

Circular Economy

A “Right to Food” Framework for Tackling Food Waste and Achieving a Just Circular Economy of Food in Vancouver, British Columbia



Acknowledgements

Territorial Acknowledgement

This report was commissioned by Vancouver Economic Commission (VEC), working on the unceded territory of the x̱m̱əθḵʷəy̱əm (Musqueam), Skw̱x̱w̱ú7mesh (Squamish), and sə̱lilw̱ətaʔł (Tsleil-Waututh) Nations. These Nations have cared for lands and waters of 'Vancouver' since time immemorial. Vancouver is a City of Reconciliation and VEC, an agency of the City, commits to forming sustained relationships of mutual respect and understanding with local First Nations and the urban Indigenous community. VEC commits to making significant progress in better understanding the full breadth of truth and reconciliation, and aims to develop respectful and sustaining relationships with the local Indigenous community to support and collaborate on economic opportunities.

Participation

The author would like to acknowledge the generosity and expertise of the participants, who shared their time and invaluable insights for this project. A special thanks is due to Indigenous food and medicine expert Leona Brown, who readily shared her knowledge and whose message of reconciliation this report would like to centre. We would like to share the following message from Leona:

"A Gitxsan and Nisga'a mother of three children, of the Fireweed House and the Killerwhale Clan, I am an Indigenous Independent Cultural Facilitator. I gained three years of training in Land and Lives around Indigenous Culture with the Resurfacing History Program coordinated by Jolene Andrew. This work has become my Healing Journey; the grassroots teachings and knowledge is shared with my children. This knowledge is important to know who we are and where we come from, and how we live with the Lands and Waterways around us. I advocate at every opportunity, with School Boards, City of Vancouver, and Vancouver Parks Board, for all opportunities for Indigenous People to relearn our culture on the lands and waterways that we live on and actively talk of Reconciliation."

Advisory Group

This research would not have been possible without the contributions of an expert advisory committee. The author would like to thank the committee for their guidance, knowledge, openness, and honesty. Their passion for creating a sustainable and equitable food system sets an example for future researchers on how one can integrate advocacy into research in a rigorous and professional manner.

Erin Nichols

City of Vancouver, Solid Waste Strategic Services
Project Manager II

Sarah Carten

City of Vancouver, Social Policy & Projects Division
Social Planner II

Kim Winchell

United Way of the Lower Mainland
Senior Director, Strategy & Operations

Dr. Tammara Soma

Food Systems Lab
Director of Research
Simon Fraser University
Assistant Professor

Meg O'Shea

Vancouver Economic Commission
Senior Manager, Economic Transformation

Funding

This research was completed with support from Mitacs Accelerate internship funding.



Prepared by

Jamie-Lynne Varney

Simon Fraser University
Master's Candidate, School of Resource and
Environmental Management

Published October 2021

Executive Summary

Vancouver Economic Commission (VEC) seeks to promote a just circular food economy in Vancouver by identifying solutions to address the complex challenges of an inequitable and wasteful food system.

A "Right to Food" Framework

This technical report takes a novel approach by incorporating a "right to food" framework to support a circular food economy that designs waste out of the system, promotes food security, and centres justice and equity. Diverse participants with lived expertise across the food system in Vancouver were consulted to identify root challenges, opportunities, and potential interventions to achieve their vision for a just circular food economy in Vancouver. By incorporating 20 unique viewpoints from participants and feedback from an expert advisory group, this research applies a theory of change to identify enabling conditions and interventions, which will provide VEC and City of Vancouver (COV) with actionable solutions to support a just circular food economy.

Key Findings

Vision

Participants envision a just circular food economy that values food as a human right; minimizes resource extraction; prevents avoidable food waste; facilitates dignified access to sufficient quantities of food that fulfil physical, spiritual, and cultural needs; and upholds the rights and labour of workers. This vision is enacted by a network of food systems agents, and enabled by the following necessary components:

- 1. Robust local food supply chains**
- 2. Strong relationships built on reciprocity**
- 3. Healthy ecosystems and regenerative foodscapes**

Key Statistics

11.5%

of households in Vancouver experience some level of food insecurity.¹ Indigenous and Black households, and households with children, are disproportionately impacted by food insecurity²

35.5M

metric tonnes of food is lost and wasted in Canada annually³

32%

of all food lost and wasted is avoidable⁴

\$49B

is the cost of avoidable food waste each year in Canada⁵

42K+

tonnes of food waste in Vancouver was diverted from disposal in 2018⁶

\$195M

of estimated annual savings is possible across the local food system by adopting a circular economy⁷

8,000+

green jobs were dedicated to local food and material management in Vancouver in 2016⁸

Challenges identified by participants

Participants with lived expertise identified the following challenges as key barriers to developing a food system that prevents waste and promotes food security in Vancouver:

- Stringent aesthetic standards for produce by retailers and consumers.
- Lack of consistent date labelling.
- Lack of harmonized packaging standards.
- Lack of support for local food procurement.
- High costs for infrastructure that reduces waste and supports food security programs.
- High cost of land.
- Low wage food economy.

Framework for implementing change, enabling conditions and interventions

In addition to the “right to food” framework, several municipal plans and strategies – including *Metro Vancouver’s Climate 2050*, and COV’s *Zero Waste 2040*, *Vancouver Food Strategy*, and *Vancouver Plan* – intersect with the proposed interventions identified by stakeholders. Enabling conditions support the implementation of potential interventions and are influenced directly and indirectly by VEC and COV. In this research, supportive legislation and strengthened systems of accountability emerged as two key enabling conditions that may increase the likelihood of positive outcomes.

The following potential interventions were identified by participants (for detailed explanations about potential interventions, see section 4.2):

- Adopt clear regulations and incentives that reduce food waste based on the food waste prevention hierarchy and redistribute wealth.
- Adopt concrete targets for local and social procurement.
- Secure space to grow, preserve, and harvest Indigenous plant foods and medicines.
- Assess impacts on food systems as part of future land developments and ensure affordable spaces remain accessible.

- Shorten supply chains to close loops on non-organic and organic materials in the food supply chain (i.e. packaging and food).
- Improve access to funding for non-profits and social enterprises to implement place-based circular food economy practices.
- Strengthen and scale up local food infrastructure for cooling, storage, processing, and distribution.
- Strengthen existing, and support creation of, CSA and land co-ops to shorten the distribution chain from farm to consumer.
- Support advocacy and education initiatives to explore social and cultural values of food; empower citizens; and build social infrastructure to support poverty reduction, and food loss and waste awareness.

"We need to get consistent on some of... the basic terminology, and then co-ordinate a really concerted strategy that's going to be taking the strengths of those different organizations and applying them to it to address these issues."
(Participant 11)

Positionality Statement

What is positionality?

Positionality is the individual and collective activity of uncovering the influence of research context and everyday experiences on drawing meaning and interpreting data in qualitative studies.⁹

By reflecting on positionality, one can explore and challenge preconceived assumptions that shape interactions with data and seek more meaningful outcomes from research.

Researcher's Reflections and Commitments

As a young female presenting settler living on the unceded lands of the the Musqueam, Squamish, and Tsleil-Waututh Nations, I recognize my limited understanding of the multiple ways that colonial processes continue to dispossess Indigenous peoples of their ability to enact responsibilities to lands, waters, and food systems in their territories. I feel very privileged to include an interview with Leona Brown, as her personal experiences and challenges as a knowledge facilitator illustrate the challenges Indigenous peoples often face when accessing Indigenous foods and medicines in Vancouver. Nonetheless, I would like to acknowledge the insufficient number and diversity of Indigenous participants and perspectives as an incompleteness in this report. This study occurred during an especially difficult time for Indigenous communities in BC and Canada, with the discovery of unmarked graves on BC residential school sites. I hope that future studies will prioritize and amplify the voices of Indigenous peoples.

This research is accountable to the participants and food systems agents whose work may be affected by the insights identified. My goal is to present participant insights honestly to convey the challenges they face in the current food system in Vancouver, and their vision moving forward. This research is also accountable to VEC, which may use findings from this research to inform a forthcoming COV Circular City Strategy. Lastly, the research must meet standards held by the advisory committee, whose members helped shape the study and provided valuable feedback.

Achieving a vision for a food system that reflects the values and desires of citizens requires critical reflection on the practices and structures that enable inequality. This means acknowledging that solutions must target the root causes of inequities in a wasteful food system that cause food insecurity. Solutions must also be developed by actively seeking diverse voices to guide the recommendations and process. The following are my commitments as a researcher:

- Seeking deeper understanding of intersecting challenges facing Indigenous communities in Vancouver, including respect of the sovereignty of the Musqueam, Squamish, and Tsleil-Waututh Nations.
- Incorporating diverse views on challenges, opportunities, and an overarching vision for the food system.
- Fairly compensating all participants and recognizing the value of their time and insights.
- Critically reviewing past research and seeking out systemic solutions to dynamic issues.
- Promoting change centred on accessibility, equity, justice, and the “right to food”.

Sponsor's Reflections and Commitments

VEC operates on the ancestral and unceded territories of the Musqueam, Squamish, and Tsleil-Waututh Nations and is an agency of COV. VEC's purpose is to contribute to building a prosperous, inclusive, zero carbon and resilient local economy that is competitively positioned in the global market. While pursuing this purpose, we make the following pledges to the communities of Vancouver:

- Our focus is local, and we first provide support to local businesses and workers.
- We prioritize climate action and strive to address the declared climate emergency in all the work we do.
- We commit to meaningful reconciliation with host Nations and urban Indigenous communities.
- We pledge to work toward prosperity for all by embedding justice, equity, diversity, and inclusion in all the work we do.

At VEC, we see huge potential in the circular economy (CE) for our region along all indicators: economic, social, and environmental. Adopting circular practices in all sectors holds great promise for growing decent and meaningful jobs, reducing dependence on international supply and trade, increasing resilience in our communities and our local economy, and embracing cultural material practices that uphold the inherent value of earth's bounty. We also acknowledge that across history, progress has largely been defined by increasing efficiency and growing wealth, and has frequently excluded Indigenous, racialized, immigrant, and other marginalized peoples. The objectives of the circular food economy – eliminate waste, maximize efficiency, retain value – are laudable. However, it is easy to see that a parallel system, the flawed solution to food insecurity in Canada that depends on surplus and “wasted” food, is at risk of disappearing if CE of food objectives are realized.

Though addressing hunger by the redistribution of “waste” and surplus food is deeply unjust and undignified, Canada's food banks and community kitchens do feed a vast number of individuals and households. Before dismantling the broken food system and embracing full circularity, we must address the reality of food insecurity in Canada and consider tactics and interventions that might make progress on reducing food surplus, loss and waste by eliminating food insecurity and reinstating the right of all peoples to healthy, culturally appropriate, and readily available food.

As the Project Champion for this study, I, Meg O'Shea, acknowledge that my lived expertise and professional viewpoints are partial and biased. I am a Caucasian of European descent and an uninvited settler on these lands; I come from an educated and relatively affluent intact family; I have not personally experienced food insecurity at any level; and I have never run a business, non-profit, or agricultural enterprise in the local food system, or in any other food system. While I cannot contribute my own lived expertise as a food system agent in this way, I can make the following commitments to honour the experiences and contributions of others who will help guide us to robust and inclusive solutions:

- Listen to their experiences and insights, and value these as others value quantitative data.
- Stay open to ideas and options from sources that have not yet been heard.
- Honour the four pillars of sustainability. We are not all safe and we have not found the solution until our economic, environmental, social, and cultural needs are protected.
- Promote systems change centred on accessibility, equity, justice, and the “right to food.”

Table of Contents

- 1. Introduction 1**
 - 1.1 Project Goals. 2
 - 1.2 Project Context: An Unjust and Inequitable Food System. 2
 - 2.1 Grounding Analysis in Participant Input 6
 - 2.2 Building a Theory of Change 6
- 2. Research Methods 6**
 - 3.1 Challenges as Identified by Participants 8
- 3. Findings 8**
 - 3.2 Opportunities: Long-term Vision. 12
 - 3.3 Mobilizing the Right to Food: Policies and Enabling Environment 15
- 4. Overview of Theory of Change and Suggested Interventions 19**
 - 4.1 Framing the Interventions 19
 - 4.2 Proposed Interventions 21
 - 4.3 Assumptions and Expected Outcomes of Proposed Interventions 29
- Conclusion 31**
- Appendix 32**
 - 1.0 Additional Methods Information. 32
 - 2.0 Coding Tree Diagrams 37
- Endnotes 40**
- Bibliography 48**

1. Introduction

In Canada, 35.5 million metric tonnes of food is lost and wasted each year, costing CAD \$49.5 billion, emitting 56.5 million megatonnes of CO₂ equivalent, and leading to negative social impacts.¹⁰ At the same time, 1 in 8 Canadian households experience some level of food insecurity.¹¹ These dual problems represent failures of the current food system, and must be addressed to achieve a just and sustainable food system. A food system is defined as all activities arising from food production, processing, distribution and consumption, and waste management, as well as the policies, regulatory bodies, and actors that influence these activities.¹²

Although food loss and waste (FLW) occurs throughout the entire supply chain, studies have shown that consumer and retail-level food waste (downstream) is more studied and understood than upstream-level waste (food loss) at the production level.¹³ However, focusing on consumer food waste often leads to solutions that centre on changing individual consumer behaviour, rather than addressing the root causes of food waste and the responsibility of actors in all stages of the food supply chain to take action.¹⁴

In Canada, the responsibility to address food insecurity has shifted from governments to private actors and private markets, as well as to charities.¹⁵ Most of these enterprises, non-profits, and charities help address immediate needs by alleviating hunger, often through redistributing unmarketable food that would otherwise be wasted. However, these types of solutions don't address the root causes of food insecurity – poverty, lack of housing, and limited food access.¹⁶ Further research is needed to explore intersecting challenges, prioritize systemic solutions, and identify interventions needed to transform an imperfect food system that leaves people hungry while being extremely wasteful. City of Vancouver (COV) seeks to shift to an economy that reduces material and energy resource inputs needed to produce, process, and distribute food; keeps materials in use; prevents waste; and centres equity and justice. As the arms-length economic development

agency for COV, Vancouver Economic Commission (VEC) supports the private sector by helping to attract investment, identify challenges and opportunities for businesses, policymakers, and job seekers, and commissioning research on significant trends and risks, including technology, resilience and the green economy. VEC is actively promoting a circular economy to create green jobs, prioritize regenerative material pathways, and centre sustainability in current and future economic development. A circular food economy (CFE) is recognized for its ability to engage with citizens and institutions to tackle the concerning volume of food waste currently produced¹⁷ and affirm moral obligations to ensure all people are food secure.¹⁸ This research takes a novel approach by incorporating a “right to food” framework in a CFE. A “right to food” framework affirms commitments to all people to have the means to access nutritious and culturally appropriate foods free from stigma and fear.¹⁹ This is a necessary step forward in food system planning that centres justice, equity, and sustainability.



Photo: Granville Island Market, Kristina D.C. Hoepfner via Flickr

1.1 Project Goals

The goals of this research project are to:

1. Centre equity and justice in developing a vision for a circular food economy in Vancouver that prevents food waste and reduces food insecurity.
2. Identify solutions and best practices for a circular food economy, and provide relevant and actionable suggestions for VEC and COV.

The research highlights current gaps, challenges, and opportunities for a “right to food” approach to inform planning for a CFE that promotes food security, while also reducing waste in Vancouver. The research also uncovers creative insights from food system expertsⁱ that are grounded in real life perspectives and experiences.

This report is organized into four sections: project context, methods, findings, and conclusion. The project context identifies FLW issues in Vancouver’s food system, highlights key issues on food insecurity and demonstrates how the “right to food” approach can support efforts to address both systemic challenges. The section will also define circular economy in the context of food in Vancouver. The methods section provides theoretical background for the theory of change and explains the analysis and integration of participant input into the research. The findings section presents a visual and narrative theory of change for a just CFE in Vancouver. It outlines the problems and challenges described by participants, then describes participants’ vision and opportunities for a CFE. Finally, the report concludes by presenting potential interventions described by participants to achieve the vision as illustrated in the theory of change, and considers next steps for research.

1.2 Project Context: An Unjust and Inequitable Food System

1.2.1 Food loss and waste in Vancouver

An estimated 35.5 million metric tonnes (58%) of food is lost and wasted in Canada annually, of which 32% is avoidable.²⁰ Avoidable food waste alone costs CAD \$49.5 billion annually, not including costs to mitigate climate impacts from the more than 56.5 million metric tonnes of CO2 equivalent emitted each year.²¹ In addition, avoidable food waste occurs at the same time that 1 in 8 Canadian households experience some level of food insecurity.²² Food waste therefore represents an urgent challenge on economic, environmental, and social levels that must be addressed to achieve a just and sustainable food system.

The reasons for food waste and loss are complex and challenging to address. Farm-level avoidable food loss, which comprises 22% of the total level of Canadian food loss and waste,²³ is caused by stringent aesthetic standards, pressure to overproduce, a lack of infrastructure to extend shelf-life, and other factors like weather and labour.²⁴ In British Columbia, the use of market-based incentives such as donation tax incentives, food rescue, and redistribution have been unable to address market forces that cause excess food, or overcome barriers that result in food waste.²⁵

A waste audit in 2018 showed that 63% of food wasted from residential sources in Vancouver was avoidable.²⁶ Currently, COV is addressing food waste through source reduction, targeting system inefficiencies (i.e. overproduction, processing, and distribution), and diverting organics from waste streams.²⁷ As of 2017, 75% of organics was diverted from single family households in Vancouver;²⁸ and in 2018, over 42,000 tonnes of food waste was diverted from residential, institutional, commercial, and industrial sources.²⁹ It is clear from these quantities that FLW occurs at every stage of the food system and focusing efforts to reduce FLW exclusively on retailers and consumers will not effectively eliminate it; instead, an entire system’s change is necessary, and interventions should be devised for every stage in the food system.

ⁱ The term “experts” in this report refers to food systems agents with a depth of knowledge in the food system derived from their lived, worked, and academic experiences. This report uses “participants” and “experts” interchangeably.

The ways food surplus, losses, and waste (FSLW) are defined shapes understanding of the scope, challenges, and solutions available to prevent and reduce food waste.³⁰ Each of these distinct terms requires clear definitions to effectively create targets, monitor schemes, and implement regulations in a circular economy of food, especially when defining the priority pathways for food surplus versus food waste.³¹ This research recommends COV adopts

consistent, clear definitions for food surplus, loss, and waste (FSLW) that align with goals for implementing a CFE. The food surplus, loss, and waste definitions table (see Table 1) provides a comparison of definitions of FSLW currently in use by the United Nations Environment Programme (UNEP) and Food and Agriculture Organization (FAO),³² and definitions developed by Teigiserova et al (2020) specifically for their suitability to a CFE.

Table 1: Food Surplus, Loss and Waste Definitions Table

Term	Definitions adapted from Teigiserova et al 2020	UNEP and FAO Definitions
Food Waste	<ul style="list-style-type: none"> • Food that is inedible or becomes inedible during management of food throughout the whole supply chain. This includes unavoidable waste of inedible foods which are unfit for human consumption raw or as a by-product of processing; and waste that is avoidable when edible foods become inedible due to natural causes (e.g. pest), lack of appropriate infrastructure, or poor management along the supply chain. • Waste occurs at all points of supply chain. 	<ul style="list-style-type: none"> • Food and associated inedible parts removed from the human food supply chain (i.e. ending in landfill, controlled combustion, sewer, litter/discards/refuse, co/anaerobic digestion, compost/aerobic digestion or land application) at food/grocery retail, food service, and household levels. • Waste occurs at consumer and retail points of supply chain.
Food Loss	<ul style="list-style-type: none"> • Foods that are unaccounted for, such as mismatches in expected versus delivered goods. • Loss occurs at points of supply chain prior to consumer purchase. 	<ul style="list-style-type: none"> • All the crop, livestock and fish human-edible commodity quantities that, directly or indirectly, completely exit the post-harvest/slaughter/catch supply chain by being discarded, incinerated or otherwise disposed of, and do not re-enter in any other utilization (such as animal feed, industrial use, etc.), up to, and excluding, the retail level. • Loss occurs in "early" points of supply chain: production, processing, harvest.
Food Surplus	<ul style="list-style-type: none"> • Food produced in excess of the expected amount that is fit for human consumption.¹⁴⁹ • Surplus occurs during production, processing, and manufacturing. 	<ul style="list-style-type: none"> • Food that is redistributed for consumption by people, used for animal feed or used for bio-based materials/biochemical processing. • Surplus occurs at/after food/grocery retail or food service.

Table 1. This table compares definitions of FSLW used by the UNEP and FAO, and Teigiserova et al (2020). Bolded text highlights where in the food supply chain waste, loss, or surplus occurs based on the definition used.

1.2.2 Food insecurity in Vancouver

Along with the immense amount of food lost and wasted in Vancouver, there are also major inequalities in how food is accessed by residents. In 2018, 11.5% of households experienced some level of food insecurity.³³

Food insecurity is the inability to consistently access or afford sufficient quantities of foods that sustain basic nutritional requirements and food preferences for a healthy life.³⁴

Low-income households, Indigenous and Black households, and individuals receiving income assistance are the most at-risk for food insecurity in Vancouver.^{35 36} Prevailing solutions to food insecurity focus on incremental charity or food banks to address individual and household hunger.³⁷ However, food charity cannot prevent food insecurity or decrease its severity³⁸ and may exacerbate psychological and social stressors, since there are stigmas associated with food bank use.³⁹

Food insecurity is a systemic issue that requires multi-level interventions to address root causes – poverty, inadequate housing, and inadequate food access. Food insecurity exists on a spectrum from marginal to severe, and has qualitative, psychological, and social dimensions in addition to the physical experience of hunger.⁴⁰ These include anxiety and stress about obtaining foods, and inability to obtain food through socially acceptable means.^{41 42} In addition, severely food insecure individuals may skip multiple meals per day, compromising their physical health.⁴³ Solutions to food insecurity must address its physical, psychological, and social dimensions to ensure people at all times have access to foods that fulfil dietary and cultural needs and enable an active and healthy life.

In Canada, Indigenous peoples face higher rates of food insecurity than non-Indigenous Canadians.⁴⁴ However, federal efforts to address Indigenous food insecurity are often ineffectual, as they lack commitment and initiative to undergo systematic change that transfers power and authority back to Indigenous Nations.⁴⁵

In contrast, Indigenous food sovereignty centres agency of food, reciprocal relationships, self-determination, and resurgence against harmful colonial policies and practices.⁴⁶ When addressing food security, COV and VEC should consider how interventions may impact the ability of Indigenous individuals and Nations to practice food sovereignty, particularly on the unceded territory of the Musqueam, Squamish, and Tsleil-Waututh Nations.

1.2.3 A “right to food” and circular economy

Instead of focusing on a charity approach to addressing food insecurity and food waste (e.g. via redistributing unsaleable corporate food waste for those who are food insecure), this report promotes a “right to food” approach to a CFE in Vancouver. A “right to food” recognizes that governments have a responsibility to provide dignified access to healthy, culturally appropriate foods at all times for all people,⁴⁷ including protection of the right to decent work and stability for farmers.⁴⁸

The following definition for a “right to food” was developed over the course of the project based on emerging literature and developing understanding of the key elements necessary to address food insecurity:

The **right to food** is the right to have unrestricted access to sufficient quantities of food that fulfil physical, spiritual, and cultural needs, produced in ways that support the rights and labour of workers, and obtained in ways that promote dignity, reduce stress, and support social and psychological wellbeing.

The Right to Food (RTF) is a legal framework for addressing systemic factors that perpetuate food insecurity, as such:

The RTF requires the adoption of coordinated national plans, strategies and tools to advance and ensure the development of ‘joined-up’ food policy including the setting of targets, benchmarks and indicators, monitoring, justiciable remedies and all actions necessary to secure a just and sustainable food systems.⁴⁹

Canada is a signatory to the International Covenant for Economic, Social, and Cultural Rights, which includes the “right to food”⁵⁰ According to the Covenant, “States have a core obligation to take the necessary action to mitigate and alleviate hunger... even in times of natural or other disasters.”⁵¹ This obligation includes respecting every individual’s “right to food”, protecting the “right to food” from violations, and fulfilling the “right to food” by implementing and enforcing policies that ensure equitable and dignified access to food for all people.⁵² The UK and Italy have both adopted regulatory approaches to integrate government obligations to a “right to food” to address concentration of retailer power in local markets contributing to unfair trading practices for farmers.⁵³ Protecting farmers from unfair trading practices is one way to affirm obligations to respect, protect, and fulfil a “right to food”⁵⁴ by respecting the rights of workers and ensuring that all people are able to access food by their own means.

In addition to establishing the “right to food”, it is critical to transform what is currently a linear, wasteful, and unjust food system into an integrated, regenerative food system (i.e. a circular food economy). A CFE focuses on reusing and recycling materials, reducing resource extraction,⁵⁵ and designing material and energy “waste” as inputs for other products and activities.⁵⁶

Food waste prevention should be the highest priority in a CFE,⁵⁷ where food is used as food for people first, followed by use as animal feeds, material upcycling and recycling, and nutrient and energy recovery. In a CFE, “waste” does not truly exist because materials and energy become inputs for another activity in the cycle.⁵⁸ Therefore, disposal of food to landfill and incineration without energy generation are not included as true levels in a progressive food waste prevention hierarchy (see Figure 1). Where disposal of food occurs, the volume and types of organic waste sent for disposal should still be tracked to measure the cost of materials and energy lost from the food economy, and incentives should be devised to loop those inputs back into the system. It is also important to consider the scale and stage where wasting occurs in order to prioritize pathways for different categories of FSLW in a circular economy.

In this report, the author argues that a circular economy that elevates a “right to food” prioritizes prevention of food waste and finds solutions to distribute resources in ways that centre human dignity and agency.

Figure 1: Progressive food waste prevention hierarchy

	Examples	FSLW Inputs	FSLW Ranking
Prevention	Market distribution, cooperatives	Fresh product	Food surplus
Reuse: Humans	Processed foods, restaurants, redistribution	Fresh product, imperfect products	Food surplus
Reuse: Animal Feed	Direct feedstock, inputs to feedstock (insect feed)	Inedible foods, defective food, expired food	Food waste
Material Upcycling	Extruded snacks, flour mixes, upcycled spent grains	By-products from processing, high nutritional value, easy to incorporate in processing	Food waste
Material Recycling	Bioplastics	By-products from processing, low nutritional value, difficult to incorporate in processing	Food waste
Nutrient Recovery	Composting, anaerobic digestion	Inedible foods unacceptable for animal feed	Food waste
Energy Recovery	Biofuels, incineration with energy recovery	Inedible foods unacceptable for animal feed	Food waste
Landfill/Incineration	Undesirable, total loss of value and energy		

FSLW: food surplus, loss, and waste

Figure 1: This diagram is adapted from Teigiserova, Hamelin, and Thomsen⁵⁹.

2. Research Methods

2.1 Grounding Analysis in Participant Input

Expert participation was central to identifying challenges, interventions, and assumptions in a grounded theory of changeⁱⁱ for the vision of a just CFE in Vancouver. Participants were identified through purposive sampling to include diverse experiences, perspectives and depth of knowledge.⁶⁰ Experts from across the food system (i.e. farming and production, processing, distribution, research and education, waste management, non-profits, private enterprises, and registered charities) were interviewedⁱⁱⁱ (n=20) and many of the participants had expertise in multiple roles and sectors of the food supply chain.^{iv} Participant responses were analysed and coded^v to develop important themes^{vi} for a theory of change.



2.2 Building a Theory of Change

A theory of change describes the activities comprising an intervention by one or more parties that are expected to result in a desired set of short- and long-term outcomes.⁶¹ It also helps decision-makers uncover implicit assumptions and enabling conditions that are necessary to address key challenges. A robust theory of change model clearly identifies the social, political, economic, and environmental conditions that make up the problem context, and the agents and interventions that influence the impact pathway.⁶²

This research employs a theory of change approach summarized in Figure 2, to highlight the challenges, opportunities, and vision of a just CFE from the perspectives of food system experts. At each stage of the research, participant input and insights from the literature review and the advisory group informed the identification of interventions, assumptions, and enabling conditions necessary for change to occur. Look for colour-coded tabs throughout the document for a deeper dive into all of the components of the theory of change.

Legend

- **Problems & Challenges** | Page 8
- **Long-term Vision** | Page 12
- **Framework** | Page 15
- **Enabling Conditions** | Page 17
- **Interventions** | Page 21
- **Outcomes** | Page 29
- **Assumptions** | Page 30

ⁱⁱ For more information on the theoretical background for this research and developing a rigorous qualitative analysis, see Appendix section 1.1.

ⁱⁱⁱ For more information on the interview methods, see Appendix section 1.3 and 1.4.

^{iv} For more information on each participants' role and expertise in the food system, see Appendix section 1.3.

^v Coding trees can be found in Appendix section 2.1-2.3.

^{vi} For more information on how participant responses were interpreted and used to develop themes, see Appendix section 1.5.

Figure 2: Theory of Change

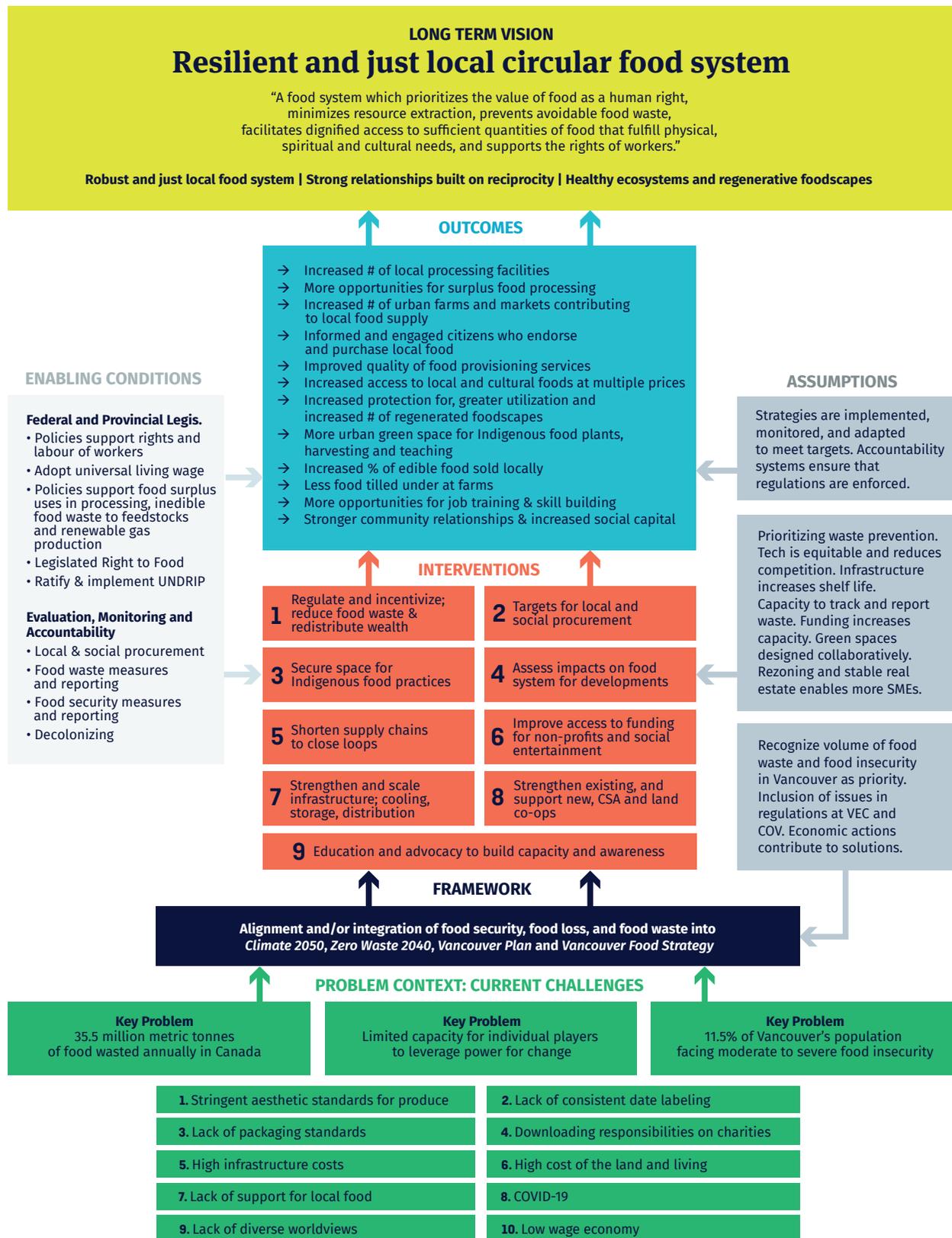


Figure 2: Theory of Change. This diagram presents the overall findings describing how to implement a “right to food” approach to achieve a just circular food economy

3. Findings

3.1 Challenges as Identified by Participants

The key problems and challenges are highlighted in the “Key Challenges” section of the theory of change diagram. Addressing these problems and challenges is vital for achieving participants’ vision of a just CFE in Vancouver. This section also includes discussion of three key problems in the food system: it is deeply wasteful; there is limited capacity for individual players to leverage their power for systemic change; and significant challenges exist on the road to addressing food insecurity.

3.1.1 Key problem: A wasteful food system

3.1.1.1 Stringent aesthetic standards for produce

Produce grading and stringent aesthetic standards are two main forces that result in edible food going to waste. This is because aesthetic expectations shape perceptions of food quality at the retail level, albeit with arbitrary standards that are not based on edibility. While federal grading requirements help maintain minimum standards for produce, including sizing, colour, and condition, they are considered less meaningful in communicating quality and predicting what produce gets sold than retail and consumer standards.⁶³ Aesthetic standards are a major contributing factor to shaping consumers’ preference and setting unrealistic expectations.⁶⁴ With a powerful role in the food supply chain, retailers and processors can reject produce based on stringent aesthetic definitions of quality, and can negotiate lower prices for produce they claim doesn’t meet these standards.⁶⁵ This can lead to revenue loss for farmers, and in some cases leave no option but for farmers to till edible produce back into the soil.⁶⁶

One strategy to create more meaningful understanding of produce quality is connecting producers and purchasers through farmers’ markets, gate sales, alternative retailers, and community-supported agriculture (CSA). One non-profit participant noted that farmers’ markets facilitate the sale of high-quality produce that otherwise would not make it to retail based on consumer aesthetic expectations (Participant 7). There are also

numerous wholesale grocers that purchase varied produce that would otherwise not be accepted by conventional retailers. These examples demonstrate that there are indeed markets for unappealing produce and point to a potential intervention to educate retailers in the market viability of produce with non-standard aesthetics.

3.1.1.2 Lack of consistent date labelling creates avoidable waste

Food safety measures such as temperature control can help reduce food waste at the farm, distribution, and retail levels⁶⁷ and ensure a minimum quality standard for consumers. However, other food safety practices such as best before/use by/expiry dates are controversial as they cause confusion that leads to premature food wasting by consumers and retailers.⁶⁸ Edible food that’s wasted as a result of date labelling is usually downgraded to composting or used as animal feedstock. Aligning with the progressive food waste prevention hierarchy championed in this study means prioritizing prevention of food waste through direct sales, distribution, and processing of surplus foods. Shortening the supply chain and increasing transparency around quality and safety measures can reassure consumers of the safety of products and offer opportunities to scale back regulations on adding labelling designed for longer supply chains (Participants 4 & 7).

3.1.1.3 Lack of harmonized packaging standards

One food-related concern is determining ways to reduce unnecessary packaging materials in a CFE, such as employing reusable packaging materials, reducing resource inputs to create new packaging, and ensuring packaging materials are efficiently recycled. Increased food safety concerns during the COVID-19 pandemic appear to have slowed some of the momentum built by COV to find sustainable packaging solutions and promote zero waste through the use of personal reusable containers (e.g. mugs and jars) and reduction of single-use item waste.⁶⁹ Finding packaging solutions that can integrate into a CFE is vital to ensure that organic and non-organic material reuse are prioritized as part of the waste prevention hierarchy.



As one participant noted, integrating a standardized system for the collection and distribution of glass and metal containers into existing recycling infrastructure is promising as the intrinsic value and reusability of these materials is higher than for plastics (Participant 16). Focusing on avoiding single use, even for compostable and biodegradable plastics, is central to a CE that reduces resource and energy use.⁷⁰ As research continues to explore management of bioplastics^{vii} in the food supply chain, food systems planners should consider the challenges and possible benefits for the integration of these materials into a CFE. However, balance is needed to ensure businesses can continue to operate safely during the pandemic and beyond, while maintaining momentum to reduce food and packaging waste.

3.1.2 Key problem: Limited capacity for individual players to leverage power for change

3.1.2.1 Downloading responsibility for food insecurity onto charities and non-profits

The depoliticization of food security in Canada has led to private actors, non-profits, and charities filling the gaps in policy, often with limited funding, staff, and infrastructure.⁷¹ The COVID-19 pandemic highlighted the fragility of this system when social distancing requirements, remote work, and reduced volunteer numbers left many of these organizations under-resourced while coping with increased demands for their

services. Many of these organizations feel that pressure to address immediate needs of hunger limits their ability to plan long-term and expand their programming in ways that might address the root causes of food insecurity (Participant 2).

3.1.2.2 High cost of infrastructure that reduces waste and supports food security programs

Investing in upfront costs for cooling, storage, and food processing infrastructure is a significant barrier for many non-profits, social enterprises, and community organizations looking to expand their programs. In addition, limited funding from federal and provincial governments forces them to choose between investing in physical infrastructure and investing in staff. Also, research participants stated that funding for programs meant to reduce food insecurity often does not match community needs. For example, increased interest in local food assets has led to an abundance of funding for community garden spaces; however, funding new garden spaces may not be adequate to reduce food insecurity compared to other initiatives such as grocery coupon programs that receive less government funding (Participant 9).

Participants suggested that increasing availability of shared cold storage and kitchen space necessary for smaller organizations to work could lower individual costs for leasing. Strategies to increase access to such infrastructure could include developing commissary kitchen space available to non-profits and social enterprises at subsidized costs. A further step is identifying the requirements necessary for non-profits and social enterprises to distribute and sell products processed from shared kitchens and community coolers, and build these elements into the accessible infrastructure. For example, some markets require that products be prepared in a HACCP-certified facility, therefore providing funding support for the creation of and access to certified facilities increases capacity for groups to produce and sell to more markets.

^{vii} For more information on current research surrounding the management of bioplastics, see the Social Innovation Management for Bioplastics (SIMBIO) project occurring in Brazil, Canada, Poland, and the United Kingdom. <https://www.simbioresearch.com/>

3.1.2.3 High cost of agricultural land, real estate, and living

The cost of real estate and agricultural lands in Vancouver and the Lower Mainland are among the highest in Canada.⁷² Research participants relayed numerous concerns about this issue. In addition to increasing the cost of starting a food business or operating a food non-profit, the cost of living in Vancouver influences the presence and severity of food insecurity.⁷³ Farmers expressed concerned that the high cost of agricultural land would result in replacement of small and medium farms with large industrial-style agriculture, loss of local products in local markets, and decreases to the number of producers in BC (Participant 8). Non-profit and social enterprises were most concerned with the high cost of real estate to support the volume of low-income members they serve, and the lack of suitable infrastructure in available spaces (Participant 10).

"Most of the buildings we saw were just empty shells. And the sheer capital investment that we would have had to make to install cold space for storage was just beyond what we could afford. I know that's a pretty like shared sentiment, especially with non-profits and charities – is the lack of infrastructure, especially cold space." (Participant 11)

3.1.2.4 Lack of support for local food procurement

Lowering the cost barriers to nutritious local foods must occur in combination with addressing institutional and technical-material lock-ins.⁷⁴ These lock-ins manifest in the existing agri-food business model and its associated practices, processes, and infrastructures, which pressures farmers to overproduce and reduce their power relative to a cheap, import-driven market.⁷⁵ Previous research highlights challenges for farmers who are locked into contracts with supermarkets due to a lack of alternative retail outlets,⁷⁶ which sets them up as price takers instead of price makers.⁷⁷ Increasing the number of revenue outlets for farmers is one opportunity to increase leverage for farmers to set fair prices.

Ensuring the availability of low-cost healthy foods is essential to increasing choice and dignified access to food. Imported products and food staples provide more stable access to low-cost foods for those who need it; however, the discrepancy between the costs of imported foods (lower cost to consumer) and local foods (higher cost to consumer) points to a deeper issue of favouring cheap imports over local production. Artificially low prices on imports do not reflect the full environmental, social, and health externalities of industrial-style agriculture.⁷⁸

Farmers' markets are one venue where producers can sell goods at prices that reflect the true cost of production, but these spaces can quickly become inaccessible and the food unaffordable to low-income residents (Participant 3). Rethinking what market spaces, and even "food assets,"⁷⁹ look like in Vancouver could increase the diversity of sales outlets for producers, create opportunities to obtain fair prices, and lower cost barriers to local foods for purchasers. Online markets are a promising platform that can connect producers directly with consumers, and have shown significant growth during the COVID-19 pandemic.⁸⁰ However, fulfilling online purchases incurs high transportation costs and greenhouse gas emissions, and it is therefore unclear whether online food purchasing will play a large role in a future CFE.

3.1.3 Key problem: Significant challenges to addressing food insecurity

3.1.3.1 Covid-19 and food insecurity

The rate of food insecurity increased during the COVID-19 pandemic,⁸¹ with 14.6% of Canadian households experiencing some level of food insecurity in May 2020.⁸² Across Canada, newspapers reported a surge in demand for food bank services in 2020; however, pressures varied by province and region.⁸³ For example, one participant noted food bank use in BC decreased or remained stable (Participant 11) during the first year of the pandemic, possibly due to the Canada Emergency Response Benefit (CERB) made available between March and December 2020 to supplement reduced income for Canadians.⁸⁴ The same participant noted that when CERB ended, there was a subsequent increase in the rate of people accessing food banks (Participant 11). This aligns with current knowledge that food insecurity is rooted in

poverty.⁸⁵ It is important to understand how the food system performed well, and how it failed to prevent food insecurity during the COVID-19 pandemic, to design interventions that increase resilience to future shocks.⁸⁶

3.1.3.2 Limited inclusion of Indigenous worldviews in a circular food economy

Both traditional and alternative agriculture systems have the potential to dramatically change the landscape of accessible and acceptable food sources for Indigenous peoples.⁸⁷ Although animal husbandry and horticulture were practiced^{viii} prior to European imposition of agriculture, many Indigenous communities were forced to adopt European styles of agriculture.⁸⁸ Now, Indigenous communities face disproportionately high rates of food insecurity and can experience challenges accessing food through traditional and contemporary means.⁸⁹ Various Indigenous worldviews include relationships^{ix} to food based in reciprocity with “earthly gifts,”⁹⁰ co-evolution with plants, and non-human entities.⁹¹ The agency of non-humans, including plants, soil, and water⁹² shapes these relationships, which are balanced through respectful harvest, prayer, ceremony, and sharing.⁹³ Leona Brown reflects on relationships with food and people, remarking that “the seven sacred teachings all result in learning love.” Moving forward, centring Indigenous perspectives could support a more interconnected, reciprocal approach to food systems planning that considers equity, justice, and relationships between people, plants, animals, lands, and waters.

"We can't even talk about governance, until we address our relationship with land, and in terms of colonization. Because land is the most contentious thing. Because here we are taking land into trust that doesn't even belong to us. That's been stolen in the first place." (Participant 8)

3.1.3.3 Low wage food economy

Participants noted that one of the biggest contributors to food insecurity is a reliance on low wages and volunteer labour in the sector. This is problematic as it does not align with the “right to food” principle of food security for workers.⁹⁴

Many small- and medium-sized enterprises (SMEs) and non-profit organizations with food-related activities are trying to correct low wages, but acknowledge the difficulty of balancing the demands of food programs that provide access to low-cost foods with paying employees a living wage. One participant felt they had to be “100 times more efficient” to stay competitive while providing a living wage to their employees (Participant 16). Overall, participants across the food system faced considerable challenges when seeking to provide living wages and meaningful job opportunities in the food sector (Participant 17). This is compounded by high rental or leasing costs for businesses and charities, and a high cost of living in one of the most expensive cities in the world.

"If we paid people to manage this stuff at the neighborhood level or participate politically at the neighborhood level, if going to meetings and thinking about these things were paid positions, then people would have time for them." (Participant 5)

One opportunity to support jobs that offer a living wage in a just CFE is to fund community coordinator roles that can connect participants in designing interventions to achieve long-term goals. Funding can also be allocated to social enterprises and non-profits with strategies to hire and train people to increase community capital. Increased funding opportunities for paid positions could increase capacity for community organizations to network and leverage power to solve key problems. One way to redistribute wealth and stabilize funding for community coordinator positions is to target tax evasion and tax havens that allow companies to hide money and avoid contributing to vital public

^{viii} The use of past tense here is not to suggest these things are no longer occurring, but rather to describe that these practices have been in place historically as well as in contemporary contexts (and some have taken on new forms).

^{ix} It's important to note that while this report does not explore the multitude of important relationships between various First Nations and lands, waters, and plants, there are a number of Indigenous scholars who have done much more in-depth work connecting place and relationships. See work by Vanessa Watts, John Mohawk, Robin Wall Kimmerer, Leanne Betasamosake Simpson, or Michelle Daigle.

services.⁹⁵ Strong political will is needed on a federal level to make significant reforms that could redistribute wealth more equitably and help fund social services that ensure no one is food insecure.⁹⁶

3.2 Opportunities: Long-term Vision

This research uncovered a shared vision among participants for a resilient CFE that is adaptable and equitable. Aligned with calls to integrate the “right to food” into a CFE, this future food system prioritizes the value of food as a human right; minimizes resource extraction; prevents avoidable food waste; facilitates dignified access to sufficient quantities of food that fulfil physical, spiritual, and cultural needs; and supports the rights and labour of workers. Participants identified three main components that support this vision: a robust and just local food system, strong relationships across the food system built on reciprocity, and healthy ecosystems and regenerated foodscapes.

3.2.1 Robust and just local food system

3.2.1.1 Place-based initiatives and engaging with values

Building a robust local supply chain can increase resilience by increasing accessibility and affordability of local food systems, enabling opportunities for circular practices, and building on the strength of communities using place-based initiatives. Place-based initiatives can address diverse challenges in communities across Vancouver by implementing solutions to food insecurity that build on existing community strengths and desires. This can include improving access to culturally appropriate foods through local production and importing foods that cannot be produced locally (Participant 12). Community asset mapping can be a key tool for developing an understanding of community strengths and needs, but the mapping exercise must carefully consider who and what is represented and included in processes and products, and who and what is excluded.⁹⁷

A robust local food supply chain also facilitates opportunities for dignified food access that centres choice and agency (i.e. individual food sovereignty). While choice, dignity, and agency are hard to quantify, there should be

improvement in the quality of experiences when accessing food, and the ability to make decisions. Facilitating choice can reduce the amount of food wasted at the consumer level because people are more likely to choose foods they will use (Participant 7).

"It's not just about ensuring that everyone who needs to access services can do so in a stigma free and dignified experience or dignified way. It's about recognizing the diversity of the needs, and the diversity of the food systems." (Participant 11)

Engaging with peoples' values is key to building a robust local food system.⁹⁸ Direct marketing (e.g. CSAs, gate sales, in-person and online farmers' markets) can foster stronger producer-consumer relationships, increase the perceived value of local products, and reduce costs for distribution and avoidable food waste. To that end, it is important to build more spaces in Vancouver that can host diverse direct markets that provide low-cost produce, locally processed foods (e.g. baked goods), cooked meals, or even wholesale items in a supportive space. Another example is strengthening culturally specific CSA programs at various price points: one program in Vancouver already has success with a low-cost CSA that supports local farmers growing Asian produce (Participant 12).

Long-term resilience can be bolstered by engaging youth and adults with the non-market values of food through food literacy, skill building, and knowledge sharing. Leona Brown discusses the value of Indigenous teachings to foster community and knowledge sharing:

"We're not only learning for ourselves – and we have kind of this accountability to pass on our knowledge to other Indigenous people – but also, we want to use what we've learned to kind of break down barriers or walls of racism, of not understanding each other. So, any garden that I work out of, it's not just for Indigenous people, but it's for the community as a whole." (Leona Brown)

Leona Brown also discusses the importance of physical access to Indigenous food and medicine plants in Vancouver to engage more people with traditional harvesting practices. Other participants confirmed the importance of protecting Indigenous peoples' access to traditional harvesting, hunting, and food preparation methods (Participant 9). From an ecological standpoint, increasing access to locally grown and harvested foods can reduce food spoiling,⁹⁹ eliminate carbon emissions generated by long-distance transit,¹⁰⁰ and connect food systems agents to reduce energy, water, and material uses.¹⁰¹

3.2.1.2 Strengthening local processing and investing in innovation

Increasing the number of small and medium processing facilities in Vancouver offers a chance to diversify revenue streams for farmers by providing pathways for unavoidable surplus foods.¹⁰² Processing surplus reduces avoidable food waste and creates value-added products that contribute to a resilient CFE. Processors in Metro Vancouver working out of small and medium facilities and commissary kitchens are already successfully integrating circular economy practices into their operations (e.g. Susgrainable, Luv the Grub) and serve as examples to other food businesses.

One way that processing and distribution can be scaled up efficiently to leverage impact on the volume of avoidable food waste is to invest in innovative technology that connects food systems actors, reduces operational costs, and places focus on higher value jobs. For small- and medium-sized producers and processors, technology offers cost advantages for scaling up operations to “allow a small business to behave

like a big business for pennies on the dollar” (Participant 1). Use of technology across the food system may also increase the need for high-value jobs that provide higher income and job satisfaction.

“[O]ne thing about the food system is there’s a lot of pushback against people losing their jobs. But I think if we allow technology to kind of enter the space, you’re getting rid of the manual labor job and creating more higher impact jobs.” (Participant 4)

VEC and COV can consider various pathways to support technology adoption by small and medium food system agents, possibly including grant funding, leasing options, and encouraging co-location.

3.2.2 Resilience: Strong relationships built on reciprocity

A resilient CFE strengthens and builds relationships based on reciprocity. In a just food system, reciprocal relationships prioritize the value of food as a human right, support well-paying jobs, and support mutual aid initiatives.

“When I think of circular economies, I think of them quite specifically as local based... really making sure that in all ways we're contributing back to each other... and recognizing that our relationships are all connected to each other in terms of how we eat, how we produce food, how we support farmers, and also how that kind of translates to, you know, waste and excess.” (Participant 12)

Participants specified that redistribution is a valuable tool for reducing avoidable food waste by creating stable pathways for unavoidable surplus foods to be processed into value-added products. To avoid supporting the structures that make it acceptable to generate waste in the first place,¹⁰³ redistribution should be used when unavoidable surplus is created due to factors outside of producers' control. Using redistribution networks to match unavoidable



surplus with processors aligns more closely with “right to food” objectives to prioritize the value of food as a human right, rather than relying on the ability of downstream actors to receive and distribute surplus to consumers.

“I think the tension with [redistribution] that I’ve seen come up is always around kind of that excess, and that stigma of always matching recovered foods with people who are in need, and how that’s not necessarily a good best principle for excess.” (Participant 3)

Therefore, using unavoidable surplus foods as inputs for value-added processing offers farmers an additional way to manage unplanned surpluses and reduces burden on non-profits, charities, and social enterprises that can become dumping grounds for surplus foods.¹⁰⁴

Reciprocal relationships will also ensure that workers’ rights are protected and fair compensation is provided. Social enterprises and non-profits on the forefront of addressing food security challenges may benefit from additional coordinator roles to move past redistribution-focused services and oversee the implementation of place-based initiatives that contribute to local resilience. Well-funded positions create opportunities to increase community capital and capacity to contribute to regional and municipal interventions. One market manager suggested that these community coordinator positions may be funded by the municipality as part of a COV budget for food security initiatives (Participant 7).

Finally, mutual aid initiatives offer guidance on building value in the food system outside of a capitalistic system, including social, natural, and community capital. Supporting activities outside of a formal economy can help people connect with food systems through sharing and trading networks. Support for these networks can affirm the social and cultural values ascribed to foods and help actors leverage capacity for change by centring a “right to food” and reciprocity.¹⁰⁵ As Leona Brown identified:

“I think there’s a really special way that we can like talk about growing at a very, very local level too, like food production at a very local level and more of a sharing economy outside of capitalist economies.” (Leona Brown)

3.2.3 Circularity: Healthy ecosystems and regenerative foodscapes

Strengthening reciprocal relationships across the food system must include human relationships to lands, waters, and soils. Indigenous worldviews prioritize reciprocity in relationships with food in different ways.¹⁰⁶ Supporting Indigenous peoples’ access to food and medicine plants in urban and peri-urban areas affirms a priority to relationships with Indigenous peoples, as well as to the land. Indigenous plants are well adapted to local environmental conditions, and with proper stewardship can produce yields equal to or higher than agricultural crops without adding chemical inputs (Participant 8). Therefore, prioritizing regenerative and reciprocal relationships with the land helps close the loop on nutrients, reducing the need for external inputs and supporting carbon-neutral food systems.

“I mean, in an ideal sense, from the ecological side of things, we would have a food system that really... prioritizes biodiversity and helps us shift in concrete ways towards decarbonisation.” (Participant 14)



3.3 Mobilizing the Right to Food: Policies and Enabling Environment

The following section focuses on incorporating the principles of the “right to food” into a circular economy to reduce food waste and food insecurity in Vancouver. It is important to recall that Canada is a signatory to the International Covenant on Economic, Social and Cultural Rights,¹⁰⁷ which includes a human Right to Food, but lacks formal implementation.¹⁰⁸ While efforts to incorporate principles of the “right to food” are based in accountability and transparency, there is currently no legal framework in Canada for citizens to challenge violations to their “right to food”. Therefore, this discussion frames findings within a responsibility to food and people rather than a formal right.

“If we say that people have a right to it, then we have somebody who gives them the rights or takes the rights away... rather than thinking in that line, I think of it as being a responsibility. Like in terms of humanity... it's our responsibility to make sure that everyone is treated fairly, including the animals.” (Participant 8)

This framework also discusses food waste prevention, food value, and food-related labour based on moral responsibilities to food and people. Preventing avoidable food waste should be prioritized to ensure new streams for waste are not created without addressing root causes of FSLW.¹⁰⁹ Additionally, the language used to discuss food systems should reflect the non-market value of food and moral responsibilities to food and people. As Leona Brown states, “I think it's talking about how important food is to you as a person.”

Finally, the value of workers must be recognized by adopting a universal living wage, and systems of exploitation must be challenged and disassembled to ensure all workers have the means to become food secure.¹¹⁰

“I would say that within alternative food initiatives, one of the core challenges is that they're still deeply entrenched in capitalism. And so, some of capitalism's inherent exploitation of workers gets reproduced, even initiatives that achieve a lot of positive change in other respects.” (Participant 14)

3.3.1 Policy framework for implementing interventions

There are existing municipal and regional policy and strategy documents that contribute to an enabling environment, and that can facilitate the goals and vision contributed by participants and outlined in the theory of change diagram. Additionally, food system interventions will be more effective where they align with and integrate into municipal, regional, and provincial actions, strategies, and plans. The four main documents that align with this research, and can potentially integrate its findings, are Metro Vancouver's *Climate 2050*, and COV's *Zero Waste 2040*, *Vancouver Food Strategy*, and *Vancouver Plan*. There are also relevant provincial and federal policies and strategies that can support the overall goals of a just circular economy of food in Vancouver and other Canadian municipalities.



3.3.1.1 Climate 2050



*Climate 2050*¹¹¹ is the Metro Vancouver (MVRD) regional plan to address challenges facing the region now and into the future as changes to the climate affect lands, waters, and air. The plan includes goals to invest and lead on low-carbon strategies to increase

opportunities in transportation, technology, renewable energy, circular economies, and local food systems. MVRD continues to face agricultural challenges exacerbated by climate change, including pests and disease, water pressure changes, and shifts in viable crops. A just CFE will increase resilience, regenerate the soil to sequester carbon, integrate nutrient and organic matter to decrease reliance on chemical fertilizers, and cut methane emissions created by anaerobic decomposition in landfills. Suggestions from this report align with the goals for local resilient food systems and may help cities within MVRD develop, implement, and evaluate plans to address the dynamic challenges of food waste and support goals for ambitious, comprehensive, and strategic actions. Note that while COV *Climate Emergency Action Plan*¹¹² contains strategies to reduce carbon pollution from buildings and transportation, the plan intentionally does not address consumption-derived emissions. Additional policies and strategies will need to be developed by COV to combat consumption-based emissions in the food system; however, taken together, *Zero Waste 2040*, the *Vancouver Food Strategy*, and forthcoming *Vancouver Plan* offer a good foundation from which to focus on food-derived emissions and actions to reduce them and increase climate resilience in the local food system.

3.3.1.2 Zero Waste 2040



The *Zero Waste 2040 Strategic Plan*¹¹³ was developed by COV to guide the transition to a zero-waste city by 2040. The plan includes actions to reduce solid waste, including construction

materials, single-use items, plastics and paper, and food waste. Food waste actions focus on organics management, including rescue and redistribution of surplus. The findings from this report align with *Zero Waste 2040* and include additional detail regarding targeting food waste prevention based on priority pathways established in a progressive food waste prevention hierarchy, shortening supply chains to close loops on non-organic and organic materials, and clarifying the role of rescue and redistribution per the “right to food”. The federal government has also released the final phase of a ban on single-use plastics (i.e. plastic checkout bags, straws, stir sticks, six-pack rings, cutlery, and certain food ware), which may prompt municipalities to strengthen reuse and recycling programs.¹¹⁴

3.3.1.3 Vancouver Food Strategy



The actions advised in the *Vancouver Food Strategy*¹¹⁵ will serve to create a just and equitable food system that is socially, environmentally, and economically sustainable. The strategy includes actions for increasing local sustainable procurement,

green economy jobs, and access to healthy affordable food for all residents. Insights from participants in this research align with these strategic actions and highlight areas in need of further exploration. If the *Vancouver Food Strategy* is updated in the future, suggestions from this research should be integrated as they provide increased detail on enabling dignified food access. These suggestions should also be incorporated in the *Vancouver Plan* (See 3.3.1.4) to guide implementation and interventions relevant to increasing prosperity for all residents of Vancouver. In addition, the Canadian Food Policy Advisory Council should also be noted, as they share priorities that include reduction of food waste, access to healthy food for all communities across Canada, and food security in Northern and Indigenous communities.¹¹⁶

3.3.1.4 Vancouver Plan



At the time of writing, COV is developing a plan for prosperity and growth in the city over the next 30-50 years.¹¹⁷ The *Vancouver Plan*¹¹⁸ is guided by three overarching themes: equitable and complete neighbourhoods; diverse, inclusive and

shared prosperity; and healthy and connected ecosystems.¹¹⁹ Within the main themes, there are 10 provisional goals informed by public engagement in 2019-2020.

These provisional goals are:¹²⁰

1. Advance a City of Reconciliation through decolonization.
2. Create an equitable, diverse and inclusive city.
3. Become a sustainable and carbon-neutral city.
4. Ensure we are a prepared, safe and resilient city.
5. Develop an affordable city with diverse and secure housing for every resident that costs 30% or less of household income.
6. Support a diverse and healthy economy.
7. Create complete, connected, and culturally vibrant neighbourhoods.
8. Re-establish thriving urban natural systems.
9. Intentionally manage our growth and align our efforts regionally.
10. Demonstrate transparency in decision-making and collaborate with partners.

The findings and overall insights from participants in this research align with these provisional goals, especially those that centre resilience, equity, healthy ecosystems, and diversified economies. Moving forward, VEC and COV staff may use insights from this report to identify gaps in current policy and develop targets that incorporate a “right to food” and circular economy. In addition, COV has adopted

long-term commitments as part of the Truth and Reconciliation Calls to Action published in January 2016.¹²¹ These commitments include fully adopting the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP),¹²² which is key for supporting Indigenous food sovereignty.

3.3.2 Enabling conditions

This section covers a range of tools available to federal, provincial, and municipal governments that, if adopted, will create the enabling conditions necessary to shift toward the future food system envisioned by participants. Enabling conditions are actions, policies, and agents that can influence the impact of the interventions proposed herein. Some enabling conditions are municipally regulated and are therefore easier for COV to directly influence. Other conditions fall within federal and provincial jurisdictions; however, COV may influence them through advocacy and creative partnerships. By identifying the enabling conditions necessary to support the overall goals of a just circular economy of food, the theory of change can help identify gaps in current conditions that, if addressed, may increase the likelihood of a successful outcome.

3.3.2.1 Federally and provincially regulated conditions

The federal and provincial governments are responsible for ratifying legislation that can support a “right to food” and circular economy goals. Based on the challenges outlined by participants and recommendations drawn from literature, COV can continue to advocate for provincial and federal governments to implement policies that enact the “right to food”. Enabling policies include:

- Policies supporting the rights and labour of agricultural and other food sector workers^x – particularly migrant workers.
- Enacting a universal living wage.
- Food safety policies that support the use of food surplus in processing.^{xi}
- Food safety policies that support the use of inedible food waste for animal feedstock.^{xii}

^x Including housing on ALR land.

^{xi} Including food safety and certification (HACCP) – in commissary spaces, best before/expiry/use by dates, produce grades and minimum standards,

^{xii} Including clarifying suitable feeds and safety requirements to prevent disease.



- Programs supporting the use of inedible food waste in renewable natural gas production.^{xiii}
- An implementation plan for the Right to Food.
- An implementation plan for UNDRIP.

While COV cannot directly execute on these enabling conditions, they can advocate for changes that will support the “right to food” and accelerate a just CFE.

3.3.2.2 *Reliable evaluation, monitoring, and accountability systems*

COV can directly enable interventions and outcomes by implementing accountability systems within the municipal government, and as part of business licensing.¹²³ The vision that participants described involves a network of many actors implementing changes, and interventions will likely require cross-departmental collaboration for implementation; therefore, a comprehensive monitoring plan is vital to ensure success of the interventions to achieve the vision.

"One of the big questions is, looking at the results rather than the intent. Well, we always are saying it's our intention to do this. But you'd be called upon to look at the results." (Participant 8)

COV may design accountability systems with input from food system agents to increase process transparency and ensure participants can understand and comply with systems before they are enacted. Technology solutions can also be integrated into monitoring and reporting systems to visualize the impact on food waste and food insecurity (Participant 18). In addition, FSLW and food security definitions should correspond to the measuring and monitoring protocols so as to increase accountability for implementation of interventions. COV should ensure that accountability systems are in place for the following areas:

- Local and social procurement
- Food waste measurement and reporting
- Food security measures and reporting
- Decolonizing

In addition to the accountability systems, COV can use its emerging role in advocacy and collaboration, education, research, and development (See 4.2.9) to help create an enabling environment for the proposed interventions to occur.

^{xiii} Including investing in research and innovation grants for academic institutions and private enterprises.

4. Overview of Theory of Change and Suggested Interventions

4.1 Framing the Interventions

Governance needs to be dynamic and adaptive to implement proposed interventions and tackle complex issues. Participants defined a dynamic and adaptive governance system as one that ensures cultural and political will to change are matched with a sustained, long-term effort; meets people where they're at by making changes easy and useful; unites participants under a common vision and goal that looks past symptoms to holistic solutions; is accountable to UNDRIP; uses evidence to identify critical points; and proactively addresses issues.^{xiv}

Participants expect that individual efforts to reduce FSLW at stages of the food system will be matched by sustained and ongoing support in the form of funding, infrastructure, permitting, and policies. Individuals and organizations are currently working to prevent food waste and reduce food insecurity; however, they lack coordination at the policy level and support to leverage power for greater impact. Participants want to see long-term commitment from all levels of government to implement the vision of a just CFE.

"Ensuring that the efforts we're putting in now are sustainable as well and able to continue in the long term. That would be another piece to that definition of circular. Because if it's not sustainable, then, you know, what good is it in the long term really for the targets and the goals that we have set forth?"
(Participant 10)

Introducing incremental changes can create momentum, give participants time to adapt and implement useful practices, and offer COV time to build infrastructure that supports a just CFE. As organizations get involved with circular economy practices and supports increase for implementing change, COV can accelerate

timelines to match increased capacity for change in the private sector. Publishing the goals and targets of a strategic plan can reveal deeply held assumptions about how interventions and enabling conditions can address systemic barriers such as class, inequity, poverty, inadequate housing and undervalued labour. Successfully challenging assumptions requires transparency and accountability in the strategic plan and decision-making by all food system agents, including governments.

Research participants value transparency and accountability in planning, implementing, and adapting to achieve their vision for a just CFE. This includes implementing UNDRIP in BC. Alternative land and food movements have historically prioritized white settler access and



foodways over Indigenous food sovereignty.¹²⁴ In line with UNDRIP, COV should critically examine opportunities and barriers for Indigenous food sovereignty and access to food and medicine plants in urban and peri-urban areas. Leona Brown suggests increasing availability by creating Indigenous food and medicine food gardens in parks. Moving forward, COV should ensure there is capacity for Indigenous individuals, community representatives, and Nations to consult and collaborate to secure access to food and medicine plants in Vancouver.

^{xiv} For a visual representation of a dynamic governance system as described by participants, see Appendix section 2.3.



Photo: Liquids + Solids

To achieve the greatest impact on systemic issues in the food system, interventions should rely on evidence that identifies critical points for change. Prioritizing action at critical points in the food system is important to close gaps between “what’s possible and what’s being done” (Participant 19). Understanding intersections between critical points can help COV invest in interventions that target multiple issues simultaneously (Participant 3). Participants identified the following critical points to leverage impact:

- Strengthen food chain infrastructure to prevent avoidable food wasting and manage surplus foods.
- Provide space at affordable rates to ensure SMEs and non-profits can continue to provide services in Vancouver.
- Establish a universal living wage and enable the creation of decent, meaningful jobs that support labour and worker justice across the food system and beyond.
- Utilize school and food literacy programs to build connections to the food system and set up future generations for successful relationships with food.

Proactively addressing critical points impacting the food system is important to participants, especially relating to their experiences during the COVID-19 pandemic. Rapidly changing circumstances coupled with uncertainty left many participants scrambling to provide food services to communities. Increasing capacity for these organizations through funding and infrastructure could increase capacity to alleviate pressures now and contribute to the holistic vision for a just CFE moving forward.

"In the non-profit sector, there is not necessarily the capacity or the funding support, for the most part, for being able to sit back and share what you're seeing, that could actually add to the conversation or to the policy changes in a real way." (Participant 2)

4.2 Proposed Interventions

Participants identified several interventions that may help achieve their vision for a just CFE. The interventions are organized based on the main challenge addressed and the enabling conditions and potential involvement by different food systems actors envisioned

by participants (see Table 2). This table may be compared to current municipal, regional, and provincial actions and plans to determine target areas for current and future strategies.

Table 2. Interventions Summary Table

Challenge: Aesthetic standards for produce		
INTERVENTIONS	ENABLING CONDITIONS	POTENTIAL INVOLVEMENT
<p>Secure space for Indigenous food practices</p> <ul style="list-style-type: none"> • Make space available in parks, public, or private land for harvest accessible food gardens • Make space available for Indigenous food and medicine programs and events • Strengthen existing, and support creation of, additional community CSAs and land co-ops • Establish and strengthen avenues for direct sales and presales of seasonal food boxes 	<p>Implementation plan for UNDRIP</p> <ul style="list-style-type: none"> • Establish protocols for intergovernmental collaboration between federal, provincial, and municipal governments and First Nations governments <p>Policies supporting rights and labour of agricultural workers</p> <ul style="list-style-type: none"> • Advocate for, and set example of, policies and protocols that protect the rights of agricultural workers – including food garden stewardship 	<p>City of Vancouver/VEC</p> <ul style="list-style-type: none"> • Communicate with municipal boards, First Nations governments, and non-profits to determine roles and responsibilities for stewardship of food gardens • Collaborate with Ministry of Agriculture, producers, and land trusts to establish and strengthen farming institutes • Work with Ministry of Agriculture and producers to establish funding board for land trusts • Adopt guidelines on pathways for food surplus and waste that maximize best use of resources <p>Retail, processing, restaurants</p> <ul style="list-style-type: none"> • Work with urban and peri-urban farmers to create opportunities for distribution and sales <p>Producers and citizens</p> <ul style="list-style-type: none"> • Engage and participate in direct relationships and CSAs

Table continued on next page

Challenge: Lack of consistent date labelling

INTERVENTIONS	ENABLING CONDITIONS	POTENTIAL INVOLVEMENT
<p>Adopt clear regulations and incentives</p> <ul style="list-style-type: none"> • Adopt and disseminate clear guidelines on date labels and quality 	<p>Food safety policies that support the use of food surplus in processing</p> <p>Food safety policies that support the use of food waste for animal feedstock</p> <p>Programs supporting inedible food waste in renewable natural gas production</p> <ul style="list-style-type: none"> • Establish pathways and guidelines for wasted foods to be used in natural gas and/or compost production • Invest in research to determine the economic, environmental, and social impacts and benefits of anaerobically 	<p>Federal</p> <ul style="list-style-type: none"> • Clarify necessary requirements for date labelling <p>City of Vancouver</p> <ul style="list-style-type: none"> • Adopt clear definitions for food surplus, loss, and waste <p>Producers and citizens</p> <ul style="list-style-type: none"> • Collaborate with health authorities to determine necessary requirements for transparency in shorter supply chains

Challenge: Lack of harmonized packaging standards

INTERVENTIONS	ENABLING CONDITIONS	POTENTIAL INVOLVEMENT
<p>Adopt clear regulations and incentives</p> <ul style="list-style-type: none"> • Clarify best uses of different materials for packaging and pathways for reuse and recycling <p>Adopt concrete targets for local and social procurement</p> <ul style="list-style-type: none"> • Develop purchasing agreements that reduce packaging waste <p>Shortening supply chains: close loops on non-organic and organic materials</p> <ul style="list-style-type: none"> • Implement reuse and return systems for packaged goods that are easy and cost-effective <p>Invest in infrastructure for cooling, storage, processing, and distribution</p> <ul style="list-style-type: none"> • Invest in infrastructure to support reusables collection and distribution system 	<p>Accountability systems for food waste measurement and reporting</p> <ul style="list-style-type: none"> • Accountability systems for local and social procurement • Establish protocols for food surplus and waste measurement, and continue implementing protocols for measuring local and social procurement for public and private agents • Incorporate packaging reuse and return as part of local and social procurement standards 	<p>City of Vancouver/VEC</p> <ul style="list-style-type: none"> • Collaborate with various agents to adopt accountability systems for food waste, and local and social procurement • Set ambitious and adaptable targets for local and social procurement and packaging diversion from recycling and landfill • Collaborate with agents to design easy and effective packaging collection and distribution system <p>Various food systems agents</p> <ul style="list-style-type: none"> • Advocate and create supplier relations to reduce unnecessary packaging <p>Citizens</p> <ul style="list-style-type: none"> • Participate in bulk shopping and use reusables • Return reusable containers to correct collection

Table continued on next page

Challenge: Lack of support for local food procurement

INTERVENTIONS	ENABLING CONDITIONS	POTENTIAL INVOLVEMENT
<p>Adopt concrete targets for local and social procurement</p> <ul style="list-style-type: none"> • Create additional avenues for producers through procurement contracts • Strengthen existing, and support creation of additional community CSAs and land co-ops • Establish and strengthen avenues for direct sales and presales of seasonal food boxes <p>Advocate and educate</p> <ul style="list-style-type: none"> • Educate on the benefits and costs of imported foods • Facilitate relationship building between producers, processors, and retailers 	<p>Accountability systems for local and social procurement</p> <p>Accountability systems for food waste measurement and reporting</p> <p>Accountability systems for food security measures and reporting</p> <ul style="list-style-type: none"> • Establish protocols for food surplus and waste measurement, and continue implementing protocols for measuring local and social procurement for public and private agents • Establish protocols to measure and report food security on a regular basis that includes physical, social, and psychological elements <p>Food safety policies that support the use of food surplus in processing</p> <ul style="list-style-type: none"> • Establish protocols for the use of food surpluses in processing and clarify requirements to sell into public and private institutions <p>Policies supporting rights and labour of agricultural workers</p> <ul style="list-style-type: none"> • Advocate for, and set example of, policies and protocols that protect the rights of agricultural workers <p>Implementation plan for “right to food”</p> <ul style="list-style-type: none"> • Establish and enact legal framework for “right to food” principles 	<p>City of Vancouver/VEC</p> <ul style="list-style-type: none"> • Establish ambitious targets for local and social procurement that pays fair prices • Work with various agents to develop guidelines for different types of markets (community, wholesale, farmers) • Adopt accountability systems and advocate that regional and provincial bodies do the same • Advocate and fund programs that target food waste, food security, and right to food <p>Processors, producers, and retail</p> <ul style="list-style-type: none"> • Communicate with institutions to develop distribution pathways for local foods <p>Citizens</p> <ul style="list-style-type: none"> • Engage and participate in programs and events that support local businesses and circular economy practices

Table continued on next page

Challenge: High cost of infrastructure that reduces waste and supports food security programs

INTERVENTIONS	ENABLING CONDITIONS	POTENTIAL INVOLVEMENT
<p>Improve access to funding for non-profits and social enterprises</p> <ul style="list-style-type: none"> • Increase ease of applications for grant funding, including employment, childcare, and infrastructure <p>Invest in infrastructure for cooling, storage, processing, and distribution</p> <ul style="list-style-type: none"> • Invest in shared cold storage and kitchen space at subsidized costs for community organizations and social enterprises 	<p>Food safety policies that support the use of food surplus in processing</p> <ul style="list-style-type: none"> • Establish protocols for the use of food surpluses in processing and clarify requirements to sell into public and private institutions 	<p>City of Vancouver/VEC</p> <ul style="list-style-type: none"> • Communicate and collaborate with non-profits and social enterprises to ensure grant process is easy and accessible • Fund grant coordinator positions to assist non-profits and social enterprises with applications • Establish grant board to review applications and coordinate funding effectively • Communicate with non-profits, producers, and processors to identify potential spaces for shared infrastructure

Challenge: High cost of agricultural land, real estate, and living

INTERVENTIONS	ENABLING CONDITIONS	POTENTIAL INVOLVEMENT
<p>Assess impacts on food systems as part of future developments</p> <ul style="list-style-type: none"> • Consider how zoning may lead to displacement of existing SMEs <p>Invest in infrastructure for cooling, storage, processing, and distribution</p> <ul style="list-style-type: none"> • Invest in shared cold storage and kitchen space at subsidized costs for community organizations and social enterprises <p>Strengthen existing, and support creation of, additional community CSAs and land co-ops</p> <ul style="list-style-type: none"> • Help establish land trusts to hold agricultural land for small and medium producers • Connect producers to facilitate land sharing arrangements that protect agricultural land 	<p>Accountability systems for local and social procurement</p> <ul style="list-style-type: none"> • Continue implementing protocols for measuring local and social procurement <p>Policies supporting rights and labour of agricultural workers</p> <ul style="list-style-type: none"> • Advocate for, and set example of, policies and protocols that protect the rights of agricultural workers 	<p>City of Vancouver/VEC</p> <ul style="list-style-type: none"> • Communicate with existing non-profits, social enterprises, and small and medium businesses to determine space requirements and preferred locations for scaling up that won't displace existing SMEs • Identifying public spaces that can be used for interim, emergency, or permanent shared infrastructure • Ensure emergency plans include opening public spaces for food distribution • Collaborate with the province and First Nations governments to define alternative land arrangements that honour intergovernmental relationships, empower food producers and harvesters, and protect ecosystems • Collaborate with Ministry of Agriculture, producers, and land trusts to establish and strengthen farming institutes • Work with Ministry of Agriculture and producers to establish funding board for land trusts

4.2.1 Adopt clear regulations and incentives that reduce food waste and redistribute wealth

COV and Metro Vancouver must adopt clear regulations for food waste based on the priority pathways described in the progressive food waste prevention hierarchy and the vision shared by participants. Clarifying regulations and minimizing regulatory hurdles for organizations implementing circular economy practices is integral to moving forward. Participants identified the following areas of regulation to be evaluated and revised in support of a just CFE:^{xv}

- Ease the way for business licenses for urban farms
- Mandate food waste reporting at retail and processing levels
- Declare portions of parks space for planting and harvesting foods
- Alleviate property taxes for social enterprises and non-profits

Participants also suggested that stronger fines could be used to increase compliance with food waste prevention regulations at manufacturing, processing, and retail levels (Participants 16 & 18). Incentives (e.g. reduced business licensing fees) may also promote increased adoption of social and local procurement targets by SMEs to support local producers and processors (Participant 1). Adopting strong fines and incentivizing practices that align with a “right to food” is a challenging but important strategy¹²⁵ that can help prevent food waste, contribute to redistribution of wealth, build social capital through skill building and community engagement, and ensure a higher proportion of revenue is circulated within the local economy.

4.2.2 Adopt concrete targets for local and social procurement

Participants want to see concrete action supporting the local food economy, which can in part be achieved by setting targets for government procurement contracts with social enterprises that are addressing food insecurity and creating jobs. The *Vancouver Food Strategy* defines local and sustainable food procurement as “food purchasing decisions made in a way that considers not only cost and quality, but equally

a full range of social, health, and environmental sustainability factors associated with conditions of production, processing, and transportation of food.”¹²⁶ In 2015, the Vancouver Parks Board was able to meet their goal for 40% of food budget spent on local and sustainable food procurement.¹²⁷ Ambitious targets should be extended to all municipal departments and COV should advocate for other public institutions (i.e. correctional centres, care facilities, universities) and businesses to set and achieve their own targets. Committing to social procurement targets affirms commitments to a local food system that supports living wages, skill building, local production, and increased food security.

4.2.3 Secure spaces for Indigenous food practices

Reflecting on commitments to Indigenous food sovereignty and the ability to practice harvesting and hunting, COV could invest in designing green spaces that facilitate Indigenous access to traditional food and medicine plants. The lands should be accessible and could be enhanced with workshops and events led by Indigenous facilitators to share knowledge about food and foodways with other Indigenous peoples and non-Indigenous peoples. The Vancouver Parks Board’s *Local Food Action Plan* (2013), which is currently being updated, may incorporate these spaces under the stated priorities to “increase physical food assets” and create “engaged and capacity rich networks” (p. 26-33, 39-41). Leona Brown confirms that urban green space is vital to creating community connections and breaking down social barriers. By centring Indigenous food plants and medicines in green spaces and converting more green spaces to food spaces, Indigenous individuals can enact responsibilities to the land by stewarding relationships through respectful harvest.¹²⁸

4.2.4 Assess impacts on food systems as part of future development

A primary concern for participants is rising housing and real estate costs that increase the financial burden on farmers, non-profits, and charities that already function on stretched budgets, and low-income community members lacking affordable housing options. Stabilizing the real estate market and targeting speculation is vital to ensure that commercial and community

^{xv} Additional food-related policy and regulations within provincial and federal jurisdictions are included in section 3.3.2.

spaces are available for consumers and agents working to address food waste and food insecurity challenges. The rising cost of housing must also be addressed as a root cause of food insecurity.

Participants envisioned inclusive neighbourhoods that mitigate displacement of existing SMEs and prioritize a local supply chain. Since COV can approve developer-proposed rezoning applications, it should critically consider how rezoning may lead to displacement of existing SMEs. Determining and comparing the volume of local produce available at various retail outlets (i.e. large vs. small retailers) was outside the scope of this research. However, one participant observed that small and medium grocers can provide low-cost local food access in Vancouver (Participant 12). Another participant experienced more adaptability when working with smaller grocers and processors to incorporate circular economy practices and provide local products (Participant 16). Moving forward, COV should consider including an assessment of the impacts on the local food supply chain as part of future developments and ensure that space is available and affordable for SMEs to support a CFE in new developments.¹²⁹

4.2.5 Shortening supply chains to close the loop on non-organic and organic materials

Shortening supply chains has direct benefits for producers who can engage with consumers on the quality of food items and the importance of the local food system. Short supply chains also reduce the distance that materials need to travel back to producers to be composted, or to processors/manufacturers to be reused or repurposed. By localizing the supply chain, agents have more opportunities to influence the implementation of systems to reuse and recycle organic and non-organic materials. One example of closing an agricultural loop to reduce waste is implementing anaerobic digestion systems¹³⁰ to create renewable natural gas (i.e. energy production) and nutrient recycling (Participant 19). Directing wasted food to closed loop activities may represent cost savings for the grocer/retailer, or may become a new source of revenue if these facilities are in competition for wasted food. Implementing closed loop nutrient recycling systems can reduce the use of additional chemical fertilizers, offering potential

cost savings to farmers and environmental benefits. Closing the loop on organic materials therefore helps regenerate soils and contributes to healthy ecosystems,¹³¹ which in turn create a more resilient local food system.

4.2.6 Improving access to funding for non-profits and social enterprises to implement place-based circular food economy practices

Overall, research participants feel that funding should be allocated to initiatives that prioritize food security and are able to adapt to the needs of the community. These might include food literacy programs in schools that also provide meals and connect with local farms, skill building programs in community centres that provide welcoming environments for people to explore cultural values relating to food, and coordinator positions to oversee the implementation of food security programming in different communities.

Participants offered two main suggestions to make funding more accessible for organizations implementing place-based programming to reduce food insecurity. The first is to simplify the grant process and provide in-person support for grant applications. This could include providing public consultants who visit sites, gather information from managers and staff, and draft grant applications for organizations that otherwise lack time or expertise to navigate the grant application process. Another consideration is to design grants for activities indirectly related to food production, but integral for participation. These could include funding for transportation, childcare, training, and staff meal provision (Leona Brown). Ensuring that non-profits and community centres have the capacity to apply for funding covering these peripheral activities is essential to creating financial stability while they adapt their services to the needs of the community (Participant 9) and work to address the root causes of food insecurity, as well as meeting the more immediate needs of hunger.

The second suggestion from participants is to create systems that reduce competition for grants with municipally provided operating supports and participant-led community grant boards. Centralizing grant funding to a community grant board could provide a greater degree of oversight and coordination and distribute funding according to anticipated progress towards the

vision for a just CFE. Participant-led community granting boards could also find funding solutions that function collaboratively between many organizations to address food security and food waste challenges. In both cases, there is a need for increased clarity and transparency about how grant and funding processes increase capacity of these organizations to integrate place-based community programming that advances the vision for a just CFE.

4.2.7 Strengthen and scale up local food infrastructure for cooling, storage, processing, and distribution

In some ways, the COVID-19 pandemic presents an opportunity to rebuild the food system¹³² by creating a system to deal with food surpluses.¹³³ Building in processes and structures to reduce and properly allocate food surpluses can decrease uncertainty for food systems agents and increase resilience and the ability to deal with disruptions. Supportive policy and infrastructure are both required to ensure agents have the capacity to implement systems to manage unavoidable surplus foods (Participant 18).

"I think when you scale something up, there's always the danger it becomes clunky, and, like that innovation gets lost anyways." (Participant 3)

Scaling up infrastructure will look unique in different interventions and communities. Some interventions will benefit from universal support, such as housing and income grants. Interventions need to be tailored to the specific needs of the community (e.g. shared kitchen space or community markets) depending on existing resources in the area. Interventions should aim to sustain the value and place-based nature of existing community initiatives when scaling up infrastructure.¹³⁴

Creating a system of management for unavoidable surplus must also alleviate immediate pressures while building policy and infrastructure to serve future needs. This includes ensuring services to address hunger and poverty reliably support the communities in which they operate and have the capacity

to tackle long-term goals (Participant 11). This support could be achieved by expanding the availability of funding (see 4.2.6) and communicating with non-profits and SMEs to determine gaps in infrastructure needed to support their integration into a CFE.

Supporting on-farm and distribution infrastructure can also affirm commitments to ensuring farmers are able to sell the most product possible. Establishing post-handling infrastructure, such as community coolers, can strengthen relationships between farmers, processors, vendors, and consumers. Additional infrastructure like coolers can also increase the shelf-life of foods, making it easier for retailers to stock local products (Participant 15) and extend the viability of unavoidable surplus to be incorporated into processing streams. Communicating and collaborating with farmers, processors, vendors, and non-profits to identify public and/or private spaces that could be used for community coolers is one way COV could help scale-up infrastructure for a CFE. COV could also explore the use of requests for expressions of interest (RFEOI) to identify properties and activities that support post-harvest handling and infrastructure.

4.2.8 Expand CSA and land co-ops

Cooperative farms represent a move away from the financialization and commodification of land and farming and offer shorter pathways to connect urban communities directly with agriculture.¹³⁵ Land cooperatives are forms of shared ownership between farmers and/or community members to share costs and investment, knowledge, and products, and increase market impact.¹³⁶ In addition, many land cooperatives operate with regenerative agriculture principles (Participant 8) and may be able to integrate Indigenous plants into land stewardship in the region. However, cooperative land arrangements are constrained by land speculation and commodification. Although Agricultural Land Reserve areas are protected, the cost of agricultural land is still too high to facilitate alternative land arrangements.¹³⁷ One way for COV to support the creation of land cooperatives is to collaborate with farmers' institutes to identify and secure land to be held in trusts owned by communities. In some communities in Canada, Indigenous Nations are adopting the practice of land sharing, which

is another alternative worth considering in Vancouver.

CSA is another way that communities can support food security by investing directly into a farm prior to the growing season. In Vancouver, several urban and peri-urban farms sell CSA shares as one way to guarantee income for farmers and enable farmers to plan appropriately for demand. COV could support the creation of more urban CSAs by helping establish community pick-up points and cold storage for farmers to distribute produce (Participants 5 & 7). CSAs can also be integrated into social procurement contracts to establish a consistent stream of local produce for social enterprises.

4.2.9 Support advocacy and education initiatives to build capacity and awareness for a just, circular food economy

COV and VEC play an essential role as educators and advocates for an equitable local food system in Vancouver. While education and advocacy alone will not support the transition to a resilient and just CFE, they are powerful supportive tools for interventions that decrease food waste and food insecurity. One way the City can be proactive is to establish and sponsor programs, events, and campaigns that explore the social and cultural values of food; empower citizens

and not just as consumers;¹³⁸ and build social infrastructure.¹³⁹ This aligns with a “right to food” approach by supporting the creation of CSAs, community markets, and higher wages in the sector to increase accessibility of local foods while educating retailers and consumers about the social benefits of supporting local foods.

Agents throughout the food system can be provided with educational tools specific to sectoral challenges that are created and distributed by VEC and COV. Connecting food systems agents, academic institutions, and municipal government to farmers can help those agents understand the various challenges faced by farmers.¹⁴⁰ so they may better design grants, educational tools, infrastructure and technology to address these challenges. One example could be increasing access to, and education about, cooling infrastructure and practices to reduce field heat, extend the shelf life of local produce, and encourage retailers to stock more local foods (Participant 15). Providing up-to-date educational material regarding the implementation of actions undertaken to address expert concerns can complement and reinforce those actions by making it easier for agents along the supply chain to participate in circular economy practices.



4.3 Assumptions and Expected Outcomes of Proposed Interventions

4.3.1 Expected outcomes

Interventions are expected to lead to a number of outcomes that together work toward the vision of a just CFE. The interventions are more likely to result in the desired outcomes if enabling conditions exist and agents are able to leverage positive impacts on key challenges. The following outcomes can be anticipated if a supportive environment and collective action exist:

01. **An increased number of local processing facilities and better use of existing facilities** in Vancouver, and increased opportunities to integrate unavoidable food surplus into processing.
02. **An increased number of urban farms** in Vancouver contributing to retail and food service.
03. **Informed and engaged citizens** who endorse and support a just local circular food system.
04. **Improved quality and diversity of food provisioning services**, and better experiences for those facing food insecurity in Vancouver.
05. **Increased access to local and cultural foods at multiple prices** through retail, community markets, and the food service sector.
06. Increased protection for, greater utilization of, and creation of **additional urban food growing spaces and regenerated foodscapes**.
07. **More urban green spaces allocated to Indigenous food** plants, harvesting, and teaching.
08. **Increased proportion of edible foods sold locally** (including surpluses in the short term)
09. **Less food being tilled under** at the farm.
10. **More opportunities for jobs training and skill building in the food sector** for populations that face economic and social barriers to food access and/or systematic exclusion from the workforce due to colonialism and racism.
11. **Food sector jobs that pay a livable wage** or better.
12. **Stronger community relationships** across the sector and increased social capital.

4.3.2 Assumptions

As highlighted by the theory of change approach, the anticipated outcomes of the proposed interventions rely on several assumptions and pre-existing conditions. Currently, not all assumptions are being met, but most can be directly influenced by COV, VEC, and other relevant food system agents. In addition to the 12 assumptions below, a critical foundation is that COV will have accountability systems to ensure regulations are monitored and enforced, and that interventions are implemented and adapted to meet targets:

01. Prevention of food surplus and waste is a priority.
02. Redistribution focuses on connecting surplus foods to (re)processing opportunities.
03. Governments and citizens recognize the value of food beyond capital markets.
04. The federal and provincial governments ratify UNDRIP and support Indigenous food sovereignty. COV and VEC advocate for and support ratification of UNDRIP and Indigenous food sovereignty.
05. Technology is accessible to all and serves to reduce competition between organizations. Technology increases capacity of SMEs to engage in the circular economy of food and enables higher value jobs.
06. Infrastructure effectively improves shelf life. Farmers have the capacity to process food loss and waste onsite or can access funding and infrastructure to increase capacity for processing.
07. Fines and incentives to reduce food waste and encourage target setting for local, social procurement result in favourable behaviour changes.
08. Engagement through food literacy and skill building programs increases social capital, increases perceptions of the non-market value of foods, and leads to less waste. Engaged individuals can comfortably contribute to CSA financially.
09. Increased access to Indigenous plants in Vancouver parks supports Indigenous food sovereignty.
10. Price corrections and reduced speculation in the real estate market incentivize SME food sector facilities to stay in or relocate to Vancouver. Development creates new SME food sector spaces and prevents displacement of existing SME food sector spaces.
11. Increased direct marketing of local foods via co-ops, markets, and CSAs results in higher revenues for farmers and better value and engagement for consumers.
12. Available local foods cater to diverse cultural backgrounds and supply foods meeting physical, social, and cultural needs. Imports supplement seasonally grown local foods and provide access to low-cost foods without undercutting the ability of local producers to sell into retail, wholesale, and food service.

Conclusion

VEC and COV are actively engaging in a transition toward a just CFE that can holistically resolve the systemic issues of food waste and food insecurity. As the consulted literature and participant insights highlight, approaches that shift responsibility for delivering food security to downstream actors are insufficient to address the root causes of food insecurity and cannot generate long-term impacts. By incorporating a “right to food” framework in developing a CFE, this research assessed the Vancouver food system to identify challenges and opportunities, and generate a vision for a resilient and just local food system in the city.

By applying a theory of change, the research illustrated the challenges, vision, and potential interventions identified by study participants that may achieve a resilient and equitable food system in Vancouver. Participants identified enabling conditions and assumptions that must be in place for interventions to lead to the anticipated outcomes. Some of these conditions are directly influenced by the City and others are under the jurisdiction of the federal or provincial governments. Therefore, the role of COV as advocate and educator to support capacity building for the diverse stakeholders in the city should not be overlooked. Overall, the theory of change illustrates the complexity of tackling dynamic challenges in the local food system; however, the theory of change model also provides VEC and COV with potential pathways to achieve participants’ vision for a just circular food economy. Accelerating the shift towards a CFE can serve as a pathway to implementing the principles of the “right to food” while also designing waste out of the system. Meanwhile, COV must continue to advocate for implementation of solutions to food insecurity and FSLW in provincial and federal legislation. Continuing to build on the theory of change may be helpful in exploring assumptions for how implementation of these principles will lead to the final vision. Moving forward, VEC, COV, and other municipalities in the MVRD may use the insights from this research to inform future city plans and municipal and regional policies for implementing a just circular food economy.

Appendix

1.0 Additional Methods Information

1.1 Theory of Change

A “theory of change” describes the activities making up an intervention by one or more parties that are expected to result in a desired set of outcomes, along with the assumptions and likely necessary conditions for outcomes to occur.¹⁵⁰ A theory of change is recognized as both a process and product of identifying and illustrating the underlying theories informing interventions.¹⁵¹ A robust theory of change is able to identify the social, political, economic, and environmental conditions that make up the problem context, and the actors and actions able to influence change.¹⁵²

The first step in building a theory of change is to develop an impact pathway that illustrates a series of links from intervention to final outcomes and long-term goals.¹⁵³ An impact pathway includes the intervention strategies, direct benefits (outcomes) and well-being changes (long-term goals) to address the challenges.¹⁵⁴ Strategies are actions from those involved in the intervention, direct benefits are the improvements for individual beneficiaries of the target groups, and well-being changes are long-term improvements resulting from cumulative impacts of the intervention.¹⁵⁵ A theory of change identifies the current context of the issue, the vision that the interventions want to support, the impact pathway from the intervention to the desired outcomes, and finally the assumptions about how these changes will occur.¹⁵⁶

One of the main benefits of modelling a theory of change is that it makes implicit (even obvious) assumptions about how change occurs explicitly.¹⁵⁷ It does this by providing a visual representation and accompanying narrative of key points that help the reader understand the most important aspects of the theory of change, including the actors, events, and relevant pathways to impact.¹⁵⁸ Good models will balance the complexity of systems with simplicity in representation¹⁵⁹ in order to capture

the leverage points for change and supporting actions by groups of actors working in tandem towards an end goal. This research uses a visual and narrative representation to capture the key points in enough detail for an accurate portrayal of the insights gained by stakeholders.

1.2 Grounded Theory and Rigorous Qualitative Analysis

The analysis for this research uses grounded theory to develop theories based in participant input.¹⁶⁰ Grounded theory is a “robust and systematic method of designing, conducting, analysing and evaluating research, which at the same time facilitates and integrates the scientific and creative aspects of research.”¹⁶¹ It recognizes the subjective role of the researcher in interpreting qualitative data and provides clarity on how their role influences the outcomes of the analysis.¹⁶² By reflecting and reporting on analysis methods, the research can integrate scientific and creative processes that help establish rigour in qualitative studies.¹⁶³

Rigour in qualitative studies is based on self-reflection about interaction with, interpretation of, and communication of data with honesty, responsibility,¹⁶⁴ and trustworthiness.¹⁶⁵ These criteria can be evaluated based on the credibility of interpretations of participant data, transferability and accuracy of describing the research context, dependability of the methods, and confirming and acknowledging the role of the researcher's biases when interpreting data.¹⁶⁶ To ensure rigour in this study, the methods are reported in full detail with attention paid to the positionality of the researcher and how this affected the analysis and interpretation of data in order to gain creative insights.¹⁶⁷

1.3 Participant Interview Information

We conducted semi-structured interviews with all participants (n= 20) between May and July 2021. Interviews were between 30 and 120 min long and participants were offered a \$50 honorarium in exchange for their timeⁱ. The shortest interview was 43 minutes, and the longest interview was 110 minutes. Interviews were conducted either by phone or via the Zoom video conferencing platform (Zoom Video Communications Inc, 2021). Interviews were recorded using a Sony ICD-PX470 digital voice recorder and transcribed with Otter AI software (2021).

Participants were asked questions relating to circular economy, food security, and food waste. The questions were designed to gauge the challenges and opportunities for the City of Vancouver to implement the participants' vision for a circular economy of food. The semi-structured format was chosen as it allowed flexibility to prompt participants for clarification or extra detail in responses at the researcher's discretion. This contributed to a greater depth of information as participants could clarify meaning.

1.4 Participant Roles and Expertise Table

Participant Code	Current Role/Sector	Background Experience and Related Expertise
Participant 1	Consulting	<ul style="list-style-type: none"> • Circular Economy • Processing /Distribution
Participant 2	Non-Profit	<ul style="list-style-type: none"> • Education • Agriculture • Processing/ Distribution
Participant 3	Non-Profit	<ul style="list-style-type: none"> • Education • Agriculture
Participant 4	Processing	<ul style="list-style-type: none"> • Retail • Circular Economy • Consulting
Participant 5	Farmer	<ul style="list-style-type: none"> • Agriculture • Research
Participant 6	Farmer/Research	<ul style="list-style-type: none"> • Agriculture • Education • Consulting
Participant 7	Non-Profit	<ul style="list-style-type: none"> • Agriculture • Retail
Participant 8	Farmer	<ul style="list-style-type: none"> • Land Cooperatives • Non-Profit
Participant 9	Non-Profit/Registered Charity	<ul style="list-style-type: none"> • Food Security
Participant 10	Registered Charity	<ul style="list-style-type: none"> • Food Security • Circular Economy • Distribution
Participant 11	Registered Charity	<ul style="list-style-type: none"> • Food Security • Distribution

ⁱ Three participants elected to donate their honorarium.

Participant 12	Non-Profit	<ul style="list-style-type: none"> • Food Security • Research/Consulting • Distribution
Participant 13	Policy	<ul style="list-style-type: none"> • Agriculture • Food Security
Participant 14	Research	<ul style="list-style-type: none"> • Agriculture • Labour • Education
Participant 15	Retail	<ul style="list-style-type: none"> • Processing / Distribution • Circular Economy
Participant 16	Retail	<ul style="list-style-type: none"> • Circular Economy • Processing/ Distribution • Marketing
Participant 17	Social Enterprise / Registered Charity	<ul style="list-style-type: none"> • Food Security • Processing/ Distribution • Consulting
Participant 18	Distribution	<ul style="list-style-type: none"> • Technology • Circular Economy
Participant 19	Research	<ul style="list-style-type: none"> • Technology • Circular Economy • Agriculture
Leona Brown	Facilitator	<ul style="list-style-type: none"> • Consulting • Food And Medicine

1.5 Interview Questions

1. Can you tell me a little bit about your role in Vancouver's food system?
2. In general, do you think the current food system in Vancouver is "working?" What do you think we do well in the current food system, and what do we not do well?
3. How would you define a circular food economy?
4. Would you describe the current food system in Vancouver as inefficient/ wasteful? or as efficient/circular? Can you elaborate?
5. In your own work, or in your sector, have you tried to reduce food from being wasted? If so, can you explain how? If there is no waste, can you explain how you achieved this?
6. What are examples of food waste reduction/ prevention solutions that in your view work well or are innovative?
7. In your opinion, can solutions to address food waste and food loss also help address food insecurity? Can you elaborate?
8. If you had a blank slate, or you were asked to create a vision, what would a circular food economy look like in Vancouver? Do you think a circular food economy has the potential to address any of the key issues you described in the current food system?
9. Where are we now in Vancouver in comparison to this vision? What do you think are the steps that needs to be taken to get from where we are now to the vision?
10. What do you think are the main challenges to achieving a circular food economy/food system in Vancouver?
11. What are the main opportunities for achieving a circular food economy/food system in Vancouver? And are there benefits that might extend beyond the food system if Vancouver becomes a circular food economy?
12. What is the role of infrastructure in achieving the circular food economy in Vancouver?
13. How might various food system stakeholders and levels of government support the vision of a circular food economy in Vancouver?
14. Do you have any additional comments on the circular food economy in Vancouver?

1.6 Interpreting Participant Responses

Coding is central to a grounded analysis of qualitative data.¹⁶⁸ The coding process is used for researchers to immerse in the data and spur creative and unexpected insights emerging from participant responses.¹⁶⁹ During coding, data should be continuously compared to other data, and the researcher should scale between macro and micro perspectives to uncover emergent themes.¹⁷⁰

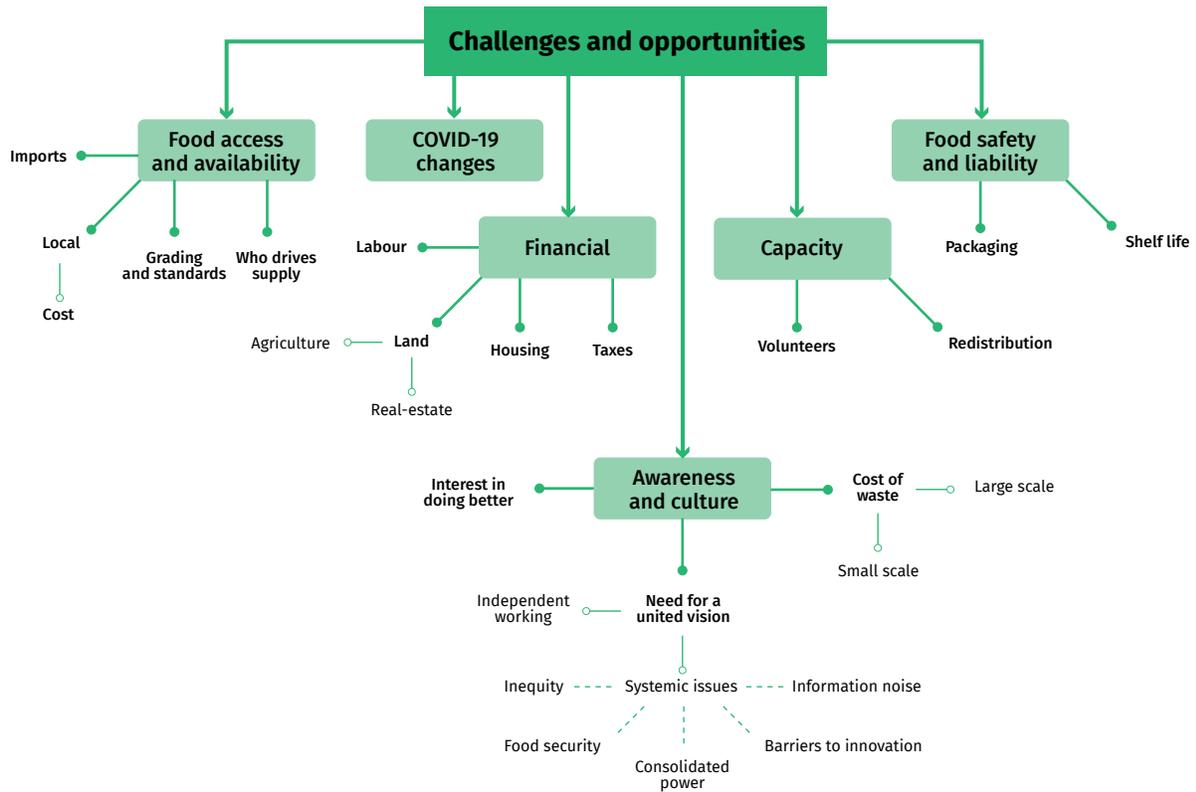
Qualitative analysis is supported by multiple modes of interaction with the data (i.e. digital and paper).¹⁷¹ Using both computer supported and traditional paper coding methods enables different interactions with the data, which increases the opportunities for creative insights.¹⁷² Considering the benefits and hindrances of both types of coding, the analysis was conducted using both NVivo 12 software (QSR International, 2019) and a more traditional paper method.¹⁷³

Data was openly coded in NVivo 12 by reading through each interview transcript and creating codes inductively using phrases from participants. The goal in the first round of coding was to use participant language as much as possible to ground the analysis in the data. Then, codes and related excerpts were printed and laid out on an open workspace. The coding strips were rearranged, grouped, compared, and recoded according to emerging themes. This is where more focused coding occurred to organize codes into reoccurring concepts and reach closure on core themes.¹⁷⁴ Finally, the researcher utilized the data retrieval and management of NVivo to transfer the excerpts into the new coding hierarchy. The finalized coding diagrams are available in the appendix.

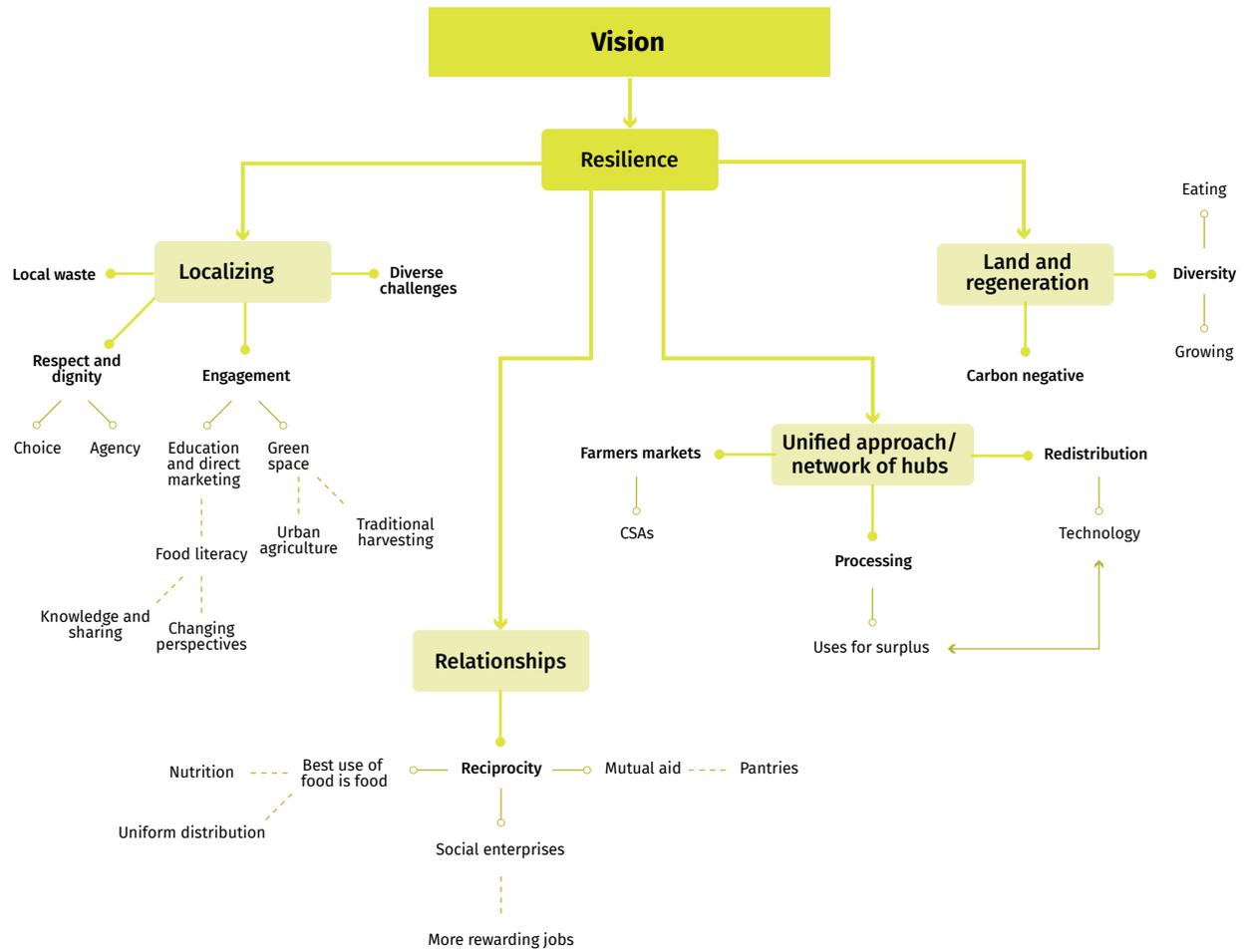
Coding openly in NVivo maximized highest use of the software for data management and retrieval, while using the paper method for focused coding enabled a deeper and more meaningful interaction with the data.¹⁷⁵ To strengthen the credibility of the interpretation, the findings were triangulated by comparing quotes from different participants¹⁷⁶ to understand the nuances within the themes. While we did not reapproach individual participants to check data interpretation, the themes were regularly reviewed with the advisory group to avoid fitting data into preconceive theories held by any one member of the research team.¹⁷⁷

2.0 Coding Tree Diagrams

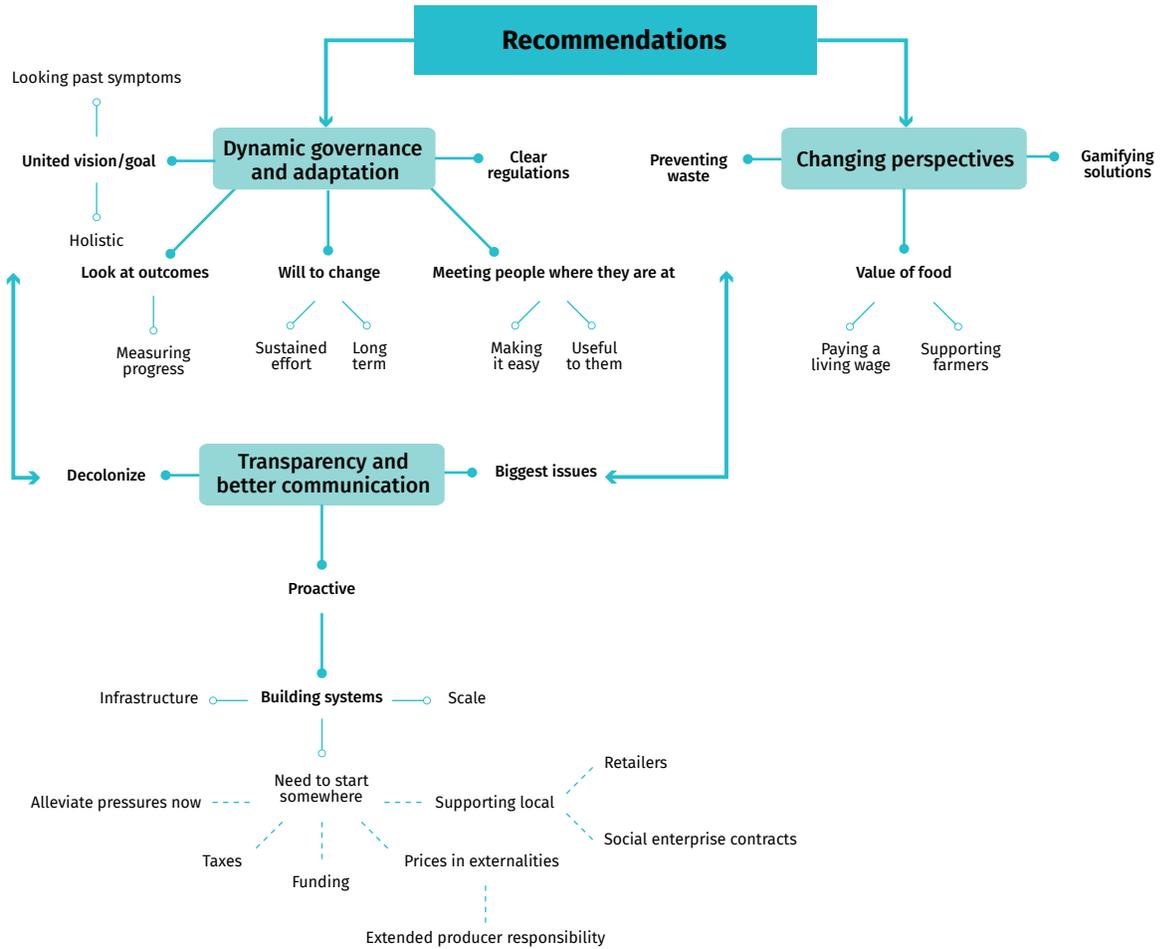
2.1 Challenges and Opportunities



2.2 Vision



2.3 Recommendations



Endnotes

1. V Tarasuk and A Mitchell, 'Household Food Insecurity in Canada, 2017-18' (Toronto: Research to identify policy options to reduce food insecurity (PROOF), 2020), <https://proof.utoronto.ca/>.
2. Tarasuk and Mitchell.
3. L Nikkel et al., 'The Avoidable Crisis of Food Waste: Roadmap' (Ontario, Canada: Second Harvest and Value Chain Management International, 2019), <https://secondharvest.ca/wp-content/uploads/2019/01/Avoidable-Crisis-of-Food-Waste-The-Roadmap-by-Second-Harvest-and-VCMI.pdf>.
4. Nikkel et al.
5. Nikkel et al.
6. 'Metro Vancouver Waste Study', 2018.
7. Vancouver Economic Commission, 'Invitation to Project Zero & a Recap of Vancouver Circular Economy Webinar Series', Vancouver Economic Commission, 8 December 2020, <http://www.vancouvereconomic.com/blog/news/invitation-to-project-zero-future-vancouver-circular-economy-webinar-series/>.
8. Juvarya Veltkamp, 'State of Vancouver's Green Economy 2018' (Vancouver Economic Commission, 30 May 2018).
9. Jayne Pitard, 'A Journey to the Centre of Self: Positioning the Researcher in Autoethnography', *FQS* 18, no. 3 (September 2017): Art.10.
10. Nikkel et al., 'The Avoidable Crisis of Food Waste: Roadmap'.
11. Tarasuk and Mitchell, 'Household Food Insecurity in Canada, 2017-18'.
12. Kameshwari Pothukuchi and Jerome L. Kaufman, 'The Food System: A Stranger to the Planning Field', *Journal of the American Planning Association* 66, no. 2 (30 June 2000): 113-24, <https://doi.org/10.1080/01944360008976093>.
13. Nadine Kafa and Anicia Jaegler, 'Food Losses and Waste Quantification in Supply Chains: A Systematic Literature Review', *British Food Journal* ahead-of-print, no. ahead-of-print (19 March 2021), <https://doi.org/10.1108/BFJ-09-2020-0879>.
14. Christine Göbel et al., 'Cutting Food Waste through Cooperation along the Food Supply Chain', *Sustainability* 7, no. 2 (28 January 2015): 1429-45, <https://doi.org/10.3390/su7021429>.
15. Graham Riches, *Food Bank Nations: Poverty, Corporate Charity and the Right to Food*, Routledge Studies in Food, Society and the Environment (London ; New York, NY: Routledge, Taylor & Francis Group, 2018); Graham Riches and Tiina Silvasti, eds., *First World Hunger Revisited: Food Charity or the Right to Food* (Palgrave Macmillan, 2014), <http://site.ebrary.com/id/10958866>.
16. Tarasuk and Mitchell, 'Household Food Insecurity in Canada, 2017-18'.
17. Massimiliano Borrello et al., 'Consumers' Perspective on Circular Economy Strategy for Reducing Food Waste', *Sustainability* 9, no. 1 (19 January 2017): 141, <https://doi.org/10.3390/su9010141>.
18. Taru Lehtokunnas et al., 'Towards a Circular Economy in Food Consumption: Food Waste Reduction Practices as Ethical Work', *Journal of Consumer Culture*, 6 June 2020, 146954052092625, <https://doi.org/10.1177/1469540520926252>.
19. Jean Ziegler et al., *The Fight for the Right to Food Lessons Learned* (Basingstoke: New York : Palgrave Macmillan, 2011), <http://www.palgraveconnect.com/doi/10.1057/9780230299337>.
20. Nikkel et al., 'The Avoidable Crisis of Food Waste: Roadmap'.
21. Nikkel et al.
22. Tarasuk and Mitchell, 'Household Food Insecurity in Canada, 2017-18'.
23. Nikkel et al., 'The Avoidable Crisis of Food Waste: Roadmap'.
24. Soma, Tammara, Rajiv Kozhikode, and Rekha Krishnan. 'Tilling Food under: Barriers and Opportunities to Address the Loss of Edible Food at the Farm-Level in British Columbia, Canada'. *Resources, Conservation and Recycling* 170 (July 2021): 105571. <https://doi.org/10.1016/j.resconrec.2021.105571>.

25. Soma, Tammara, Rajiv Kozhikode, and Rekha Krishnan. 'Tilling Food under: Barriers and Opportunities to Address the Loss of Edible Food at the Farm-Level in British Columbia, Canada'. *Resources, Conservation and Recycling* 170 (July 2021): 105571. <https://doi.org/10.1016/j.resconrec.2021.105571>.
26. 'Metro Vancouver Waste Study'.
27. City of Vancouver, 'What Feeds Us: Vancouver's Food Strategy', January 2013.
28. City of Vancouver, 'Vancouver Food Strategy Progress Report and Action Plan Update', 3 October 2017, <https://vancouver.ca/files/cov/final-food-strategy-report-back-and-update-2017-rts-11893.pdf>.
29. 'Metro Vancouver Waste Study'.
30. Rudolf Messner, Carol Richards, and Hope Johnson, 'The "Prevention Paradox": Food Waste Prevention and the Quandary of Systemic Surplus Production', *Agriculture and Human Values* 37, no. 3 (September 2020): 805–17, <https://doi.org/10.1007/s10460-019-10014-7>.
31. Dominika Alexa Teigiserova, Lorie Hamelin, and Marianne Thomsen, 'Towards Transparent Valorization of Food Surplus, Waste and Loss: Clarifying Definitions, Food Waste Hierarchy, and Role in the Circular Economy', *Science of The Total Environment* 706 (March 2020): 136033, <https://doi.org/10.1016/j.scitotenv.2019.136033>.
32. FAO, ed., *The State of Food and Agriculture 2019. Moving Forward on Food Loss and Waste Reduction* (Rome: Food and Agriculture Organization of the United Nations, 2019); United Nations Environment Programme, 'Food Waste Index Report 2021' (Nairobi, 2021).
33. Tarasuk and Mitchell, 'Household Food Insecurity in Canada, 2017-18'.
34. FAO, *The State of Food Security and Nutrition in the World: Transforming Food Systems for Affordable Healthy Diets* (Rome, Italy, 2020); Tarasuk and Mitchell, 'Household Food Insecurity in Canada, 2017-18'.
35. Holmes, Eleanor, Adeleke Fowokan, Darlene Seto, Scott A. Lear, and Jennifer L. Black. 'Examining Food Insecurity among Food Bank Members in Greater Vancouver'. *Journal of Hunger & Environmental Nutrition* 14, no. 1-2 (4 March 2019): 141–54. <https://doi.org/10.1080/19320248.2018.1465001>.
36. Tarasuk, V, and A Mitchell. 'Household Food Insecurity in Canada, 2017-18'. Toronto: Research to identify policy options to reduce food insecurity (PROOF), 2020. <https://proof.utoronto.ca/>.
37. Riches, *Food Bank Nations*; Riches and Silvasti, *First World Hunger Revisited*.
38. Bread for the World, *Right to Food and Nutrition Watch: Alternatives and Resistance to Policies That Generate Hunger* (Berlin: Bread for the World, 2013), http://www.rtfw-watch.org/fileadmin/media/rtfw-watch.org/ENGLISH/pdf/Watch_2013/Watch_2013_PDFs/Watch_2013_eng_WEB_final.pdf; Eleanor Holmes et al., 'Examining Food Insecurity among Food Bank Members in Greater Vancouver', *Journal of Hunger & Environmental Nutrition* 14, no. 1-2 (4 March 2019): 141–54, <https://doi.org/10.1080/19320248.2018.1465001>; Rachel Loopstra, 'Interventions to Address Household Food Insecurity in High-Income Countries', *Proceedings of the Nutrition Society* 77, no. 3 (August 2018): 270–81, <https://doi.org/10.1017/S002966511800006X>.
39. Riches, Graham, and Tiina Silvasti, eds. *First World Hunger Revisited: Food Charity or the Right to Food*. Palgrave Macmillan, 2014. <http://site.ebrary.com/id/10958866>.
40. Loopstra, Rachel. 'Interventions to Address Household Food Insecurity in High-Income Countries'. *Proceedings of the Nutrition Society* 77, no. 3 (August 2018): 270–81. <https://doi.org/10.1017/S002966511800006X>.
41. Loopstra, 'Interventions to Address Household Food Insecurity in High-Income Countries'.
42. Tarasuk, V, and A Mitchell. 'Household Food Insecurity in Canada, 2017-18'. Toronto: Research to identify policy options to reduce food insecurity (PROOF), 2020. <https://proof.utoronto.ca/>.
43. Tarasuk, V, and A Mitchell. 'Household Food Insecurity in Canada, 2017-18'. Toronto: Research to identify policy options to reduce food insecurity (PROOF), 2020. <https://proof.utoronto.ca/>.
44. Olivier De Schutter, 'Achieving the Right to Food: From Global Governance to National Implementation' (Rome: United Nations, 17 October 2011), http://www.fao.org/fileadmin/templates/cfs/Docs1011/CFS37/presentations/CFS37_Presentation_Global_RtF.pdf; Michael A. Robidoux and Courtney W. Mason, *A Land Not Forgotten : Indigenous Food Security and Land-Based Practices in Northern Ontario* (University of Manitoba Press, 2017), <https://ebookcentral-proquest-com.proxy.lib.sfu.ca/lib/sfu-ebooks/detail.action?docID=5219769>.
45. Robidoux and Mason, *A Land Not Forgotten: Indigenous Food Security and Land-Based Practices in Northern Ontario*.

46. Charlotte Coté, “Indigenizing” Food Sovereignty. Revitalizing Indigenous Food Practices and Ecological Knowledges in Canada and the United States’, *Humanities* 5, no. 3 (15 July 2016): 57, <https://doi.org/10.3390/h5030057>; Michelle Daigle, ‘Tracing the Terrain of Indigenous Food Sovereignities’, *The Journal of Peasant Studies* 46, no. 2 (23 February 2019): 297–315, <https://doi.org/10.1080/03066150.2017.1324423>; Constance Gordon and Kathleen Hunt, ‘Reform, Justice, and Sovereignty: A Food Systems Agenda for Environmental Communication’, *Environmental Communication* 13, no. 1 (2 January 2019): 9–22, <https://doi.org/10.1080/17524032.2018.1435559>.
47. Ziegler et al., *The Fight for the Right to Food Lessons Learned*.
48. Bread for the World, *Right to Food and Nutrition Watch*.
49. Riches and Silvasti, *First World Hunger Revisited*, 12.
50. De Schutter, ‘Achieving the Right to Food: From Global Governance to National Implementation’.
51. UN Committee on Economic, Social and Cultural Rights (CESCR), ‘General Comment No. 12: The Right to Adequate Food (Art. 11 of the Covenant, Paragraph 6)’, 12 May 1999, <https://www.refworld.org/docid/4538838c11.html.policy> documents and positions, and documents relating to international and national legal frameworks. The information has been carefully selected and compiled from UNHCR’s global network of field offices, Governments, international, regional and non-governmental organizations, academic institutions and judicial bodies. General Comment No. 12: The Right to Adequate Food (Art. 11 of the Covenant, paragraph 6
52. De Schutter, ‘Achieving the Right to Food: From Global Governance to National Implementation’.
53. Simone Piras et al., ‘Unfair Trading Practice Regulation and Voluntary Agreements Targeting Food Waste: A Policy Assessment in Select EU Member States’ (REFRESH Deliverable 3.2, 1 April 2018), <https://eu-refresh.org/unfair-trading-practice-regulation-and-voluntary-agreements-targeting-food-waste.html>.
54. De Schutter, ‘Achieving the Right to Food: From Global Governance to National Implementation’.
55. Messner, Richards, and Johnson, ‘The “Prevention Paradox”’.
56. Ellen MacArthur Foundation, ‘Cities and Circular Economy for Food’, 2019; Alexandra Jurgilevich et al., ‘Transition towards Circular Economy in the Food System’, *Sustainability* 8, no. 1 (12 January 2016): 69, <https://doi.org/10.3390/su8010069>.
57. Regina Treutwein and Nina Langen, ‘Setting the Agenda for Food Waste Prevention – A Perspective on Local Government Policymaking’, *Journal of Cleaner Production* 286 (March 2021): 125337, <https://doi.org/10.1016/j.jclepro.2020.125337>.
58. Ellen MacArthur Foundation, ‘Cities and Circular Economy for Food’.
59. Teigiserova, Hamelin, and Thomsen, ‘Towards Transparent Valorization of Food Surplus, Waste and Loss’, 5.
60. Jamie Baxter and John Eyles, ‘Evaluating Qualitative Research in Social Geography: Establishing “Rigour” in Interview Analysis’, *Transactions of the Institute of British Geographers* 22, no. 4 (December 1997): 505–25, <https://doi.org/10.1111/j.0020-2754.1997.00505.x>; Carmel Maher et al., ‘Ensuring Rigor in Qualitative Data Analysis: A Design Research Approach to Coding Combining NVivo With Traditional Material Methods’, *International Journal of Qualitative Methods* 17, no. 1 (1 December 2018): 1–13, <https://doi.org/10.1177/1609406918786362.no.4> (December 1997
61. John Mayne, ‘Useful Theory of Change Models’, *Canadian Journal of Program Evaluation* 30, no. 2 (1 August 2015): 119–42, <https://doi.org/10.3138/cjpe.230>.
62. Isabel Vogel, ‘ESPA Guide to Working with Theory of Change for Research Projects’ (Ecosystem Services for Poverty Alleviation, 2012).
63. Rod MacRae et al., ‘Making Better Use of What We Have: Strategies to Minimize Food Waste and Resource Inefficiency in Canada’, *Canadian Food Studies / La Revue Canadienne Des Études Sur l'alimentation* 3, no. 2 (15 December 2016): 145–215, <https://doi.org/10.15353/cfs-rcea.v3i2.143>.
64. Göbel et al., ‘Cutting Food Waste through Cooperation along the Food Supply Chain’.
65. Rudolf Messner, Hope Johnson, and Carol Richards, ‘From Surplus-to-Waste: A Study of Systemic Overproduction, Surplus and Food Waste in Horticultural Supply Chains’, *Journal of Cleaner Production* 278 (January 2021): 123952, <https://doi.org/10.1016/j.jclepro.2020.123952>; Tammara Soma, Rajiv Kozhikode, and Rekha Krishnan, ‘Tilling Food under: Barriers and Opportunities to Address the Loss of Edible Food at the Farm-Level in British Columbia, Canada’, *Resources, Conservation and Recycling* 170 (July 2021): 105571, <https://doi.org/10.1016/j.resconrec.2021.105571>.
66. Soma, Kozhikode, and Krishnan, ‘Tilling Food Under’.
67. MacRae et al., ‘Making Better Use of What We Have’; Nikkel et al., ‘The Avoidable Crisis of Food Waste: Roadmap’.

68. MacRae et al., 'Making Better Use of What We Have'; Nikkel et al., 'The Avoidable Crisis of Food Waste: Roadmap'.
69. City of Vancouver, 'Single- Use Item Reduction Strategy 2018-2025 - A Priority Action in Zero Waste 2040', 5 June 2018, <https://vancouver.ca/files/cov/single-use-item-reduction-strategy-with-amendments.pdf>.
70. Thomas Neitzert, 'Why Compostable Plastics May Be No Better for the Environment', *The Conversation*, 2 August 2018, <http://theconversation.com/why-compostable-plastics-may-be-no-better-for-the-environment-100016>.
71. Riches, Food Bank Nations; Riches and Silvasti, *First World Hunger Revisited*.
72. Statistics Canada, 'Snapshot of Canadian Agriculture', 6 November 2018, <https://www150.statcan.gc.ca/n1/pub/95-640-x/2011001/p1/p1-00-eng.htm>.
73. Holmes et al., 'Examining Food Insecurity among Food Bank Members in Greater Vancouver'; Tarasuk and Mitchell, 'Household Food Insecurity in Canada, 2017-18'.
74. Messner, Johnson, and Richards, 'From Surplus-to-Waste'.
75. FAO, *The State of Food Security and Nutrition in the World: Transforming Food Systems for Affordable Healthy Diets*; Messner, Richards, and Johnson, 'The "Prevention Paradox"'; Messner, Johnson, and Richards, 'From Surplus-to-Waste'.
76. Messner, Richards, and Johnson, 'The "Prevention Paradox"'.
77. Hans Grinsted Jensen et al., 'Socioeconomic Impact of Widespread Adoption of Precision Farming and Controlled Traffic Systems in Denmark', *Precision Agriculture* 13, no. 6 (December 2012): 661-77, <https://doi.org/10.1007/s11119-012-9276-3>.
78. Ashley Rachel Masland Booth, 'How Good Is the Good Food Market: An Exploration of Community Food Security' (Toronto, University of Toronto, 2012); Peter Jackson et al., 'Food as a Commodity, Human Right or Common Good', *Nature Food* 2, no. 3 (March 2021): 132-34, <https://doi.org/10.1038/s43016-021-00245-5>.
79. Tammara Soma et al., 'Food Assets for Whom? Community Perspectives on Food Asset Mapping in Canada', *Journal of Urbanism: International Research on Placemaking and Urban Sustainability*, 28 June 2021, 1-18, <https://doi.org/10.1080/17549175.2021.1918750>.
80. Elizabeth G. Dunn, 'The Digital Farmers' Market : New Shortcuts to the Freshest Food; Want Your heirloom Carrots, Grass-Fed Beef and Artisan Cheese Straight from the Farm—Minus the Schlep to the Market? The Technology Is Finally There.', *The Wall Street Journal Online*, 7 May 2021.
81. FAO, *The State of Food Security and Nutrition in the World: Transforming Food Systems for Affordable Healthy Diets*.
82. Statistics Canada, 'Food Insecurity during the COVID-19 Pandemic, May 2020', *StatCan COVID-19: Data to Insights for a Better Canada*, 24 June 2020, <https://www150.statcan.gc.ca/n1/pub/45-28-0001/2020001/article/00039-eng.htm>.
83. Beatrice Britneff, 'Food Banks' Demand Surges amid COVID-19. Now They Worry about Long-Term Pressures', *Global News*, 15 April 2020, <https://globalnews.ca/news/6816023/food-bank-demand-covid-19-long-term-worry/>.
84. Canada Revenue Agency, 'Canada Emergency Response Benefit with CRA', 14 September 2020, <https://www.canada.ca/en/revenue-agency/services/benefits/apply-for-cerb-with-cra.html>.
85. FAO, *The State of Food Security and Nutrition in the World: Transforming Food Systems for Affordable Healthy Diets*; Tarasuk and Mitchell, 'Household Food Insecurity in Canada, 2017-18'.
86. B. James Deaton and Brady J. Deaton, 'Food Security and Canada's Agricultural System Challenged by COVID-19: One Year Later', *Canadian Journal of Agricultural Economics/Revue Canadienne d'agroeconomie* 69, no. 2 (June 2021): 161-66, <https://doi.org/10.1111/cjag.12275>.
87. Janelle Marie Baker, 'Do Berries Listen? Berries as Indicators, Ancestors, and Agents in Canada's Oil Sands Region', *Ethnos* 86, no. 2 (15 March 2021): 273-94, <https://doi.org/10.1080/00141844.2020.1765829>.
88. Marc Fawcett-Atkinson, 'How One Indigenous Farmer in the North Is Improving Food Security in His Community', *National Observer*, 16 November 2020, <https://www.nationalobserver.com/2020/11/16/news/tea-creek-farm-northern-bc-food-security>.
89. Paul Fieldhouse and Shirley Thompson, 'Tackling Food Security Issues in Indigenous Communities in Canada: The Manitoba Experience: Food Security in Indigenous Communities in Canada', *Nutrition & Dietetics* 69, no. 3 (September 2012): 217-21, <https://doi.org/10.1111/j.1747-0080.2012.01619.x>; Elaine M. Power, 'Conceptualizing Food Security for Aboriginal People in Canada', *Canadian Journal of Public Health* 99, no. 2 (2008): 95-97; Tarasuk and Mitchell, 'Household Food Insecurity in Canada, 2017-18'.

90. Robin Wall Kimmerer, 'Reciprocity' (28th Headwaters Conference - Center for Environment and Sustainability, Western State Colorado University, 6 October 2017), <https://www.youtube.com/watch?v=wisxnOgOIFo>.
91. John Mohawk, 'Survive and Thrive'.
92. Vanessa Watts, 'Indigenous Place-Thought & Agency amongst Humans and Non-Humans (First Woman and Sky Woman Go on a European World Tour!)', *Decolonization: Indigeneity, Education & Society* 2, no. 1 (2013): 20–34.
93. Baker, 'Do Berries Listen?'; Kimmerer, 'Reciprocity'; Mohawk, 'Survive and Thrive'.
94. Anelyse M. Weiler, Janet McLaughlin, and Donald C. Cole, 'Food Security at Whose Expense? A Critique of the Canadian Temporary Farm Labour Migration Regime and Proposals for Change', *International Migration* 55, no. 4 (August 2017): 48–63, <https://doi.org/10.1111/imig.12342>.
95. This Is Rubbish, 'Solutions to Food Waste and Poverty', 2021, <https://www.thisisrubbish.org/wp-content/uploads/2021/04/This-is-Rubbish-Solutions-to-the-Food-Waste-Crisis.pdf>.
96. This Is Rubbish.
97. Soma et al., 'Food Assets for Whom?'
98. Sean Connelly and Mary Beckie, 'The Dilemma of Scaling up Local Food Initiatives: Is Social Infrastructure the Essential Ingredient?', *Canadian Food Studies / La Revue Canadienne Des Études Sur l'alimentation* 3, no. 2 (15 December 2016): 49–69, <https://doi.org/10.15353/cfs-rcea.v3i2.146>.
99. This Is Rubbish, 'Solutions to Food Waste and Poverty'.
100. FAO, *The State of Food Security and Nutrition in the World: Transforming Food Systems for Affordable Healthy Diets*.
101. Göbel et al., 'Cutting Food Waste through Cooperation along the Food Supply Chain'.
102. Teigiserova, Hamelin, and Thomsen, 'Towards Transparent Valorization of Food Surplus, Waste and Loss'.
103. Messner, Richards, and Johnson, 'The "Prevention Paradox"'.
 104. Bread for the World, *Right to Food and Nutrition Watch*.
105. Dana James et al., 'Dismantling and Rebuilding the Food System after COVID-19: Ten Principles for Redistribution and Regeneration', *Journal of Agriculture, Food Systems, and Community Development*, 7 February 2021, 1–23, <https://doi.org/10.5304/jafscd.2021.102.019>.
106. Kimmerer, 'Reciprocity'; Mohawk, 'Survive and Thrive'.
107. UN Committee on Economic, Social and Cultural Rights (CESCR), 'Refworld | General Comment No. 12: policy documents and positions, and documents relating to international and national legal frameworks. The information has been carefully selected and compiled from UNHCR's global network of field offices, Governments, international, regional and non-governmental organizations, academic institutions and judicial bodies. General Comment No. 12: The Right to Adequate Food (Art. 11 of the Covenant, paragraph 6
108. Riches and Silvasti, *First World Hunger Revisited*.
109. Messner, Richards, and Johnson, 'The "Prevention Paradox"'; Teigiserova, Hamelin, and Thomsen, 'Towards Transparent Valorization of Food Surplus, Waste and Loss'.
110. Weiler, McLaughlin, and Cole, 'Food Security at Whose Expense?'
111. 'Climate 2050 Strategic Framework', 2018.
112. 'Climate Emergency Action Plan', 17 November 2020, <https://council.vancouver.ca/20201103/documents/p1.pdf>.
113. 'Zero Waste 2040', 20 April 2018, <https://council.vancouver.ca/20180516/documents/pspc2a.pdf>.
114. Environment and Climate Change Canada, 'Canada One-Step Closer to Zero Plastic Waste by 2030', news releases, 7 October 2020, <https://www.canada.ca/en/environment-climate-change/news/2020/10/canada-one-step-closer-to-zero-plastic-waste-by-2030.html>.
115. 'What Feeds Us: Vancouver's Food Strategy'.

116. Agriculture and Agri-Food Canada, 'The Canadian Food Policy Advisory Council', 11 May 2021, <https://agriculture.canada.ca/en/about-our-department/key-departmental-initiatives/food-policy/canadian-food-policy-advisory-council>. ongoing engagement with the Canadian Food Policy Advisory Council and with Canadians will also support further development of the policy. Together, individuals, organizations, and the Government can work toward a future of food that is resilient, diverse, and abundant. Priority outcomes: achieving the vision. The Canadian Food Policy Advisory Council, <https://agriculture.canada.ca/en/about-our-department/key-departmental-initiatives/food-policy/canadian-food-policy-advisory-council>, accessed: August 30, 2021, issued: May 11, 2021, "<https://github.com/citation-style-language/schema/raw/master/csl-citation.json>"
117. City of Vancouver, 'Vancouver Plan - Terms of Reference for Policy Working Groups', August 2020.
118. 'Vancouver Plan Update and Quick Start Actions', 21 July 2021, https://council.vancouver.ca/20210721/documents/cfsc1.pdf?_ga=2.207620116.764005541.1626972272-1144160381.1626972272.
119. City of Vancouver, 'Vancouver Plan Update and Quick Start Actions', 21 July 2021, https://council.vancouver.ca/20210721/documents/cfsc1.pdf?_ga=2.207620116.764005541.1626972272-1144160381.1626972272.
120. City of Vancouver, 'What We've Heard- Appendix A: Phase II: Envisioning the Future Engagement Summary', 21 July 2021, 5, https://council.vancouver.ca/20210721/documents/cfsc1.pdf?_ga=2.141345841.2086562465.1629826075-1144160381.1626972272.
121. City of Vancouver, 'City of Reconciliation - Update 2019', 11 June 2019, <https://council.vancouver.ca/20190626/documents/cfsc1.pdf>.
122. City of Vancouver; Government of BC, 'Declaration on the Rights of Peoples Act- Info For Local Government', n.d., https://news.gov.bc.ca/files/BC_Declaration_Act-Factsheet-Local_Government.pdf.
123. This Is Rubbish, 'Solutions to Food Waste and Poverty'.
124. Coté, "'Indigenizing" Food Sovereignty. Revitalizing Indigenous Food Practices and Ecological Knowledges in Canada and the United States'.
125. This Is Rubbish, 'Solutions to Food Waste and Poverty'.
126. City of Vancouver, 'What Feeds Us: Vancouver's Food Strategy', 84.
127. City of Vancouver, 'Vancouver Food Strategy Progress Report and Action Plan Update'.
128. Kimmerer, 'Reciprocity'.
129. Pothukuchi and Kaufman, 'The Food System'.
130. Teigiserova, Hamelin, and Thomsen, 'Towards Transparent Valorization of Food Surplus, Waste and Loss'.
131. This Is Rubbish, 'Solutions to Food Waste and Poverty'.
132. James et al., 'Dismantling and Rebuilding the Food System after COVID-19'.
133. Teigiserova, Hamelin, and Thomsen, 'Towards Transparent Valorization of Food Surplus, Waste and Loss'.
134. Connelly and Beckie, 'The Dilemma of Scaling up Local Food Initiatives'.
135. Hannah Wittman, Jessica Dennis, and Heather Pritchard, 'Beyond the Market? New Agrarianism and Cooperative Farmland Access in North America', *Journal of Rural Studies* 53 (July 2017): 303-16, <https://doi.org/10.1016/j.jrurstud.2017.03.007>.
136. Wittman, Dennis, and Pritchard.
137. Statistics Canada, 'Canadian Agriculture: Evolution and Innovation' (Winnipeg, Manitoba, 2 February 2018), <https://www150.statcan.gc.ca/n1/pub/11-631-x/11-631-x2017006-eng.htm>.
138. Jackson et al., 'Food as a Commodity, Human Right or Common Good'.
139. Connelly and Beckie, 'The Dilemma of Scaling up Local Food Initiatives'.
140. John Ikerd, 'Place-Based Food and Farming Systems: Reconnecting People with Purpose and Place', *Journal of Agriculture, Food Systems, and Community Development*, 25 August 2019, 1-10, <https://doi.org/10.5304/jafscd.2019.091.017>.
141. V Tarasuk and A Mitchell, 'Household Food Insecurity in Canada, 2017-18' (Toronto: Research to identify policy options to reduce food insecurity (PROOF), 2020), <https://proof.utoronto.ca/>.
142. Tarasuk and Mitchell.

143. L Nikkel et al., 'The Avoidable Crisis of Food Waste: Roadmap' (Ontario, Canada: Second Harvest and Value Chain Management International, 2019), <https://secondharvest.ca/wp-content/uploads/2019/01/Avoidable-Crisis-of-Food-Waste-The-Roadmap-by-Second-Harvest-and-VCMI.pdf>.
144. Nikkel et al.
145. Nikkel et al.
146. 'Metro Vancouver Waste Study', 2018.
147. Vancouver Economic Commission, 'Invitation to Project Zero & a Recap of Vancouver Circular Economy Webinar Series', Vancouver Economic Commission, 8 December 2020, <http://www.vancouvereconomic.com/blog/news/invitation-to-project-zero-future-vancouver-circular-economy-webinar-series/>.
148. Juvarya Veltkamp, 'State of Vancouver's Green Economy 2018' (Vancouver Economic Commission, 30 May 2018).
149. Teigiserova, Dominika Alexa, Lorie Hamelin, and Marianne Thomsen. 'Towards Transparent Valorization of Food Surplus, Waste and Loss: Clarifying Definitions, Food Waste Hierarchy, and Role in the Circular Economy'. *Science of The Total Environment* 706 (March 2020): 136033. <https://doi.org/10.1016/j.scitotenv.2019.136033>.
150. Mayne, John. 'Useful Theory of Change Models'. *Canadian Journal of Program Evaluation* 30, no. 2 (1 August 2015): 119–42. <https://doi.org/10.3138/cjpe.230>.
151. Vogel, Isabel. 'ESPA Guide to Working with Theory of Change for Research Projects'. *Ecosystem Services for Poverty Alleviation*, 2012.
152. Vogel.
153. Mayne.
154. Mayne.
155. Mayne.
156. Vogel.
157. Vogel.
158. Mayne.
159. Vogel.
160. Maher, Carmel, Mark Hadfield, Maggie Hutchings, and Adam de Eyto. 'Ensuring Rigor in Qualitative Data Analysis: A Design Research Approach to Coding Combining NVivo With Traditional Material Methods'. *International Journal of Qualitative Methods* 17, no. 1 (1 December 2018): 1–13. <https://doi.org/10.1177/1609406918786362>.
161. Cathy Bailey, Catherine White, and Rachel Pain, 'Evaluating Qualitative Research: Dealing with the Tension between "science" and "Creativity"', *Area* 31, no. 2 (June 1999): 169–83, <https://doi.org/10.1111/j.1475-4762.1999.tb00182.x>.
162. Bailey, White, and Pain.
163. Bailey, White, and Pain.
164. Jamie Baxter and John Eyles, 'Evaluating Qualitative Research in Social Geography: Establishing "Rigour" in Interview Analysis', *Transactions of the Institute of British Geographers* 22, no. 4 (December 1997): 505–25, <https://doi.org/10.1111/j.0020-2754.1997.00505.x>
165. Maher et al.
166. Baxter and Eyles, 'Evaluating Qualitative Research in Social Geography'; Maher et al., 'Ensuring Rigor in Qualitative Data Analysis'.
167. Bailey, White, and Pain, 'Evaluating Qualitative Research'; Baxter and Eyles, 'Evaluating Qualitative Research in Social Geography'; Maher et al., 'Ensuring Rigor in Qualitative Data Analysis'.
168. Maher et al.
169. Maher et al.

170. Bailey, White, and Pain, 'Evaluating Qualitative Research'; Maher et al., 'Ensuring Rigor in Qualitative Data Analysis'.
171. Maher et al.
172. Maher et al.
173. Maher et al.
174. Bailey et al.
175. Maher et al.
176. Baxter and Eyles, 'Evaluating Qualitative Research in Social Geography'.
177. Bailey, White, and Pain, 'Evaluating Qualitative Research'; Baxter and Eyles, 'Evaluating Qualitative Research in Social Geography'.

Bibliography

- Agriculture and Agri-Food Canada. 'The Canadian Food Policy Advisory Council', 11 May 2021. <https://agriculture.canada.ca/en/about-our-department/key-departmental-initiatives/food-policy/canadian-food-policy-advisory-council>.
- Baker, Janelle Marie. 'Do Berries Listen? Berries as Indicators, Ancestors, and Agents in Canada's Oil Sands Region'. *Ethnos* 86, no. 2 (15 March 2021): 273–94. <https://doi.org/10.1080/00141844.2020.1765829>.
- Baxter, Jamie, and John Eyles. 'Evaluating Qualitative Research in Social Geography: Establishing "Rigour" in Interview Analysis'. *Transactions of the Institute of British Geographers* 22, no. 4 (December 1997): 505–25. <https://doi.org/10.1111/j.0020-2754.1997.00505.x>.
- Booth, Ashley Rachel Masland. 'How Good Is the Good Food Market: An Exploration of Community Food Security'. University of Toronto, 2012.
- Borrello, Massimiliano, Francesco Caracciolo, Alessia Lombardi, Stefano Pascucci, and Luigi Cembalo. 'Consumers' Perspective on Circular Economy Strategy for Reducing Food Waste'. *Sustainability* 9, no. 1 (19 January 2017): 141. <https://doi.org/10.3390/su9010141>.
- Bread for the World. *Right to Food and Nutrition Watch: Alternatives and Resistance to Policies That Generate Hunger*. Berlin: Bread for the World, 2013. http://www.rtfw-watch.org/fileadmin/media/rtfn-watch.org/ENGLISH/pdf/Watch_2013/Watch_2013_PDFs/Watch_2013_eng_WEB_final.pdf.
- Britneff, Beatrice. 'Food Banks' Demand Surges amid COVID-19. Now They Worry about Long-Term Pressures'. *Global News*, 15 April 2020. <https://globalnews.ca/news/6816023/food-bank-demand-covid-19-long-term-worry/>.
- Canada Revenue Agency. 'Canada Emergency Response Benefit with CRA', 14 September 2020. <https://www.canada.ca/en/revenue-agency/services/benefits/apply-for-cerb-with-cra.html>.
- City of Vancouver. 'City of Reconciliation - Update 2019', 11 June 2019. <https://council.vancouver.ca/20190626/documents/cfsc1.pdf>.
- . 'Climate Emergency Action Plan', 17 November 2020. <https://council.vancouver.ca/20201103/documents/p1.pdf>.
- . 'Single- Use Item Reduction Strategy 2018-2025 - A Priority Action in Zero Waste 2040', 5 June 2018. <https://vancouver.ca/files/cov/single-use-item-reduction-strategy-with-amendments.pdf>.
- . 'Vancouver Food Strategy Progress Report and Action Plan Update', 3 October 2017. <https://vancouver.ca/files/cov/final-food-strategy-report-back-and-update-2017-rts-11893.pdf>.
- . 'Vancouver Plan - Terms of Reference for Policy Working Groups', August 2020.
- . 'Vancouver Plan Update and Quick Start Actions', 21 July 2021. https://council.vancouver.ca/20210721/documents/cfsc1.pdf?_ga=2.207620116.764005541.1626972272-1144160381.1626972272.
- . 'Vancouver Plan Update and Quick Start Actions', 21 July 2021. https://council.vancouver.ca/20210721/documents/cfsc1.pdf?_ga=2.207620116.764005541.1626972272-1144160381.1626972272.———. 'What Feeds Us: Vancouver's Food Strategy', January 2013.
- . 'What We've Heard- Appendix A: Phase II: Envisioning the Future Engagement Summary', 21 July 2021. https://council.vancouver.ca/20210721/documents/cfsc1.pdf?_ga=2.141345841.2086562465.1629826075-1144160381.1626972272.
- . 'Zero Waste 2040', 20 April 2018. <https://council.vancouver.ca/20180516/documents/pspc2a.pdf>.Connelly, Sean, and Mary Beckie. 'The Dilemma of Scaling up Local Food Initiatives: Is Social Infrastructure the Essential Ingredient?' *Canadian Food Studies / La Revue Canadienne Des Études Sur l'alimentation* 3, no. 2 (15 December 2016): 49–69. <https://doi.org/10.15353/cfs-rcea.v3i2.146>.
- Coté, Charlotte. "'Indigenizing" Food Sovereignty. Revitalizing Indigenous Food Practices and Ecological Knowledges in Canada and the United States'. *Humanities* 5, no. 3 (15 July 2016): 57. <https://doi.org/10.3390/h5030057>.
- Daigle, Michelle. 'Tracing the Terrain of Indigenous Food Sovereignities'. *The Journal of Peasant Studies* 46, no. 2 (23 February 2019): 297–315. <https://doi.org/10.1080/03066150.2017.1324423>.

- De Schutter, Olivier. 'Achieving the Right to Food: From Global Governance to National Implementation'. Rome: United Nations, 17 October 2011. http://www.fao.org/fileadmin/templates/cfs/Docs1011/CFS37/presentations/CFS37_Presentation_Global_RtF.pdf.
- Deaton, B. James, and Brady J. Deaton. 'Food Security and Canada's Agricultural System Challenged by COVID-19: One Year Later'. *Canadian Journal of Agricultural Economics/Revue Canadienne d'agroeconomie* 69, no. 2 (June 2021): 161–66. <https://doi.org/10.1111/cjag.12275>.
- Dunn, Elizabeth G. 'The Digital Farmers' Market : New Shortcuts to the Freshest Food; Want Your heirloom Carrots, Grass-Fed Beef and Artisan Cheese Straight from the Farm—Minus the Schlep to the Market? The Technology Is Finally There.' *The Wall Street Journal Online*, 7 May 2021.
- Ellen MacArthur Foundation. 'Cities and Circular Economy for Food', 2019.
- Environment and Climate Change Canada. 'Canada One-Step Closer to Zero Plastic Waste by 2030'. News releases, 7 October 2020. <https://www.canada.ca/en/environment-climate-change/news/2020/10/canada-one-step-closer-to-zero-plastic-waste-by-2030.html>.
- FAO, ed. *The State of Food and Agriculture 2019. Moving Forward on Food Loss and Waste Reduction*. Rome: Food and Agriculture Organization of the United Nations, 2019.
- . *The State of Food Security and Nutrition in the World: Transforming Food Systems for Affordable Healthy Diets*. Rome, Italy, 2020.
- Fawcett-Atkinson, Marc. 'How One Indigenous Farmer in the North Is Improving Food Security in His Community'. National Observer, 16 November 2020. <https://www.nationalobserver.com/2020/11/16/news/tea-creek-farm-northern-bc-food-security>.
- Fieldhouse, Paul, and Shirley Thompson. 'Tackling Food Security Issues in Indigenous Communities in Canada: The Manitoba Experience: Food Security in Indigenous Communities in Canada'. *Nutrition & Dietetics* 69, no. 3 (September 2012): 217–21. <https://doi.org/10.1111/j.1747-0080.2012.01619.x>.
- Göbel, Christine, Nina Langen, Antonia Blumenthal, Petra Teitscheid, and Guido Ritter. 'Cutting Food Waste through Cooperation along the Food Supply Chain'. *Sustainability* 7, no. 2 (28 January 2015): 1429–45. <https://doi.org/10.3390/su7021429>.
- Gordon, Constance, and Kathleen Hunt. 'Reform, Justice, and Sovereignty: A Food Systems Agenda for Environmental Communication'. *Environmental Communication* 13, no. 1 (2 January 2019): 9–22. <https://doi.org/10.1080/17524032.2018.1435559>.
- Government of BC. 'Declaration on the Rights of Peoples Act- Info For Local Government', n.d. https://news.gov.bc.ca/files/BC_Declaration_Act-Factsheet-Local_Government.pdf.
- Holmes, Eleanor, Adeleke Fowokan, Darlene Seto, Scott A. Lear, and Jennifer L. Black. 'Examining Food Insecurity among Food Bank Members in Greater Vancouver'. *Journal of Hunger & Environmental Nutrition* 14, no. 1–2 (4 March 2019): 141–54. <https://doi.org/10.1080/19320248.2018.1465001>.
- Ikerd, John. 'Place-Based Food and Farming Systems: Reconnecting People with Purpose and Place'. *Journal of Agriculture, Food Systems, and Community Development*, 25 August 2019, 1–10. <https://doi.org/10.5304/jafscd.2019.091.017>.
- Jackson, Peter, Marta Guadalupe Rivera Ferre, Jeroen Candel, Anna Davies, Cristiane Derani, Hugo de Vries, Verica Dragović-Uzelac, et al. 'Food as a Commodity, Human Right or Common Good'. *Nature Food* 2, no. 3 (March 2021): 132–34. <https://doi.org/10.1038/s43016-021-00245-5>.
- James, Dana, Evan Bowness, Tabitha Robin, Angela McIntyre, Colin Dring, Annette Desmarais, and Hannah Wittman. 'Dismantling and Rebuilding the Food System after COVID-19: Ten Principles for Redistribution and Regeneration'. *Journal of Agriculture, Food Systems, and Community Development*, 7 February 2021, 1–23. <https://doi.org/10.5304/jafscd.2021.102.019>.
- Jensen, Hans Grinsted, Lars-Bo Jacobsen, Søren Marcus Pedersen, and Elena Tavella. 'Socioeconomic Impact of Widespread Adoption of Precision Farming and Controlled Traffic Systems in Denmark'. *Precision Agriculture* 13, no. 6 (December 2012): 661–77. <https://doi.org/10.1007/s11119-012-9276-3>.
- Jurgilevich, Alexandra, Traci Birge, Johanna Kentala-Lehtonen, Kaisa Korhonen-Kurki, Janna Pietikäinen, Laura Saikku, and Hanna Schösler. 'Transition towards Circular Economy in the Food System'. *Sustainability* 8, no. 1 (12 January 2016): 69. <https://doi.org/10.3390/su8010069>.
- Kafa, Nadine, and Anicia Jaegler. 'Food Losses and Waste Quantification in Supply Chains: A Systematic Literature Review'. *British Food Journal* ahead-of-print, no. ahead-of-print (19 March 2021). <https://doi.org/10.1108/BFJ-09-2020-0879>.

- Kimmerer, Robin Wall. 'Reciprocity'. Presented at the 28th Headwaters Conference - Center for Environment and Sustainability, Western State Colorado University, 6 October 2017. <https://www.youtube.com/watch?v=wisxnOgOIFo>.
- Lehtokunnas, Taru, Malla Mattila, Elina Närvänen, and Nina Mesiranta. 'Towards a Circular Economy in Food Consumption: Food Waste Reduction Practices as Ethical Work'. *Journal of Consumer Culture*, 6 June 2020, 146954052092625. <https://doi.org/10.1177/1469540520926252>.
- Loopstra, Rachel. 'Interventions to Address Household Food Insecurity in High-Income Countries'. *Proceedings of the Nutrition Society* 77, no. 3 (August 2018): 270–81. <https://doi.org/10.1017/S002966511800006X>.
- MacRae, Rod, Anne Siu, Marlee Kohn, Moira Matsubuchi-Shaw, Doug McCallum, Tania Hernandez Cervantes, and Danielle Perreault. 'Making Better Use of What We Have: Strategies to Minimize Food Waste and Resource Inefficiency in Canada'. *Canadian Food Studies / La Revue Canadienne Des Études Sur l'alimentation* 3, no. 2 (15 December 2016): 145–215. <https://doi.org/10.15353/cfs-rcea.v3i2.143>.
- Maher, Carmel, Mark Hadfield, Maggie Hutchings, and Adam de Eyto. 'Ensuring Rigor in Qualitative Data Analysis: A Design Research Approach to Coding Combining NVivo With Traditional Material Methods'. *International Journal of Qualitative Methods* 17, no. 1 (1 December 2018): 1–13. <https://doi.org/10.1177/1609406918786362>.
- Mayne, John. 'Useful Theory of Change Models'. *Canadian Journal of Program Evaluation* 30, no. 2 (1 August 2015): 119–42. <https://doi.org/10.3138/cjpe.230>.
- Messner, Rudolf, Hope Johnson, and Carol Richards. 'From Surplus-to-Waste: A Study of Systemic Overproduction, Surplus and Food Waste in Horticultural Supply Chains'. *Journal of Cleaner Production* 278 (January 2021): 123952. <https://doi.org/10.1016/j.jclepro.2020.123952>.
- Messner, Rudolf, Carol Richards, and Hope Johnson. 'The "Prevention Paradox": Food Waste Prevention and the Quandary of Systemic Surplus Production'. *Agriculture and Human Values* 37, no. 3 (September 2020): 805–17. <https://doi.org/10.1007/s10460-019-10014-7>.
- Metro Vancouver. 'Climate 2050 Strategic Framework', 2018.
- 'Metro Vancouver Waste Study', 2018.
- Mohawk, John. 'Survive and Thrive'. Presented at the Bioneers National Conference, 2004.
- Neitzert, Thomas. 'Why Compostable Plastics May Be No Better for the Environment'. *The Conversation*, 2 August 2018. <http://theconversation.com/why-compostable-plastics-may-be-no-better-for-the-environment-100016>.
- Nikkel, L, M Maguire, M Gooch, M Bucknell, D LaPlain, B Dent, P Whitehead, and A Felfel. 'The Avoidable Crisis of Food Waste: Roadmap'. Ontario, Canada: Second Harvest and Value Chain Management International, 2019. <https://secondharvest.ca/wp-content/uploads/2019/01/Avoidable-Crisis-of-Food-Waste-The-Roadmap-by-Second-Harvest-and-VCMI.pdf>.
- Piras, Simone, Laura García Herrero, Stephanie Burgos, Flavien Colin, Manuela Gheoldus, Charles Ledoux, Julian Parfitt, Dominika Jarosz, and Matteo Vittuari. 'Unfair Trading Practice Regulation and Voluntary Agreements Targeting Food Waste: A Policy Assessment in Select EU Member States'. REFRESH Deliverable 3.2, 1 April 2018. <https://eu-refresh.org/unfair-trading-practice-regulation-and-voluntary-agreements-targeting-food-waste.html>.
- Pitard, Jayne. 'A Journey to the Centre of Self: Positioning the Researcher in Autoethnography'. *FQS* 18, no. 3 (September 2017): Art.10.
- Pothukuchi, Kameshwari, and Jerome L. Kaufman. 'The Food System: A Stranger to the Planning Field'. *Journal of the American Planning Association* 66, no. 2 (30 June 2000): 113–24. <https://doi.org/10.1080/01944360008976093>.
- Power, Elaine M. 'Conceptualizing Food Security for Aboriginal People in Canada'. *Canadian Journal of Public Health* 99, no. 2 (2008): 95–97.
- Riches, Graham. *Food Bank Nations: Poverty, Corporate Charity and the Right to Food*. Routledge Studies in Food, Society and the Environment. London ; New York, NY: Routledge, Taylor & Francis Group, 2018.
- Riches, Graham, and Tiina Silvasti, eds. *First World Hunger Revisited: Food Charity or the Right to Food*. Palgrave Macmillan, 2014. <http://site.ebrary.com/id/10958866>.
- Robidoux, Michael A., and Courtney W. Mason. *A Land Not Forgotten : Indigenous Food Security and Land-Based Practices in Northern Ontario*. University of Manitoba Press, 2017. <https://ebookcentral-proquest-com.proxy.lib.sfu.ca/lib/sfu-ebooks/detail.action?docID=5219769>.

- Soma, Tammara, Rajiv Kozhikode, and Rekha Krishnan. 'Tilling Food under: Barriers and Opportunities to Address the Loss of Edible Food at the Farm-Level in British Columbia, Canada'. *Resources, Conservation and Recycling* 170 (July 2021): 105571. <https://doi.org/10.1016/j.resconrec.2021.105571>.
- Soma, Tammara, Tamara Shulman, Belinda Li, Janette Bulkan, and Meagan Curtis. 'Food Assets for Whom? Community Perspectives on Food Asset Mapping in Canada'. *Journal of Urbanism: International Research on Placemaking and Urban Sustainability*, 28 June 2021, 1–18. <https://doi.org/10.1080/17549175.2021.1918750>.
- Statistics Canada. 'Canadian Agriculture: Evolution and Innovation'. Winnipeg, Manitoba, 2 February 2018. <https://www150.statcan.gc.ca/n1/pub/11-631-x/11-631-x2017006-eng.htm>.
- . 'Food Insecurity during the COVID-19 Pandemic, May 2020'. StatCan COVID-19: Data to Insights for a Better Canada, 24 June 2020. <https://www150.statcan.gc.ca/n1/pub/45-28-0001/2020001/article/00039-eng.htm>.
- . 'Snapshot of Canadian Agriculture', 6 November 2018. <https://www150.statcan.gc.ca/n1/pub/95-640-x/2011001/p1/p1-00-eng.htm>.
- Tarasuk, V, and A Mitchell. 'Household Food Insecurity in Canada, 2017-18'. Toronto: Research to identify policy options to reduce food insecurity (PROOF), 2020. <https://proof.utoronto.ca/>.
- Teigiserova, Dominika Alexa, Lorie Hamelin, and Marianne Thomsen. 'Towards Transparent Valorization of Food Surplus, Waste and Loss: Clarifying Definitions, Food Waste Hierarchy, and Role in the Circular Economy'. *Science of The Total Environment* 706 (March 2020): 136033. <https://doi.org/10.1016/j.scitotenv.2019.136033>.
- This Is Rubbish. 'Solutions to Food Waste and Poverty', 2021. <https://www.thisisrubbish.org.uk/wp-content/uploads/2021/04/This-is-Rubbish-Solutions-to-the-Food-Waste-Crisis.pdf>.
- Treutwein, Regina, and Nina Langen. 'Setting the Agenda for Food Waste Prevention – A Perspective on Local Government Policymaking'. *Journal of Cleaner Production* 286 (March 2021): 125337. <https://doi.org/10.1016/j.jclepro.2020.125337>.
- UN Committee on Economic, Social and Cultural Rights (CESCR). 'General Comment No. 12: The Right to Adequate Food (Art. 11 of the Covenant, Paragraph 6)', 12 May 1999. <https://www.refworld.org/docid/4538838c11.html>.
- United Nations Environment Programme. 'Food Waste Index Report 2021'. Nairobi, 2021.
- Vancouver Economic Commission. 'Invitation to Project Zero & a Recap of Vancouver Circular Economy Webinar Series'. Vancouver Economic Commission, 8 December 2020. <http://www.vancouvereconomic.com/blog/news/invitation-to-project-zero-future-vancouver-circular-economy-webinar-series/>.
- Veltkamp, Juvarya. 'State of Vancouver's Green Economy 2018'. Vancouver Economic Commission, 30 May 2018.
- Vogel, Isabel. 'ESPA Guide to Working with Theory of Change for Research Projects'. Ecosystem Services for Poverty Alleviation, 2012.
- Watts, Vanessa. 'Indigenous Place-Thought & Agency amongst Humans and Non-Humans (First Woman and Sky Woman Go on a European World Tour!)'. *Decolonization: Indigeneity, Education & Society* 2, no. 1 (2013): 20–34.
- Weiler, Anelyse M., Janet McLaughlin, and Donald C. Cole. 'Food Security at Whose Expense? A Critique of the Canadian Temporary Farm Labour Migration Regime and Proposals for Change'. *International Migration* 55, no. 4 (August 2017): 48–63. <https://doi.org/10.1111/imig.12342>.
- Wittman, Hannah, Jessica Dennis, and Heather Pritchard. 'Beyond the Market? New Agrarianism and Cooperative Farmland Access in North America'. *Journal of Rural Studies* 53 (July 2017): 303–16. <https://doi.org/10.1016/j.jrurstud.2017.03.007>.
- Ziegler, Jean, Christophe Golay, Claire Mahon, and Sally-Anne Way. *The Fight for the Right to Food Lessons Learned*. Basingstoke: New York : Palgrave Macmillan, 2011. <http://www.palgraveconnect.com/doi/10.1057/9780230299337>.



A “Right to Food” Framework for Tackling Food Waste and Achieving a Just Circular Economy of Food in Vancouver, British Columbia

Connect with us

For more information about the circular economy of food in Vancouver, visit our website:

→ www.vancouvereconomic.com



[@VanEconomic](https://twitter.com/VanEconomic)



[/VanEconomic](https://www.linkedin.com/company/VanEconomic)

Contact us

Speak to a member of our team to learn more about business development opportunities in Vancouver and how we are advancing a more just circular economy of food:

Meg O'Shea,
Manager, Economic Transformation
moshea@vancouvereconomic.com

VEC respectfully acknowledges that it is located on the traditional, ancestral and unceded territory of the Skwxwú7mesh (Squamish), Səlilwətaʔ/Selilwitulh (Tsleil-Waututh) and xʷməθkʷəy̓əm (Musqueam) Nations.