Food Insecurity in Northern Canada: Exploring the Opportunities and Challenges

by

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Abstract

A disproportionate volume of households in Canada's North lack physical and economic access to adequate food to sustain a nutritious diet. In 2018, Statistics Canada reported that 12.7% of all Canadian households are food insecure, meaning at least 4.4 million individuals in Canada lack safe, sufficient, and nutritious food on an ongoing basis. Yet, these percentages are much higher in the North, with rates of 16.9%, 21.6%, and 57% in the Yukon, the Northwest Territories, and Nunavut respectively. The policy problem this project seeks to address is that, despite the implementation of several government programs to address this crisis, access to nutritious and affordable food sources remains a significant challenge for Northern residents. This project intends to provide a policy perspective on this issue, which has seldom been provided in academic and non-academic spaces. A literature review and jurisdictional scan are conducted to guide an understanding of food security and sovereignty, including the origins, challenges, and ongoing utilization of these terms within the realm of existing government initiatives, and to foster a deeper understanding of the causes, consequences, and ongoing dynamics of the current food crisis in Canada's North. A multi-criteria analysis is then conducted to assess several policy options that seek to address this complex problem and a policy bundle is then recommended based on this analysis.

Keywords: Food Security, Food Sovereignty, North, Policy Analysis

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List of Acronyms

SFU	Simon Fraser University
FAO	Food and Agricultural Organization
NFSC	Nunavut Food Security Coalition
NICI	Northern Isolated Community Initiatives Fund
NNC	Nutrition North Canada
UN	United Nations

Chapter 1.   Introduction

Canada acknowledges that access to food is a human right. This means that all citizens are entitled to "have sufficient access to food that provides all nutrients required for a healthy and active life at all stages of the life cycle, that is safe for human consumption and free from adverse substances, and culturally appropriate." (Council of Canadian Academies, 2014; FAO, 2006) Yet, despite Canada's undertaking of this international human rights obligation, it has become increasingly evident that a state of perpetual food insecurity continues to be a serious challenge in the North (Council of Canadian Academies, 2014). Food security "exists when all human beings at all times have physical and economic access to sufficient, healthy, and nutritious food enabling them to lead healthy, active lives." (FAO, 1996) In 2018, Statistics Canada reported that 12.7% of all Canadian households are food insecure, meaning at least 4.4 million individuals in Canada lack safe, sufficient, and nutritious food on an ongoing basis (Statistics Canada, 2020). These percentages are much higher in the North, with rates of 16.9%, 21.6%, and 57% in the Yukon, the Northwest Territories, and Nunavut respectively. (Statistics Canada, 2020) These statistics indicate an ongoing and disproportionate crisis in the North.

For the purposes of this project, the term "North" will refer only to the three territories of Canada, the Northwest Territories, the Yukon, and Nunavut. The territories cover about 48% of Canada's total landmass but account for less than 1% of Canada's population (Statistics Canada, 2017). The vast and remote nature of the North presents unique challenges for tackling food insecurity, particularly for Indigenous peoples who make up a significant proportion of the population. The unique challenges facing Northern regions in terms of food security include factors such as high transportation costs, limited access to affordable food, and reliance on hunting and gathering practices that are being disrupted by climate change. The consequences of food insecurity in the North are significant, including negative impacts on physical and mental health, educational outcomes, and overall well-being.

The policy problem this project seeks to address is that, despite the implementation of several government programs such as Nutrition North Canada and the Nunavut Food Security Coalition, access to nutritious and affordable food sources

remains a significant challenge for many Northern residents. This project intends to provide a policy perspective on this issue, which has seldom been provided in both academic and non-academic spaces. In other words, this project aims to shed light on the problem of food insecurity from a policy point of view and provide evidence-based policy solutions to address this problem. To gain a deeper understanding of the causes and consequences of this crisis, I conduct a comprehensive literature review and jurisdictional scan, with a focus on the concepts of food security and food sovereignty and how they apply in the North. This foundational knowledge then informs the development of four targeted policy recommendations, which are all individually assessed in a multi-criteria analysis. Based on the analysis, this bundle of policies is recommended as the most effective "step forward" in addressing the issue of food insecurity in the North. Overall, this project contributes to the ongoing conversation around food insecurity in Northern Canada and highlights the need for coordinated, evidence-based policy solutions that prioritize the well-being, existing knowledge, and autonomy of Northern communities.

Chapter 2.   Methodology

This project employs multiple qualitative techniques to identify the current challenges, barriers, gaps, and opportunities related to food insecurity in Northern communities. These techniques encompass a jurisdictional scan informed by a literature review and a multi-criteria analysis.

2.1 Literature Review

A literature review is conducted to guide an understanding of broad issues related to both food security and food sovereignty, in particular, the origins, challenges, and ongoing utilization of both terms within the realm of government policies. In addition, sources are collected to foster a deeper understanding of the causes, consequences, and ongoing dynamics of the current food crisis in Northern communities across Canada. Academic literature is located using basic search terms in the SFU Library catalogue and Google Scholar from 2017 to 2022. By reviewing the reference lists of relevant journal articles, additional studies were gathered. In addition, grey literature is also sought from Google Scholar. Results from these searches include research reports from non-governmental organizations and news reports.

2.2 Jurisdictional Scan

Upon an extensive review of the existing literature, several initiatives across Canadian jurisdictions are identified to further investigate the existing solutions for solving the food insecurity crisis across the North. To select jurisdictions, an online assessment is conducted to identify the presence of programs that attempt, or in the past have attempted to, tackle food insecurity in the North. Literature is found via Google, Google Scholar, and the online Simon Fraser University Library search engine. The initiatives selected for analysis are Nutrition North Canada, the Nunavut Food Security Coalition, the Northern Isolated Community Initiatives Fund, and the case for community gardens and greenhouses.

2.3 Multi-Criteria Analysis

A multi-criteria analysis is conducted to evaluate four potential recommendations that attempt to address various tenant of the crisis. The analysis involves the identification of eight criteria and measures that are used to assess the policy recommendations. These criteria and measures are developed based on a thorough review of relevant findings in the literature and the jurisdictional scan.

2.4 Limitations

A key limitation of this research is that it does not include direct conversations with individuals who have experienced or are currently experiencing food insecurity in the North. Although there is a significant amount of literature on this issue, which often includes interviews and community-level investigations, not having direct involvement with Northerners might result in gaps in the analysis. While it would have been desirable to extend my work through direct engagement, time and resource constraints limited possibilities for holistic outreach.

Chapter 3.   Literature Review

3.1 What is Food Security? The Emergence of the Food-Secure Framework

According to the Food and Agriculture Organization (FAO) of the United Nations (UN), "food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences." (FAO, 1996) Therefore, people are considered food insecure when their access to sufficient, safe, and nutritious food is limited. This definition rests on four pillars:

- **Availability**: Sufficient food quantities are available to the individual. This can be supplied through domestic production or international imports (FAO, 2006).

- **Access:** The physical and economic ability of an individual to access and acquire sufficient foods for a nutritious diet (FAO, 2006).

- **Utilization:** The proper use of food to reach a nutritional state of well-being, meaning that all physiological needs of the individual are met (FAO, 2006).

- **Stability:** Access to food is safe, consistent, and adequate at all times (FAO, 2006).

The above definition and its four defined tenants were negotiated at the 1996 World Food Summit, hosted in Rome (FAO, 1996). From this moment onward, the definition has remained a central and defining component of international agreements, academic literature, and government policies that address, discuss, and attempt to solve the broad and global problem of "hunger." (United Nations, 2016)

The formal definition of food security, established at the 1996 World Food Summit, recognized that insufficient access to food is the main cause of food insecurity (Jarosz, 2014). Friesen (2017) argues that the food crisis of 1973/1974 informed the major outcome at the World Food Summit (FAO, 1996) that hunger is a combined result of the under-production of food items and economic turmoil. Since that moment, the narrative has been utilized by the UN, World Bank, and other international organizations to end

global hunger. For example, in 2009, the FAO claimed that to feed a "larger, more urban, and richer population" of the future, food production in the United Kingdom would have to increase by 70% as of 2050. In 2015, the UN released the internationally agreed-upon Sustainable Development Goals (SDGs), Goal 2 of which is "Zero Hunger." (United Nations, 2016)

The concept of food security has evolved from its original definition, with some literature suggesting that the initial focus did not align with the evidence generated by research or the policy-making process (Weiler & Hergesheimer et al., 2015). While the world produces enough food to feed all humans, many individuals still lack access to affordable and adequate food products (World Food Program USA, 2022). In 2020, the World Food Programme published a report that stated "one-third of food produced for human consumption is lost or wasted (...) This amounts to about 1.3 billion tons per year, worth approximately US$1 trillion." The Food and Agricultural Organization also estimates that all the calories lost or never eaten would be enough to feed 2 billion people across the world a sufficient diet (FAO, 2022). These publications, among several others, have placed pressure on the notion that a lack of food products is at the root of household food insecurity (Boliko, 2019; Jereon, 2014; El Bilali, 2020).

Due to the mounting evidence, along with a renewed understanding of the social, environmental, health, and spatial dynamics of the food insecure concept, the original definition has been amended in the literature to include new evidence. While some discourses remain dominated by a production focus, more mainstream policies have begun to incorporate the importance of equitable and sustainable food systems for all. Some academics have advocated for the formalization of a wider definition that includes two new pillars:

- **Agency:** The capability of individuals/communities to shape decisions about food, including how it is produced, processed, and distributed (Clapp & Moseley et al., 2022).

- **Sustainability:** Food systems that do not compromise the economic, social, and environmental structures for future generations (Clapp & Moseley et al., 2022; Food and Agricultural Organization, 2018).

While the original tenets of what it means to be food secure remain consistent, the discussion of new variables in the literature indicates a more modern, fluid image of what it means to be food secure beginning to emerge. This is reflected in the expanded definition - which works to address the blind spots present in the original food security definition. Most programs now attempt to address the environmental and cultural components of food. For example, in the Food Policy for Canada Framework, one of the desired outcomes of the federal framework is "sustainable food practices" and another is "vibrant communities." (Agriculture and Agri-Food Canada, 2019) Given its long-time and established existence, most policies continue to utilize the food secure concept despite its gaps and mold it to incorporate new and emerging evidence, goals, and understandings.

3.2 The Shift to Food Sovereignty

Food sovereignty emerged as a framework that opposes the original definition of food security, both in literature and practice. While Via Campesina, an international peasant organization based in Brazil, is often credited for introducing the concept, the earliest mobilization of the idea (albeit informally) can be traced back to the 1940s in Mexico, as noted by Jarosz (2014). In 2003, Via Campesina formally introduced the concept of food sovereignty to international agreements, declaring that it 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" (Via Campesina, 2003). Since then, numerous researchers have explored how the concept of food sovereignty can be utilized to address the global food crisis and promote justice for Indigenous communities, peasant farmers, the environment, and other marginalized groups around the world.

The food sovereign concept is built upon the assertion that all people should have the right to food; it is an explicit, rights-based approach to food system design. In the literature, this stands in opposition to traditional, top-down approaches to hunger that approach people as objects for development (Dekeyser et al. 2018; Friesen, 2017). These conventional approaches, such as reducing trade barriers to agricultural goods or stimulating foreign investment, have failed to address hunger (Friesen, 2017). Jarosz (2014) argues these efforts were underscored by the idea that poor people are responsible for alleviating their own hunger by building greater income or increasing their

food production. This view assumes that communities need to become more developed or advanced to access food, which carries Western and colonial assumptions of progress. In contrast, the food sovereign approach argues for a local, rights-based approach that can achieve a "genuine" state of food security, which cannot be accomplished with conventional, top-down methods (Koutouki, 2018).

Via Campesina (2003) asserts that the food sovereign concept advocates for a bottom-up approach that places the needs and desires of local producers, Indigenous communities, and the environment at the forefront of the problem definition. For some researchers, the six tenets of the food sovereign approach can create a "precondition" that will help the world achieve a food-secure state (Drummond, 2012):

- **People:** Put people's biological and cultural need for food at the center of food policies; food is more than just a product to be sold (Food Secure Canada, 2007).

- **Knowledge**: Build upon traditional culture and knowledge. This means rejecting modern technologies that contaminate local food systems or undermine local food practices (Food Secure Canada, 2007).

- **Nature:** Improve the resilience of the ecosystem through food design (Food Secure Canada, 2007).

- **Providers:** Support sustainable livelihoods in agriculture and value the work of agricultural workers (Food Secure Canada, 2007).

- **Localize:** Limit the distance between food production and its consumers (Food Secure Canada, 2007).

- **Control:** Place control in the hands of local food providers and their communities; reject the privatization of natural resources (Food Secure Canada, 2007).

- **Food is Sacred:** Recognize that sustenance is a gift of nature (Food Secure Canada, 2007).

Research has found that this framework has empowered local stakeholders to define their own food systems (Weiler & Hergesheimer et al., 2015). The research argues that the food sovereign approach provides both the social and environmental considerations needed as a precondition to generating a sustainable global food system and providing nutrition for all. Jarosz (2014) asserts that the concept calls upon governments to adopt sustainable, local production rather than the industrial, high-input, export-oriented production that defines global food regimes. In particular, the literature argues that it promotes the restoration, maintenance, and preservation of Indigenous food systems and the cultural reproduction of Indigenous knowledge about food production, distribution, and nutrition. Therefore, moving forward with this lens will be important to mobilize food-secure Indigenous communities and place their culture, values, and needs at the forefront.

While scholars remain optimistic about the potential of movement, they have also unearthed several gaps and maintained some criticism. One criticism is that the definition begins with the wrong baseline assumptions - the idea of being "sovereign" places small stakeholders at odds with the power of the state, which might create political conflict and deepen vulnerabilities in small, remote communities (Dekeyser et al., 2018). Another challenge in the food sovereign definition is the emphasis on the local dimension of food design. There is no consensus in the literature on to what extent imports should be encouraged, and there are challenges in mobilizing local agricultural food systems when people are dependent on, connected to, or even addicted to imports (Patel, 2009). For example, in Northern regions, coffee must be produced in a far-off place; however, some communities have cultural connections to coffee that span across generations. In addition, the commercialization of food has made exotic produce available to people during the seasons and regions when they are unable to grow. Consumers in the North have come to nourish themselves and appreciate access to fresh, tropical fruit like oranges, apples, and pineapples (Patel, 2009).

The food secure concept is embedded in the dominant neoliberal development discourse that emphasizes increased production and institutions of governance, in contrast, the food sovereign concept has emerged from discourses that aligned closely with a Marxist political lens; it stresses the importance of power relations and its impact on local ecologies and economics (Jarosz 2014). Each approach has been subject to criticism within the literature and contains critical gaps. While research tends to place

these two concepts as opposing forces in an evolving geopolitical landscape, in placing them together, there is a potential to create stronger and more sustainable food policies that attack the root of global hunger.

3.3 Food Insecurity in Canada's Northern Communities

Although it has been estimated that 75% of the world's "undernourished" people live in low-income, developing countries, it has become increasingly evident that food insecurity is also a glaring and ongoing issue in the Canadian context (Council of Canadian Academies, 2014). In 2018, Statistics Canada reported that 12.7% of all Canadian households are food insecure, meaning at least 4.4 million individuals in Canada lack safe, sufficient, and nutritious food on an ongoing basis (Statistics Canada, 2020). Yet, these percentages are much higher in the North, with rates of 16.9%, 21.6%, and 57% in the Yukon, the Northwest Territories, and Nunavut respectively. (Statistics Canada, 2020) These statistics indicate a disproportionate and ongoing crisis in the North.

The disproportionate rates of food-insecure households are evidence of a complex and ongoing crisis in Canada's remote and Northern communities. The research makes it clear that the crisis is the most acute for Indigenous peoples (Council of Canadian Academies, 2014; Desjardins, 2020; Fillion, 2018; Food Secure Canada, 2019; Richmond, 2021). According to the United Nations Special Rapporteur, Indigenous individuals in Nunavut have the highest number of food-insecure households among all Indigenous populations of all developed countries across the world (2012). In Nunavut, hunger is most acute in Inuit populations, where some estimates claim that 90% of adolescents experience hunger on a regular basis (Statistics Canada, 2017). The health implications of this crisis include increased rates of anemia, delayed physical and cognitive development for children, and increased rate of chronic diseases such as obesity, diabetes, and heart disease. (Robinson, 2018; Leibovitch Randazzo and Robidoux, 2019).

In the past two decades, much research has emerged to discuss the causes and effects of the ongoing food crisis within the North. The research has indicated several drivers of the crisis, these range from the high cost of imported foods, underdeveloped transportation networks, loss of cultural knowledge, urbanization, and inadequate

storage space. The evidence indicates that all four pillars of the food-secure concept continue to be compromised in the North.

3.3.1 Availability

Sufficient food quantities are not available at the individual or household levels across much of the North. A lack of available food in terms of both traditional and market food has been indicated within the existing literature (Chen and Natcher, 2019; Deaton, 2021; Leblanc-Laurendeau, 2020; Leibovitch Randazzo and Robidoux 2019). The former is a unique and important consideration for Indigenous peoples; because most Indigenous communities (and some non-Indigenous) in the North are dependent on a combined supply of both traditional foods (which the Inuit refer to as country food) and a supply of market food. Traditional food includes hunted meat, such as birds, fish, caribou, or other foraged ingredients (Robinson, 2018). These ingredients are an important component of the cultural diet in the North and an integral part of Indigenous identities.

A common observation of Northerners is the dwindling population of local wildlife, hunting restrictions, and financial hardship that limits the availability of traditional foods. Leblanc-Laurendeau (2020) claims that this is a combined result of environmental and socioeconomic changes - which have made it both more expensive and more difficult to harvest; this observation has been shared amongst several other research initiatives (Beddington et al., 2011; Fillion, et al., 2018; Schnitter, 2019). For example, an all-season hunting outfit can cost upwards of $55,000, which is more than double the average annual income in Nunavut (Robinson, 2018). In addition, changing wildlife patterns have impacted the ability of Indigenous hunters to harvest traditional foods (Warwick 2019).

There are a separate set of challenges that affect market foods in the North. Many communities in the North, especially Indigenous communities, are quite remote - this increases the shipping distance of food and renders it more expensive (Leblanc-Laurendeau, 2020; Leibovitch Randazzo & Robidoux, 2019). Moreover, the foods offered for sale in the North, are limited; fresh produce and dairy are often not available year-round if at all (Shafiee, 2022). Even where available, the prices are often too

expensive for most families, and therefore, communities are limited to the fresh produce and dairy they can produce (Warwick, 2019).

3.3.2 Access

Many households in the North lack physical and economic access to sufficient foods for a nutritious diet. Several studies conducted in Northern communities across Canada have demonstrated that economic disadvantages limit access to a nutritious diet and sufficient food items (Council of Canadian Academies, 2014; Deaton, 2020; Desjardin, 2020; Leblanc-Laurendeau, 2020; Leibovitch Randazzo and Robidoux, 2019). The combined influences of low incomes, high food prices, and a lack of adequate transportation have been identified as the most important factors in the literature.

The cost of food compromises food access for households in the North - in essence, it is simply not affordable for a large portion of the population to access market food. The prices for food in the North are much higher than in other regions of Canada. For example, in 2017, research conducted by the Nunavut Bureau of Statistics identified that people in Nunavut pay about two times more than the Canadian average for groceries. In 2011, the cost of one food basket in Igloolik was twice the price of that same food basket in Montreal (Ford & Beaumier). Another 2017 report from Business Insider identified that a Nunavut store was charging more than $16 for five ears of corn and almost $12 for a head of broccoli (Garfield). With certain foods out of reach for families, households can become dependent on less expensive non-perishable foods - which are less nutritious and highly processed (Shafiee et al., 2022; Leibovitch Randazzo and Robidoux, 2019).

Access to transportation, inflation, and the relative remoteness of Northern communities are other factors compromising access to sufficient food items. By nature, food costs more to produce in the North as shipping distances are much longer; in communities without road access, food must be flown in via plane. Long distances and harsh climatic conditions might also cause spoilage. Food Secure Canada (2016) illustrated that food prices in areas with road access are much less than those without all-weather road access.

Some remote and Northern communities do not have stores for food, but rather, a local convenience or gas station is the local option for purchasing food (Shafiee et al.,

2022). In these cases, traveling to large urban centers to shop at stores with more food options and better prices is the most optimal solution; however, if this is not accessible, then households are dependent on convenience stores or gas stations, which offer less nutritious foods at higher prices. For example, research conducted in God's River Manitoba found that the town's population relied on a local convenience store for almost all food because the closest grocery store was more than 500 km away (Wendimu et al., 2018).

Less mentioned in the literature, but an important factor that limits access to food in Northern communities is the government restrictions that ban or restrict hunting practices (Robinson, 2018; Shafiee et al., 2022). While government restrictions are often intended to protect wildlife and protect people, some policies have consequences that impede access to food in the North. For example, the *Firearms Act (1995)* imposes legal requirements on firearm registration that increase the cost and time associated with hunting traditional foods. The *Species at Risk Act (2002)* is another restriction that places quotas on the number and type of animals hunted. Northern communities have long reported that these government regulations that restrict hunting have had economic, financial, and health impacts across their traditional territories (Robinson, 2018). With climate change a worsening matter, it is likely that more policies will be introduced, and this will continue to have consequences for food access in the North. Bell (2019) also points out that government policies can also affect access to food in more indirect terms. For instance, some laws prohibit the sale of traditional foods because they are deemed "unsafe" for public consumption.

3.3.3 Utilization

Several studies indicate that, even where food is accessible in the North, it is not utilized in a manner to reach a nutritional state of well-being. Kenny et al., (2018) conducted a research project that identified the loss of knowledge and skills related to the preparation and acquisition of hunted foods has impacted food use in remote Canadian communities. For Indigenous peoples, the loss of cultural knowledge around traditional food is often attributed to settler colonial policies, including residential school education and reduced harvesting activities (Leblanc-Laurendeau, 2020).

Other research has directed its attention to the lack of education regarding store-bought foods, including limited knowledge of nutrition. This lack of awareness about food often constrains the ability of households to make informed choices, and it also impacts their prospects for balanced, healthy, eating practices (Kenny et al., 2018). Due to the high cost of fresh produce, households often rely on prepared or pre-packaged meals, which are high in sugars, trans fats, salt, and other processed ingredients. These ingredients have been directly correlated to type 2 diabetes and heart disease among Northern communities (Kenny et al., 2018).

3.3.4 Stability

The stability of food depends on the continuous maintenance of the other three pillars. Some stressors (i.e. COVID-19, climate change, economic shocks) might place pressure on food systems and compromise the remaining pillars.

Climate change is an important factor influencing the stability of food systems across the North. Desjardins (2017) argues that the warming and cooling effects of climate change will worsen food security in the North, threatening delicate ecosystems with already low species richness. In addition, extreme weather events are becoming more frequent in the North, and permafrost thaw, food web contamination, and changes in the water systems will be key considerations going forward (Beddington, 2011). The impacts of these considerations will go beyond local habitats and will also affect the integrity of local infrastructure that communities depend on for processing hunted foods (Spring, 2018). The unstable nature of climate change and the influence it will have on the North is being felt now, and its influence now compromises at-risk food systems.

The COVID-19 pandemic is another important factor that continues to affect the stability of food systems in the North. Supply chain experts suggest that ongoing food shortages across the world are a result of an abrupt surge in demand and weak storage systems among retailers. In the North, where food retailers are already strained to supply food, these shocks have had more extreme effects (Deaton & Deaton, 2020). Given the emerging impacts that climate change is having, along with the ongoing and yet unknown impacts of COVID-19, there is limited research on how these factors will influence food in the Northern context.

3.3.5 Food Sovereignty

Food security is treated as a policy method in the literature, it has distinct measures and components, and the concept of food sovereignty is approached as a political tool. As stated by Devon, et al. (2021), "Food sovereignty and the right to food are high-level concepts rather than specific practices." This sentiment is shared amongst most of the literature, some of which has attempted to weave food sovereignty into a more formal framework with distinct indicators for programming. However, to date, there is no consensus among experts about what indicators would be the most effective to operationalize food sovereignty in government programming and policy spaces.

An absence of a formal framework does not mean that the food sovereignty movement has not actioned change in Canada's landscape. In fact, the two amended pillars of food security mentioned prior were developed in direct conversation with the food sovereignty movement. In addition, the Government of Canada has also recognized that the production, harvest, and consumption of food are connected to and founded in a diversity of cultural, economic, and social practices and meanings for Indigenous peoples (Wilson, 2019). Few policies place the cultural and economic importance of food at the heart of their efforts, and to date, few government policies are coordinated for the specific needs of the Northern context (Qikiqtani Inuit Association, 2019). For the most part, policies continue to be dominated by a strong focus on the industrialized, high-input, export-driven agricultural production sector.

Northern communities continue to engage in alternative agricultural and food models that advance food sovereignty — taking control over food-producing resources, markets, and agricultural policy. Regional strategies can serve as an important foundation for guiding the development of initiatives to support food sovereignty across Canada (Qikiqtani Inuit Association, 2019). Based on the available literature, food sovereignty is a precondition to the food security of Indigenous Peoples and Northerners in Canada. While there is no standard methodology to action the food sovereignty concept in policy, the underlying concepts, values, and notions can be utilized inform policy directions and address key gaps in the traditional mechanisms that are prescribed to solve the issue of food insecurity (Bratina, 2021).

Chapter 4.   Jurisdictional Scan

4.1 Nutrition North Canada

Launched in 2011, Nutrition North Canada (NNC) is a federal program that aims to support Northern residents with the high cost of food. The overall goal of the program is to "make perishable, nutritious food more accessible and more affordable than it otherwise would be to residents of eligible isolated northern communities." (Crown-Indigenous Relations and Northern Affairs Canada, 2020). The NCC program, launched in 2011, was preceded by the Food Mail Program (Government of Canada, 2013). The Food Mail Program had subsidized the cost of food in the North since the 1960s; however, the Food Mail Program did not have a strong governance structure that allowed for local participation, and the program also had little emphasis on the importance of facilitating access to nutrient-dense food – the result was an ineffective program that failed in its mandate (Watson et al., 2022). In response to the critical failures of the Food Mail Program, the NNC was established to give residents an opening to participate and organize a new list of eligible foods to subsidize. In addition to providing retailer subsidies, the NNC also provides limited funding for educational programming, though, this accounts for a small fraction of the program's overall spending (Watson et al., 2022).

The NNC program provides registered retailers subsidies that allow them to lower their prices for ingredients such as flour, milk, infant formula, meat, and other "eligible" ingredients. It is important to note that all foods subsidized under the NNC must be "eligible" meaning they are considered both deemed perishable and nutritious (Crown-Indigenous Relations and Northern Affairs Canada, 2020). Under the NNC program, perishable foods are defined as "food that spoils quickly, especially if it is not stored at the proper temperature," and nutritious foods are specified in the Revised Northern Food Basket (Leblanc-Laurendeau, 2020). Various Indigenous stakeholders have pointed out that many of these ingredients are nutritious according to a Eurocentric diet but have little place in the diets of Inuit and First Nations (Leblanc-Laurendeau, 2020).

The NNC had an initial budget of $60 million when it was established in 2011. However, the program has gone over budget on several occasions due to the "growth in

demand for subsidized food." (Watson et al., 2022) The result of the NNC going over budget was that funds were transferred from other federal programs to cover the cost - this happened for 2012/2013 and 2014/2014. Since then, the federal government has increased funding for the program, and the NNC's annual allocation reached $109 million as of 2020/2021 (Leblanc-Laurendeau, 2020).

The NNC has been the main overarching federal program to combat the food insecurity crisis across the North. However, in practice, it has failed to combat the issue in a meaningful manner - the problem of access to affordable, sufficient, and appropriate foodstuffs continues to persist in the region. A 2019 assessment of NNC "suggests that food insecurity has worsened in Nunavut communities after the introduction of the program" (Leblanc-Laurendeau, 2020). The NNC's failure to address food insecurity in Northern Canada can be attributed to inaccurate baseline assumptions, lack of accountable governance, and failure to meet the unique needs of the population.

The NNC program lacks an evidence base for its method. In 2014, the Office of the Auditor General of Canada concluded that the government "ha[d] not managed the Program to meet its objective of making healthy foods more accessible to residents of isolated northern communities" and "that the Department ha[d] not done the work necessary to verify that the northern retailers are passing on the full subsidy to consumers." (Leblanc-Laurendeau, 2020) The NNC's Advisory Board has also raised concerns about the program's ability to address the unique needs of Northern communities. While subsidies are a typical tool to improve food access, the high cost of imported foods, transportation challenges, loss of cultural knowledge, colonial policies, urbanization, climate change, poverty, and inadequate storage all contribute to ongoing food insecurity in the North (Crown-Indigenous Relations and Northern Affairs Canada, 2020). The NNC addresses only one of these complex and interconnected barriers.

The NNC program has failed to meet the specific needs of a Northern population and does not incorporate Indigenous considerations. For example, until June 2022, the NNC did not subsidize essential tools such as hunting and fishing gear (Crown-Indigenous Relations and Northern Affairs Canada, 2022). Without subsidies for hunting or fishing gear, it has been difficult for some Indigenous communities to pass on cultural knowledge or gather traditional foods. In addition, the NNC does not subsidize bottled water, and ongoing drinking water advisories often render households dependent on

bottled water, which can cost upwards of $30 for a package of 24 (Robinson, 2021). As a result, the NNC renders households dependent on market foods - which does not support or advance food sovereignty for Northerners.

The NNC program also suffers from a lack of accountable governance. Several communities have reported that retailers have been subsidized at a rate higher than that of the shipping cost, and therefore, cash in on the excess sum (Rennie, 2014). There are no consequences should retailers fail to comply with the rules of the NNC. Olivier de Schutter, United Nations Special Rapporteur on the Right to Food, expressed similar concerns and stated that NNC's "retail subsidy [was] not being fully passed on to the consumer" during his visit to Canada in May 2012 (Leblanc-Laurendeau, 2020).

The NNC continues to be a critical example of the kinds of tools that are utilized to combat the ongoing crisis in the North. While some amendments have been made to the program because of stakeholder collaboration and ongoing criticisms - the NNC has failed to meet its goal. Despite these failures, the NNC continues to be the main program that is in direct conversation with the issue; its failures, and shortcomings provide important considerations when developing policy recommendations.

4.2 Northern Isolated Community Initiatives Fund

In June 2019, the Minister of Agriculture and Agri-Food announced the Food Policy for Canada. Food Policy for Canada is designed to "build a healthier and more sustainable food system," across Canada (Canadian Northern Economic Development Agency, 2020).

Food Policy for Canada is the result of public consultations held in 2017, which resulted in the establishment of several priorities including that to "support food security in Northern and Indigenous communities." (Agriculture and Agri-Food Canada, 2017) Food Policy for Canada included a commitment of $134 million from the federal government, which was modest when considering the broad ambitions of the policy design. The plan included an initial commitment made in Budget 2019 to allocate $15 million over half a decade to create the Northern Isolated Community Initiatives Fund (NICI) managed under the Canadian Northern Economic Development Agency (Agriculture and Agri-Food Canada, 2017).

Despite the ambitious agenda, it is important to note that Food Policy for Canada was not designed with the needs of Northern stakeholders in mind - rather, the plan was developed for all of Canada, and its tenants were then applied to the Northern context. Instead of representing a long-term and sustained commitment to eradicate the food crisis in the North, the NICI represents a collection of "strategic investments" that are intended to fuel the innovation of "practical" solutions (Canadian Northern Economic Development Agency, 2019).

The NICI "aims to enhance Indigenous and northern food security by supporting local, community-led projects that reduce dependence on the southern food industry and the associated costs (...) for northern communities." (Canadian Northern Economic Development Agency, 2020) In an effort to achieve its aims, the NICI provides funding support to community-led projects and food production systems. Eligible candidates for funding include not-for-profit organizations, academic institutions, industry associations, local or Indigenous governments, and for-profit businesses. (Canadian Northern Economic Development Agency, 2020) Initiatives supported under the NICI might include community freezers, greenhouses, or other local food production projects. The NICI includes three streams:

- Support for Northern Food Businesses: funding to Northern businesses and communities to build a strong territorial food industry and help reduce food insecurity using practical approaches. (Canadian Northern Economic Development Agency, 2020)

- Support for Northern Territorial Food Systems: funding to territorial initiatives identified by the Northern Food Working Group (NFWG), a federal–territorial working group created to increase economic opportunities in the territories related to growing, harvesting, and processing healthy food. (Canadian Northern Economic Development Agency, 2020)

- Support for the Northern Food Innovation Challenge: funding to support innovative community-led projects for local and Indigenous food production systems to help improve food security in Canada's territories. (Canadian Northern Economic Development Agency, 2020)

These three streams combined represent the $15 million commitment that was set out as part of the Food Policy for Canada plan. However, this funding is conservative, given the kind of progress that the NICI is setting out to achieve.

Despite its best efforts, it can be interpreted that the NICI places the burden on communities with strained capacities to "innovate" and resolve the ongoing food crisis in the North. In particular, the Northern Innovation Challenge "empowers territorial communities to adopt strategies to improve the lives of their residents through increasing food security" (The Canadian Northern Economic Development Agency, 2021). Rather than representing a federal mission to end the food crisis in the North, this initiative places pressure on communities to develop their own solutions. However, given the small amount of funding and the massive scope of the food crisis in the North, this challenge will likely not have the desired impact.

The NICI identifies itself as a short-term and "practical" initiative, with no promises or movement toward the development of a holistic long-term plan to end food security in the North. While the attempt to support community-led efforts is admirable, the small funding amount, the unclear eligibility criteria, and the lack of community involvement are going to be barriers that impede the progress of the program.

4.3 Nunavut Food Security Coalition

The Nunavut Food Security Coalition (NFSC) is a provincial/territorial initiative that was established in 2012, it is a collaborative group of government departments, Inuit organizations, non-governmental organizations, and the private sector that work together to improve food security across Nunavut (NFSC, 2016).

In 2010-2011, the Nunavut Roundtable for Poverty Reduction undertook an extensive public engagement process to develop the Makimaniq Plan, which is a territorial poverty reduction plan (Wakegijig, et al., 2013). The extensive public engagement process used to inform the Makimaniq Plan involved discussions held in each of Nunavut's 25 communities, followed by regional meetings in five communities, a policy forum, and a poverty reduction summit (Wakegijig, et al., 2013). As a result, *The Makimaniq Plan: A Shared Approach to Poverty Reduction*, called for "those in leadership roles that deal with food security to work together for the benefit of all Nunavummiut." (Government of Nunavut, 2011) The Makimaniq Plan also included a

commitment: "We will establish a Nunavut Food Security Coalition" that would act as a venue to share best practices and resources, for monitoring and evaluation, and the development of a territorial action plan on food security. The Nunavut Food Security Coalition is the result of this commitment (Government of Nunavut, 2011).

The NFSC consists of seven Government of Nunavut departments and four Inuit organizations (Wakegijig, et al., 2013). The mission of the NFSC is to "provide oversight, guidance, and leadership for the Nunavut Food Security Strategy, as well as the development, implementation, and evaluation of associated action plans." (NFSC 2016) The NFSC has identified six strategic areas for action around which the Nunavut Food Security Strategy was developed: country food, store-bought food, local food production, life skills, community initiatives, and policy and legislation (NFSC, 2014). These six themes were developed after extensive consultation with stakeholders in government, Inuit associations, NGOs, retailers, Hunters and Trappers Organizations, community-based organizations, and academic institutions (NFSC, 2014).

The NFSC undertook a considerable commitment to support the long-term implementation of the Nunavut Food Security Strategy. It involved planning alongside diverse stakeholders, and the result was a discussion that centered around the unique considerations of a Northern context. Several other jurisdictions have struggled to create the evidence base required to support this sustained direction (NFSC, 2014). The NFSC represents a convergence of positive government and non-government research partnerships that came together to utilize the data and position the issue after extensive consideration (Wakegijig, et al., 2013).

The Government of Nunavut continues to recognize that addressing the ongoing food crisis in the North will require a mandate bigger than just one organization, as a result, the response has been embedded within a larger mobilization for poverty reduction (NFSC, 2016). To date, the NFSC continues to hold thematic discussions, organize public engagements, seek academic advice, and consult with people who have lived experience with the issue. In addition, the NFSC makes an open effort to recognize the right to food and support grassroots initiatives.

It is important to note that the NFSC is one organization embedded in a broader move toward poverty reduction across Nunavut. Therefore, the NFSC is not equipped to

resolve the issue of food security at its core, instead, it represents a movement to strengthen resilience in six strategic areas for action and bring together diverse stakeholders under a holistic agenda.

The NFSC has not updated or altered the Nunavut Food Security Strategy since it was published - it is also, now, unclear how successful the strategy has been in mitigating food insecurity in Nunavut. Regardless, the NFSC represents an integrated, coordinated, and collaborative approach on behalf of the provincial government that involves the commitment of resources from diverse partners.

4.4 Community Gardens and Greenhouses

In some communities across the North, gardens, and greenhouses provide alternatives to imported foods that can be unaffordable or unavailable to local markets. A recent assessment identified at least 36 community gardens and 17 greenhouses across northern Canada (Chen & Natcher, 2019). These initiatives tend to produce various crops, including carrots, turnips, beets, onions, lettuce, sunflowers, berries, chives, and even rice. Of the 53 initiatives identified, 36 were in the Northwest Territories, 10 were in the Yukon, three were in Nunavut, two were in Labrador, and two were in Nunavik (Chen & Natcher, 2019).

Community gardens and greenhouses provide multiple benefits to participants in the North. Where communities once depended on harvested traditional foods from the land, community gardens, and greenhouses can provide an alternative to imported foods and supplement traditional foods that can be difficult to acquire and/or threatened by climate change (Warsai, 2017). In addition, people in the North eat more market foods now more than ever before, and here, the least nutritious food is also the least expensive (Bennet, 2014). Therefore, fresh produce from community gardens and greenhouses is being utilized across the North to improve local outcomes for food security.

The relative remoteness and isolation of the North require food products to be sent over long distances, which can greatly impact the affordability and overall quality of imported produce. Community gardens and greenhouses provide an opportunity to improve food security outcomes by providing fresh, reasonably priced, local produce year-round. For example, the co-founder of Growing North, a greenhouse in the Inuit

hamlet of Naujaat, estimates the price reductions on fresh produce grown in their greenhouses to be anywhere from 50% to 70% reduction of the cost compared to market produce (Warsai, 2017). In addition, several studies point to the physical health and other benefits that community gardens and greenhouses can provide for participants. For example, Algert, Diekmann, Renvall, & Gray (2016) found that people who participated in community gardens often doubled their intake of vegetables.

Community gardens and greenhouses might also provide other services that transcend food production. Several local initiatives across the North are being used as opportunities to deliver training modules on food utilization, storage, food preparation, and workshops on the importance of eating well (Chen & Natcher, 2019). Community gardens and greenhouses might also provide a social environment and a space that represents resilience for participating members.

Despite the potential benefits of community gardens and greenhouses, research on their tangible impact on food security in the North remains extremely limited and unique challenges exist for participants. The high costs and technical performance requirements of community gardens and agriculture represent challenges. For example, a 1300-square-foot dome-shaped greenhouse costs an organization like Growing North around $100,00 to build (Warsai, 2017). In addition to the construction, there are also ongoing maintenance and operating costs, including the cost of labour, repairs, equipment, and most notably, energy costs. In the Northwest Territories and Nunavut, households pay, on average, more than 30 cents per kilowatt hour - the Canadian average is about 13 cents per kilowatt hour (Whitehouse, 2018). During cold winters without sunlight, Northern operators are required to heat their greenhouses which incurs considerable costs. To offset operating costs, community greenhouses in the North often utilize volunteer labor, incur membership fees, or depend on donations from the local community.

While community gardens and greenhouses have the potential to improve food security outcomes for participating members, due to a lack of peer-reviewed research, it is unclear how these benefits can/will transfer to non-participating community members.

Despite the challenges, community garden and greenhouse members continue to cite the benefits that transcend beyond food production. Moreover, based on other research,

Northern communities favor local produce over imported market foods, citing freshness, sustainability, and nutrition as reasons for their preference.

Chapter 5.   Evaluation Framework

The following chapters examine various policy recommendations that address the failures of the current system and attempt to reduce barriers to achieving a long-term state of food security in the North. The consequences of food insecurity in the North are significant, including negative impacts on physical and mental health, educational outcomes, and overall well-being. This chapter outlines eight criteria and measures that are used to evaluate the potential trade-offs and benefits of the policy options.

5.1 Key Objective: Food Security

The main goal of this project is to evaluate potential policy solutions that can address the multifaceted barriers to accessing safe, sufficient, and nutritious food that meets the dietary needs of people in the North. Therefore, to evaluate the effectiveness of the potential policy options, this main objective considers the impact on each of the four pillars of food security. A potential policy solution that is expected to improve all four pillars of food security receives a "good" score.

5.2 Key Objective: Food Sovereignty

The food sovereign concept is built upon the assertion that all people should have the right to food; it is an explicit, rights-based approach to food system design. According to the literature, the food sovereign approach can create a "precondition" that will help achieve a food-secure state in the long term. Therefore, this main objective measures the degree to which the program is expected to reduce barriers to sustainable, healthy, and culturally appropriate food products. Given its importance, food sovereignty will compose a key criterion that will capture the concepts beyond the food secure pillars. A policy option that is expected to advance sustainable, local-based production of culturally appropriate food products receives a "good" score.

5.3 Equity

This objective measures the degree to which the policy option addresses disparities in access among the diverse Northern population. This criterion considers how access might vary based on characteristics such as age, ethnic background,

income, location, and gender, among other factors. A policy option that is equally accessible to many different kinds of users receives a "good" score.

5.4 Stakeholder Acceptance

Stakeholder acceptance considers the degree to which relevant stakeholders would support the policy option. This criterion is intended to reflect factors such as the perceived cost to stakeholders, as well as their perspective about the long-term viability of the proposed option. Stakeholders include actors such as private businesses, non-governmental organizations, and territorial governments. A policy option that would be viewed in a positive light among most stakeholders receives a "good" score.

5.4 Public Acceptance

Public acceptance considers the extent to which people living in the North would support the policy option. This criterion is intended to reflect factors such as the perceived costs to the public, and their perspective on the long-term viability of the proposed option. A policy option that would be viewed in a positive light among a large portion of the Northern population receives a "good" score.

5.4 Development

This objective measures the potential of the policy option to increase the social and economic capital of Northern communities. Food insecurity is tied into a complex set of barriers, some of the most important examples being low household income levels, high food prices, and the intergenerational impact of settler colonialism. Therefore, this criterion considers the projected impacts of the policy option that transcend the immediate goal of food security and have a positive effect on the community - this might be economic, social, or cultural. Where the policy option is considered to have a positive and long-lasting impact on the region, the policy solution receives a score of "good."

5.4 Cost to Government

The fixed costs that would be required to implement the policy option and the annual costs required to operate it. A policy option with a low total cost receives a "good" score.

5.4 Administrative Ease

Administrative ease considers the level of administrative coordination between government actors, private businesses, and other stakeholders that would need to take place in order to implement the policy option. A policy option that requires immense stakeholder coordination, administrative changes to existing policies or programs, or the implementation of new policies would receive a "poor" score.

5.4 Summary Table of the Criteria and Measures

Table 1: Summary Table of the Criteria and Measures

Criteria	Measure	Rating/Index
Key Objective: Food Security	The extent to which the program is expected to improve food security outcomes	Good (3)
		Moderate (2)
		Poor (1)
Key Objective: Food Sovereignty	The degree to which the program is expected to reduce barriers to sustainable, healthy, and culturally appropriate food products	Good (3)
		Moderate (2)
		Poor (1)
Equity	Magnitude to which the program addresses disparities in food access among different users	Good (3)
		Moderate (2)
		Poor (1)
Stakeholder Acceptance	The degree to which stakeholders would support the proposed program	Good (3)
		Moderate (2)
		Poor (1)
Public Acceptance	The degree to which people living in the North would support the proposed program	Good (3)
		Moderate (2)
		Poor (1)
Development	The potential of the program to increase the social and economic capital of Northern communities	Good (3)
		Moderate (2)
		Poor (1)
Cost to Government	The projected cost of the program to the government	Good (3)
		Moderate (2)
		Poor (1)
Administrative Ease	Administrative coordination between government actors, private businesses, and other stakeholders to implement the program	Good (3)
		Moderate (2)
		Poor (1)

Chapter 6. Policy Recommendations

Based on the findings of the literature review and jurisdictional scan, it is evident that no single policy option can resolve the complex crisis of food insecurity across the North. Therefore, to address various tenants of the issue, all the following policy recommendations compose a series of "next steps," rather than independent policy options to be adopted. Grounded in the findings from the literature review and jurisdictional scan, the recommendations respond to identified gaps in the literature and highlight the policy movements that are needed to advance Northerners' physical and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences.

6.1 Policy Recommendation #1: Processing Facilities and Storage Infrastructure

This recommendation is intended to promote local food production, a critical aspect of sustainable food systems across the North. Based on the evidence, it is clear that local and traditional food sources have a significant impact on food security and food sovereignty in the Northern; for example, traditional food sources are deeply embedded in the cultural practices of Indigenous communities and viewed as essential for promoting physical and spiritual well-being.

To support long-term, sustainable food systems and food security in the North, the establishment of new meat and food processing facilities is critical. While there is some existing infrastructure to support local food production and processing in the North, most of this is deficient due to factors such as climate change, lack of capital funds to conduct required maintenance or the high costs of the ongoing operation. However, local processing infrastructure reduces the reliance on expensive imported food products and increases the availability of fresh and nutritious food products. For example, community freezers and spaces to butcher meat, process fish, and other spaces to store imported foods contribute to sustainable food systems. In addition, these spaces support the preservation of traditional food sources and practices, which are often more nutritious, sustainable, and culturally significant than imported alternatives.

Beyond its direct positive impact on the resilience of the local food systems and contribution to food security, better food processing facilities and storage infrastructure would create new job opportunities and stimulate economic growth in the North. These spaces would provide ongoing employment opportunities, support new/existing local businesses, and contribute to the overall economic development of the North. This is because food production and processing infrastructure provide opportunities for capacity building and training programs (i.e. animal husbandry, butchering); this is particularly true for Indigenous communities, who would participate in the management and operation of these facilities. Therefore, food processing infrastructure would not only advance food sovereignty by promoting local ownership and control of food systems but also contribute to a skilled workforce and promote entrepreneurship, which is a key move towards poverty reduction and breaking down economic barriers to sufficient, safe, and nutritious food.

A potential downside to this recommendation is the high cost to the government for establishing and operating facilities in the North. The initial investment required to build and equip these facilities would be significant, however, in addition, the ongoing costs, including regular maintenance, energy costs, and staff salaries, would also be substantial. If these costs were the responsibility of local governments, this could limit the ability of the smallest or most remote communities to establish or improve existing infrastructure, which could further exacerbate existing inequities in the food system.

Another potential downside to this policy recommendation is that new local food production and processing infrastructure could potentially compete with existing businesses and economic activities across the North. Therefore, it will be important to ensure that new developments do not negatively impact the livelihoods and well-being of communities; to ensure this would require an extensive degree of stakeholder collaboration and alignment between both private and public entities.

Despite the challenges that would be incurred by implementing this policy recommendation, the benefits of local food production infrastructure in the North have been highlighted in both academic and non-academic research. Therefore, the implementation of this policy recommendation represents a critical movement toward food security and food sovereignty in the North.

6.1.1 Summary Analysis of Policy Recommendation #1

Table 2: Summary Analysis of Policy Recommendation #1

Criteria	Measure	Rating/Index
Key Objective: Food Security	The extent to which the program is expected to improve food security outcomes	Good (3)
Key Objective: Food Sovereignty	The degree to which the program is expected to reduce barriers to sustainable, healthy, and culturally appropriate food products	Good (3)
Equity	Magnitude to which the program addresses disparities in food access among different users	Moderate (2)
Stakeholder Acceptance	The degree to which stakeholders would support the proposed program	Moderate (2)
Public Acceptance	The degree to which people living in the North would support the proposed program	Good (3)
Development	The potential of the program to increase the social and economic capital of Northern communities	Good (3)
Cost to Government	The projected cost of the program to the government	Poor (1)
Administrative Ease	Administrative coordination between government actors, private businesses, and other stakeholders to implement the program	Poor (1)
Total Score: 18		

6.2 Policy Recommendation #2: Revise the Mandate of Nutrition North Canada

As mentioned, the NNC is a federal program designed to combat food insecurity in remote and Northern communities. However, over the long course of its operation, the NNC has failed to deliver on its promises and address either the causes or effects of

food insecurity in meaningful terms; in fact, the issue of food security has gotten much bigger since the NNC has been implemented. Therefore, this policy recommendation calls for NNC's mandate to be revised to better prioritize food security outcomes and that this revision be utilized as an opportunity to co-develop knowledge alongside Indigenous peoples and Northerners. With a renewed focus on affordability, local food sources, traditional practices, and accountability, the revised NNC program could better support food security outcomes food by supporting physical and economic access to nutritious food sources for residents of Northern communities.

Revising the mandate of the NNC would require Crown-Indigenous Relations and Northern Affairs Canada to co-develop knowledge alongside Northerners. This means ongoing and meaningful engagement with Northern stakeholders (i.e. Indigenous organizations, the public, and municipal governments) to ensure that the renewed program is both culturally appropriate and responsive to the unique needs of Northern communities.

Even if this policy recommendation were adopted, it is important to recognize that a revision of the mandate for the NNC alone will not, and can not, solve the complex issue of food insecurity in the North. The NNC program is designed to address only one aspect of the problem, which is the high cost of market foods - otherwise understood as the access pillar of food security. Food insecurity in the North is a multifaceted and complex crisis that is influenced by several factors, including geographic isolation, poverty, and systemic discrimination. While the NNC cannot make life more affordable for Northerners, there are measures that can be taken to ensure that the existing subsidy is more effective in supporting Northerners' physical and economic access to affordable and nutritious food.

Revising the mandate of NNC might not only enhance food security outcomes related to access and availability. While it would not touch all the pillars of food security, this policy recommendation represents an important move toward a federal program model that is uniquely designed for the needs of Northerners. By prioritizing food security outcomes and addressing the unique underlying causes of food insecurity in the North, the NNC program can be made more effective and support better outcomes for food-insecure households.

6.1.2 Summary Analysis of Policy Recommendation #2

Table 3: Summary Analysis of Policy Recommendation #2

Criteria	Measure	Rating/Index
Key Objective: Food Security	The extent to which the program is expected to improve food security outcomes	Moderate (2)
Key Objective: Food Sovereignty	The degree to which the program is expected to reduce barriers to sustainable, healthy, and culturally appropriate food products	Moderate (2)
Equity	Magnitude to which the program addresses disparities in food access among different users	Moderate (2)
Stakeholder Acceptance	The degree to which stakeholders would support the proposed program	Good (3)
Public Acceptance	The degree to which people living in the North would support the proposed program	Good (3)
Development	The potential of the program to increase the social and economic capital of Northern communities	Poor (1)
Cost to Government	The projected cost of the program to the government	Moderate (2)
Administrative Ease	Administrative coordination between government actors, private businesses, and other stakeholders to implement the program	Moderate (2)
Total Score: 17		

6.3 Policy Recommendation #3: Focus on Community-Based Solutions

Food sovereignty is an approach to developing food systems that encourage communities to pursue more local food production and distribution methods, in addition, it is an explicit, rights-based approach to food system design. Based on the existing

literature and jurisdictional scan, it is clear that there is a severe lack of targeted programming that is aligned with the unique needs of the Northern population. In addition, where programming exists, such as the NNC and the NICI, these initiatives are not driven by communities.

Throughout the North, various entities are actively working to develop and implement innovative community-based solutions that strengthen food systems and promote food security. Tangible examples of these initiatives include community gardens, kitchens, and greenhouses. However, these solutions can be expensive and time-consuming, which can render it challenging for communities to implement them effectively. This illustrates the need for meaningful engagement with stakeholders as a means to support and sustain innovative solutions that speak to the unique elements of food in the North. Therefore, this policy recommendation calls for federal, provincial, and territorial governments to renew their focus on community-based solutions to food insecurity in the North.

To implement this policy recommendation Crown-Indigenous Relations and Northern Affairs Canada would need to work closely with relevant Northern stakeholders to identify existing community-based solutions, develop new community-based solutions, and then work alongside Northerners and territorial governments to coordinate the implementation of these solutions. For example, the first step in the implementation process would be to work closely with relevant stakeholders, including Indigenous communities, to identify existing community-based solutions. Through these consultations, Crown-Indigenous Relations and Northern Affairs Canada could identify successful programs and initiatives that have already been implemented in other communities, as well as gaps and areas where additional support may be needed. Solutions could involve supporting community-led initiatives focused on local food production, such as greenhouse and garden projects, as well as programs that support the harvesting and preservation of traditional foods.

Throughout the implementation process, Crown-Indigenous Relations and Northern Affairs Canada would work alongside Northerners to coordinate the implementation of these solutions. This would involve ongoing communication and collaboration with community members and leaders to ensure that solutions are

appropriate and effective and that traditional knowledge and practices are respected and incorporated into food system management.

6.1.2 Summary Analysis of Policy Recommendation #3

Table 4: Summary Analysis of Policy Recommendation #3

Criteria	Measure	Rating/Index
Key Objective: Food Security	The extent to which the program is expected to improve food security outcomes	Good (3)
Key Objective: Food Sovereignty	The degree to which the program is expected to reduce barriers to sustainable, healthy, and culturally appropriate food products	Good (3)
Equity	Magnitude to which the program addresses disparities in food access among different users	Good (3)
Stakeholder Acceptance	The degree to which stakeholders would support the proposed program	Good (3)
Public Acceptance	The degree to which people living in the North would support the proposed program	Good (3)
Development	The potential of the program to increase the social and economic capital of Northern communities	Good (3)
Cost to Government	The projected cost of the program to the government	Moderate (2)
Administrative Ease	Administrative coordination between government actors, private businesses, and other stakeholders to implement the program	Poor (1)
Total Score: 19		

6.4 Policy Recommendation #4: Embed Food Security in Poverty Reduction

Food insecurity is a complex issue that is deeply rooted in impoverishment. Poverty can limit individuals' access to food due to a lack of financial resources, limiting their ability to purchase nutritious food. In the Northern regions of Canada, poverty is a significant barrier to food security, as the high cost of living, limited employment opportunities, and inadequate social support programs make it difficult for many Northerners to access nutritious food on a regular basis. However, one of the challenges to supporting food security in the North is the absence of a comprehensive poverty reduction strategy or targeted programs that respond to the lived realities of Northerners. Therefore, it is recommended that the Government of Canada prioritize the development of a comprehensive poverty reduction strategy that is tailored to the unique needs of Northern communities. This strategy should aim to address the root causes of poverty, including limited employment opportunities, high living costs, and inadequate social support programs, in order to increase Northerners' access to nutritious food. It is also recommended that the government implement targeted programs to support Northerners, such as affordable housing programs, job training, and education initiatives, and increased access to social support programs.

These efforts should be developed in consultation with Northern communities and Indigenous peoples to ensure that they are culturally appropriate and responsive to the specific needs of Northerners. For example, one potential approach to reducing poverty and improving food security in the North is through the implementation of income supplements, which could provide much-needed financial support to low-income households, allowing them to access healthier food options and other essential goods and services.

However, it is important to note that income supplements alone are not enough to address the complex and multifaceted issue of food insecurity in the North. A comprehensive poverty reduction strategy must also include measures to address the root causes of poverty, such as the lack of economic opportunities, affordable housing, and adequate social support programs. By focusing on economic development initiatives that are rooted in the unique cultural and economic contexts of Northern communities, it

is possible to create sustainable employment opportunities that can help lift people out of poverty and improve their access to healthy and culturally appropriate foods.

The federal government plays a significant role in addressing poverty and food security across the North. Federal agencies, such as Crown-Indigenous and Northern Affairs Canada, and Health Canada, are responsible for developing and implementing policies and programs that aim to improve the well-being of Northern communities and Indigenous peoples. Therefore, the federal government would lead this process and work closely with Northern communities and Indigenous peoples to ensure that their perspectives and voices are heard in the development of a regional poverty reduction framework. This could be achieved through meaningful consultation and engagement, where communities are involved in the design, implementation, and evaluation of initiatives. This can help ensure that the initiatives are culturally appropriate, responsive to local needs, and aligned with the priorities of Northern communities and Indigenous peoples.

Partnerships with Indigenous organizations, territorial and municipal governments, and other stakeholders are also crucial in the development and implementation of efforts to reduce poverty and improve food security in the North. These partnerships facilitate knowledge sharing, collaboration, and coordination among different actors, and help build capacity within communities to participate in the decision-making process.

Embedding food security initiatives in poverty reduction programs and policies means taking a holistic approach to tackling the issue of food insecurity. It involves not just addressing the symptoms of food insecurity but also identifying and addressing the root causes of poverty and hunger. However, it is also an option that requires extensive collaboration between the government, Indigenous peoples, and Northerners. By working together, these stakeholders can develop effective strategies that address the unique challenges facing Northern communities, including issues related to transportation, infrastructure, and the high cost of food.

Ultimately, embedding food security initiatives in poverty reduction programs and policies is an essential step towards creating sustainable solutions that promote food

security, reduce poverty, and support the health and well-being of Northern communities.

6.1.2 Summary Analysis of Policy Recommendation #4

Table 5: Summary Analysis of Policy Recommendation #4

Criteria	Measure	Rating/Index
Key Objective: Food Security	The extent to which the program is expected to improve food security outcomes	Good (3)
Key Objective: Food Sovereignty	The degree to which the program is expected to reduce barriers to sustainable, healthy, and culturally appropriate food products	Moderate (2)
Equity	Magnitude to which the program addresses disparities in food access among different users	Moderate (2)
Stakeholder Acceptance	The degree to which stakeholders would support the proposed program	Good (3)
Public Acceptance	The degree to which people living in the North would support the proposed program	Good (3)
Development	The potential of the program to increase the social and economic capital of Northern communities	Good (3)
Cost to Government	The projected cost of the program to the government	Poor (1)
Administrative Ease	Administrative coordination between government actors, private businesses, and other stakeholders to implement the program	Moderate (2)
Total Score: 19		

Chapter 7.   Adoption and Implementation

It is evident that there is no individual program that can address the complex issue of food insecurity in the North. Consequently, all of the policy recommendations discussed should be adopted as a series of "next steps," to address various tenants of the policy problem. Rather than independent options, all these recommendations are intended to work in tandem to address identified gaps in the literature and were selected as opportunities to enhance Northerners' physical and economic access to safe, nutritious, and sufficient food sources that align with their dietary preferences.

To prioritize the implementation of these recommendations, Policy Recommendation #3 should be prioritized first. This recommendation would empower communities to take the lead in improving their food systems, which can promote a sense of ownership and pride in the local food system and lay the foundation for sustainable change.

Next, Policy Recommendation #1 should be implemented because it addresses a key challenge in the Northern food system, which is the lack of infrastructure for processing and storing food. This can lead to high food prices, limited availability of fresh produce, and increased food waste. By investing in better infrastructure, it can improve the quality and availability of food and reduce waste, leading to more affordable and fresh produce.

Policy Recommendation #2 should be implemented next as it addresses the current shortcomings of the Nutrition North program, which was designed to subsidize the cost of food in remote Northern communities. By revising its mandate to better target food security outcomes, it can better serve the needs of Northern communities.

Lastly, Policy Recommendation #4 should be implemented as it builds upon the prior recommendations by addressing the root causes of food insecurity, which are linked to poverty and economic inequality. Embedding food security initiatives within poverty reduction efforts can help create more sustainable solutions that address the underlying issues of food insecurity in the long term.

Implementing this policy bundle as a concerted effort would require a decade-long timeline to achieve significant and sustainable impacts. The cost of implementing

this approach would depend on various factors, including time for infrastructure development, program revisions, community engagement, and capacity building. A comprehensive cost analysis would need to be conducted to estimate the total cost, which would likely involve funding from multiple sources, such as government funding at the federal, provincial, and territorial levels, private sector investments, and community contributions.

Chapter 8.   Conclusion

The aim of this project is to provide a policy perspective regarding the complex and persistent problem of food insecurity in Canada's North. Despite the implementation of federal programs such as NNC, access to nutritious and affordable food sources remains a significant challenge for many Northern residents. To gain a deeper understanding of the causes and consequences of this issue, a comprehensive literature review and jurisdictional scan were conducted, with a focus on food security and sovereignty. Existing programs to tackle the issue are not viable, but rather, revolve around the same ineffective set of practices. There is a need for a multifaceted and holistic solution that is informed by a rights-based approach, one that both addresses existing barriers and works towards a long-term, sustainable state of food security.

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