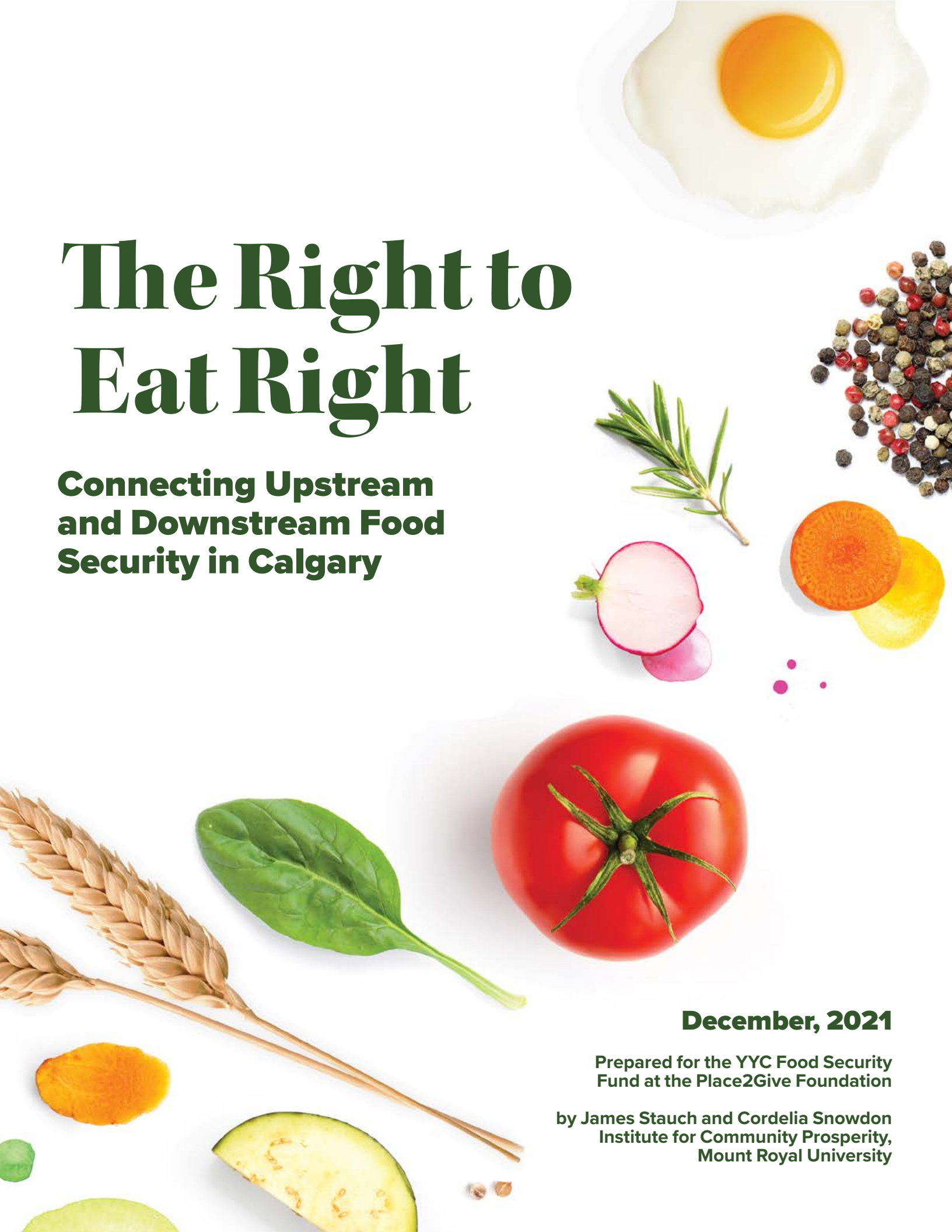

The Right to Eat Right

Connecting Upstream and Downstream Food Security in Calgary

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Prepared for the YYC Food Security Fund at the Place2Give Foundation

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The **Institute for Community Prosperity** connects students with social impact learning through applied, community-partnered research, creative knowledge mobilization, and systems-focused education. The Institute is interested in big questions about how we invest in social purpose or the common good in the 21st century. James Stauch is the Director of the Institute, and Cordelia Snowdon, Changemaking and Community Research Strategist, is a recent MRU graduate (BA, Policy Studies, Diploma, Social Work), and former Catamount Fellow.

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The **YYC Food Security Fund** supports organizations that ensure people can Dine with Dignity™. Guided by business owners, philanthropists, community activists, farmers, ranchers and producers, the YYC Food Security Fund seeks to support the local economy by paying fair market value to local producers and farmers and infusing those products into the local business community for distribution into the consumer base. The Fund looks at systemic issues facing the Calgary community's food security challenges.

The **Place2Give Foundation** creates customized giving solutions that drive social change and have measurable impact. Place2Give provides donors with the ability to make better, informed decisions about their charitable giving, facilitates innovative solutions to wicked problems, and provides tools and resources to non-profits for research-driven solutions.

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Table of Contents

01 Introduction

03 Context of Our Food System - The Broader Story

03 The Broader Story
06 Upstream Food Security in Canada: Sovereignty, resilience and sustainability
09 Downstream Food Security in Canada: Poverty, nutrition and affordability

13 Other Contemporary Food Trends

13 Agricultural Professionals in Decline
14 Concentration and Consolidation of Agriculture
15 Agri-Tech
15 Culinary Skills and Nutritional Literacy
15 Food Deserts
15 Food Philanthropy
16 Food Waste
16 Food and Climate Change
16 Rise of Urban Agriculture

17 Understanding Food Insecurity in Calgary - The Trends, Ecosystem and Influencers

17 The Trends, Ecosystem and Influencers

19 The YYC Local Food Distribution Hub - A Case Study

19 A Case Study
19 Food Hubs: A Global Lens
21 Food Hubs in Canada
23 The YYC Local Food Distribution Hub: Prototype, Pilot, and Pivot
24 The Seed of the Idea: The Genesis of The YYC Food Security Project
26 Growing Conditions: Building the Food Hub Model
28 Sewing Support: Establishing Shared Values and Goals
30 Finding Sunshine: Going Public and Soaking up Feedback
30 Pilot Successes
30 A Dignified Alternative
31 Pilot Challenges
32 Is an Alternative Distribution System Sufficient 'Systems Change'?
32 Food Hub vs. Food Bank
34 A Mixed Harvest: Pausing for Reflection and Early Pivots
36 Rotating the Crops: What's Next
39 Conditioning the Soil: Considering Further Pivots or Radical Re-adjustments

42 Toward a Future Food-Secure Calgary - Shifting Policies, Practices, Mindsets

42 Shifting Policies, Practices, Mindsets
43 Public Education
43 Policies to Eliminate Downstream Food Insecurity
43 Policies to Enhance Upstream Food Insecurity
44 Civil Society Voice on Food Security

45 Appendices

45 APPENDIX A: Glossary of Common Food Security Terms
48 APPENDIX B: Methodology
49 APPENDIX C: Stakeholder Conversations
50 APPENDIX D: Recommended Resources

53 Endnotes

Introduction

Food is critical to human survival and is a cornerstone of community prosperity. To many it is also a birthright as basic as air, water, and shelter. Food secure communities - where all people have adequate levels of nutrition, and where local needs are substantially supplemented through local production - are integral to a thriving, prosperous society, as well as to a resilient economy. As the UN Committee on World Food Security observes, "responsible investment in agriculture and food systems is essential for enhancing food security and nutrition and supporting the progressive realization of the right to adequate food."[1] But while we look to governments to ensure this level of responsible investment at scale, it is often the role of philanthropy to invest in experiments, test possibilities, and illuminate possible ways forward.

Seeking to connect the two worlds of 'upstream' food security (sustainable agricultural production and distribution) with 'downstream' food security (ensuring all citizens have adequate access to healthy and affordable food), the YYC Food Security Fund was born in 2020. An initiative of Calgary philanthropist Zai Mamdani, supported through the Place2Give Foundation, YYC Food Security Fund seeks to build a thriving local food economy, while addressing the challenges underpinning Calgary's food ecosystem. The aim of the Fund is to ensure that food insecure Calgarians can "Dine with Dignity."[2] It focuses on the upstream (production and transportation) aspects of the food security picture, as an adjunct to the usual downstream focus on philanthropy-funded food charity. The Fund is a venture philanthropy approach to investing in community prosperity, which means it aims to invest not just in existing models, but in rapid prototyping, testing and evaluating new models. The Fund is also informed and shaped by business owners, philanthropists, community activists, farmers, ranchers and other producers.

This report pays particularly close attention to the concept of 'food hubs', also called 'food distribution hubs'. One of the early opportunities the YYC Food Security Fund identified was to test whether the transportation, warehousing and distribution components of the food supply chain could be a fruitful leverage point for positive system-wide change. The approach seeks to support the local economy by paying fair market value to local family-owned farms, ranches and other producers, infusing those products into the local community (including the business community and nonprofit sector) for distribution to consumers, who in turn would be empowered with more information and connection to the local food system. As part of this, local charities and nonprofits would incorporate locally-sourced food into their programs and services. To test this approach, the *YYC Local Food Distribution Hub* was born.

> **"When we think of food security we think about hampers and food banks and emergency food relief, but that's food insecurity. Food insecurity is when you don't know where your next meal is coming from, [whereas] food security comes when producers and farmers get paid fair market value for their produce and can ensure consistent food supply."**
>
> — **Zai Mamdani, YYC Fund Security Fund**

The Institute for Community Prosperity was engaged to chronicle the early stages of this real-life, real-time hub development process, while at the same time gathering and distilling relevant knowledge about both upstream and downstream food security, particularly in a Calgary regional context. Mamdani and the YYC Food Security Fund are also looking at addressing other systemic aspects of Calgary's food security challenges. As such, this report looks at an overview of key food security insights relevant to all Canadians, dimensions of food insecurity in Calgary, the array of current and in-development interventions attempting to address food insecurity, as well as the landscape of other potential solutions available to organizations, policy-makers and others in the food ecosystem. It is based on a series of conversations with community stakeholders (see Appendix C) as well as a review of both academic and non-academic literature (see Endnotes/References and Appendix B for more details on the methodology employed). A glossary of commonly encountered food system terms (Appendix A), and a list of food system resources (Appendix D) is also included at the end of this document.

Context of Our Food System

Food security, as defined by the UN, is when "all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life."

— **UN Food Systems Summit 2021**[4]

The Broader Story

As the United Nations (UN) Food Systems Summit notes, "the term 'food system' refers to the constellation of activities involved in producing, processing, transporting and consuming food."[3] Understanding the food system and its corresponding 'food shed' in a given country, region or local community is key to ensuring food security, which in turn is among the most basic and vital of human needs. Food security, as defined by the UN, is when "all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life."[4]

Food *in*security - the inverse of food security - not only negatively impacts health and survival, but also learning and community prosperity. Moreover, food security is a UN Sustainable Development goal - *Goal 2: Zero Hunger*[5] - a goal that the world, Canada included, has so far underperformed on, relative to the benchmarks set.[6]

DOWNSTREAM food security
Availability and affordability of nutritionally viable food for consumption

UPSTREAM food security
Ability of the food production system to maintain healthy land, soil, genetic diversity and agricultural resilience, along with resilient supply chains

Worldwide, despite the dramatic increase in food production since the Green Revolution of the 1960s, over 820 million people are food insecure, with global demand for food expected to increase by nearly 60% over the next four decades.[7] Fully 12.4% of Canadians or 1.1 million households (representing more than four million individuals) experience food insecurity.[8] Food insecurity was mentioned for the first time in a federal throne speech last year, specifically in reference to strengthening local supply chains. Despite Alberta's prosperity, food insecurity is either just over or just under the national average (depending on how it is measured), but is at risk of becoming more acute in the short term, with the additional challenges of the COVID-19 pandemic and employment decline in the petroleum industry.

There are actually at least two distinct understandings of food security, and its inverse - food insecurity. Many people think of food security from the consumption standpoint: As the universal availability and affordability of food (or of nutritionally viable food) - i.e. "*Do we have enough food to ensure that no one goes hungry*?" We might think of this as DOWNSTREAM FOOD SECURITY. Downstream food insecurity is arguably not a social problem in and of itself, but rather is almost always a *symptom* or *indicator* of a lack of income.[9] The relationship between food insecurity and lack of income is most obvious for *severely* food insecure households.

There is also a relationship to housing tenure: Many studies have found that owner-occupied households are more food secure than renter-occupied homes,[10] though this may be a more trivial factor, insofar as in Canada housing tenure is more closely tied to income than in Europe, for example.

Downstream food security is also an important determinant of health. Individuals who are food insecure are nutritionally deprived and have poorer health outcomes, including higher rates of obesity, type 2 diabetes, diet-related metabolic and chronic diseases, as well as an impaired ability to work and learn.[11] **A severely food insecure person will cost the public health care system more than double what a food secure person will.**[12] There is a particularly strong association between food insecurity and mental health challenges, such as increased risk of depression and suicide, which could be partialy due to factors such as stress and anxiety.[13]

Others think of food security from a *production* perspective: Either as the ability of the food production system to maintain healthy land, soil, genetic diversity and agricultural resilience, including in the face of droughts and other natural disasters (climate-change induced or otherwise), or as the continuity and resilience of food supply chains. We can refer to these risks as forms of UPSTREAM FOOD INSECURITY.

Downstream food insecurity is arguably not a social problem in and of itself, but rather is almost always a symptom or indicator of a lack of income.

A severely food insecure person will cost the public health care system more than double what a food secure person will.

Upstream food security includes the ability of the system to supply local demand in the face of shocks to either the export market (such as those induced by a pandemic or war) or to the supply chain (for example, because of natural disasters like those that affected the BC Lower Mainland[14] or accidents like Suez Canal blockage, both events being among the top news stories of 2021. Canada has moved over time to a food distribution system built around just-in-time production and delivery, heightening the risk of upstream food insecurity. The sudden spike in demand for certain food items in the early stages of COVID, for example in pulses, pastas and bottled water, resulted in short-run stockouts - empty shelves in grocery stores.[15] Some agricultural experts, like Evan Fraser, Director of the Arrell Food Institute at the University of Guelph, are raising questions about the national security risk attached to our reliance on the import of foreign produce. Fraser notes- "on fruits and vegetables, we are not secure at all," warning that the country's dependence on California and other southern growing regions for fresh produce through the winter has become a national security risk.[16] This underscores why domestic and local production is so vital.

Among the factors impacting the food system, the upstream aspects (production, processing, transportation and distribution) receive less attention in an urban context than the downstream aspects (such as retail, food charity, and household access and consumption). This report aims to document the YYC Food Security Fund as a mainly upstream intervention, as one part of a constellation of efforts to improve access to food.

In addition to understanding the issue of food insecurity itself, there are numerous, well-documented factors that affect what solutions will be implemented (and how), and the ways in which success will be measured. These systemic factors have been noted where possible in this report, and include socioeconomic status, race, gender, and age, as well as less tangible factors like cultural mindsets and history. This report in places attempts to draw attention to certain issues affecting equity seeking communities, but it does not aim to be a fulsome analysis of the food system's impact on equity seeking communities, nor does it recount the experiences that members of these groups have written about elsewhere with respect to how they have been variously impacted by or excluded from the food system.[17]

"...the country's dependence on California and other southern growing regions for fresh produce through the winter has become a national security risk."

— **Evan Fraser, Arrell Ford Institute** [16]

Upstream Food Security in Canada: Sovereignty, Resilience and Sustainability

The story of food security in Canada, from early contact to contemporary policies and practices, is inextricably linked to colonization in the upstream sense, and shaped by Victorian paternalism in the downstream sense.[18] Prior to contact and colonization, Indigenous Nations in Canada had highly specialized and diverse means for addressing food security that ranged from agriculture (e.g. the Iroquois), to aquaculture (e.g. the Tsimshian and Haida), to whaling (e.g. the Inuvialuit), to complex animal harvesting practices (e.g. the Blackfoot use of the buffalo jump). Trade routes criss-crossed North America - what many First Nations people call Turtle Island. Knowledge about sustainable harvesting, husbandry, and the nutritional and medicinal qualities of plants, animals and fungi was not only on par with, or superior to, western science-informed understanding, but was essential to early settler survival.[19]

British colonization of Western Canada intensified with the transfer of Rupert's Land from the Hudson Bay Company to the new Government of Canada as the Northwest Territories. Rapid and widespread settlement by European farmers and ranchers was facilitated by the Dominion Land Survey, in turn enabled through the establishment of numbered treaties, including Treaty 7. The displacement of Indigenous peoples from their territories was accompanied by many decades-long policies to actively undermine traditional food harvesting, trade, distribution and cultural culinary practices. Starting in the late 1870s, the John A. MacDonald government used the disappearance/extermination of the buffalo, which drove plains Indigenous people into famine, to force nations to either come to the treaty table or risk starvation.[20] Emergency food aid was then only provided to Treaty signatory peoples, typically by way of 'ration houses'. As part of the colonization project, Indigenous food sovereignty was deliberately and systematically dismantled, for example through imposed restrictions on land use, mobility, ceremonies, and selling food products off reserve, and through hunting and fishing regulations.[21] Indigenous children in residential schools were also involuntary subjects to the nutrition research underpinning the original Canada Food Guide.[22]

As part of the colonization project, Indigenous food sovereignty was deliberately and systematically dismantled.

On the prairies, an entire food system (and culture) centered on the plains bison was replaced with agriculture, a wholly incompatible system. Indigenous Peoples' traditional diets were supplanted over time by such government-rationed food proxies as fortified biscuits and highly processed meat-paste products.[23] Decades-long policy-driven undernourishment exacerbated Indigenous susceptibility to such chronic maladies as diabetes and cardiovascular disease.[24]

Euro-Canadian family farms flourished during most of the 20th century, notwithstanding the droughts and deprivation of the Great Depression. Agricultural and food co-ops, and policies ranging from supply management to the Canadian Wheat Board helped ensure stable markets, fair prices, and widespread prosperity for growers. While agricultural policy and practice over the past century has been mainly oriented to an export market, the last three decades have also seen increasing concentration, consolidation and corporatization of farming. Even as demand for agri-foods skyrocketed over the last half century, the number of farms has dwindled dramatically. Industrial scale cattle feedlots, hog lots, broiler chicken facilities, aquaculture and other intensive agricultural practices have become a more commonplace feature of the landscape, and small scale abattoirs have all but disappeared, yielding to large industrial meat-cutting facilities.[25] In fact, just two processing facilities, run by Cargill and JBL respectively, supply 70% of Canada's domestic beef market.[26]

> **"If you go back a hundred years in Alberta, every small community had a bakery, it had a butcher, a creamery, a little general store and they bought locally. That doesn't exist anymore. It is gone."**
>
> — **Colleen Biggs, TK Ranch**

There have been demonstrable long-term benefits from global trade and export-orientation, but globalisation has also brought disruption, destabilization and too often destruction of viable local economies and community-scale prosperity. Farms have had to rely on lower wages and lower worker safety standards, and have turned to labour substitution by machinery and/or temporary foreign workers (through either the Seasonal Agricultural Workers Program or the Temporary Foreign Workers Program). Nearly half of farm operators in Alberta have a second off-farm job to make ends meet.[27]

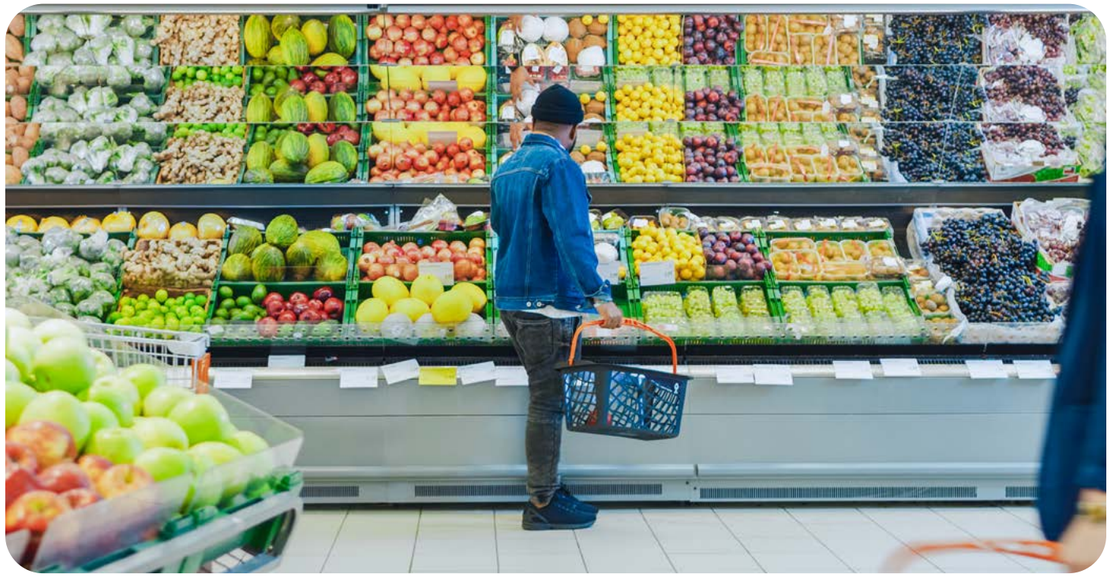
Food retail in Canada, like many other western countries, is dominated by large, concentrated supermarket chains with significant bargaining and buying power, where bulk purchasing and low inventory stocks (relative to just-in-time product flows) can make market entry by smaller retailers difficult.[28] This model relies on efficient, responsive, global supply chains, the resilience of which was tested during the COVID-19 pandemic. Uniquely, Calgary Co-op, the largest cooperative grocer in North America, has always held a significant (and usually the largest) market share in the city. However, it is unclear whether this translates into any more of a measurable commitment to local purchasing, despite the co-op model, and despite being founded by local farmers.

On the food importation side, Canadian prosperity, increasing cultural diversity, and ever-expanding palettes and tastes have resulted in unprecedented choice, furnished by carbon-intensive international supply chains. Canadians purchased $11.2-billion worth of imported vegetables, fruits and nuts last year, $3.1 billion of which came from drought-stricken California.[29] In recent years, Canadians have had little reason to pay attention to seasonality or how 'locally' their food is grown and procured.

As noted by Audra Stevenson, Leftovers Foundation, "we expect that we can buy avocados anytime of the year, and we don't think twice about it." We expect consistency in our grocery stores even if that means producers must go to increasing lengths to grow off-season produce.

Despite this dominant trend, we have seen a resurgence of interest, and consumer demand, for locally-grown, organic, heirloom, free-range, and humanely-reared products. Movements promoting such concepts as "Farm-to-Fork", "100 Mile Diet", "agro-ecology" and "regenerative farming" have emerged, gaining some traction with mostly middle class or more well-heeled consumers. But even as demand for these categories has grown from niche to mainstream, agricultural policies and regulations still show a preference for (and incentivize) export-oriented, large-scale production, as well as corporate-dominated supply chains and value-added production. Hundreds of small scale abattoirs, for example, once dotted the Canadian landscape. These have largely been replaced by industrial meat cutting and processing facilities.[30] Farmers markets still exist, but they are no more widespread than, say, fifty years ago.

> **"The completion of the Canadian Pacific Railway in 1883 also boosted the emerging coal industry. This along with the discovery of oil, which coincided with an agricultural recession, eventually attracted labourers and farmers away from agriculture and permanently shifted the economic structure of the province. Following World War II, increased labour shortage and cheaper farm machinery drove larger more intensive farming practices. The expanded food distribution network meant Alberta's cities did not need to rely on local food sources and agricultural production in Alberta became largely export-oriented."**
>
> — **CalgaryEATS Report, 2012, p. 24**



The COVID-19 pandemic opened a conversation window for Canadians to think more deeply about where their food comes from, how it is transported, and whether we are too reliant on food that must cross international borders. We remain happily unaware until disruptions caused by a crisis make us "suddenly - and painfully" aware of how fragile the system is.[31] Most Canadians were not talking about "supply chains" two years ago, but now it is part of the daily lexicon. The way Canadian households consumed food has also changed dramatically as a result of the pandemic, away from the food service sector (restaurants, cafes, bars, and other eateries) toward meals prepared and consumed at home.[32] Much of this took an artisanal turn, with homemade sourdough becoming a meme for the early lockdowns, leading in turn to flour rationing in grocery stores (the flour shortage was actually a packaging shortage, not due to a lack of milled wheat).[33] Canada's food distribution system, like much of the economy, is built around just-in-time manufacturing and delivery. The sudden spike in demand from consumers stockpiling items like canned goods, rice, and pasta created short-run stockouts.[34] Food supply chains were also impacted by border closures and restrictions. Farmers, fishers, and ranchers with an online direct-to-consumer sales platform generally thrived during the pandemic, as consumers prioritized local food purchasing.[35]

The future of food production, distribution and consumption in Canada will be shaped by the policies governing family farm transitions and the subsequent rise of "Big Agriculture". It will also be shaped by the climate crisis, the move to a net zero or low carbon economy, growing demographic diversity and heterogeneity of tastes and preferences, scientific advances in genetics, soil management and water conservation, and the need to find a better balance between food for export and food for domestic (and especially local) consumption. Another new driver that might turn out to be particularly important is the push for a more circular economy.[36]

Downstream Food Security in Canada: Poverty, Nutrition, and Affordability

Downstream food insecurity is by no means a problem unique to Canada. In fact, according to the Social Progress Index, Canada now performs better than any other country on preventing undernourishment.[37] However, there is still a shockingly large proportion of food-insecure Canadians. Over the past two years, the number of food insecure Canadians appears to have fluctuated wildly, with some reports suggesting a significant overall rise, while others report a drop due to new (albeit temporary) federal income supports. The food security picture is also more nuanced when one looks at the picture regionally, demographically, or through a lens of nutrition and dignity rather than abject food deprivation.

> **"[In 2017] 1 in 8 Canadians, or 4.4 million citizens (over 1 in 10 Canadians), were deemed to be food insecure, 1.2 million of whom were children."**
>
> — **Tarasuk and Mitchell, 2020[38]**

Modern food banks are an Alberta innovation, with the first food bank in Canada opening in Edmonton in 1981, as the infamous deep oilpatch recession of the 1980s set in. Calgary's food bank opened a year later as an "inter-faith" amalgam of church food hamper programs. In addition to the downturn in the oilpatch, the 80s, 90s and early 2000s saw intensifying food insecurity with the widespread embrace of neoliberal thinking and practice (which saw governments practice fiscal austerity through scaling back welfare state policies - for example, the cancelling of federal affordable housing programs). This exacerbated food insecurity and demand for food banks grew in these decades, such that the scale and sophistication of food bank operations now far exceeds their grassroots origins. But although things took a decided turn for the worse in this era, downstream food insecurity has been with us in Canada long before the 1980s.

> **"By December [2021], the average household will have to pay five per cent more for their groceries, or about $700 over the course of a year. In dollars, this is the largest increase in history."**
>
> — **Sylvain Charlebois[40]**

Similarly, food charity was ubiquitous in communities of all sizes for many decades prior. But charitable food programs such as hampers and community kitchens were largely run by churches and other religious organizations, and had not been professionalized. Even community gardens have a long history, dating back to the "Victory Gardens" of World War II.

The Canadian Community Health Survey (CCHS), administered by Statistics Canada, started in 2017 for the first time to measure household food insecurity in Canada. This survey revealed that 1 in 8 Canadians, or 4.4 million citizens (over 1 in 10 Canadians), were deemed to be food insecure, 1.2 million of whom were children.[38] And the problem, in the near term, is at risk of getting worse: During the March 2021 HungerCount, a regular scan of food bank use over a one month period conducted by Food Banks Canada, there were over 1,300,000 visits to one of over 2,300 emergency food programs, a 20% increase from the same period in 2019.[39] The HungerCount further notes that there is a volatile "perfect storm" afoot, with rapidly rising housing costs, unemployment, stagnant incomes and inflation of food prices combining to push more Canadians into downstream food insecurity. As food policy expert Sylvain Charlebois notes, "By December [2021], the average household will have to pay five per cent more for their groceries, or about $700 over the course of a year. In dollars, this is the largest increase in history. But it could be even higher in 2022"[40], especially when one considers the impact of the recent BC floods. Food insecurity is particularly acute among post-secondary students, not surprisingly, given the precarity of income and debt burdens faced by Canadian students. One recent study estimated that 40% of university students are food insecure, no doubt exacerbating the mental health epidemic plaguing Canadian students.[41]

Like most of the globe's cultures, food continues to play a central role in Indigenous culture and community, including through language and ceremony. However, the First Nations Food, Nutrition and Environment Study (2019) found that Indigenous food insecurity was up to seven times more prevalent than for Canadians as a whole, noting in particular significant eco-systemic reasons for hampered access to traditional foods.[42] The same report found that "the diet of First Nation adults across Canada does not meet nutrition recommendations. There are inadequate intakes for vitamins A, D, and C, folate, calcium, and magnesium. On days when traditional food is present, recommendations for several nutrients are more likely to be met."[43] Food insecurity among First Nations communities specifically was found to be highest in Alberta, with prevalence of food insecurity at 60% of the adult population, vs. (a still alarmingly high) 48% average for First Nations across Canada.[44] There are growing calls and actions in many parts of the country around Indigenous food sovereignty, food-based economic development, and food policy reforms that model reconciliation and decolonization. For example, the Indigenous Food Circle, supported through Lakehead University, "aims to reduce Indigenous food insecurity, increase food self-determination and establish meaningful relationships with the settler population through food."[45]

Regionally, food security is most severe in the far north, with 57% of Nunavummiut experiencing food insecurity. While Alberta does not stand out as more food insecure than the rest of Canada (with the previously noted exception of Indigenous people), over 12% of Alberta households nonetheless remain food insecure. Nonwhite households experience higher than average food insecurity, with over a quarter of Black and Indigenous households deemed food insecure.[46] Black households are 3.5 times as likely to be food insecure.[47] Food insecurity is also a factor in rising health care costs. Importantly, senior citizens experience the lowest levels of food insecurity, due to a more robust income support system, including Old Age Security and Canada Pension.[48]

> **According to the World Food Programme, 1 of every 2 children on earth (in 161 countries) benefit from some form of universal free or subsidized school meal program.**

On the other hand, children are still overrepresented among those relying on emergency food aid.[49] The introduction of the Canada Child Benefit has had a measurable (though modest) positive effect on reducing food insecurity, including a modest decline among children.[50] But many children are still going to school hungry, which has a severe impact on educational outcomes for those students, and ultimately costs the economy and society down the road. According to the Coalition for Healthy School Food, Canada is one of the only OECD countries without a national school food program.[51] In fact, according to the World Food Programme, 1 of every 2 children on earth (in 161 countries) benefit from some form of free or subsidized school meal program.[52]

While food banks are obviously not a solution to chronic or long-term food insecurity (and the same can be said of community hamper programs, soup kitchens, volunteer school lunch programs and many other forms of emergent, temporary intervention), it would be wrong to frame a food secure Canada as one in which food banks disappear. Even with far-reaching, progressive income support reforms, regardless of whether or not those reforms include universal basic income, food banks and other more informal community support systems will continue to play a role in emergency food aid, for example when a disaster such as a fire or flood happens, and communities need to be evacuated.

Even with far-reaching, progressive income support reforms, regardless of whether or not those reforms include universal basic income, food banks and other more informal community support systems will continue to play a role in emergency food aid.

Overall, the impact of the COVID-19 pandemic on the downstream food system has been profound, but quite varied in terms of who has suffered and who has prospered. All Canadians have experienced a steady rise in food costs, driven partly by the pandemic and compromised global trade and supply chains, and partly by climate change.[53] According to the Maple Leaf Centre for Action on Food Security, COVID-19 induced a 39% spike in overall food insecurity in Canada.[54] As a one-time emergency stop-gap, in April, 2020 the federal government provided $100 million through the Emergency Food Security Fund.[55] More recent spikes in the price of energy and bottlenecks in global supply chains are further exacerbating food insecurity.

The pandemic hit the hospitality and 'experience' economy the hardest of all sectors, of which restaurants in particular were an early and hard-hit casualty. Though many were able to pivot to online sales and home delivery, and governments have stepped in with everything from wage replacement to relaxed rules around patios, many restaurateurs and other food providers have suffered. Real GDP of the food services sector dropped by 40% in each of the first two months of the pandemic alone, while employment dropped 56% in the same period.[56] Three quarters of food service providers have relied on government assistance to weather the pandemic storm, while many others have shuttered permanently. Some local businesses deemed by their neighbours as vital to local community prosperity were rescued through crowdfunding campaigns. Examples include *Power Up* and *Sweaty Betty*'s in Toronto and the Catoro Cafe in Vancouver.

Some local businesses deemed by their neighbours as vital to local community prosperity were rescued through crowdfunding campaigns.

Emergency food demand initially spiked during the early days of the pandemic, with most food banks reporting surging demand in the first month of the pandemic, but soon thereafter, there was an overall decrease in demand as government supports kicked in.[57] The introduction of the federal CERB subsidy (later called Canada Recovery Benefit, or CRB) alongside top-ups to the Canada Child Benefit effectively served as a basic income proxy, and has lightened the food affordability burden for millions of Canadians. The Calgary Food Bank, for example, saw a 6% decline in demand attributed to the introduction of CERB.[58]

Other Contemporary Food Trends

The manner in which we produce, distribute and consume food raises many other issues with significant public importance. Open Ideo's *Food Systems Gamechangers Lab*, for example, has identified 24 distinct domains where food systems can be enhanced.[59] Following is a brief accounting of just a few of these issues, all of which connect to this analysis, but in less direct ways. Some would include these issues in a more generous definition of "food security", while others argue many of these issues are distractions from the core food security issues outlined previously.

> **"It's virtually impossible for a farm family to make a living because of the way the whole food industry has moved."**
>
> — **Colleen Biggs, TK Ranch**

Agricultural Professionals in Decline

Canada's farming population is declining. Whereas in 1931, a third of Canadians lived on a farm, fewer than 2% do now.[60] The average age of farmers as of 2016 was 55, with scarcely 9% of farmers under 35.[61] A number of factors are contributing to the decline of the family farm, combining to create a strong disincentive for either young people[62] or diverse Canadians to enter the farming profession:

- Huge capital start-up costs and the overall precarious economic viability of farming (with net losses averaging $20,000 per farmer per year);
- The rapidly rising cost of land (over a 100% increase in land over the last 15 years)[63] combined with increasing demand;[64]
- Family farms are being sold off to large agricultural companies ("Big Ag") or to developers or speculators;
- Tax policies regarding family farm inheritance; and
- Few investment incentives to provide farms with equity-based working capital.

As well, farming leans heavily on public subsidy and additional off-farm work, with one of every two farmers under 55 reporting off-farm employment as their main source of income.[65] Ironically, farmers "still have to work off farm for the privilege of growing food."[66] At the same time, dependence has grown on the use of low-wage temporary foreign workers.

Concentration and Consolidation of Agriculture

Industrial farms are getting larger and larger, while small and medium family farms are becoming scarcer and scarcer.[67] Alberta saw a 6% drop in the number of farms between the last two census periods, with about 40,000 operating farms compared with the historic high of 100,000 during World War II.[68] Only about 6% of Alberta's farms control 40% of cropland in the province.[69] Industrial feedlots produce far more cattle than family-owned ranches or ranching co-ops. The landscape on the Canadian prairies, once evoking images of verdant small pastures and mixed-used farms, now more resembles Soviet-era state farming in scale. The co-authors of a recent study on farm concentration outline why this should be of concern to all Canadians:

> **"Rural economies, communities, businesses, and services are also affected as there are fewer farm families to patronize local shops and services, while farmers lose their capacity to democratically influence governments and legislation as their voting numbers fall. Meanwhile, non-farmers lose their connections to farms and rural culture as fewer and fewer urban residents count farmers among their family members or friends."**
>
> — **Canadian Centre for Policy Alternatives (2020)[71]**

Farm insurance also plays into this dynamic: It is cheaper for conventional farms to provide lower nutritional quality products because the insurance is generally cheaper per unit of land (or per unit of yield) than on smaller farms with high quality products.[70]

Agri-Tech

Agricultural technologies (agri-tech or agtech) are a significant variable in human food production. The green revolution peak of the 1960s, which saw the introduction and worldwide scaling up of synthetic fertilizers, pesticides, new farm machinery and irrigation techniques, was a non-linear leap in food production. More recent advancements in hydroponics, aquaponics, genetically modified crops and technologies such as drones, driverless tractors and far more precise and water-conserving irrigation techniques, have increased yield, though not always the sustainability, genetic diversity or quality of food products. Agri-tech is a particularly important industry for the Calgary region. Calgary Economic Development identifies 14 anchor agri-business firms with operations in the city investing in agri-tech, and another 22 agri-tech start-ups locally.[72] The Simpson Centre for Agricultural and Food Innovation at the University of Calgary and nearby Olds College, with its world-class reputation for agricultural learning innovation, provide further 'ecosystem' support to this growing sector.

Culinary Skills and Nutritional Literacy

Despite the emergence of movements and memes like "Farm to Fork", "Slow Food" and the "100 Mile Diet" (see Glossary, Appendix A), the cognitive connection between food on one's plate and where and how it was grown or raised remains as tenuous as ever. But while the literacy of Canadians with respect to food preparation and nutritional knowledge may be wanting, it is a common misconception that food insecurity is partially rooted in poor shopping choices, lack of gardening skills, or a lack of food preparation and cooking skills.[73] In fact, there is no discernable difference between food secure and food insecure Canadians with respect to food skills or shopping behaviour.[74] Further, food insecure households are four times more likely to use a budget when procuring food.[75]

Food Deserts

Food deserts are pockets of communities where residents have limited or no access to affordable food retail.[76] In many Canadian cities low urban densities, poor planning, food distribution systems and retail economies conspire to concentrate affordable food in locations that are often well away from where people live, particularly people who are reliant on transit and walking. While some cities, such as Toronto, have excellent decentralized access to fresh, affordable produce (thanks to an abundance of historic retail spaces with affordable rent, alongside the presence of a food terminal, described later), many other cities - Calgary being a prime example - have little access to affordable produce outside large big-box retail grocers. While there is no agreed-upon definition of a 'food desert', recent estimates for Calgary range from 2 genuinely severe food deserts to upwards of 40 or more distinct deserts, the latter taking account of winter conditions and impaired mobility.[77] Two related concepts are "food swamps", neighbourhoods where retailers providing healthy food are far outnumbered by unhealthy food options, and "food mirages", where healthy fresh food is available, say in the form of boutique natural food stores, but at a price point that is out of reach for many in the community.[78]

Food Philanthropy

Food issues are of concern to many donors, whether 'average' Canadian contributors or high net worth donors. In light of the relative absence of municipal government or other public authorities around downstream food security, particularly in Calgary, private philanthropy has a major default influence on the downstream food system. This is both positive, in the sense that it results in many new approaches and innovations, and negative, in the sense that it unwittingly fuels a competitive ethos and avoids or downplays systemic approaches to addressing food insecurity. But a growing number of donors are questioning whether all of this philanthropy has addressed food insecurity in any significant way.

It is a common misconception that food insecurity is partially rooted in poor shopping choices, lack of gardening skills, or a lack of food preparation and cooking skills.

> **"When you look at this landscape, you can often follow a thread back to a funder. They are the major activator. It is Donor-directed. You have money that is driving something and it is pushing things around"**
>
> — **Community Stakeholder**

Food Waste

One third of the world's food shipped for consumption is wasted each year, which is enough to feed 3 billion people (with an estimated value of $1.3 trillion).[79] An estimated $49 billion worth of food is wasted each year in Canada, representing 11.2 million metric tonnes in otherwise rescuable food.[80] Reducing food waste can be partially addressed through redirecting food (that would otherwise go to waste) to local charities and non-profits in the form of food aid. But such a practice is fraught with allegations of indignity (there is something unseemly about the poor getting the scraps), or of food 'dumping' (a local variant of the critique of dumping surplus agricultural products under the guise of 'aid', when really it undermines local productive capacity and local markets). Many argue that food waste ought to be reduced, not simply redirected, and that we need a mindset shift away from giving our "Secondary Food for Secondary People", as Tom Armitage of impact Hub Ottawa frames it.[81]

It's clear that agriculture as we know it simply can't thrive in a warming world.

— **World Resources Institute**

Food and Climate Change

Food production and consumption is both a cause of climate change, with the food system responsible for a quarter of global greenhouse gas emissions (including agriculture, land use changes to open up new farmland, refrigeration, food processing, packaging, and transport)[82], and a casualty of climate change. As the World Resources Institute recently put it "It's clear that agriculture as we know it simply can't thrive in a warming world", adding this is especially true in semi-arid areas (which is much of Southern Alberta).[83] Even as population rises, climate change could reduce global food production by as much as one third by the end of the century.[84] Canadians have experienced examples of this in 2021, with widespread drought on the prairies lowering yields, and floods in the Lower Mainland wiping out thousands of chickens, dairy cattle, and other animals. A recent meta-analysis of global food demand and production trends revealed that climate change could impact the severity of global hunger more than three-fold, from a projected 8% food insecure global population to an alarming 30%.[85] The authors of the study conclude that "in order to prevent such impacts, increases in food production would need to be accompanied by policies and investments that promote sustainable intensification and incorporate ecological principles in agricultural systems and practices, while also reducing food loss and waste and encouraging a shift towards more plant-based diets."

Rise of Urban Agriculture

Urban agriculture in Canada takes many forms, from community gardens to municipal orchards to urban farms, greenhouses, hydroponic and aquaponic facilities and vertical farms. While greenhouses produce a substantial and growing amount of produce in Canada, they have one key limitation - availability of sunlight for photosynthesis. But new technologies are helping fill this gap. While urban farming in indoor towers has been the stuff of science fiction for many decades, vertical farming is finally becoming a viable and even mainstream contributor to the mix of local producers, thanks especially to advances in LED lighting and hydroponic fluid systems. Startups like Calgary's Deepwater Farms, NuLeaf and Ontario-based Goodleaf have seen steady growth in retailer, restaurateur, and investor interest.

Understanding Food Insecurity in Calgary

The Trends, Ecosystem and Influencers

According to the last StatsCan survey on food security, 518,600 Albertans were experiencing food insecurity between 2015 and 2018[86], a number that has likely risen in the intervening years, given Alberta's economic woes. However, Calgary was the only large city in Canada to experience a modest *decline* in the number of food insecure households between 2015 and 2017, consistent with broader poverty data.[87] According to Vital Signs 2020, 33% of Calgarians struggle to afford basics like rent, utilities, and groceries, and 17% often or always struggle."[88] Tens of thousands of Calgarians access emergency food hampers. In 2016, for example, over 170,000 Calgarians, including 66,000 children under 16 accessed food hampers from the Calgary Food Bank alone.[89] Post-secondary students in Calgary are also experiencing food insecurity. In 2019 alone, demand for food hampers increased by over 20% at the University of Calgary and at MRU, demand doubled.[90] Calgary is also more prone to the phenomenon of 'food deserts': In a study conducted in 2015, only 63% of Calgarians lived within 2 kilometres of a grocery store, significantly lower than most other Canadian cities examined.[91]

The impact of the pandemic on Calgary's food sector reflected trends across the country. Most Calgary businesses experienced a drop in revenues during the COVID-19 pandemic and 70% of Calgary businesses "access[ed] at least one relief program."[92] Hardest hit of all were restaurants.

> **"The pandemic has been really hard. Half of our clients were distributors that service restaurants. Once COVID hit we lost half of our market - it was really harsh."**
>
> — **Community Stakeholder (producer)**

A study of 200 low income households conducted by Vibrant Communities Calgary (VCC) and the University of Calgary revealed that the most economically marginalized Calgarians suffered the most from COVID-19's economic fallout.[93] The study noted that many food donation programs were temporarily shuttered due to health restrictions (also hampered by a sharp drop in volunteers), while many low income households did not apply for CERB due to lack of internet access or misunderstanding the program's eligibility requirements.

Another recent study on Calgary's emergency food system by VCC, conducted with the Canadian Poverty Institute, noted that the pandemic resulted in heightened demand for emergency food assistance, which in turn revealed gaps in the emergency food assistance system.[94] However, Calgary Food Bank in reviewing its data over a similar period noted a CERB-induced drop.[95] It is possible that these seemingly contradictory findings could be explained by the increased number of organizations that had not previously provided food aid, including human service agencies, resource centres, community associations and religious organizations, starting food hamper programs or other forms of food assistance (although some of these organizations' food aid is also supplied or backstopped by the Food Bank). Estimates run as high as 400 organizations in Calgary that started delivering food, buoyed by both the United Way and the Calgary Foundation, which earmarked funding for food programs. This raises the question of what the role and responsibility of non-food-based social impact organizations is in contributing to a sustainable thriving food system that builds community prosperity.

> **"[COVID] demonstrated that food intersects everything. If you are running a kids' camp, or any kind of family service, you are now serving food. Any human service has a food service component because it's not negotiable right now … We have everyone from Black People United to Kerby Centre to Hull; it spans the breadth of every possible service."**
>
> — **Audra Stevenson, Leftovers Foundation**

On the interventions and 'solutions' side, the City of Calgary's community food strategy - *Calgary EATS* - is now nearly a decade old, and this city of nearly 1.4 million currently dedicates only one full time municipal position to the issue of food security.[96] The City of Calgary Neighbourhoods department has identified 35 city-wide resources and over 200 neighbourhood nodes where Calgarians can access emergency food aid, including hampers, gift cards, cooked meals, grocery delivery, bagged school lunches, pet food and other supports.[97] Like most Canadian cities, Calgary lacks a system-wide in-school food program, instead relying on an array of mainly volunteer-run charitable food aid programs. The wide array of local emergency food resources (many of which are highlighted in Appendix D) results in competition and duplication, which is undoubtedly confusing from the standpoint of the food-insecure Calgarian. It is also confusing for private funders who want to move the dial on food insecurity. At the same time, 45% of Calgarians last year reported growing their own food, a big jump from 37% the previous year.[98]

While many Canadian cities have readily identifiable "food sheds", like Toronto's connection to the Ontario Greenbelt or Vancouver's connection to the lower mainland, Salish Sea and Okanagan, Calgary's "food shed" is more difficult to define. On one level, discovering a true "food shed" in an era of global supply chains is a bit like chasing the end of a rainbow. On the other hand, farmers' markets are a way to discern what the food shed might be, insofar as "local" purchasing and consumption is a component of overall consumption. A *food for thought* section later in this report digs deeper into the different perceptions of "local" put forward by community stakeholders attached to the *YYC Local Food Distribution Hub*.

Discovering a true 'food shed' in an era of global supply chains is a bit like chasing the end of a rainbow.

The YYC Local Food Distribution Hub

Food hubs are a way to bridge upstream and downstream food security, supporting the regional agricultural value chain through relationships with local farmers and other producers.

A Case Study

Food hubs are a way to bridge upstream and downstream food security, supporting the regional agricultural value chain through relationships with local farmers and other producers, while at the same time supporting local access, small retailers and affordable consumption. However, there are many 'flavours' of food hubs worldwide, from industrial scale food distribution centres to grassroots community food centres. Virtually all definitions of food hubs place emphasis on a local or regional focus, in the growing, processing, and distributing of the food item. Their primary purpose is typically to increase market access, and lower distribution costs, for small and medium local or regional producers.

The *YYC Local Food Distribution Hub* is a pilot initiative that brings together local producers (family-operated farms and ranches typically focused on more humane, more sustainable practices than industry-wide standards) with nonprofit organizations (typically charities focused on alleviating downstream food insecurity, though through a variety of means). By bringing these groups together, along with a committee of advisory members, The *YYC Local Food Distribution Hub* sought to test whether the transportation, warehousing and distribution components of the food supply chain could be a fruitful leverage point for positive system-wide change.

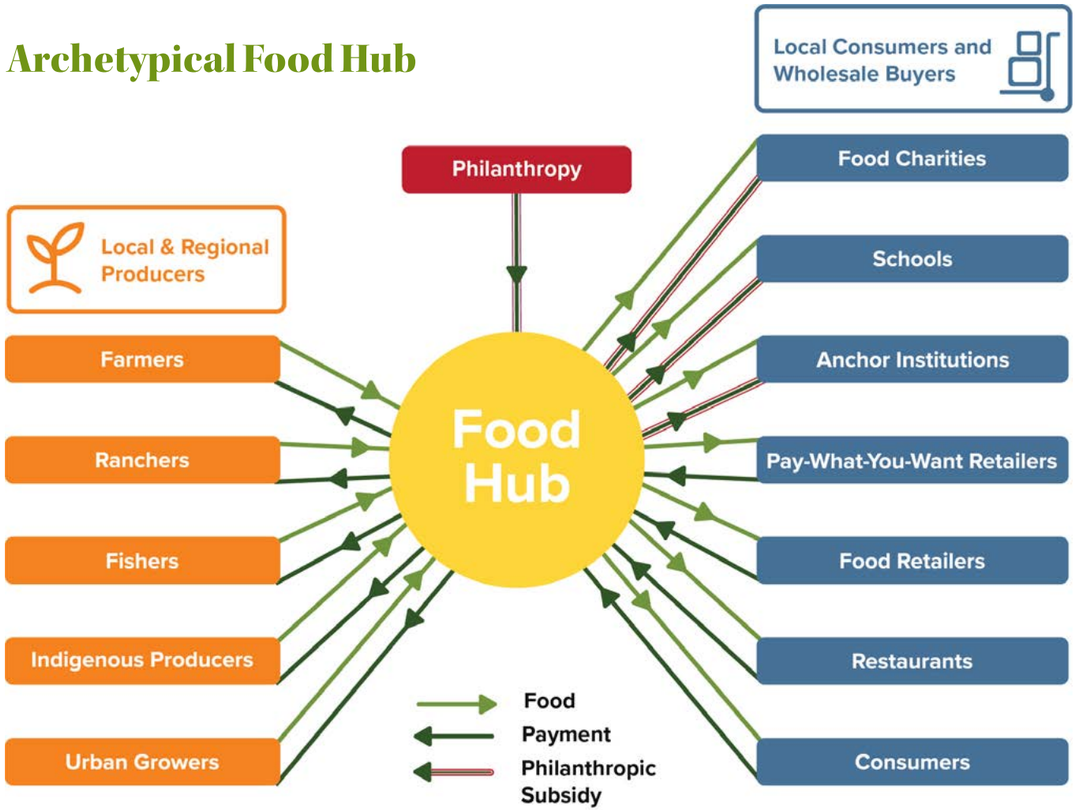
> **"Being a farm to fork business, we spend the majority of time producing and packaging the food. We don't have time to run around and deliver. I would love to join a group that takes some of the distribution side of things off my hands."**
>
> — **Producer Participant**

Food Hubs: A Global Lens

A food hub is an entity that works within a specific region with a targeted focus on one or more components of the food value chain. As noted in the *Food Hub Business Assessment Toolkit,* "The term 'food hub' emerged in the last decade to describe alternative food aggregation, distribution, and processing enterprises that began developing or expanding within regions across the [United States]. These enterprises sought to fill gaps in infrastructure to move food from farms to consumers within the same region."[99]

Food hubs provide some insurance against the vulnerabilities (as well as nutritional, diversity, and flavour compromises) attached to global supply chains. They typically place strong emphasis on helping producers maximize local markets and value-added opportunities, at the same time helping retailers, restaurateurs and consumers understand food origins (i.e. "Where does my food come from?"). As such, food hubs sometimes build in traceability provisions into the local supply chain. Many food hub variants engaged in downstream food access and affordability also emphasize dignity of consumption and de-stigmatizing food access for those experiencing food insecurity.

Archetypical Food Hub



Food Hubs are increasingly common in the United States, with 221 listed in the online *Local Food Directories: Food Hub Directory* as of October, 2021.[101] Organizations in the USA have also contributed significantly to research on food hubs, including the *National Food Hub Survey* most recently re-run in 2019.[102]

Food Hubs in Canada

While the United States is further ahead than Canada in the development of food hubs, nearly every province and territory in Canada has either an entity or program with the title of 'Food Hub', or at least has explored the concept. And interest is growing. The British Columbia Ministry of Agriculture, Food and Fisheries earlier this year, for example, announced $5.6 million in funding to create 12 food hubs across the province, adding to the hubs already operating in Vancouver, Port Alberni, and Surrey.[100] Food terminals and other distribution nodes, Community Supported Agriculture programs (CSAs), community food centres, and even farmers' markets are variously referred to as food hubs. Because of this sheer diversity and complexity, it is important to delve deeply into the specifics of each hub when looking for other examples to learn from. Refer to Appendix D for some examples of food hubs in Canada and elsewhere that may be particularly instructive.

Community Food Centres

One prominent 'flavour' of food hubs in Canada are community food centres. The Community Food Centre model was developed at *The Stop Community Food Centre* in Toronto.[103] The concept is "to provide a welcoming space in a low-income neighbourhood where people come together to grow, cook, share, and advocate for good food. Community Food Centres provide people with access to high-quality food in a dignified space."[104] Over the last decade, The Stop's co-founder, Nick Saul, has helped seed a network of community food centres across Canada. The manifesto for these food centres is outlined in his book *The Stop: How the fight for good food transformed a community and inspired a movement.*[105] In 2016, Calgary joined the network with the opening of the The Alex Community Food Centre, which provides a "welcoming place for people to come together to grow, cook, share and advocate for good food for all."[106]

The centres serve as community gathering spaces, are focused on building food literacy, cooking and gardening skills, and typically cultivate direct relationships with producers. As such, the model attempts to bridge upstream and downstream notions of food security.

Community food centres emerged partly as a reaction to the food bank/food hamper model, which have been critiqued as overly reliant on processed (vs. fresh) foods and which sometimes employ stigmatizing means-testing. However, in contrast to food banks, food centres (albeit still in their infancy) struggle with scale, and the emphasis on 'healthier choices' can be viewed in an equally paternalistic light as food hamper models, also obscuring the principal reason people experience food insecurity - a lack of income.

Within the literature on food hubs, there are a number of defining common characteristics, and the categories that resonated with the *YYC Local Food Distribution Hub* can be grouped into five categories. These categories build upon a robust 2011 framework of food hubs; *Toward a More Expansive Understanding of Food Hubs*, by Horst et al., which aimed to provide some clarity about what defines food hubs.[107] These categories remain useful, despite the intervening decade of food hub development.

The five categories, which inform the structure of the subsequent sections of this report, can be summarized as **the spark** - who leads the hub, **the structure** - the legal identity and governance of the hub, **the job** - how it functions, **the purpose** - what it hopes to achieve, and **the stage** - how far along it is. Exploring these characteristics helps to compare the YYC model to other Food Hubs and to ensure that current and future assessments are comparing 'apples to apples'. Using these markers, the *YYC Local Food Distribution Hub* can be described as a funder-driven start-up distribution hub with a cooperative core and a focus on economic and social impact.

Categorizing a Food Hub

The Spark	At least 4 models of who leads the initial project have been identified: "retail-driven, nonprofit-driven, producer-driven, consumer-driven"[108] and funder-driven can be added to this list.
The Structure	The legal structure of the food hub. This includes private/for profit, cooperative, social enterprise non-profit, publicly owned, public/private/non-profit hybrid.[109]
The Job	The portion(s) of the food value chain the project focuses on.[110]
The Purpose	The economic, social, and/or environmental impact[111] the project aims to achieve.
The Stage	The point the food hub is at in its growth cycle - start-up, emerging, or mature.[112]

While it is important to establish points of comparison to learn from other food hubs, it is not always straightforward to evaluate the success of one food hub by comparing it with another. Many sources have noted the context-specific journey of food hubs. As one observer clearly stated "no single measurement can be applied to all food hubs, as each must be measured by its success or failure in achieving its own underlying goals."[113] Shared language helps to define features of food hubs rather than benchmarking against other food hubs or models. Ultimately, a food hub ought to be measured based on its own desired outcomes.

The YYC Local Food Distribution Hub: Prototype, Pilot, and Pivot

Started in 2020, at the height of the global COVID-19 pandemic, the *YYC Local Food Distribution Hub* is both funded and led by the YYC Food Security Fund, a venture-based philanthropic initiative of local changemaker Zai Mamdani. The Fund's activities are facilitated through Place2Give Foundation, which brokers connections between donors and social change efforts.

The *YYC Local Food Distribution Hub*, in the short time between its inception and the writing of this case study, has gone through many iterations, piloting, prototyping and pivoting based on discoveries around upstream and downstream dynamics, interests, and rapidly shifting market and social conditions.

A Venture Philanthropy Approach

YYC Food Security Fund is an example of venture philanthropy. Venture philanthropy, sometimes also called philanthrocapitalism, is an approach first coined by John D. Rockefeller which later gained huge traction alongside the tech boom and the rise of silicon valley philanthropists. It applies concepts and techniques from venture capital finance, business management, and/or entrepreneurship to well-defined philanthropic goals in the community. It is related to, and overlaps with, "strategic philanthropy", a form of giving driven by clear *a priori* goals and/or defined outcomes defined by the donor or foundation.

The venture or strategic approach employed by the YYC Food Security Fund here includes establishing an *a priori* vision for a food-secure community, convening key stakeholders, blending charitable and entrepreneurial lenses and techniques, and rapidly iterating, prototyping, and pivoting on the fly. A criticism of many venture philanthropy approaches is a tendency to overlook systemic factors (underlying dynamics or root causes). Notably, however, the YYC Fund Security Fund is interested in understanding and helping address the systemic issues facing Calgary's food security challenges, which is one of the reasons this report was commissioned.

The Seed of the Idea: The Genesis of The YYC Food Security Project

Guided by business owners, philanthropists, community activists, farmers, ranchers and producers, the YYC Food Security Fund seeks to support the local economy by paying fair market value to local producers and farmers and infusing those products into the local business community for distribution into the consumer base.[114] The YYC Food Security Fund aims to create a buffer for the food industry by purchasing locally sourced and locally produced foodstuffs at fair market value.

The food system is complex and multi-layered, with ill-defined boundaries, thousands of direct stakeholders in all sectors of society, and an absence of general agreement on the measures required to improve food access, affordability, or sustainability. This complexity is what Design Theorist, Horst Rittel would call a "wicked problem". The journey of the *YYC Local Food Distribution Hub*, and its affiliated projects and partnerships, represents a case study in making an intervention at a key leverage point within this system, with the aim of inducing positive change. This intervention is also designed to respond to real-time community and stakeholder feedback, this report being one example of how this feedback is captured and disseminated.

The Fund is partnering with a broad range of local organizations, but an early and ongoing key partner is the Leftovers Foundation. Leftovers has relied on a thriving restaurant and hospitality industry to fuel their 'food rescue' model (with the added benefit of reducing food waste). Unfortunately Calgary's restaurant industry has been severely impacted by the pandemic and the economic downturn. This has in turn bolstered Leftovers' enthusiasm to partner with the Fund in trying and testing new approaches.

The founder-philanthropist in this case was comfortable with "failing forward", which enabled nimble shifts without having to go through a full testing cycle before making the decision to change.

Despite still being in its youth[115] - scarcely one year from inception - the initiative has already experienced many iterations, design pivots, implementation improvements, and other course corrections. The founder-philanthropist in this case was comfortable with "failing forward", which enabled nimble shifts without having to go through a full testing cycle before making the decision to change. This meant that as a social venture, this started out as one thing, then became another, then became another. It will continue to make pivots and adjustments as both the broader food system context shifts, and as the mutual trust and depth of knowledge between the stakeholders - producers, purchasers/service providers, advisors and others - grows and deepens.

While community stakeholders were excited about the overall potential of the Food Hub (as well as complementary initiatives that might over time be supported through the YYC Food Security Fund), there were also a significant number of questions and critiques about the project. The following pages chart the journey of the Food Hub pilot with some of the noted strengths and challenges highlighted in a series of *Food for Thought* sections.

The journey of the *YYC Local Food Distribution Hub*, and its affiliated projects and partnerships, represents a case study in making an intervention at a key leverage point within this system, with the aim of inducing positive change.

Project Timeline

September 2020

YYC Food Security Fund conversations begin

October 2020

First Food Security roundtable meeting

March-April 2021

Initial idea of a food distribution hub emerges; focus on restaurants more than food charities

May 2021

Institute for Community Prosperity engaged to chronicle food hub development and broader food security context

May 2021

Establishing process and framework; original distributor withdraws and YYC Growers steps in as distributor

June-July 2021

Community stakeholder interviews

June 2021

Reflections and preparation for orders

July 2021

Phase 1 Pilot Official Kick-Off

August 2021

Pause for reflection and assessment

September 2021

Transition into Phase 2

Over the past year, the initial visionaries, a philanthropist aided by a group of advisors, have shown the importance of flexibility when it comes to systems-level work involving many individuals and organizations (most of whom had previously not known or worked with each other). While the mission of the fund - to improve access to local food in Calgary - has remained the same, there has been a clear acceptance of redefining *how* that mission can be achieved.

> **"I do think consumers like to see local. But it's not easy to get - that's the problem. Big box stores only cater to local if it's convenient. They want to order it from one place with one truck and one invoice."**
>
> — **Community Stakeholder (producer)**

The producer stakeholders noted limited access to market, unpredictable demand, and regulatory burdens as major concerns for smaller farmers, dynamics that a food hub could in theory help address.

Two big impetuses for the YYC Food Security Fund's inception was to find ways to ensure individuals could "Dine with Dignity" and to ensure that local producers find stable and growing markets for their products. An Advisory Committee was struck to explore options and act on this goal. As the group connected with their networks, they set up meetings with farmers, ranchers, restaurateurs and other value-added producers to better understand the barriers regional producers face in the market. This initial approach was consistent with recommendations from literature on food activism[116] about where to begin. The producer stakeholders noted limited access to market, unpredictable demand, and regulatory burdens as major concerns for smaller farmers, dynamics that a food hub could in theory help address. The idea of a food hub was pitched by one of the producers early on, and was initially positioned as an option to bridge the gap between producers and restaurants, which experienced severe early hardship as a result of COVID-19, as outlined earlier in this report. The group later saw an opportunity to leverage the YYC Food Security Fund to financially support charities' participation in the project.

Creating a food hub was not a new idea or phenomenon in Alberta; The *YYC Local Food Distribution Hub* joined Edmonton's food hub, *The Public*, and the *Leduc Food Processing Development Centre*. However, opinions differ on whether 2021 was the first time a food hub was pitched or explored in Calgary - and one's view of the YYC Food Hub as a new idea depends largely on one's definition of a food hub. Regardless, the direct funder involvement in the YYC Food Hub was viewed as a unique approach with the potential to succeed where other attempts had failed.

Growing Conditions: Building the Food Hub Model

After early exploratory meetings, the members of the YYC Food Security Advisory Committee formally met for the first time in October 2020. Most of the participants were brought into the partnership by a previous connection to another participant. The group sought to leverage existing networks, and a benefit of the venture philanthropist origins of this project provided the opportunity to access and communicate with funder/donor networks.

The word-of-mouth recruitment strategy, built on pre-established connections, helped to build trust among participants, which is essential to effective collaboration. Interviewees noted a hesitation among both producers and charities who had been "burned" in the past and were wary of putting themselves out there for yet another experimental project, the destiny of which was, and remains, unwritten.

Additionally, there had not been a previous buyer-seller relationship between most of the producers and charities involved. While producers noted they often *donated* produce to charities, and charities tried to source locally when they could, albeit on an ad hoc basis (with only one exception), this pilot marked the first time members of both groups had pursued a relationship on this scale. This meant the pilot was all the more risky based on this lack of previous connection, although many stayed committed and optimistic solely because they trusted at least one other member.

Growing the membership was not a challenge during the first phase of the project and many were excited about the potential benefits the hub could bring. As one early member noted, everyone they invited said "yes." However, the group saw inconsistent engagement, and the loss of members over time - principally on the nonprofit purchaser side - caused a number of setbacks. While discouraging, the decision of some participants to withdraw was often an unexpected gift, opening up new opportunities to expand and partner in creative ways. For example, the departure of the initial commercial distributor allowed the cooperative YYC Growers to step in and expand their services. As it turned out, this was a (nearly) universally popular development in the evolution of the Food Hub.

Food For Thought: Membership & Equity

Both Food Hub members and external stakehold-ers expressed a desire to increase not only the overall number of members in the project, but also the diversity of membership. There was a preference to start with a small number of participants in the YYC pilot, both to more quickly build trust and to keep things manageable, though relying on word-of-mouth recruitment processes can result in the re-privileging of groups who already benefit from the current system. One community stakeholder noted that they were "a little baffled and disappointed by the people [they saw] around the table," emphasizing that the project was an opportunity in particular for smaller producers to get new exposure. While the Hub pilot proponents did reach out to some Indigenous producers, who declined to participate at this stage, and notably 50% of the producers at the table were women-led farms, there were additional specific examples suggested as missing from the mix including Hutterites, Vertical farmers, as well as equity seeking groups.

Beyond the YYC Food Hub, the food system and efforts to improve it are facing increasing calls to improve the representation of various equity seeking communities, those who "generally have less access to opportunities, resources, and systems of power because of their actual or perceived identity or identities."[117] This would include suppliers (producers), buyers (charities), and advisors that are led by groups such as Indigenous, Black, People of Colour, 2SLGBTQ+, Immigrants, or people with disabilities. On the producer side, as the Racial Equity Implementation Guide for Food Hubs notes, "The failure to center racial equity and other progressive values in food hub busi-ness models invites the replication of the logic and damaging practices of the mainstream food system."[118] Many historic and current barriers make it difficult for equity seeking communities to access land for farming, let alone devote time to the networking, marketing, and promotions that would give them the visibility and connections needed to partici-pate in an initiative like the YYC Food Hub. By building in a focus on representation, and reconnecting with groups that may initially decline, those that do not fit the dominant narrative of what a farmer/producer should look like will be less likely to be overlooked during recruit-ment. Many historic and current barriers make it difficult for equity seeking communities to access land for farming, let alone devote time to the networking, marketing, and promotions that would give them the visibility and connections needed to participate in an initiative like the YYC Food Hub. Without a focus on representation, those that do not fit the dominant narrative of the male-led, white family farm, would likely be overlooked during recruitment.

As mentioned previously, the history of upstream food security is inextricably bound to the project of colonization.[119] While there are some modest efforts on the prairies aimed at supporting Indigenous-led agriculture,[120] every initiative that seeks to improve food systems has an obligation to explore how it can decolonize its practice and commit to reconciliation.

It is also challenging for newer Canadians to get into farming. Since 2007, farmland prices in Canada have increased by over 130%.[121] With land prices continuing to soar, and with farmland squeezed by exurban development, urban sprawl, climate-related challenges, plus factoring in the capital cost of farm-startup and the economic risks attached to small production, there are multiple barriers to entering farming as a profession for newer Canadians, which means that farming remains overwhelmingly a Euro-Canadian pursuit. Additionally, the challenges farmers with a physical and/or mental disability face are significant and not well known or understood,[122] which makes maintaining farmland and accessing supports difficult. Although there is increasing acceptance of the growing number of 2SLGBTQ+ individuals engaging in farming in Canada,[123] there is still work to be done to ensure their full inclusion in agriculture. Each of these groups, to name just a few dimensions of diversity, would likely benefit from participating in a collaboration like the Food Hub, though it is vital to create space for these individuals and groups to lead and assert how they want their own needs to be best included.

Meanwhile, on the buyer's side, food movements in general are often viewed as elitist,[124] they tend "to exclude the very voices it seeks to advocate for,"[125] and are the purview of either passionate "foodies" or well-meaning benefactors. While the inclusion of charities as buyers opens up access in some ways, it is important to vet and consider which charities are involved, and what their own commitments to equity are. As well, nonprofits that primarily serve or are led by equity seeking communities also face limitations including funding and organizational capacity.

Sewing Support: Establishing Shared Values and Goals

The purpose of the *YYC Local Food Distribution Hub* and the impact it aimed to achieve at the time of writing can be broken down into three broad categories: Economic impact, social impact, and environmental impact.[126] The responses from community stakeholders about which areas of impact they saw as a potential outcome of the Food Hub were heavily focused on values that reflected an improved *economic* impact for producers, with some elements of *social* benefits. Many community stakeholders stated that a measurable, even if minor, *financial* benefit for farmers was their main measure of success. Social impact was the second priority, which included improved food quality for charities, improved trust between the players, and the ability for charities to go to one vendor rather than several suppliers.

> **"The value system. That's the common denominator. This whole project is kind-of based on values; Keeping that family farm alive, the quality, the availability, and supporting charities."**
>
> — **Community Stakeholder**

Although environmental impact was rarely explicitly mentioned when participants were asked about the value of the YYC Food Hub, a small number of stakeholders were extremely passionate about the sustainability focus as an outcome. One participant noted that a focus on improved ecological impact would come later in the development of the project, but others felt it was paramount. Rod Olson of YYC Growers and Distributors, suggested the environment is often not considered in food charity and challenged how "we stand on the soil and treat it like dirt." A further complication was that the project would create a positive environmental impact even if it was not a priority. This is because smaller, local producers, the target beneficiaries of this project, are viewed as generally more sustainable in their practices and impact, irrespective of whether they had consciously decided to integrate sustainability principles and practices.

Many hoped that all participants would gain an increased awareness of place of origin and produce seasonality, thereby choosing to purchase items well within the Calgary foodshed, and in season, and reduce the distance products had to travel. Additionally, while some community stakeholders believed the growing options in Alberta were limited, supporting multiple smaller producers would actually demonstrate (and contribute to) the diversity of crops that can be grown locally.

> **"[The Hub] is in a perfect alignment in that it models everything that we teach and preach here. It models our good food principles; it matters where food comes from, how it was produced, who it was produced by [and] what are the social impacts of the triple bottom line of that production."**
>
> — **Community Stakeholder**

Further, when determining what 'being successful' meant for the Food Hub pilot, as one community stakeholder aptly stated, "everyone has a different idea of what success looks like." These differing expectations were not all mutually exclusive. At this stage in the pilot there was a general consensus to try things out, though there were points of tension in how participants would prioritize the outcomes.[127]

Food For Thought: What is "Local"?

What does it mean for something to be local? As one community stakeholder noted, "*that's a really loaded question.*" Every community stakeholder contacted in compiling this report felt that "local" was an important priority when talking about food security in Calgary. Many define success for the pilot as increased access to nutritious local food. However, nearly every person had a unique definition of what "local" actually means. Definitions generally fit into six broad categories, though there are likely more perspectives than what has been captured here.

Regional - within specific boundaries

Contextual - depends on the food item in question

Comparative - anything closer than the current source as a baseline comparison

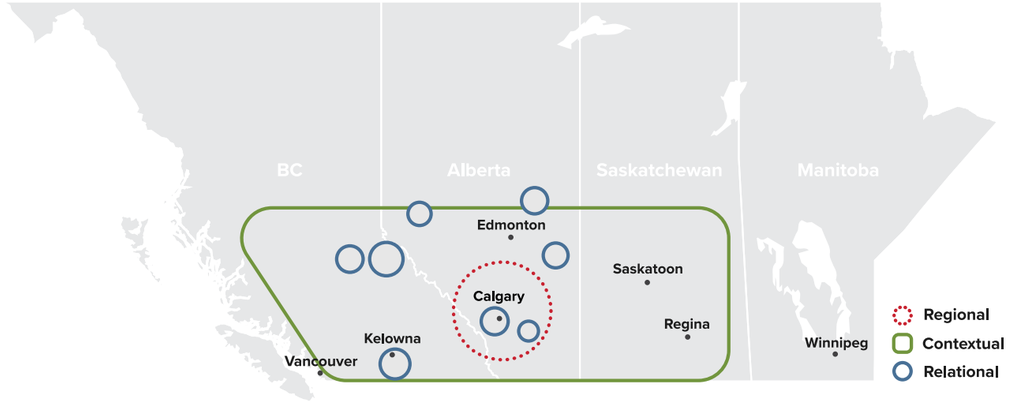
Relational - having a relationship with the grower, regardless of geography

Legal - defined by a regulation or certification body

Capacity/Size - within a certain size of production - i.e. a small family farm being "local" vs. a larger commercial ag operation

Which definition participants use affects their expectations for how the food hub will operate and what success will look like. It also has a twofold impact on membership. Not only will certain members decide to join based on how it fits with their view of a 'local' initiative; it will also influence critiques and questions about why certain players have not been brought into the project.

The Case of BC Produce: Alluring Fruit



A common question was whether BC fruit could be considered 'local' and if BC producers could be brought into the partnership. While it is not impossible to grow fruit in Calgary, despite prolific myths to the contrary, it is less challenging for our neighbours to the west.

Members with a regional definition of local often stated that BC fruit was off the table and we should promote seasonality and the fruits that *can* grow in Calgary. Meanwhile, members with relational or contextual definitions, to name a few, would permit BC produce as long as there was a relationship with the farmer or it was not possible to source the item any closer. These differing definitions, visualized in the graphic above, created tensions about who to include in the pilot.

From our conversations, it appears that an individual's definition of local is highly context specific and influenced by what they see as the benefits of local. For example, definitions of local were often followed by a rationale for their words. For example, purchasing locally means the producer and buyer can often have more flexibility.[128] These relationships were especially beneficial during the pandemic when the needs of organizations were shifting constantly. Alternatively, it was often stated that local was less carbon intensive - though the truth of this concept was challenged by both our community stakeholders and the literature.[129] While many suggest that fewer kilometres travelled means less fuel will be used, the increased efficiency and scale of large operations often results in fewer emissions than local food-supply chain models.[130] Because of these and other perceptions, it is therefore much more challenging to come to a consensus on messaging and the 'why' of going local.

At the YYC Food Security Fund Advisory table, which trickled down to the Food Hub collective, the definition of local that was chosen was a (roughly) three hour radius driving distance of Calgary. This allowed for access to ranches and farms as far south as Lethbridge and as far north as Leduc. While discussion around the "true" borders of Calgary's food shed continues, for the pilot it was felt that working with producers and suppliers closer to the city was easier to manage than moving further afield.

Finding Sunshine: Going Public and Soaking up Feedback

As the YYC Food Hub pilot began testing and rolling out its ordering process with an initial group of eight nonprofit organizations (all but one of which are also registered charities[131]) and twelve producers,[132] the Advisory group continued to reflect on their progress and assess where the project might need to pivot. The Institute for Community Prosperity began meeting with identified stakeholders, and there was an ongoing cycle of feedback and checking in on external perceptions. As more people learned of the YYC Food Hub, existing challenges were re-examined and new issues were brought to light.

Pilot Successes

Participants in the pilot liked the quality of food, the quality of producers involved, learning more about the range of food charities in the community, the option of having a new sales and distribution channel to access local food, as well as the elevated awareness of local farmers. Some even commented on the novelty of food they had not previously encountered being made available, which challenged some charities - in a good way - to try new recipes. The unique nature of the project was also identified as a strength and, if successful, would fulfill one of the actions in CalgaryEATS around institutional procurement.[133]

A Dignified Alternative

One widely shared highlight of the YYC Food Hub noted early in the project was that it is an ennobled (albeit pricier) alternative to giving unwanted food or food waste to the most vulnerable. One community stakeholder plainly captured the current state of food charity: "because you're poor, you don't get fresh, you get whatever the rest of the system doesn't want." While food waste is a significant resource drain and blight on our society, as noted earlier, food waste should ultimately be prevented in the first place rather than redirected to our most vulnerable. By adding opportunities for local producers to sell fresh products to charities, the clients served by these agencies receive fresh items rather than any unsellable or salvaged foods.

> **"[The challenge for the Hub is] you can't overcharge the charity but you can't underpay the farmer."**
>
> — **Community Stakeholder**

It is not easy to switch to a new supply regime absent greater certainty about the long term viability of the model.

Pilot Challenges

The pilot cost the YYC Food Security Fund $12,000 over the six week period. However, it yielded only $2,700 in total orders/sales (roughly $600/week). Even considering social side benefits like trust-building and awareness-raising, this is still a pretty negative opening return on investment. On the other hand, it is almost unheard of for any business to turn a profit in its first month. Part of the reason that charities in the pilot ordered so little food was the sheer cost; Local sustainably-produced food is simply much more expensive per unit cost than bulk-purchased supermarket food from global supply chains. As one community stakeholder noted, the pilot was caught in the tension between "You can't overcharge the charity but you can't underpay the farmer."

Also, charities have existing distribution channels that they didn't want to disrupt for the sake of an experimental approach, so all of them are understandably 'dipping a toe' rather than 'diving in'. It is not easy to switch to a new supply regime absent greater certainty about the long term viability of the model. As well, the purchasing decisions of each charity are not in all cases the domain of the representative who has been at the table, and more likely to 'buy in' to the model. It is also challenging to create trust in a short time, between producers and charities who have not (or only just) met.

While it is tempting to suggest that the month-long pilot period was simply too short, stakeholders identified additional weaknesses in the model itself, which strongly indicated an early pivot would make sense. Some noted that the food hub was not a viable solution because it was vulnerable to disruptions such as bad weather. However the current food system is also vulnerable, as we have seen during the global pandemic and the floods in British Columbia.

Further, some questioned how the food hub was valuable if the end consumer, in this case an individual accessing a charity, did not actually know they were eating better or local food. Community stakeholders were in strong agreement that the value of sourcing local was not dependent on the end user recognizing or appreciating the change in their food. Instead, many suggested that it was about the principle of improving food quality and access, and some believed the food would speak for itself in terms of increased quality. Still others felt that community education could be a critical part of the next phase of the Fund's work and investment.

Throughout the interviewing process, and especially as the initial ordering pilot came to a close, questions about the sustainability of the model became more urgent. Ever since charities were first posed as the main or only buyers of the hub, there were concerns about if and how the hub could become self-sufficient. While the social impact of improving access to nutritious, fresh food remained a priority, the economic reality made the group reflect on how they might shift to remain viable. This tension highlights that food hubs "require a different investment mindset."[134] The food hub model is difficult to maintain, especially if it is mainly relying on funders rather than buyers. The initial hub model envisioned restaurants and other businesses as the targeted buyers, rather than a program that relies on charities (who require a deep philanthropic subsidy to make the food competitive with their other suppliers). A hybrid model, where philanthropy combines with for-profit buyers, could subsidize some participants while opening up the market to local food more broadly. *The Common Market* network of food hubs in the US for example (see Appendix D) uses net revenue generated from commercial sales to subsidize charities and other downstream community food groups to purchase food at cost, while farmers are paid fairly at market price. At the time of our discussions, many doubted the viability of the concept if non-charities would not be able to purchase from the hub.

Many community stakeholders were excited about the Food Hub concept, but also suggested that ultimately it was only making things marginally better for too few people in an otherwise broken system.

Is an Alternative Distribution System Sufficient 'Systems Change'?

There is growing evidence of the systemic nature of food security, and the need for states/governments to take action at scale.[135] While food hubs have proven effective at building a stronger bridge between upstream and downstream food security, one significant challenge all food hubs face is in catalyzing more fundamental system-wide change. Charity-focused food interventions of all kinds also face the challenge of demonstrating how they are not simply relieving hunger, but ending it. The scale and nature of non-profit interventions, even if community-wide, is a perennial challenge, in no way unique to the YYC Food Hub. As one community stakeholder noted, drawing a parallel to the social change challenge of eliminating racism, "there isn't anyone saying stay puny, chip away, we'll get rid of racism in another 50 years."[136]

The YYC Food Hub intentionally started with a small scale pilot, because it was a test of a concept. Many community stakeholders were excited about this pilot, but some also suggested that ultimately it was only making things marginally better for a small number of people in an otherwise broken system. Others, though, were more emphatic in their belief that the Hub was focusing on the wrong level for change, and encouraged the Fund to target wider policy-oriented solutions either instead of, or in addition to, the Hub.

These challenges reflect the critiques in the literature on food hubs and other similar food movements.[137] As one source succinctly noted, "food hubs alone cannot challenge industry norms and practices, and can even aid the food industry in maintaining the status quo."[138] Yet food hubs *can* create change; their approach to change is in the value of demonstration, as a practical alternative to radically opposing the status quo. There are a variety of ways individuals and organizations can approach changing the food system, as well-documented and summarized in the book *Civil Society and Social Movements in Food System Governance.* The YYC Food Hub can be labelled as an alternative that "work[s] in parallel to the dominant food system"[139] rather than deconstructing our existing food system. Particularly so if it continues to build and be guided by a participatory model.[140] YYC Growers, one of the partners in the Food Hub and the organization responsible for the distribution component of the hub, has been identified as one example of a successful Alternative Food Network.[141] This provides some reassurance that the Food Hub model has potential in Calgary.

Food Hub vs. Food Bank

Similarly, as word spread about the YYC Food Hub, many asked how this initiative was different from the food bank or if it was just a way of providing *better* hampers rather than trying to eliminate the need for individuals and families to have access to services like the food bank. As stated by one community stakeholder, "There is no better food bank [and] making a better food bank doesn't do anything for food insecurity."

Many internal participants agreed that the Food Hub was not in competition with the food bank, but rather was an additional option that would expand the solutions landscape. Many involved in the food system are quick to vilify food banks and other interventions, including other food hubs, as 'band-aid' solutions, but the Food Hub is not an attempt to replace the food bank, nor does it address the same issues as a food bank (especially given the Hub's focus on upstream food security). There was general agreement that however undesirable some may see food banks, they are ultimately necessary in our current context. It makes no sense to cast the Calgary Food Bank as a pariah when there continues to be emergency demand and they operate at a scale that is far from boutique. While many would prefer the choice and dignity of individuals receiving funds to make their own food decisions, food banks do have strengths in the scale and efficiency of their purchasing (buying and storing bulk) and in their ability to access distribution networks during a disaster. Indeed, the Calgary Food Bank was a participant in the Food Hub pilot, and seen as an important partner going forward.

Yet food hubs can create change; their approach to change is in the value of demonstration, as a practical alternative to radically opposing the status quo.

Food for Thought: How Funding Policy and Advocacy Can Make a Difference

Many of the system-level changes necessary to achieving both upstream and downstream food security require action (and spending) by government. However, many registered charities have historically been reluctant to engage in public policy advocacy. Helpfully, there are no longer regulatory limits on the amount of public policy work a charity is permitted, so long as that work is non-partisan and consistent with the organization's broader charitable objectives. This is true also for foundations, who are increasingly being urged to fund advocacy, policy and systems-change efforts.[142] So, for example, if an organization is aiming to relieve hunger, it may also devote resources toward advocating for policies that strengthen downstream food security. Although there are also rules governing *lobbying* (direct engagement of public officials with intent to change or retain policy), both at the federal and provincial level, the vast majority of public policy work is not only permitted, but is an expected and essential role of civil society.

Despite this, most charities do not engage in public policy work, preferring to focus on community-based initiatives sometimes to the exclusion of macro-level systems change.[143] Some organizations may be hampered by a culture that spurns systems-level work, or may simply have a policy-averse board. But for many others it is difficult to justify redirecting resources to policy work when there are food insecure clients walking through the doors of the organization, and all hands are needed for this emergent and urgent task. Even when food-focused charities are aware of systems-level dynamics that exacerbate food insecurity, and the policy steps that could be taken to dramatically improve food security[144], it is still relatively uncommon for this to translate into policy engagement (either directly or via a coalition). For example, according to Food Banks Canada, only 25% of food banks in Canada engage in any form of policy work.[145] As another example, in Calgary there are at least six charities focused on feeding kids in schools.[146] Yet none of them are among the 170 nonprofits working at a national coalition level to advance a nationwide universal commitment to in-school food programming.[147] Even among the community stakeholders consulted for this report (whether upstream or downstream), virtually all of whom are passionate about improving the system, yet few mentioned or knew about larger-scale advocacy or lobbying campaigns to influence policies directly related to their work.

Recognizing this frequent disconnect between local action and macro food system advocacy, and also that the upstream voice of small producers can use additional amplification in the policy arena, the YYC Food Security Fund is devoting resources toward policy work as one its four strategic directions (see page 37). It is important to note as well that both the Fund and the Hub involved the City of Calgary from the start, both as a member of the Advisory committee and directly in the food hub planning. This policy focus is welcome, particularly because it is sometimes more challenging for organizations to fundraise for systems-level action, including advocacy and policy work. Other funders are also more likely to be open to supporting policy work if they see a peer foundation making these investments.

A question from some external ecosystem players as they learned of the YYC Food Hub was whether the Fund could make more of an impact if it devoted *even more* of its resources to challenging the overall system. For example, by advocating for stronger income-support policies or sustainable agriculture policies, federally and/or provincially. Others, however, felt it was important to first root policy work in on-the-ground insight, which is also critical to expanding local knowledge and building trust (which is essential for a local food system that is frequently divided). Much like any collective impact effort, the food hub can furnish the connections, trust, and shared knowledge conditions necessary to pursue effective larger-scale change.

It would also be naive not to acknowledge how difficult policy advocacy can be - especially for something as ambitious as, say, universal basic income. Even as charities develop more of a social justice-orientation, and even with the former regulatory barriers removed, advocacy directed at governments can still be a slow, incrementally daunting mountain to climb. As one community stakeholder added; "It takes courage, it's a courageous move. To go after income because you are going after a totally contested area. You will be beat up on. You invite all the stereotypes, hostility, all the taxpayer [advocacy groups], the partisanship. So even to take a stand on it is to invite attack."

A Mixed Harvest: Pausing for Reflection and Early Pivots

After the pilot had completed its initial commitment of six weeks of orders, the group paused to assess their work to date and decide on course corrections. The project leads met with the charities and producers separately to compile feedback.

In terms of the *process*, the pilot was generally deemed a success, and participants were excited about continuing on, albeit with some tweaks and adjustments. Almost $3,000 in new dollars was directed from charities into the local food system and YYC Growers were able to expand their business to include a wholesale component. On the other hand, the pilot ordering process revealed a reluctance or inability on the part of charities to test the model at a significant scale. Only $600 worth of total orders were placed per week, on average. When compared with the cost to run the pilot hub - more than $10,000/month, it is clear that something needed to shift to either achieve scale, cut costs, or look at a different model.

A hidden value was in the connections that were made between agencies and the opportunity to share ideas and collaborate. As noted in our meetings with conversation participants, it was beneficial for participants to build relationships with one another. Participants learned about how each charity looks at, uses, and sources food (i.e. while local, fresh food was a clear benefit, unprocessed food added an extra cost to the charities). Simultaneously, participants expand their understanding of how producers plan for, prepare, and bring their food to the market. The group also confirmed their need to have a broader customer base and re-think what it means to be a food hub.

A hidden value was in the connections that were made between agencies and the opportunity to share ideas and collaborate…Participants learned about how each charity looks at, uses, and sources food.

Food for Thought: COVID Impact on the Hub

> **"COVID demonstrated that food intersects everything"**
>
> — **Audra Stevenson, Leftovers Foundation**

The literature has many examples of how to best structure and manage a food hub,[148] including some that have tried to learn from closures of prior food hub initiatives.[149] While some learnings are starting to emerge in writings about food hubs that include COVID-19,[150] this is an opportunity to contribute to this learning by shining a light on how the pandemic has profoundly affected the YYC Food Hub.

While it did not directly cause the spark that led to this project, COVID-19 has effectively shone a light on the issue of food security,[151] and it appears - despite many challenges - COVID contributed in some ways to the YYC Food Hub's success. More people saw or experienced food shortages, and as one community stakeholder noted, food insecurity could no longer be ignored as something that happened to other people.[152] Suddenly many more millions of Canadians were a paycheque away from having to access emergency food assistance. The relationship between income and food access in this light became harder to ignore.

Additionally, there have been other initiatives who have struggled or disbanded where the YYC Food Hub managed to persevere. Some interviewees suggested that the dedicated funder involvement in this project was the key ingredient to success, yet it is also likely that all participants and stakeholders are more aware of the urgency of the problem and have remained committed despite challenges that could have easily ended this pilot. As one stated, "[the YYC Food Hub} was the right idea at the right time [and] COVID played a part."[153]

The producers' pandemic experience appears to have been largely positive, from an economic standpoint. COVID increased the risks producers were already facing, and investment in this project was a clear opportunity to weather the pandemic. However, nearly all of the producer community stakeholders said COVID actually *helped* their business because local consumers started buying more from farms directly, or through farmers markets. There are a number of possible reasons for the shifts in purchasing, including changes in values to support local, or concerns about perceived[154] or actual shortages of food from disrupted supply chains.[155] Avenues to market like the YYC Food Hub may become increasingly important if consumers shift back to their pre-pandemic purchasing habits.

The participation of charities and sustainability of the financial model was a challenge. While charities also showed resilience while responding to COVID, they have not been able to support the project as much as they would have liked. Funders often exclude food in the permitted use of their funds (except for a short time during COVID),[156] and the existing struggles charities have in buying food make it difficult to pay even higher costs for local food. Without continued subsidies from funders or additional non-charity buyers, the financial model would be unsustainable. While many community stakeholders hoped that funders might start to provide more funding for food services, it seems like COVID's impact on the direct provision of funding for food will be short-lived.

Additionally, COVID-19 also exacerbated timing challenges the pilot would have likely experienced even in non-pandemic times. The peak growing season in Alberta coincides with a reduction in services or shift to summer programming for charities, summer breaks for schools, and vacation time for most of the community stakeholders participating other than the producers. COVID-19 made this pilot even more difficult because the charities were not running at peak operational capacity, many staff are facing potential or actual burnout because vacation time is so difficult to take, and programming faces unpredictability in having to adapt to new or changing COVID restrictions.

With these factors in mind, the YYC Food Hub pilot has achieved an impressive feat. The difficulties created or worsened by COVID-19 may provide the Food Hub with the resilience it needs to weather the complexities and challenges of improving food security in Calgary.

Rotating the Crops: What's Next

Although the *YYC Local Food Distribution Hub* has made some important early adjustments, there are four more fundamental pivots that collectively might be called "Phase Two" of the Hub: 1. Equity investment to scale YYC Growers; 2. Pay-what-you-want food markets; 3. Public dialogue, education and awareness-raising; and 4. Advocacy / public policy work. The YYC Food Security Fund is investing in each of these initiatives, which are in different stages of design and planning.

> **"We feel like the food conversation needs to be networked into the community in a dramatic way. That's the disruption the food world is waiting for."**
>
> — **Rod Olson, YYC Growers and Distributors**

1. Equity Investment to Scale YYC Growers

One clear opportunity is for the cooperative YYC Growers, which already operates in many respects as a food hub, to simply scale up their operations, both in terms of numbers of upstream producers and diversity and range of downstream community partners. However, the 'closed-loop' nature of the charitable system (charitable dollars must always be used for charitable purposes) limits the range of options available to a philanthropy-tied food hub model.[157] As such, the YYC Food Security Fund is exploring options of impact investment with YYC Growers.

2. Pay-What-You-Want Food Markets

Fresh Routes, a social enterprise powered by the charitable organization Leftovers, a partner in the YYC Food Hub pilot, is launching Kin Market, a Pay-What-You-Want food market at certain YMCA locations, as well as a downtown location (TBD). This will be the second such venture in Calgary, albeit more food-focused, after the recently-opened Good Neighbour pay-what-you-can thrift shop and pantry.[158] The concept behind such stores, which can be either mobile, stand-alone or part of food hubs, is intended to address at least two common critiques of food charity by providing consumer choice and - in theory - reducing stigma (as both food-insecure and food-secure Calgarians would be accessing and purchasing from the store). The Calgary Y was an active participant in the Food Hub pilot.

3. Public Dialogue, Education, and Awareness-Raising

Public knowledge of food security is lacking, as is awareness of the innovations and solutions available to address both upstream and downstream food security. There are many fruitful opportunities to enhance community education on food security. Many of the partners already at the table as part of the YYC Food Hub either already provide community learning programs, such as the Alex Community Food Centre, or are very interested in expanding food literacy and systems-level knowledge of food security. This initiative is in its earliest planning stages, and may involve one or more organizations (TBD) working independently or in partnership. Winnipeg's Fireweed Food Hub, for example, envisions a central space for consumers and producers to connect and gain access to learn about food security, as well as broader food education. This is similar to how community food centres operate - providing information on community gardens and kitchens, for example, as well as tackling the key issue addressed by Young Agrarians - attracting and supporting a new generation of farmers and other local producers. *Nourish*, an alliance of practitioners trying to build understanding of the "complex relationships between Indigenous foodways, reconciliation, healing, and health care", partly through learning journeys and webinars, employs an educational approach based on four principles: Systems-based, place-based, history-informed and awareness-focused.[159] There are also many possibilities to engage post-secondary institutes and help students find and forge learning pathways around food security. The UBC Farm / Centre for Sustainable Food Systems is particularly instructive.[160]

Public knowledge of food security is lacking, as is awareness of the innovations and solutions available to address both upstream and downstream food security.

4. Advocacy / Public Policy Work

This report has discussed advocacy and public policy work in previous sections, and the final section of the report outlines potential actions for all three levels of government. An important role of philanthropy in general, and of the YYC Food Security Fund in particular, is to help 'de-risk' policy innovation by undertaking or commissioning research, seeding demonstration projects, financing community-driven outcomes purchasing[161], or convening coalitions of funders in shared strategic investments. Examples of this latter approach include the Ontario Greenbelt Foundation and the Great Bear Rainforest initiative, both of which began with philanthropy, then were leveraged manyfold by both government funding and legislation. The YYC Food Security Fund has indicated a clear intention to engage in advocacy and policy work, but the focus and strategy is to be determined.

Food for Thought: Balancing Careful Planning with Agile Development

All social change interventions face the challenge of balancing careful research and planning – taking time to learn more deeply about the issue prior to designing the way forward – with taking action quickly on an issue – rapid, small-scale prototyping, adjusting and pivoting on the fly. Social entrepreneurship, design thinking practice, and systems-rooted social change work all require both approaches, but finding the right learning-action balance and rhythm is tricky.[162] At what point do you move from analysis and design to trying and testing solutions? At what one point do you have enough information that it's time to just jump in?

If you put all the emphasis on proper planning, including deep listening to those working in both upstream and downstream food security (including those living with food insecurity), it can ground actions in research insights as well as lived experience. This ultimately yields understanding of the problem at greater depth and with greater confidence. Good upfront scanning can also help reveal the 'landscape' of potential solutions, as well as gaps and potential leverage points. On the other hand, over-analyzing the problem can lead to paralysis. A heavy focus on planning and systems analysis can be frustrating for participants who want to see action, and who need to see some 'early wins' so their participation can be energized and affirmed.

Conversely, if you put all the emphasis on agile development (sometimes called "rapid prototyping" or "move fast, fail forward") – trying different small-scale interventions and learning on the fly – this can be energizing for all involved, and can yield valuable context-specific insights. It also syncs well with the urgency of the issue of food insecurity: If we don't at least get going and try new approaches, we'll never know. But, this rapid approach can end up causing more harm than good (without a deeper understanding of the problem) and can frustrate people who are part of one rapidly-prototyped experiment, but then find themselves on the outside in the next iteration.[163] Additionally, without scanning the landscape of existing interventions, and being clear why an existing community approach could not be adapted or scaled to fit, it is often tempting to start a new organization (also because there are few barriers to entry in creating a startup)[164] This is one of the reasons for endemic 'duplication' in the nonprofit sector. Then again, even such duplication can be healthy and warranted; the commercial sector also has duplication of course, but there we call it 'competition'.

In general, when thinking about food hubs specifically, it can be more challenging for producers to be part of the former approach, and for charities to be part of the latter approach. Producers (in general) have more limited time and capacity to sit on committees, and have more urgency with respect to the seasonality of their production cycle. Producers in the YYC Food Hub case were eager to test the ordering process soon. Charities, on the other hand, are generally more familiar and comfortable with a longer planning cycle, and some in this pilot were restricted in their ability to participate fully (whether due to the expense of food products, the prior existence of other more familiar supplier relationships, or because those at the Food Hub planning table were not in all cases the person ordering the food).

While charities in general can sometimes have less nimble operational cultures than private business, they are also dealing more frequently with vulnerable human beings. This means careful planning is more frequently the default modus of charitable organizations than the "move fast, fail forward" approach.

The YYC Food Hub undertook a combination of both approaches. On the planning and scanning side, a systems map was developed of key actors in the food system and how food gets to market (as well as how food is utilized or distributed specifically in the charitable sector). As well, many different advisors and stakeholders contributed to the planning and design of the model over many months. On the agile development side, multiple models were rapidly tested, one of which went to the full pilot phase, and then the Hub was able to pivot quickly away from the initial approach after only six weeks.

Community stakeholders referencing the YYC Food Hub noted this challenge of balancing planning with prototyping in a variety of different ways. Some were excited and eager to jump right in to try things out. Others felt that additional front-end research could have led to the design of a more resilient food hub pilot. Some wondered how different this project was from what has already been tried, or from another adjacent solution that already exists (for example, existing local food delivery models)? Could the pilot have been more resilient with a deeper understanding of other food hubs – what works, what doesn't, and what might be different about the Calgary context? The quest for the right planning-prototyping balance yields other questions: might the equity investment to help scale YYC Growers, or to work more closely with the Alex Community Food Centre, both described elsewhere in this report, have been explored and tested before running the food hub pilot? Was a six-week pilot adequate to test the efficacy of the model? Would six months or a year have yielded any different results? Irrespective of these questions, the agile pivots described in this report could not have been possible with a conventional planning-centered approach; instead of slogging through a year-long pilot of the same model, the initiative is now able - mere weeks later - to explore, try and test new approaches.

Conditioning the Soil: Considering Further Pivots or Radical Re-adjustments

Beyond the key pivots described above, which are already underway, the YYC Food Hub initiative could consider the following additional pivots or re-adjustments over the coming year or beyond:

- **Expanding and diversifying upstream products and producers.** While it was acknowledged that the 'early adopter' producers willing to be part of the YYC Food Hub represent an excellent start, many of the downstream stakeholders expressed an interest in a broader array of products, as well as added choice and diversity of farmers, ranchers and other producers attached to the Food Hub.

- **Expanding and diversifying downstream food providers.** Many other food hubs have a wider diversity of downstream providers than was the case with the YYC Food Hub pilot, from market-based entities like small grocers and restaurants, to non-market providers like hospitals, schools and a wider array of nonprofit community groups. The initial (very small) group of 'early adopter' charities lacked sufficient interest, risk appetite and financial flexibility to ensure a successful pilot. It is hard to see how the Food Hub succeeds with only charities - even a much larger number of charities - as the downstream buyers/providers. A more sustainable pivot would reintroduce restaurants, small grocers, and institutional (a.k.a. "anchor") buyers into the mix (e.g. schools, hospitals, post-secondary institutions, and other large nonprofit or public organizations), also taking advantage of the City's newly approved Benefit Driven Procurement policy.[165]

- **Local labelling.** There are a variety of local labelling initiatives that sometimes accompany local food or local purchasing initiatives. The Economic Nutrition Label, for example, is an initiative of Shorefast (a registered charity), as part of a constellation of innovations aimed at supporting a thriving local economy on Fogo Island, Newfoundland.[166] The labelling initiative plays on the standardized nutrition information found on food packaging, but instead displays where the purchaser's money goes (e.g. how much to a local producer, local distributor, in wages, etc.).

- **Value-added processing.** Downstream buyers/providers have commented that the nature of bulk volumes or packaging of some of the products makes it difficult to seamlessly integrate into their existing programs. For example, a bag of peeled and sliced carrots is not easily substituted with a bag of bulk unprocessed carrots, so there might be a role for the Food Hub as an intermediary to undertake some value-added processing. This is actually the key driver for British Columbia's newest food hubs: More income could be generated for small producers if they had affordable access to commercial kitchens, without having to build their own facilities.[167] As more community partners become involved with the Hub, some of these organizations bring assets like commercial kitchens to the table.

- **Values-based purchasing.** The opportunity for agencies to think about social procurement policies and how they make purchasing decisions was an unexpected and hidden value of this pilot project. Moving forward, the buyers and project advisors in particular could benefit from exploring Values-Based Procurement,[168] which can create a guiding framework for purchasing decisions.[169] This would help build understanding of why each participant is moving away from just buying the least expensive produce and identify opportunities to source new members on the producer side (i.e. a purchaser may prefer local, but will accept a more distantly-sourced item if it is produced organically or using regenerative farming practices).

- **Seeding, or shifting to, a commercial or social enterprise.** A pivot toward a more commercially viable financial model will help make this initiative both more self-sustaining and scalable. YYC Growers, as a co-op, is one such structure. The Pay-What-You-Can market model might also have commercial viability. Another possibility would be to enter the food distribution game, competing directly with commercial distributors like Gordon's or Wallace & Carey. Unlike many other Canadian cities, Calgary also lacks a downtown or near-downtown farmers' market. Another commercial pivot would be toward a non-government version of a food terminal model.

- **Becoming a food terminal/wholesale food market.** The Ontario Food Terminal, established in 1954, is the regional "stock exchange" for fruits and vegetables. It is a self-funded enterprise, wholly owned by the Ontario Ministry of Agriculture, Food and Rural Affairs. Prices fluctuate daily in negotiation between buyers and sellers at the terminal. 5,000 buyers (retail vendors, for the most part) access the Terminal, the only one of its kind in Canada, and the fourth largest in North America. The Terminal also accelerates information about changing and diversifying produce preferences, facilitating a more rapid and regular connection between farmers with small retailers and other purchasers in culturally diverse communities.[170] The buyer-seller connections at the terminal sometimes spin-out into direct relationships, such as at farmers' markets.[171]

- **Narrowing the price gap through philanthropy:** One of the most vexing disconnects in increasing community access to healthy, sustainable, locally-produced food is the substantial price gap between the cost of such food and the cost of far cheaper food purchased through large retail chains (but which is also less healthy, sustainable or local). There are no easy answers for narrowing this price gap, but one solution could be to direct philanthropic dollars toward this. In the YYC Food Hub pilot, narrowing this price gap was one of the principal costs, but it is fundamentally unsustainable at any significant scale. In theory, a large enough pool of donors/funds could help narrow the gap, but there are questions about the degree to which such a subsidy would meet the test of being 'charitable', and also whether this really would ultimately require some form of public investment akin to the federal Nutrition North program or supply management in the dairy sector to have the kind of scaled impact desired.

- **Philanthropic convening:** The YYC Food Security Fund can use its networking and convening power to bring government, interested farmers, NGOs and other philanthropic and local food movement players together in a conversation about a more strategic approach to either upstream or downstream food security (or both). One model to consider advocating for is an Alberta "Greenbelt Foundation" model. The Greenbelt Foundation in Ontario helps steward and raise awareness about Ontario's Greenbelt, two million acres of land protected as either farms or as natural ecosystems, protected from either industrial development or suburban sprawl, to help sustain a reliable local food and water supply to the "Golden Horseshoe" communities. The Foundation, the result of advocacy by a coalition of philanthropic foundations, local food groups, farmers and NGOs, is structured as a registered charity but receives the bulk of its funding from the provincial government.

Toward a Future Food-Secure Calgary

Shifting Policies, Practices, Mindsets

The path to ensuring a food-secure Calgary is multi-dimensional, but completely achievable. It requires further mobilization of evidence, commitment, and will from all levels of government, a much louder, more diverse, and more united voice from non-profits working on food security, and an appreciation and a commitment toward both downstream and upstream food security. It is important to note that this region is by no means unique in facing a daunting challenge to transform policies, practices, mindsets and systems: A guide on *How to Transform Food Systems* (2021) by the Global Alliance on the Future of Food frames the scale of the problem:

"Across the world, food systems governance is marked by siloed and exclusionary processes that typically favour the participation, values, and interests of more powerful corporations, investors, big farmers, and large research institutes. The dominant position of larger agribusinesses and food corporations is such that these actors have acquired, in effect, a veto power in the political system, resulting in conflicting actions and a failure to address systemic drivers/barriers."[172]

The ideas and recommendations put forward here relate mainly to creating a supportive ecosystem for food hubs. This represents just a sample of the much larger array of steps - not outlined here - that will help us reconfigure our food system to end deprivation, maximize nutrition, strengthen sovereignty and build equity, innovation and sustainability into every aspect of food production, distribution and consumption.

Stakeholders contacted for this report emphasized that in order to achieve a food-secure Calgary, we, as a community, need to - at minimum - STOP doing the following things:

- **STOP** competing unnecessarily. While there is certainly a role for some heterogeneity of community organizations helping to alleviate food insecurity, the 'sector' is rife with rivalries, finger-pointing, and competing approaches and theories of change.

- **STOP** pretending that temporary measures to alleviate hunger or food access are in any way *permanent* solutions to downstream food insecurity. If organizations are not pursuing evidence-based policy change, collaborating with many other organizations, and incorporating a community-development ethos and public education practice into their work, it is difficult to claim to be addressing food insecurity.

- **STOP** assuming a new solution or organization is needed when we see a problem. Often individuals or groups try to start a new nonprofit because there are no barriers to entry. Stop, scan the landscape, identify gaps, and prioritize leveraging supports that already exist before creating something new.

- **STOP** restricting the flow of knowledge. Research should be funded and shared broadly, (especially with the government) and not be restricted behind paywalls or kept internal as institutional knowledge.

- **STOP** creating barriers for hungry people by collecting so much information from them. Reduce barriers and stigma by stepping away from the idea that we have to protect the system from people who are scamming it.

- **STOP** sitting in the office and get out on the land!

We also need to initiate and scale efforts around the following:

Public Education

The YYC Food Hub pivot described previously in the section *Rotating the Crops: What's Next* outlines the need for additional public education, awareness and dialogue on food security. One possibility for a 'quick win' on enhancing public education around food security, is to invest in, help scale, and add to the learning programs of the Alex Community Food Centre. Longer term, there is an opportunity to challenge and work with post-secondary institutions to create interdisciplinary pathways, at undergraduate and graduate levels around food security. Four such programs for Alberta post-secondaries to draw inspiration from are St. Francis Xavier University's Department of Human Nutrition's collaboration with the Antigonish Farmers Market,[173] George Brown College's Honours Bachelor of Food Studies program,[174] Ryerson University's Centre for Food Security, which offers certificates in food security and urban agriculture[175] and the Laurier Centre for Sustainable Food Systems at Wilfrid Laurier University, which runs a community-embedded research program and hosts the UNESCO Chair on Food, Biodiversity, and Sustainability Studies.[176]

Policies to Eliminate Downstream Food Insecurity

The Right to Food: Like most countries, there is currently no constitutionally enshrined right to food security in Canada. However, Canadians already have a right to health care, enshrined through the Canada Health Act, and there is a strong and growing affirmation of a rights-based approach to housing: The 2019 *National Housing Strategy Act* "recognize(s) that the right to adequate housing is a fundamental human right affirmed in international law", noting that such a right is enshrined in Chapter 11 of the *International Covenant on Economic, Social and Cultural Rights*.[177] Chapter 12 of that same UN covenant asserts the right to food, noting that *"The right to adequate food is realized when every man, woman and child, alone or in community with others, has physical and economic access at all times to adequate food or means for its procurement."* [178]

Adequate Income Support: As pointed out in previous sections of this document, for the vast majority of the population food insecurity is a symptom of inadequate income levels. Income supplements, alongside parallel supports to alleviate poverty, all help address downstream food insecurity. As such, overhauling and greatly enhancing investment in federal and provincial income supports can be expected to have a demonstrable, and at a sufficient scale, transformative effect on food security. A universal basic income (UBI) is one such innovation advocated by many across the political spectrum. There are many variations on UBI, including versions that are not universal or that look more like a reverse income tax. While early experiments around the world on basic income schemes are promising, including the now-famous Dauphin Manitoba pilot many decades ago, many of these permutations require additional testing and piloting at scale in order to build the evidence and mainstream the concept sufficient for both policy innovation and political will to follow. Living wage initiatives, and minimum wage legislation that ensures a living wage, are also helpful steps.

Policies to Enhance Upstream Food Security

Federal actions: Agricultural policy in Canada is broken on many fronts: It is overwhelmingly export-driven, biasing large, often multi-national producers, distributors and value-added processors, while promoting or incentivizing ecologically harmful methods and practices that exploit human labour and/or animals beyond what would be considered humane. Canada needs to shift to a more humane, responsible and regenerative food production framework, guided, for example, by the *Principles of Responsible Investment in Agriculture and Food Systems* advanced by the Committee on World Food Security.[179] Food production and distribution has always been heavily subsidized, in Canada and elsewhere, so it is more a question of reconfiguring existing subsidies than imposing new burdens on the tax system.[180] Agroecology, agroforestry, small farms and Indigenous food production, for example, should be beneficiaries of such a shift, as should efforts to promote food traceability and true cost accounting.

Provincial actions: There are many concrete steps that can be taken provincially. The actions taken in Alberta to create an ecosystem supportive of craft brewers was catalytic in creating one of the most exciting local beer scenes in North America over the last half-decade. The Alberta Government should follow in the footsteps of the B.C. government by helping seed and support a provincewide network of regional food hubs. This should be preceded by a careful food systems mapping and grassroots listening process, to optimize locations, collaborators and models. The province regulates co-ops already, but it would be optimal to support the growth and capacity of food co-ops working in every part of the supply and value chain. The province also must ensure that farmers and farm workers have adequate incomes, and safe working and healthy living conditions.

Municipal actions: An enhanced municipal interest and presence in the food conversation is critical to supporting a thriving local food scene. The Calgary Eats strategy is now nearly a decade old, and the City of Calgary has only one publicly identifiable full-time staff resource dedicated to food security issues in the city. There was an additional temporary mobilization of additional resources, notably a community social worker who helped support communication and coordination between the many grassroots nonprofits working on emergency food. The City's existing support to civil society groups should be enhanced vis-a-vis promoting collaboration and collective impact, as well as shared knowledge and capacity building. However, partly because Calgary has never had a social planning council (in contrast to Edmonton), there is no city-wide food council or municipal-scale advisory or coordinating body. Such committees run the risk of being an ineffectual layer of bureaucracy, but on the other hand they signal municipal interest and commitment to the issue.

Civil Society Voice on Food Security

Almost universally, civil society organizations express the need to enhance public policy around food security. Yet, there are strikingly few visible signs of nonprofit organizations 'putting their money where their mouth is': Few local organizations engage in any significant public policy work, and few of those who do describe this work in their public communications. While it is possible that this might be the remnants of the 'advocacy chill' that registered charities experienced over the past few decades, most of the regulatory barriers no longer exist. Even at a national level, the picture is uneven.

Appendix A

Glossary of Common Food Security Terms

100-Mile Diet - Based on a namesake Canadian best-seller book published in 2007 by Alisa Smith and J.B. MacKinnon, the 100-Mile Diet challenges people to restrict their diet to foods grown within 100 miles of their residence. Implicit in this is exclusive reliance on local producers (directly, or through farmer's markets or local food hubs).[181]

15 Minute City - The 15-Minute City Project, popularized by Paris Mayor Anne Hidalgo, advocates for urban development and reconfiguration such that all city dwellers have access to essential urban services, including access to food, within a 15 minute walk or bike. An outgrowth of Jane Jacob's writings and of urban planning concepts like smart growth, walkable communities, age-friendly cities and active cities, the 15-minute city concept, elusive in most parts of urban Canada (even in the adapted "20-minute neighbourhood" form), is the antithesis of a food desert.

Community Food Centre - The Community Food Centre model is a Canadian innovation, developed originally at *The Stop Community Food Centre* in Toronto. Over the past decade, the model has been replicated in 11 Canadian communities. The concept provides gathering space in a low-income neighbourhood, focused on building food literacy, cooking and gardening skills, as well as purchasing (in part) directly from local producers.

Community Kitchen (a.k.a. Collective Kitchen) - A community kitchen is a group of people who meet regularly to plan, cook and share meals. There are many kinds of community kitchens, from culinary clubs to co-housing residents to non-profit organizations that facilitate more scaled-up models of shared meal preparation to assist in times of community emergencies.

Farm-to-Fork (a.k.a. Farm-to-Table) - Farm-to-Fork is a decentralized local food movement that emphasizes relationships with small, typically family-run farmers, and emphasizes the concept of food origin traceability, or "knowing where your food comes from."

Farmers' Market - Farmers' markets are either indoor or outdoor retail spaces that facilitate the direct sale of foods by farmers, ranchers and other producers to consumers. In Canada, farmers' markets are subject to approval from provincial authorities, though are generally less regulated than retail grocers.[182] Farmers' markets, which are broadly speaking a type of food hub, can range from 'pop-up' temporary locations to being part of permanent public markets (though some definitions exclude the latter category as distinct from a farmers' market).

Food Bank - Food banks are the primary vehicle through which emergency food provision happens in western societies, either for those experiencing poverty or for those experiencing short term loss of their home, for example due to a natural disaster. They operate either as 'front line' charities, distributing food directly (through emergency hampers, pay-what-you-can stores, or some other direct model) and/or as distribution centres, supporting other community entities. Some food banks also operate community kitchens, community gardens or education programs. Food banks began in the late 1960s in the US, in the 1980s in Canada, and - at any significant scale - in the late 2000s in Europe. There are over 700 food banks in Canada. Large city food banks are among the largest non-hospital, non-post-secondary charity operations in Canada. While emergency food provision is critical to short-term hunger alleviation, barriers such as stigma, transit accessibility, means testing, or the simple act of having to accept food charity (the shame attached to revealing oneself as food insecure), prevent more widespread use. While food banks serve hundreds of thousands of Canadians, only a quarter of food-insecure Canadians access food banks.

Food Desert - Food deserts are pockets of communities where residents have limited or no access to affordable food retail. The term was originally introduced in the 1990s in Western Scotland used to describe poor access to nutritious food experienced by publicly housed residents[183], but in many Canadian cities low urban densities, poor planning, food distribution systems, and retail economies conspire to concentrate affordable food in locations that are often well away from where people live, particularly people who are reliant on transit and walking.

Food Hamper Program - Food hampers came out of the Victorian British tradition of gifting baskets filled with food, typically during the Christmas holidays. The tradition, which began as neighbours gifting to neighbours, took two paths as industrial capitalism advanced - one a luxury path (the modern day "gift basket"), the other in the form of charitable food boxes. Food hamper programs in Canada are run not just by food banks, but by religious organizations, neighbourhood associations, or other community groups. Conservatively, there are at least 3,000 such programs nationwide.

Food Hub (a.k.a. Food Distribution Hub) - Food hubs are a way to bridge upstream and downstream food security, supporting the regional agricultural value chain through relationships with local farmers and other producers, while at the same time supporting local access, small retailers and affordable consumption. A generic term with no precise definition, there are many kinds of food hubs, from large-scale commercial food distribution centres to grassroots community food centres. As noted in the *Food Hub Business Assessment Toolkit* "The term 'food hub' emerged in the last decade to more commonly describe alternative food aggregation, distribution, and processing enterprises that began developing or expanding within regions across the country. These enterprises sought to fill gaps in infrastructure to move food from farms to consumers within the same region."[184]

Food Insecurity - the inverse of food security, can be defined as "the inability to acquire or consume an adequate diet quality or sufficient quantity of food in socially acceptable ways, or the uncertainty that one will be able to do so"[185] and/or as "the inadequate or insecure access to food due to financial constraints"[186]. Food insecurity not only negatively impacts health and survival, but also learning and community prosperity.

Food Security - Food security, as defined by the UN Committee on World Food Security, is when "all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life."[187] Food security is integral to a thriving, prosperous society and to a resilient economy. Food security can be thought of in at least two ways: As 'upstream' food security (sustainable agricultural production and distribution) or as 'downstream' food security (ensuring all citizens have adequate access to healthy food). As the UN Committee on World Food Security observes, "responsible investment in agriculture and food systems is essential for enhancing food security and nutrition and supporting the progressive realization of the right to adequate food."[188]

Food Sovereignty - "Food Sovereignty is the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems."[189] This definition is proffered by La Via Campesina, a global movement of farmers advocating for sustainable family-based agriculture, though food sovereignty can refer to a non-agricultural-based society, and can apply at multiple scales, from an Indigenous nation to a nation-state.

Food System - As the UN Food Systems Summit Notes, "the term "food system" refers to the constellation of activities involved in producing, processing, transporting and consuming food."[190]

Foodshed - A foodshed plays on the idea of a watershed, a geographic region defined by a drainage basin, but instead of water refers to "food flows" - i.e. the flow of food from where it is produced to the place where it is consumed. As such, a foodshed encompasses where a given community's food is harvested, the route it travels (including the markets it passes through), and the households where it is ultimately consumed. The concept of a foodshed, viewed through an idealized sustainability lens, is analogous to the "100 mile diet" concept. In reality, a given city's foodshed is of course far larger, even global in many respects (foodsheds being mainly a cognitive mapping device to think about food origins, traceability, carbon footprint, and so on).

Local Food Movement - Local food movements, which can take many forms, from decentralized movements, to grassroots campaigns, to food labelling or policy advocacy initiatives, aim to better connect_food producers (farmers, fishers, etc.) with consumers in the same geographic region. Local food movements, often allied with the community economic development and/or sustainability movement, seek to support local economies and develop a more self-reliant and resilient food system. While local food movements have existed since at least the 1930s, they have experienced a resurgence over the past decade. Recent examples in Canada - many short-lived - include labelling initiatives such as *Localize*, *Local Flavour Plus*, and Shorefast Foundation's Economic Nutrition Labelling, as well as the Slow Food, Farm-to-Table, and 100 Mile Diet movements. Terra Madre is an example of an international local food movement.

Locavore - An individual who is passionate about sourcing their food locally, and is often an active member or supporter of a local food movement.

Organic Farming - Organic farming, sometimes conflated with the broader category or sustainable farming, is a certification-based system that prohibits synthetic pesticides, antibiotics, synthetic fertilizers, genetically modified organisms, and growth hormones. Organic farming also typically promotes genetic and biological diversity. Last year, Canadians spent nearly $7 billion on organic food (3.2% of the total food market share), and while most organic food is imported, there are over 5,600 certified organic producers in Canada.[191]

Pay-What-You-Can (or Pay-What-You-Want) Retail - Pay-what-you-can grocery stores, which can be either mobile, stand-alone or part of food hubs, are a relatively new concept, intended to address at least two critiques of food hamper approaches by providing consumer choice and - in theory - reducing stigma. Toronto's *Feed It Forward* store, opened in 2018 as the first pay-what-you-can store globally, "sells" food and ingredients that are donated by larger grocery supply chains who aren't allowed to sell the products, in part because the produce is deemed too "ugly" to sell in a normal retail environment.[192] In a pay-what-you-*want* approach, anonymity at the point of sale is important (i.e. to remove the stigma potentially associated with other customers seeing what another customer is paying).

Pop-Up Food Market (a.k.a. Mobile Food Markets) - Pop-up or mobile food markets are temporary retail locations typically specializing in fresh (and often locally sourced) produce, strategically located (in food deserts, near seniors centres or transit stations, for example) to help address public access to fresh, healthy food.

Slow Food - Slow Food is a global, grassroots movement, founded in 1989, " to prevent the disappearance of local food cultures and traditions, counteract the rise of fast life and combat people's dwindling interest in the food they eat, where it comes from and how our food choices affect the world around us." Like 'slow fashion', minimalism, and the circular economy, it is a philosophy that pushes against the global dominance of rapid, throwaway, conspicuous consumption.

Sustainable Agriculture - There is no precise definition of sustainable agriculture, but it broadly refers to management practices that promote soil and water conservation, low carbon energy use, humane treatment of animals, and typically also promotes genetic and biological diversity (such as through heirloom varieties, open-air pollination, seed saving, and ecosystem protection or restoration), the latter variant often referred to as "regenerative agriculture" or "permaculture." Organic farming is a specific type of sustainable agriculture.

Urban Agriculture - Urban agriculture refers to cultivation within urban boundaries, whether for personal or household consumption, community sharing or commercial distribution. It can take many forms, from simple gardening to indoor aquaculture or vertical hydroponic farming, to municipal orchards, urban beekeeping, or experimental urban farms. Similarly, urban farming can be for leisure or hobby purposes primarily, or more land- and labour-intensive operations designed expressly to address food insecurity, such as with Cuba's *organopónicos*.

Universal Basic Income - Universal basic income (UBI) is a proposed tax redistribution program in which every (adult) citizen receives a set amount of income monthly or annually. UBI has proponents on the left, as a basic income system could substantially eliminate poverty and at minimum address food insecurity. But it also has many proponents on the right, who argue it is more efficient (and less paternalistic) than the many needs-based social programs it would, in theory, replace.

Appendix B

Methodology

One round of video-conference-based conversations were conducted in June/July 2021 with key stakeholders involved in aspects of the *YYC Local Food Distribution Hub*, as well as other members of the food security ecosystem in Calgary. A list of these conversations is included in the next Appendix.
These conversations effectively served as a point-in-time check-in.

We have also consulted both academic and non-academic literature on the topic of food security, with particular regard to models and recommended practices for food hubs. Works cited include not only scholarly insights on food security and food systems, but also media stories, policy papers produced by think tanks, foundations, governments or UN agencies, and insights into case studies and best practices.

Please note that this work does not constitute academic research, nor will it lead to an academic paper or presentation at an academic seminar or conference. Rather, this is instead considered the equivalent of a "program review", which is specifically exempted from the requirement of approval from the MRU Human Research Ethics Board. Nonetheless, as the Institute is conducting this work under the auspices of MRU, and in the furtherance of sound inquiry involving human respondents, the key principles articulated by the Human Research Ethics Board have been adhered to.

It should also be noted that, to the best of our knowledge, our community stakeholders were not themselves food insecure, which is a limitation of a program review. For insights into the first-hand experience of food-insecure Calgarians, refer to the Calgary Emergency Food Report produced by Vibrant Communities Calgary in partnership with the Canadian Poverty Institute.

Appendix C

Stakeholder Conversations

Producers

- Tony Marshall, President and Co-Founder, Highwood Crossing Foods
- Rod Olson, Regenerative Agriculture Expert and Community Inspiration, YYC Growers
- Heather Broughton, Owner and Business Manager, SWG Farms; Principal, Agri-Food Management Excellence Inc.
- Colleen Biggs, Owner, TK Ranch
- Laurel Winters, Farm Manager, Winter's Turkeys

Nonprofits

- Audra Stevenson, Interim CEO, Leftovers Foundation
- Janice Curtis, Executive Director, Calgary Meals on Wheels
- Karen Forster, Production Manager, Calgary Meals on Wheels
- Darrell Howard, Team Lead, The Alex

Facilitators

- Zai Mamdani, Food Security YYC
- Gena Rotstein, Place2Give

External Ecosystem

- Karen Anderson, Founder & President, Alberta Food Tours, Inc.
- Julie Black, Citizen Engagement Associate, Calgary Foundation
- Nancy Dick, Community Social Worker - Spruce Cliff, Calgary Neighbourhoods, City of Calgary
- Alice Lam, Founder, Good Neighbour Community Market
- Fiona Mattatall, Assistant Professor, General Obstetrician and Gynecologist; Assistant Professor, University of Calgary
- James McAra, President, Calgary Food Bank
- Lynn McIntyre, PROOF Investigator; Professor Emerita of Community Health Sciences, Cumming School of Medicine, University of Calgary,
- Heather Nelson de Rojas, Senior Lecturer, Mount Royal University
- Kristi Peters, Sustainability Consultant, City Wide Policy, Calgary Growth Strategies, City of Calgary
- Ingrid Wasylyshen, Grants Associate, Calgary Foundation

Appendix D

Recommended Resources

Other Food Hubs

Canadian: Established Food Hubs

- 100KM Foods (Toronto) "wholesale local food distributor in Toronto that connects local farmers with urban markets."
- Cape Breton Food Hub (Cape Breton) provides "infrastructure and distribution to over 50 food producers with households and restaurants across the island."
- Fireweed Food Hub (Winnipeg) is "an aggregator and wholesale distributor of locally and regionally produced vegetables, meats, honey, grains, and other food products." Structured as a cooperative with food sold on consignment, the Fireweed Food Hub aims to connect local procedures with more sustainable practices with community grocers, restaurants, hospitals, schools and other community groups who might otherwise struggle to access local food. The co-op also runs a Farmers' Market.
- Food4Good (formerly West End Food Hub Alliance) (Edmonton) formed as a network of community organizations and churches in west inner-city Edmonton. Working in alliance with Community Food Centres Canada, they aim to provide community learning about cooking, gardening and sustainable urban agriculture.
- The Dock+ (Port Alberni) is a shared 17,000 sq ft. space, with a commercial kitchen, owned by the Port Alberni Port Authority at Fishermen's Harbour. It provides start-ups and small businesses an environment not just for value-added processing, but also as a coworking environment for growth, development, and collaboration.
- The Station Food Hub (Newport Station) works to empower "the community of aspiring food entrepreneurs, providing them with the necessary resources needed to build and sustain successful food businesses

Emerging Food Hubs - some have limited information online

- The City of Yellowknife completed a Food Hub Feasibility Study and were working on next steps as of June 2021
- The Yukon Government committed to funding and support for local food hub development in Local Food Strategy for Yukon: Encouraging the Production and Consumption of Yukon-Grown Food 2016-2021

Beyond Canada

- The Common Market **(United States)** is a nonprofit regional food distributor connecting anchor institutions (e.g. schools, universities, hospitals, correctional facilities) with sustainable family farms. The net revenue generated from sales enables "food access partnerships", subsidizing charities and other downstream community food groups to purchase food at cost, while farmers are paid fairly at market price.
- Local Food Directories: Food Hub Directory **(United States)** contains over 200 food hubs in the USA.
  - Alaska Food Hub
  - Bring It Food Hub **(Memphis)**
  - Puget Sound Food Hub **(Washington State)**
- EIT Food Hubs **(Europe) -** regional 'contact points' in Regional Innovation Scheme (EIT) Regional Innovation Scheme (RIS) countries. "These organisations are key players in their national innovation eco-systems and gather strong regional outreach and experience in supporting entrepreneurs and organising local events."

    - Agricultural University of Plovdiv **(Bulgaria)**
    - Impact Hub Praha **(Croatia)**
- Foodland Food Hubs **(Africa)** - connected to 14 cities which provide "organisational and operational frameworks [to] join together local smallholder farmers, food processors, authorities, researchers and NGOs."
    - Akaki, Nifas Silk Food Hub **(Addis Ababa, Ethiopia)**
    - Kitui Food Hub **(Kenya)**

Calgary Emergency Food Resources

- 211, run by the Distress Centre, connects those in need of food and other emergency support to community resources and services. Reach out via phone, text or online chat.
- Calgary COVID-19 Community Food Resources by Quadrant, a list of city-wide and more localized emergency food supports, compiled by City of Calgary Neighbourhoods social worker Nancy Dick.
- Calgary Food Bank is Calgary's busiest and best known emergency food source.
- Calgary Food Map, compiled by City of Calgary Neighbourhoods.

Other Local Food Resources

- Alberta Food Matters was founded by a group of dietitians and nutritionists as a network to connect and support asset-based efforts to promote food sovereignty and food security in Alberta, and to understand the real value of real food and regenerative agriculture.
- Alberta Food Tours leads local and regional food tour experiences in Calgary, Banff, Canmore and Edmonton, partnering with over 85 Alberta businesses and supporting regenerative farms and farmers throughout the province.
- The Alex Community Food Centre is a community gathering place located on International Avenue in Forest Lawn. It provides access to high-quality (often local) food, as well as cooking and gardening skills, in a dignified setting through healthy meals and an affordable produce market.
- Black People United Calgary organizes mutual aid networks for the Black communities of Calgary. Operating as a non-hierarchical collective, members assist with grocery pick-up and delivery, and other acts of care.
- Bow Valley Food Alliance is a local network working toward community-based food systems that are equitable and ecologically-regenerative in the Bow Valley west of Calgary.
- CalgaryEATS! Produced by the City of Calgary in 2012, CalgaryEATS! serves as the municipal Food System Assessment and Action Plan.
- Dashmesh Cultural Centre, serving Calgary's Sikh community, operates a community garden, food bank, and provides cooked meals to take home.
- Edmonton Food Council a volunteer committee of the City of Edmonton, advises on matters of food policy and urban agriculture, and takes an active role in supporting the implementation of fresh: Edmonton's Food and Urban Agriculture Strategy. It is highlighted here as there is no equivalent food council in Calgary.
- Fresh Routes is an award-winning nonprofit social enterprise operating mobile (pop-up) grocery stores that bring healthy, fresh, and affordable food into neighbourhoods facing barriers to accessing fresh, healthy, affordable produce and other food.
- Garden2Plate is a partnership between Calgary Urban Projects Society (CUPS), local grocers and an MRU interdisciplinary team of researchers working with families to rediscover the connection between garden fresh food and healthy home prepared meals.
- Good Neighbour is Calgary's first "pay-what-you-can" market, offering donated clothing, books, houseplants, household goods and non-perishable food items.
- Leftovers Foundation reduces food waste through a tech-enabled food program diverting healthy food from restaurants, bakeries and grocery stores (and even unused fruit and vegetable harvests from private homes) to agencies who can use the food before it makes its way to the landfill or compost. It also runs a pay-what-you-can food delivery service..
- Meals on Wheels provides affordable meals to seniors, helping them age in place.
- Muslim Families Network Society operates a Halal food bank.

- Young Agrarians (YA) is a farmer to farmer educational resource network for new and young farmers in Canada. YA's work, which promotes agriculture as a viable career for young people and diverse Canadians, supports ecological, organic and regenerative farmers, as well as urban growers, and is guided by such principles as agro-ecology, collaboration, food sovereignty, reconciliation, and building equity into land access. In Alberta, YA hosts learning events, apprenticeship programs and provides online and in-person farmer-to-farmer tools and training.
- YYC Growers and Distributors is a farm-to-table cooperative that promotes agro-ecology, regenerative farming and connections between urban farmers (and other local producers) and consumers via a harvest box, or online orders.

Food Policy Resources

- Coalition for Healthy School Food is a 170-member organization advocating for public funding, federal standards, and universal cost-sharing to ensure that every child in Canada has a healthy meal or snack at school.
- Committee on World Food Security is an international and intergovernmental platform on food security policy and research, operating as a partnership between the UN Food & Agricultural Organization (FAO), World Food Programme (WFP) and the High-Level Panel of Experts on Food Security and Nutrition (HLPE). It produces voluntary guidelines and best practice summaries on such topics as the right to food, agro-ecology and responsible agriculture.
- Food Banks Canada supports a network of Provincial Associations, affiliate food banks, and food agencies that work at the community level to relieve hunger. They undertake research and policy work relating to food insecurity and poverty alleviation.
- Foodshare is a Toronto-based nonprofit organization with a wide-ranging suite of programs, from community kitchens to school nutrition programs to a mobile food market. Foodshare also promotes "food justice" focusing in particular on the intersection of racism and food insecurity.
- Food Secure Canada is a pan-Canadian alliance of organizations and individuals working together to advance food security and food sovereignty.
- Global Alliance for the Future of Food is a strategic worldwide alliance of philanthropic foundations, supported by a secretariat based in Canada, collaborating on action across the planet to transform food systems and their impacts on climate change and food security.
- Maple Leaf Centre for Action on Food Security, named after its principal supporter Maple Leaf Foods, supports capacity building and public policy work toward a sustainable food secure Canada.
- Meal Exchange supports students across the country to create healthy, just, and sustainable food systems. It produces a variety of reports and tools pertaining to food security among students.
- PROOF is an interdisciplinary research team investigating household food insecurity in Canada. It involves researchers from the University of Toronto, the University of Illinois at Urbana-Champaign, the University of Calgary, Memorial University, and the Centre for Addiction and Mental Health (CAMH).
- UN Food Systems Summit brings together key players from the worlds of science, business, policy, healthcare and academia, as well as farmers, indigenous people, youth organizations, consumer groups, environmental activists, and other key stakeholders. Convened in 2021 as part of the Decade of Action to achieve the Sustainable Development Goals (SDGs) by 2030.
- World Food Systems Centre (WFSC), based out of ETH Zürich, is a public research university consistently ranked as one of the best in the world.

Important Canadian Books, Reports and Publications

- Civil Society and Social Movements in Food System Governance is an analysis of the effect of social movements on food systems based on an international representative set of case studies.
- Edible Histories, Cultural Politics: Towards a Canadian Food History investigates the history of food including Culinary Colonialism, food and faith, and the politics of food in Canada.
- Examining Calgary's Emergency Food Assistance System provides a deep dive into Calgary's Emergency Food System and recommendations to improve the system's capacity.
- Poverty in Calgary Municipal Ward Profiles includes a variety of poverty-related data, including food security, organized by ward in Calgary.
- Take Back the Tray chronicles Joshna Maharaj's experiences working with institutions to rethink the way they procure, cook, and serve food.

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[127] One community stakeholder explained that, at this stage, the group was still trying to find its way and was a little confused about the concept.

[128] See, for example, Joshna Maharaj's stories about producer flexibility when procuring oatmeal and apples, Maharaj, J. (2020). Take Back the Tray. p. 91-92.

[129] While "food transported in local and regional food systems may travel fewer miles and use less fossil fuel to reach the consumer, one cannot assume that these systems are more energy efficient compared to the conventional food system." in Pirog, R. S., Van Pelt, T, Enshayan, K., & Cook, E. (2001). Food, Fuel, and Freeways: An Iowa perspective on How Far Food Travels, Fuel Usage, and Greenhouse Gas Emissions. Leopold Center Pubs and Papers, 3. p. 19. https://lib.dr.iastate.edu/cgi/viewcontent.cgi?article=1002&context=leopold_pubspapers

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[131] The nonprofits in the pilot phase were Calgary Meals on Wheels, YMCA, Leftovers/Fresh Routes, Trellis, The Alex, the Calgary Food Bank, Ogden Youth Centre, and the Calgary Stampede.

[132] The producers in the pilot phase were YYC Growers, Rock Ridge Cheese, Winter's Turkeys, Highwood Crossing, Poplar Bluff Organics, Broxburn, TK Ranch, Man's Eggs, Galimax Trading, Sunterra Farm & Markets, as well as local retailers Righteous Gelato and Phil&Sebastian Coffee.

[133] Kristi Peters, see also section "8.3 Institutions" in The Calgary Food Committee, 2012, p. 179-180.

[134] Vanderburgh-Wertz & Moraghan, 2014, p. 17.

[135] Proof, 2021; Food and Agriculture Organization of the UN, 2005, pp. 5-6.

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[139] Andrée et al., 2015, p. 20.

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[145] Food Banks Canada, 2021, p. 38.

[146] At the time of writing, based on the 211 Alberta Directory, https://ab.211.ca/

[147] See Coalition for Healthy School Food. (2018). Our Members. https://www.healthyschoolfood.ca/our-members

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[152] Audra Stevenson, Leftovers Foundation.

[153] Colleen Biggs, TK Ranch.

[154] Among Community Stakeholders, there were some suggestions that there were not actual shortages of some items, it just looked that way. Food items were still available, but factors like packaging regulations and the delay in shifting food destined to restaurants over to grocery stores gave the appearance of a shortage. However, the nuance was likely not discernible to the consumer seeing empty shelves at the grocery store.

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[156] Community Stakeholder.

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[158] Alice Lam, is the founder of the Calgary Community Fridge, a sidewalk-based take-what-you-may, leave-what-you-can fridge/freezer/pantry located in Crescent Heights. See Canfield, J. (2021, July 28). Good Neighbour is Calgary's First Pay-What-You-Can Community Market. Avenue Calgary Magazine. https://www.avenuecalgary.com/shopping-style/good-neighbour

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