to respond to the increasing impacts of climate change (Smith & Rhiney, 2016). Finally, climate solutions also carry social justice implications. Such implications are often presented through the concept of 'just transitions', which is a concept centered on how climate solutions, such as transitions to renewable energy, involve impacting current industries, such as fossil fuels, and the people that economically rely on these industries (McCauley & Heffron, 2018).

The concept of climate justice is useful to describe the unequal burdens and benefits of climate change action and the corresponding maintenance of unequal power relations preventing food sovereignty and democratic control over food systems (Newell et al. 2021). Furthermore, the tight coupling of food production, climate, and energy have shown that the increasing frequency and intensity of climate impacts (e.g., wildfires, drought, flooding) have caused shocks to agricultural production with cascading effects on farmers, farmworkers, consumers (Pellow, 2021). Extending the concept, Grosse (2017) argues for an overt societal movement away from fossil-fuel reliance and global capitalism towards democratic decision-making framed by a worldview that recognizes the interdependency of justice and planetary health. For example, the institutionalized stability of transnational food and agricultural businesses and the inability of both nation-states and grassroots movements for social change to transform these structures. The term climate justice is now employed in a growing body of literature with attention given to distributive and procedural dimensions of justice, and inclusive of issues of recognition (Schlosberg & Collins, 2014).

Review of Urban Agriculture Initiatives in BC

Urban agriculture initiatives across BC were found to include (but are not limited to) farmers' markets, community gardens, community-supported agriculture (CSA) programs, and microgreen market production. These initiatives vary in size, scope, and purpose., Across these initiatives, we found a patchwork of climate change linkages between urban agricultural activities and outcomes. Furthermore, across the initiatives studied, there was a general lack of focus on climate justice with little to no acknowledgement of the distributive, procedural, and recognitional injustices that can arise in food system initiatives oriented to addressing climate change. For example, many initiatives are for-profit businesses that primarily target middle-upper scale restaurants and their consumers; therefore, with respect to food systems resilience in the face of climate change, improving local food production and shortening supply chains appear to be primarily benefiting wealthier demographics.

While generally urban agriculture initiatives neglect climate justice, one example does warrant further discussion. The Downtown Eastside (DTES) Neighborhood House Urban Farm (Vancouver, BC) recognizes that marginalized groups are disproportionately affected by climate change and rising food prices due (in part) to climate impacts. In addition, DTES identify food justice issues experienced by these individuals, particularly that they do not always have access to nutritious foods. Through this stance, the DTES urban farm includes distributive, recognition, and intergenerational climate justice. Furthermore, this initiative includes i) drop-in programs that allow residents from Vancouver's DTES to plant, grow and harvest food from the farm (teach urban farming skills), ii) drop-in programs targeting youth specifically (intergenerational climate justice), iii) drop-in programs on food literacy, healthy meal preparation, and culinary exploration

Developing a Representation and Engagement Tool for Food System Planning

Marginalized and oppressed groups and communities are often disproportionately affected by the impacts of climate change. For example, Indigenous communities were recently affected by wildfires and floods in BC, such as those living within and near the Fraser Valley region, and these events disrupted their food systems and food sovereignty. An ongoing issue in food system planning is that of representation and engagement around determining the nature of problems and determining solutions and food system visions/goals.

Recognizing the difference in power relations of groups that are more severely impacted by food system failures and changing climate, it is imperative to interrupt harmful patterns that represent these groups in paternalistic ways, or as needing to be saved/helped. Furthermore, issues of engagement are found to be prevalent with expectations of conformity to local government planning processes, which often are limited by significant barriers to participation. Accordingly, we conducted a capacity-building workshop with a group of food systems actors in Prince George. Our primary goal was to foster individual and organizational capacity toward incorporating an equity lens to address historical and contemporary harms, reduce inequalities, and avoid replication of harmful practices. To this end, we adapted an analytical framework developed within the field of education studies to identify, examine, and debunk common myths and assumptions that perpetuate injustices in food systems during the workshop (de Oliveira, 2012; Kerr & Andreottim, 2020).

Climate change was not frequently discussed in the workshop; however, it was mentioned by one of the groups tackling the white supremacy cultural myth of "if they only knew." The participants cited common examples related to climate change and environmental sustainability. These included: food waste reduction can be mitigated by giving individuals knowledge on how to do things at home, and a shift toward vegetarian and vegan diets has potential environmental sustainability benefits. Thematically, discussions focused more explicitly on food justice citing disproportionate impacts of hunger on Indigenous communities and lack of self-determination and control over food system decisions. No connections were made between climate justice, food planning, representation, and engagement during the workshop.

Food Systems Planning Evaluation Framework

Governments often implement interventions to address food systems-related issues without considering the root causes, the context, and the possible negative impacts. Provincially, food policy responsibility rests with the BC Ministry of Agriculture, Food, and Fisheries, despite food systems issues stemming from various causes that are within the purview of a range of Ministries and different levels of government. These root causes include environmental, health, social, and economic factors. As the food system spans across multiple regions, government scales, industries, and sectors, the actions and policies of decision makers are often disconnected from those doing front-line, food system work. This results in siloed efforts that inadequately address complex and interconnected issues. Such challenges are also seen with climate change and are further compounded by a lack of data, evaluation, and coordination across municipal, provincial/territorial, and federal governments in implementing local climate action.

Climate change disproportionately impacts the most vulnerable, and these groups may not have the ability and/or resources available to adapt to these impacts (i.e., adaptive capacity). As a result, it is essential that justice considerations are factored into policies and interventions implemented to address climate change and food systems disruptions. Evaluations are an effective tool that planners and governments can use to identify gaps and the needs of communities, including marginalized groups, to improve existing policies, interventions, and programs. Participatory action research and evaluation can be beneficial in that it opens opportunities to consult and actively engage marginalized groups. By engaging with marginalized groups throughout the process, local context and social justice considerations are built into the approach. This serves to promote long-term support of the policy, intervention, or program in question. Similar to food systems work, it is equally as important to engage with marginalized groups and ensure their voices are heard in climate change adaptation and mitigation-related work. Promoting climate strategies and resilient food systems are linked to better community outcomes, higher incomes, and improved well-being of the most vulnerable.

Given the complex and disruptive cycle between food systems and climate change, interventions and policies that lead to co-benefit outcomes are highly advantageous, especially for local governments with limited resources and support. For example, an activity under the Economy theme of the evaluation framework involved a requirement for developers to add food-related amenities to new developments. Although the primary outcomes are to create jobs and increase access to fresh and nutritious foods for communities, this activity can also lead to improved public health and mental well-being, while reducing food miles and food deserts, leading to a decrease in greenhouse gas emissions. These types of multi-outcome generating activities maximize resources while streamlining efforts. As such, this promotes a more integrated, coordinated, and justice-centered approach to transforming the food system across the province to be more resilient and sustainable.

5. Discussion and Conclusions

Food systems in BC are increasingly vulnerable to the impacts of climate change as evidenced by the 2021 major flooding event in the Fraser Valley region, increasing severe wildfires, and extreme heat events. These environmental shocks result in disproportionate impacts to remote and Indigenous communities, people experiencing homelessness and poverty, and racialized communities. However, the range of responses to food system vulnerabilities varies greatly across the province depending on local government capacity, resources, social organization, and political will.

The final project attempts to weave together a common pattern that was identified in the examination of Urban Foodlands: A Case Study of Kamloops, Vancouver, and Victoria. Across these three locales, the integration and development of food system visions/goals were often disconnected (or absent) from the range of proposed actions (e.g., community gardens, rooftop greenhouses, boulevard fruit trees). While equity and social justice were present across the three cases as a goal, there were few initiatives oriented to its achievement. Additionally, communities noted that measuring progress towards vision/goals was challenging, particularly for the equity and social justice dimensions. This component of the project brings together, through an evaluation framework, a means for local food system actors to demonstrate progress toward their goals/visions. A central component of the framework is the application of an equity lens and set of performance indicators and measures. These, in turn, support community capacity building and progress in determining which projects, policies, and other interventions can provide co-benefits for those most impacted by changing climate and food insecurity.

While the approach employed in this project is reformist, we argue that the state and local food system actors have a key role to play in addressing food and climate injustice in the near future. However, we also emphasize the need for progress on abolitionist approaches that dismantle the institutions and norms. These approaches point to food system futures that do not rely on global capitalism and an extractive approach to people and planet (Grosse, 2017) and that are able to address the unequal power relations that continue to operate in our understandings of government and of different ways of knowing and being. Furthermore, the complexities of a changing climate both in terms of food system impacts and addressing responsibilities (particularly in the Global North) will require recognition of the structures that reinforce and exacerbate existing and future food and climate injustices.

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