

# The Right to Food in Canada's North: Food Security and Sustainability in Yukon Territory

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## Abstract

This paper analyses the factors affecting food security in Yukon Territory. It was written for the Yukon Field School on Food Security offered at the University of Guelph in 2019. It utilizes Olivier De Schutter's Right to Food Framework to examine elements of food availability, accessibility, and adequacy. Different perspectives from various stakeholder participants in the field school were gathered during guest lectures and on site visits and were cross-referenced with peer-reviewed sources to formulate conclusions on the right to food in Canada's North. These perspectives suggest that the northern food supply is threatened by the effect of climate change on country food availability, the feasibility of local agriculture, and the provision of imported food. Additionally, the social barriers to country food and local food access in the context of high poverty rates also contribute to food insecurity. The implications of insufficient food availability and accessibility culminate in food inadequacy with notable consequences for physical, mental, and cultural health. Overall, a move towards a locally-sourced diet will likely play a key role in achieving sustainable food security in the north.

**Keywords:** food security, Yukon Territory, Right to Food, diet, nutrition transition, sustainability

## Introduction and Context

The Canadian North possesses geographical features, biophysical diversity, and socio-cultural qualities distinct from what is found anywhere else in the country (Sneyd, 2019; Bone, 2016). In the context of modernization, globalization, and climate change, new challenges continue to arise and threaten livelihoods, food security, and traditional practices of those who call the north home (Duhaime and Bernard, 2008; Sheedy, 2018). Despite the cold climate, and overall remoteness of Northern communities, Yukoners have fostered resiliency, optimism, and innovation to adapt and survive the remote challenges (Butler et al., 2017; Carpenter, Walker, Anderies, & Abel, 2001). It is this robust local spirit and Yukon pride that will be key to making long-term, sustainable changes to these challenges from a Northern perspective rather than being transplanted from the South.

The aim of this paper is to explore challenges to the human right to food in Yukon Territory and offer sustainable solutions for its realization. This paper emerged from experiences and interactions during the Yukon Field School on Food Security in Northern Canada that ran at the University of Guelph in May 2019. The paper will discuss the field school on food security in Canada's North before moving on to an analysis from the field school organized using the

multidimensional framework proposed by the UN Special Rapporteur on the Right to Food, Olivier De Schutter (De Schutter, 2012). First, the physical factors affecting food availability in the Yukon will be explored. These include the impact of environmental and geographic characteristics of the region on food production and transportation. Next, the degree to which food is accessible will be evaluated. Finally, the resulting implications for the food adequacy of the local population will be discussed. The paper concludes with recommendations to sustainably realize the right to food in Canada's North.

The innovative field school experiences enabled students to apply perspectives from international development to food security issues in Canada's North. In this field-based and experiential course, students explored theoretical and conceptual knowledge during pre-departure classes in Guelph. Subsequently, they gained food security knowledge traveling around the Yukon over the course of two weeks. Students interacted with First Nations communities and other local leaders in the Yukon to learn more about foodways in the territory. Through an in-depth exploration of Yukon's food system, the course pushed students to consider the challenges and opportunities associated with applying concepts and

theories that originate in international development studies, like the right to food, to the Canadian context for better understanding northern food security.

We paid particular attention to the social, political, economic, and environmental forces that impact the structure and functioning of the territorial food system and food systems across the North. In particular, we explored ways of assessing the extent to which the food system advances principles of sustainability and the right to food in Canada—or not. We also explored food and nutrition issues linked to hunting, wild food gathering and foraging, and fisheries, and delved into topics including food entrepreneurship and governance to better understand food security situations in the Yukon.

Students spent the first two days of the field school at Yukon College (before it became a university in 2020) engaging with local experts, researchers, community members and farmers to learn about perspectives on environmental change and cold-climate agriculture and perspectives on social justice, poverty, gender, disability, and Indigenous issues in the Yukon.

In the field, students were immersed in stimulating activities and opportunities for reflection, challenging them to learn about issues impacting food security including Canada's colonial history, Yukon's First Nations communities, environmental sustainability in the context of climate change, cold climate farming, and food security. Overall the comprehensive nature of the field school provided students opportunities to farm, forage, cook, eat, learn, and engage with ideas on food in the Yukon (Waite, 2019; Morin, 2019). The sections that follow present one account of the learning that happened from these experiences and research and learning opportunities it afforded.

## Physical Factors Affecting Food Availability in the Yukon

In order for the right to food to be realized, food must first be made physically available to the population. The continued availability of food into the future is dependent on ecosystem biodiversity and the sustainable management practices of both agricultural food sources and country food sources (Sneyd, 2019; Tr'ondëk Hwëch'in Teaching and Working Farm 2019).

Issues regarding food availability in the Yukon can be further categorized into three themes: the availability of country food, agricultural challenges in the region, and the current dependency on transportation for imported foods.

Country food remains an important source of nutrition and energy intake for Northern communities, especially for Indigenous populations (Power, 2008). Although it does not fall neatly into De Schutter's agricultural model of food availability, it is important to consider the significance of foraging and other subsistence activities in the Yukon, and in the North as a whole—both socioculturally and as a food source (De Schutter, 2012). Unfortunately, the long-term availability of country foods has been put at risk in recent

years, along with the cultural traditions that garnering them entails (e.g. traditional fishing camps as a place to transfer intergenerational knowledge) (AICBR, 2016). Norma Kassi, citizen of the Vuntut Gwitchin First Nation and former member of the Yukon Legislative Assembly, described in her short animated film *Norma's Story* the impacts of climate change on country food sources and subsistence practices (Hawley & Kassi, 2015). Sustainable hunting and foraging practices include: only taking what you need, utilizing the entire animal, and leaving enough for the food source to recover (e.g. foraging spruce tips from a variety of branches and trees) (Hawley & Kassi, 2015; Genest, 2019). Despite the best efforts of local people, the effects of climate change have severely impacted the natural availability and seasonality of country foods. Changes in caribou migration patterns, reduction in moose and salmon populations, and the disappearance of some plants (e.g. wild chive) necessitate adaptation to maintain food adequacy, as will be discussed later in this paper (AICBR, 2019; Parlee & Caine, 2018; Dänojà Zho Cultural Centre, 2019; First Nations Council, 2019).

Although many plant and animal species indigenous to the territory thrive in the semi-arid, sub-continental climate, its unique geography makes conventional agriculture extremely difficult (Ball, Hill, & Whelan, 2010). One local farmer told us that the long summer days allow for a short but intense growing season, but crops must still be hardy enough to survive sporadic early summer frosts (Bounds, 2019). Local farmers have developed many methods to optimize crop yield and quality, including using row covers during germination to protect from colder temperatures and grafting fruit tree species to yield more fruit at a younger age (Lenart, 2019). Due to glaciation, soil quality around Whitehorse is low. It is often deficient in nitrogen, phosphorus, and potassium, and requires careful and patient supplementation with mineral powders and compost to be fertile (Bounds, 2019; Lamb, 2019). Additionally, in order for local produce to be available for the diet year-round, there is a heavy reliance on root vegetables and preserved, frozen, or value-added goods (e.g. sauerkraut) (Crocker, 2019).

Perhaps one of the most important fulcrums of change revolves around the transportation of imported foods into the Yukon. In Dawson City, 97% of foods consumed are imported from outside the territory (Crocker, 2019). As Herb Mathisen (2018) described in his article in *Up Here Magazine*, September 2018: the high volume of imported foods "[perpetuates] a dependency on the south to keep bellies full" (Mathisen, 2018). In 2012, a series of landslides and subsequent flooding of the Alaska highway cut off Yukoners from their imported grocery supply (Crocker, 2019). Within 48 hours, the grocery store shelves were bare. Luckily, the buying power of large corporations such as Superstore and Loblaws could give some support, including flying in small grocery supplies during the shortage (Wykes, 2019; Keevil, 2012). In this way, the availability of transportation routes affected the availability of the territory's main food source. In reference to the incident, some locals mentioned: "Even

though we [had] no roads due to the washouts, we [had] an abundance of nutritious wild plants that we [could] harvest for food," including spruce tips, fireweed, and stinging nettles (Keevil, 2012). Today, many new food entrepreneurs are working on technologies for cold climate agriculture and the proliferation of greenhouses in the north. Overall, it is a move towards local agriculture and country foods and away from imported goods that will ensure more sustainable and secure food availability in the future.

## Social Barriers Affecting Food Accessibility in the Yukon

Though food may be increasingly available with the growth of local agriculture and the local food movement in Yukon Territory, that food may not be accessible to everyone. Poor food accessibility is one of several elements that contribute to food insecurity. For example, the Feeding my Family Facebook group posts photos of high food prices for food from Northern grocery stores and provides people a platform to discuss high food prices and accessibility challenges in the North. There is a plethora of factors that affect the accessibility of food in the Yukon, however here they will be sorted into three main themes: food accessibility in the context of urbanization and country food access, local Yukon food access, and the effect of poverty and the legacy of colonization.

First is the increase in urbanization and how it restricts accessibility to country foods. In the modern context, it realistically costs up to \$20 000 to equip a person with skidoos or boats and hunting equipment if they wish to hunt for wild game; this does not include additional fuel costs which increase every year (Duhaime & Bernard, 2008; Yukon Bureau of Statistics, 2019). Additionally, with a move towards conservation and away from the fur trade, traditional trapping livelihoods are dwindling in number and scale and are being replaced by engagement with the wage economy, leaving less time for subsistence activities (Bourque, 1971). Especially in urban settings, wild game is often purchased rather than hunted, introducing a reliance on monetary income to access country foods that had not existed before (Hopping et al., 2010). In contrast, those living in rural communities with agriculture-based livelihoods (i.e. farmers) have sources to fall back on for subsistence as long as they keep their crop. For these rural populations, food accessibility is less of an issue to ensure survival and food security.

Further, with modernization also comes the implementation of regulatory policy, conservation practices, and resource extraction in the North—much of which originates from the Southern context with little Northern consultation (Duhaime & Bernard, 2008). Duhaime and Bernard, in their 2008 book *Arctic Food Security*, state the following:

As regards wildlife conservation in the Canadian Arctic, international conventions and

national laws have established exceptions, allowing the Inuit to harvest mammals, fish and birds during closed seasons or year-round prohibitions, in accordance with established conservation principles . . . Indians and Inuit [have] exclusive . . . rights to hunt and use marine mammals for subsistence purposes. (p. 79)

Similarly, traditional harvesting rights are protected in many northern regions, e.g. for Inuit in Nunavik and for Champagne and Aishihik First Nations and Kluane First Nation in Kluane National Park (Otis, 1999; Parks Canada Agency & Government of Canada, 2017). However, it must also be noted that restrictions, such as hunting and catching limits, are still in place in light of conservation efforts (Cummings, 2019).

Second, the accessibility of locally farmed and produced food is also extremely important, for reasons discussed in the availability section of this paper. According to Suzanne Crocker (2019), living off of a 100% locally sourced diet has a monetary cost similar to that of an imported diet in Dawson City (Crocker, 2019). She noted that eating local would “possibly be slightly more expensive, but the quality of the food products is far better for what you pay” (Crocker, 2019). Although “45 farms within 50km of Whitehorse are supplying fresh, local food,” as stated on the Yukon Anti-Poverty Coalition’s document *Our Food in Place* (2015), this food is not accessible to everyone (Yukon Anti-Poverty Coalition, 2015). Accessibility is especially hindered for those who live far from the city, have limited budgets, or are simply unaware of local food initiatives. Various attempts have been made to improve the accessibility of local food. The Fireweed Community Market is a good example of making local food more accessible; its operating hours are on Thursdays from three to seven o’clock in the afternoon, rather than on a Saturday morning as is often the case with other markets in Southern Ontario, hence leaving time to allow those from more remote communities to commute to Whitehorse (Fireweed Community Market Society, 2019). Local farmers also attempt to improve accessibility on an individual financial level by introducing ‘sliding-scale pricing’ for their produce (Bounds, 2019). Furthermore, the Arctic Institute for Community-Based Research (2018) has also created a Food Systems Inventory Map that presents “initiatives, entities and services which relate to . . . food in the Yukon” (AICBR, 2018). The hope is that creating and disseminating this information will help people to access these various resources (e.g. finding local producers, community cooking experiences, community gardens, food banks, and local markets) (AICBR, 2018). Overall, the the ability for people to access local food seems largely dependent on economic accessibility and the accessibility of information pertaining to local food sources.

Finally, the most significant hurdle to accessing food for a substantial proportion of the population is poverty and the spectre of colonialism. The Yukon Anti-Poverty Coalition (YAPC) writes that for a family of four in Whitehorse with two parents working 35 hours a week, the living wage is

\$18.57/hour (Hammond, 2017). Given the minimum wage of \$12.71/hour, there is a substantial \$5.86/hour deficit between minimum income and living expenses (Government of Yukon, 2019). In more remote communities where the cost of living is higher, this deficit is even more substantial. For “a basic, nutritious diet,” the Whitehorse reference family, as outlined in the YAPC Living Wage report, would have food expenses of \$1126.41/month, or \$13 516.93/year (Hammond, 2017; Government of Yukon, 2019). Although some expenses can be subsidized by the Northern Living Allowance, a local in Dawson mentioned that it tends to be a “subsidy for the middle class,” as those who need it most do not meet the qualifications for housing conditions, or employment stability.

As stated in the Yukon Nutrition Framework (2010), “food insecurity most often affects families with lower incomes, single parent families, members of households using social assistance, and rural residents” (Government of Yukon, 2010). According to Hammond (2017), individuals in this demographic are also “more likely to have multiple chronic [mental and physical] health conditions” (Hammond, 2017). Therefore, a greater proportion of their income is used for health services, leaving less in their budget for food—thus creating a dangerous feedback loop (Hammond, 2017). Given that 41% of people in single mother households lived in poverty in 2012, the implications for food accessibility, and hence food security, are striking (Hammond, 2017). One single mother who had experienced food insecurity, shared various coping strategies she had developed when healthy foods were not economically accessible for her. Specifically, these included spending what money she could afford on instant meals, rather than fresh produce or dairy; “We had food, but not the right food” she expressed. In some ways, even available resources such as food banks may be inaccessible to some due to a desire to preserve dignity rather than appear weak by asking for help. Clearly, the lack of food accessibility has numerous implications for health and well-being, as will be discussed in the next section.

## Food Adequacy for Population Health and Well-being in the Yukon

The confluence of factors affecting food availability and accessibility will invariably precipitate implications for food adequacy. Often, the foods that are available and affordable—and hence physically and financially accessible—may not adequately meet the population’s nutritional and cultural needs due to the quantity that can be purchased or the quality of the products themselves (Duhaime, 2008). Unfortunately, these deficits in adequacy give rise to acute consequences for an individual’s health and well-being. In terms of adequacy in the Yukon, there are four major recurring themes from the Field School to be discussed: the adequacy of country food, the northern nutrition transition, food safety, and the depreciation of imported food.

Given the significant Indigenous population in the North, the issues regarding availability and accessibility of

country food discussed in previous sections have significant impacts on food adequacy and security in the region. Historically, a large proportion of Indigenous culture and tradition revolved around subsistence activities in order to ensure sustainable survival (Fondahl, Filippova, & Mack, 2015). With the effect of climate change on caribou and salmon availability, the loss of these animals and others as a food source is also a loss of cultural practices and cultural adequacy (Dänojà Zho Cultural Centre, 2019). However, as in the case of the Selkirk fishing camps, attempts have been made to use traditional fishing sites as places to pass down non-fishing traditions like caring, sharing, and respecting and teaching environmental and oral histories (AICBR, 2016). Additionally, as mentioned by Anna Lambe (2019), with reduced accessibility to country food like wild game due to modernization and urbanization, “A lot of [Northern high school] students cannot afford to have country food, and it’s essential that it’s provided to [them]” (Lambe, 2019). Furthermore, the traditional meat-based diet is also extremely nutritious, and in this way worth safeguarding as well. In support, Duhaime (2008) argues: “country foods are important sources of several key nutrients such as protein, vitamin A (derived primarily from marine mammal liver and fats), vitamin D, iron, zinc, potassium, phosphorus, selenium and omega-3 fatty acids” (Duhaime, 2008). Unfortunately, many aspects of this nutritious diet—which has been shown to reduce risk for cardiovascular disease and other non-communicable diseases—have been lost in the northern nutrition transition (Minister of Indian Affairs and Northern Development, 2003; Dewailly, 2001). A recent cookbook created with cooks from Old Crow highlights not only techniques for cooking and respecting caribou from head to hoof but also presents the close relationships and connections to the stewardship of the herd and the land (Porcupine Caribou Management Board, 2017). Examples like this one are promising for slowing the impacts of the nutrition transition and documenting and preserving broader connections between the environment, food and culture.

The northern diet has shifted from one of healthy, diverse, traditional staples to one comprised of imported and processed foods. This nutrition transition has resulted in a diet high in sugar, preservatives, saturated fats, and trans fats and lower in fibre and micronutrients (Kuhnlein, Receveur, Soueida, & Egeland, 2004). The increase in availability and accessibility of local food in recent years warrants optimism for a promising and more nutritionally adequate future in the Yukon. The benefits for health and wellbeing are clearly exemplified by Suzanne Crocker’s experience with her First We Eat film project (Crocker, 2019). Crocker had regularly monitored her blood nutrient levels throughout her one-year journey of eating 100% local, and found that the only deficiency she struggled with was with iodine (Crocker, 2019). However, this can easily be corrected with the addition of imported iodized salt in a diet that remains largely locally sourced. Overall, it remains quite evident that local food, especially in remote regions, has a higher nutritional content and is also safer for consumption.

In regards to food safety, it was observed that imported produce outside of Whitehorse was notably less fresh and often on the verge of being spoiled. In Dawson, Stewart Crossing, and Pelly Crossing, produce shelves had spotted bananas, overripe avocados, and near-rotting berries. When asked, "What would help you get good food?", locals responded with statements such as "Better quality vegetables that last longer after you buy them" (Yukon Anti-Poverty Coalition, 2015). Moreover, the influx of pollutants from resource extraction and other industrial processes upstream have contaminated water habitats, impacting traditional fish and seafood populations, and posing potential dangers to those who rely on them as food sources (AICBR, 2017).

One of the most significant factors discussed for food availability in the Yukon was transportation routes for imported products. This issue also carries direct impacts in the realm of food adequacy. In order for produce grown in the south (e.g. from California or even as far as Mexico) to be conserved until time of sale in the north, produce must be harvested prior to maturity and allowed to ripen in storage (Childers, 2019). Immature harvesting has several notable impacts on food quality. First, imported produce will have significantly lower nutritional retention than local produce; according to Suzanne Crocker (2019), spinach loses 75% of its folate content and 50% of its vitamin C content just 3 days after picking (Crocker, 2019). Additionally, there is a notable loss of flavour in imported produce. For example, avocados imported from Mexico into Dawson were overripe with a dull taste. Finally, immaturely harvested produce also has a shorter storage life and is more prone to mechanical damage, decreasing the likelihood that it will be suitable for consumption at arrival (Kader, 1999). By extension, it is likely that more appetizing processed foods high in refined sugars, sodium, and saturated fats will be chosen in place of healthier, but less palatable low-quality produce. But there are many other factors impacting the transition. For example, decreasing country food consumption, declining animal populations, loss of intergenerational hunting skills, and the wage economy all result in increasing market food consumption. The struggle to purchase calories over nutrients is likely another contributor to the northern nutrition transition toward a highly processed and industrial diet.

## Discussion on a Sustainable Realization of the Right to Food in Northern Canada

Overall, the aim of this paper was to evaluate the degree to which the right to food has been realized in Yukon Territory, and to encourage a more robust and sustainable food system. In regards to availability, many challenges to maintain country food availability, develop local agriculture, and transport imported food persist in the territory. In addition, the accessibility of country food sources and locally grown food, and the effect of poverty on food security, outline the socioeconomic barriers to the right to food. Furthermore, both

availability and accessibility have repercussions on food adequacy and population health; specifically, on country food, the northern nutrition transition, food safety, and the low quality of imported food.

In order for Yukon Territory—and the North as a whole—to achieve long-term realization of the right to food, the production, distribution, and acquisition of local food must be considered. Rather than transplanting southern policy and food systems to the North and relying on an imported southern diet, a greater emphasis should be placed on supporting local farmers and encouraging consumers to engage with the local food economy. Attaining greater local food sovereignty will have meaningful impacts on all aspects of the Right to Food framework. Although the local food movement has grown in recent years, the long-term individual and collective benefits of living local must be made more broadly inclusive.

Overall, a key lesson from the field school was that strengthening and supporting local food initiatives and reducing dependency on imported foods could improve the availability of quality, nutritious and sustainably grown and distributed food, especially in the context of climate change. In this way, food shortages resembling the repercussions of the 2012 Alaska Highway flooding can be mitigated. Encouraging practices such as 'sliding scale pricing' at farmers' markets and local food donations to food banks and community kitchens will hopefully improve the accessibility of healthy food to those facing economic hardship. Moreover, placing a greater emphasis on the consumption of nutritious local and country food and rather than processed foods will improve the population's food adequacy, overall health, and wellbeing.

## Acknowledgements

The authors wish to thank the Guelph Institute of Development Studies for offering the field school opportunity, as well as the many other individuals who chose to share their experiences to help contribute to this project.

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## Appendices



Figure 1. Row covers protect seedlings from frost in mid-May, early in the growing season. Taken at Elemental Farm, Whitehorse.



Figure 2. The sign outside the Dawson City community gardens, which reads: "This is a community space to foster greater learning and understanding of northern gardening techniques, increase environmental awareness, and promote sustainable, locally grown alternatives and food security within the Dawson community." The gardens are individually rented.



Figure 3. The aforementioned community gardens.





**Figure 4.** Yukon Cowboy Jerky from Y-BAR Meats. Y-BAR Meats is based in Whitehorse, YT and works with local farmers to produce sustainably sourced meat products. Although having a federally inspected meat processing facility in the Yukon would increase the accessibility of local meat products for residents, the company faces the challenge of generating enough business and product volume to sustain the costs of running the facility (Hurlburt, 2019).



**Figure 5.** An image of Sheep Mountain and Kluane Lake, Kluane National Park. The dusty beige land was—until recent years—under water. The small land mass to the left of the photo in the lake was typically an island. The lake's receding shoreline is but one example of how climate change is drastically changing the region's geography.



**Figure 6.** An image of a house in Dawson City, Yukon. Buildings are constructed on raised supports to minimize heat transfer from the home to the ground and slow permafrost thaw. Deep foundations help to keep the home stable and prevent it from sinking into the ground as global temperatures rise and permafrost thaw worsens.