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Community Perspectives on Inuit Country Food Insecurity in Gjoa Haven, Nunavut

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ABSTRACT. This paper explores how policies and programs can better support country food security and food sovereignty in Gjoa Haven, Nunavut. Through a series of six focus groups with a total of 74 participants, we explore the challenges that Elders, youth, hunters, food preparers, and program providers face in the access, availability, quality, and use of country food. Despite the diverse representation among focus groups, participants revealed similar challenges across demographics and highlighted how tailored policies and programs can provide complementary solutions that serve more than one purpose. We argue that policies and programs targeting financial and economic challenges; resources and infrastructure; and skills and knowledge will improve country food security and will promote food sovereignty. Ultimately, policies and programs must be community informed and tailored to their current context and community dynamics. However, the recommendations we provide could be adapted to other Arctic communities experiencing similar challenges.

Keywords: country food; food security; food sovereignty; Inuit self-governance; food programs; Arctic; hunting; Elder; youth; knowledge holders

RÉSUMÉ. Cet article se penche sur la manière dont les politiques et les programmes peuvent mieux soutenir la sécurité alimentaire basée sur les aliments traditionnels et la souveraineté alimentaire de Gjoa Haven, au Nunavut. Grâce à une série de six groupes de discussion comptant un total de 74 participants, nous explorons les défis que doivent relever les aînés, les jeunes, les chasseurs, les préparateurs d'aliments et les fournisseurs de programmes en matière d'accès, de disponibilité, de qualité et d'utilisation des aliments traditionnels. Malgré la représentation et les caractéristiques démographiques variées des groupes de discussion, les participants ont affirmé faire face à des défis de même nature. Ils ont également mentionné que des politiques et des programmes sur mesure peuvent offrir des solutions complémentaires revêtant plus d'un objectif. Nous soutenons que des politiques et des programmes tenant compte des défis financiers et économiques, des ressources et des infrastructures de même que des compétences et des connaissances permettront d'améliorer la sécurité alimentaire basée sur les aliments traditionnels et favoriseront la souveraineté alimentaire. Au bout du compte, les politiques et les programmes doivent prendre en considération les besoins de la communauté et être adaptés à leur contexte actuel de même qu'à la dynamique de la communauté. Cependant, il y a lieu de noter que les recommandations que nous faisons pourraient être adaptées à d'autres communautés arctiques ayant des défis semblables à relever.

Mots-clés : aliments traditionnels; sécurité alimentaire; souveraineté alimentaire; autonomie inuite; programmes alimentaires; Arctique; chasse; aîné; jeune; gardien du savoir

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INTRODUCTION

Country food is crucial for the well-being of Inuit people in Canada and the circumpolar world. Country food is linked to Inuit identity and way of life, and supports mental health through spiritual connection to the land (Statistics Canada, 2006; Nunavut Food Security Coalition, 2014; Wilson et al., 2019). When Inuit engage in hunting, processing, distributing, and preparing country food, they pass on traditions and knowledge to the next generation and emphasize values of co-operation and generosity (Inuvialuit Regional Corporation, n.d.; Statistics Canada, 2006). Sharing country food in particular, keeps family and community ties strong (McGrath-Hanna et al., 2003; Pufall et al., 2011). The nutrient density of country food also makes it valuable for physical health. It is high in protein and micronutrients, such as iron, niacin, and vitamins D, B6, and B12 (Kenny et al., 2018). Indeed, those who consume a higher proportion of country food have a better healthy eating index compared to those who eat more processed, store-bought foods (Herrmann et al., 2020). Consumption of fish, furthermore, is associated with lower rates of coronary heart disease, heart attacks, stroke, and hyperlipidemia (Hu et al., 2018).

Despite the value placed on country food, Inuit of Nunavut (Nunavummiut) are faced with significant barriers

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to food security that policies and programs have not been able to fully address (Council of Canadian Academies, 2014). In 2017–18, Nunavut continued to have the highest rate of food insecurity in Canada, reaching 57% compared to the 12.7% national average (Tarasuk and Mitchell, 2020). Even more disconcerting is the 78.7% of Nunavummiut children living in food insecure households (Tarasuk and Mitchell, 2020). Food security continues to be a territorial and federal policy priority, but recent efforts have not been able to tackle this pervasive issue. In 2011, the federal government introduced Nutrition North, a food subsidy program for isolated northern communities. But despite a more than $100 million budget for the program (Government of Canada, 2022), food insecurity has since continued to rise (St. Germain et al., 2019).

Poverty has been well established as the key underlying factor leading to food insecurity (Tarasuk, 2017). However, unlike accessing store-bought food, accessing country food has added challenges that are not considered when measuring food insecurity. For example, standard food security survey modules fail to take into account traditional knowledge and social support networks that Inuit rely on to harvest, share, and use country foods (Ready, 2016, 2018). This disconnect is, in part, due to how food security is defined. The widely recognized definition of food security established in 2001 by the Food and Agriculture Organization of the United Nations (FAO) has been criticized for not adequately representing the cultural and environmental aspects essential for Inuit food security (Naylor et al., n.d.). The most recent definition, developed by Inuit Tapiriit Kanatami (ITK), builds on the broad FAO definition and tailors it to the Canadian Inuit context. Specifically, this context includes the uniqueness of the Inuit Nunangat food system, which incorporates harvested and store-bought foods. ITK's definition and their broader strategy for improving food security centre on the distinctive role of harvested foods in Inuit culture and way of life, as well as in meeting Inuit dietary needs and food preferences (ITK, 2021). The ITK summarized its work in this area in a key document, Inuit Nunangat Food Security Strategy (INFSS), which identifies objectives and actions to improve Inuit food security, including: (1) integrating Inuit-led food security and poverty reduction actions; (2) creating sustained Inuit engagement on comprehensive legislated solutions; (3) building evidence-based and responsive programs and services; (4) supporting Inuit country food and sharing systems; and (5) mobilizing Inuit food security research and evaluation (ITK, 2021).

Linked to ITK's definition is the concept of food sovereignty, which extends beyond the outcomes of food security to emphasize the importance of the broader food system and environment, and how food security is achieved. Inuit food sovereignty involves a sustainable food system that reflects Inuit values, supports Inuit well-being, and ensures self-defined access to affordable, nutritious, safe, and culturally preferred foods (ITK, 2021).

The government of Nunavut has long prioritized improving food security and food sovereignty in Nunavut. In 2009, it released Tamapta: Building our Future Together 2009–2013, which highlighted the importance of food security, among other priorities related to the social determinants of health (GN, 2009; Wakegijig et al., 2013). In 2010, it advanced these priorities through the Mikimaniq Plan: A Shared Approach to Poverty Reduction (GN, 2011). This plan highlighted food security as a main theme and called for the establishment of a coalition that would bring together stakeholders to develop a long-term, sustainable approach to food security in Nunavut. That call gave rise to the Nunavut Food Security Coalition (GN and Nunavut Tunngavik Inc., 2011).

In 2014, the coalition released the Nunavut Food Security Strategy and Action Plan 2014–16 outlining the four key components that must be fulfilled for food security to exist: availability (enough wildlife on the land or groceries in the store), accessibility (adequate money for hunting equipment or store-bought food, and the ability to obtain it), quality (healthy food that is culturally valued), and use (knowledge about how to obtain, store, prepare, and consume food) (Nunavut Food Security Coalition, 2014). This action plan also recognized the complex factors that affect food security in Nunavut and outlined six strategic areas for action, one of which was country food. In these broad areas, the coalition defined seven objectives, each of which was broken down into associated, practical action to promote country food as a foundational food for Nunavummiut (Table A1). Since then, the territorial government has been actively involved in funding country food distribution programs and providing food literacy opportunities and education to vulnerable populations. Some programs have co-evolved, and some have been co-designed between regional organizations, local wellness centres, local research collaborators, and researchers like us. One collaboration in the Kitikmeot region of Nunavut, particularly in the hamlet of Gjoa Haven, is a good example. There, designated harvesters, a fishery and harvest study research project collaborated to pilot a country food distribution program for pregnant women. For those in the community who carried out the program, including the regional dietitian (Chantal Langlois), local community health representatives (CHRs), and Wellness and Canadian Prenatal Nutrition Program (CPNP) coordinators, the pilot raised further awareness of infrastructure, logistics, and distribution challenges. Langois, the CHRs, and CPNP coordinators subsequently worked together on educational campaigns, cooking classes, and food safety protocols for the community. In February 2020, just before the pandemic slowed or suspended activities that were in progress and, therefore, reduced momentum in poverty reduction initiatives, all five Kitikmeot communities agreed to a 10-year Kitikmeot Economic Development Action Plan (Kitikmeot Inuit Association and Kitikmeot Chamber of Commerce, 2020). The plan identified four priorities for development, including in health and food security, which cover the need to improve food security,

increase food sovereignty, and leverage region-wide development. Since 2022 several workshops involving all five Kitikmeot communities have been launched in order to define and implement general priorities to potentially build a knowledge hub around food security, country food processing, and traditional skill transfer throughout the region.

The community of Gjoa Haven is located 250 km above the Arctic circle on the southeast coast of King William Island, in Nunavut (Fig. 1). The community's Inuktitut name is *Uqsuqtuuk*, which means "place of plenty of blubber," and signifies its longstanding connection to country food (Nunavut Planning Commission, 2014). Unfortunately, residents in the community have some of the highest economic vulnerability of all Nunavut communities and are experiencing significant barriers in the availability and access to country food (Lysenko and Schott, 2019). The community has a population of approximately 1200 (2016 census) and is rapidly growing, with over a third of people under age 15 (Statistics Canada, 2017). With a median after tax income of $22,048 and an unemployment rate of 36.5% in 2016 (compared to 21.5% in Nunavut), it is no surprise that food insecurity is an issue in this community (Statistics Canada, 2017).

The objectives of this research are to better define barriers and highlight potential strategies relating to the availability, access, quality, and use of country food in Gjoa Haven, Nunavut, based on a variety of perspectives from local community members and leaders, and to further inform efforts led by Inuit decisionmakers, stakeholders, funding agencies, and interested researchers to advance food security in the community. For the purposes of this paper, country foods include those that have been harvested from the wild (Wilson et al., 2019). For Nunavummiut, country food typically includes wild game (e.g., muskox, caribou), fish, and marine animals (e.g., Arctic char, lake trout, whitefish, seal, whale), as well as birds and their eggs (e.g., geese, ptarmigan, swan). In some regions, country food also includes wild berries and edible plants (e.g., cloud berries, bearberries, blueberries, mountain sorrel, seaweed). However, we did not include these in this study, as they do not currently represent a major source of country food for this community. Many community members have heard from their parents or Elders that they used to pick berries further south in the Kaleet River or Back River areas, where many ancestors used to live. Occasionally, community members go back there to collect berries like their ancestors did (Martha Okpakok, Elizabeth Anavilok, pers. comm. 2022).

Our collaborative work began when members of the Gjoa Haven Hunters and Trappers Association (HTA) approached our team of researchers about sustainable development in the region. With them we made a successful application to Genome Canada to fund a project called Towards a Sustainable Fishery for Nunavummuit (TSFN) through the Large Scale Applied Research Project grant line. The HTA hoped our fishery development work would also strengthen community food security. It was their hope that fishery development would also strengthen food security (for more details, see Schott et al., 2020). This triggered more detailed community interest in defining, understanding, and improving food security in Gjoa Haven. Drawing on this increased community interest, we partnered with the Gjoa Haven HTA to apply to Polar Knowledge Canada to conduct a detailed harvest study. We received funding through one of their knowledge application grants (2017–22), and this funding was later extended, beginning in September 2022. Through the two projects (Towards a Sustainable Fishery and the harvest study), between August 2017 and March 2020 we were able to conduct a number of traditional knowledge, land use, and food security workshops, as well as real-time GPS tracking and harvest studies.

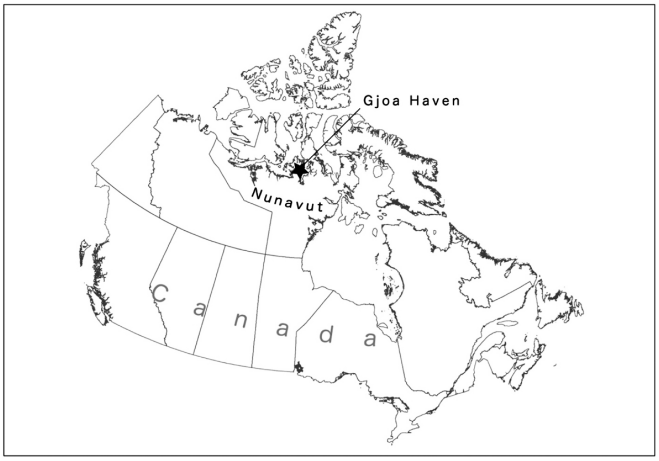

FIG. 1. Map indicating the location of Gjoa Haven, Nunavut.

In this paper we focus on the qualitative analysis of food security challenges, practices, and needs identified by different demographic groups (i.e., Elders; youth; hunters; food preparers; wellness, food program, and service coordinators) in Gjoa Haven based on focus groups we conducted over a three-year period. We group our findings into the four thematic areas of Inuit food security based on the Nunavut Food Security Strategy and Action Plan 2014–16 and include availability, accessibility, quality, and use. We also discuss the key overarching challenges and recommendations as they relate to the country food objectives identified in this action plan and the Inuit Nunangat Food Security Strategy, as applicable. With this study, we aim to provide insights into how governments can improve food security through policies and programs by enhancing these four areas, as they relate to country food.

METHODS

To gain a broad perspective on Inuit food security, we conducted a series of six focus groups and meetings between May 2017 and February 2020. The focus groups emerged from previous relationships developed through

research collaborations on fisheries and food security (see Schott et al., 2020) that started with a joint application in 2014, with the local HTA, for Genome Canada funding to research subsistence and commercial fisheries around Gjoa Haven, Nunavut. Table 1 details the date, location, number of participants, and topics covered for each focus group. When addressing food security, participants were not asked to comment specifically on their own experiences with food insecurity, but to respond to general questions regarding the community's food security as a whole (Table A2). We used a participatory approach with a blended method of Indigenous sharing circles and Western focus groups (Hunt and Young, 2021). We tried to provide equal opportunity for each participant to express their preferences and opinions. With the aid of flip charts and individual sheets of paper we recorded individual preferences, opinions, and ideas, then carefully facilitated a group discussion with the help of interpreters (for the Elders focus groups and the focus group held on the land); a youth intern and harvest study facilitator (youth and hunters focus groups); and the regional clinical dietician for the Kitikmeot region (for the final stakeholder focus group).

We carried out all workshop participant recruitment, compensation, consent, and liability form obtainment under the approval of the Carleton University Research Ethics Board-A (CUREB-A) at Carleton University under protocol #106248 and in compliance with the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2). This study was registered under the Nunavut Research Institute (0401119R-M).

We videotaped and had notetakers for most of the sessions (except for the youth focus group, which involved minors, and for the food program survey and focus group). Video footage will be preserved for heritage and knowledge transfer purposes on a secure server by the Nattilik Heritage Centre. We carefully summarized the notes, had at least two notetakers compare them, and validated them with interpreters and focus group facilitators. We subsequently carefully validated each focus group result with a select group of attendants, knowledge holders, and local partner organizations.

Food Security: Elder Perspective

Based on guidance obtained from the Gjoa Haven HTA executive board, efforts to understand local perceptions of food security in the community of Gjoa Haven began by consultation with Elders. To achieve this, on 9 May 2017 we held a workshop specifically targeting community Elders. We recruited participants based on recommendations from HTA board members, as well as through an open call on the radio for any Elder wanting to participate. We provided transportation to and from the workshop location, lunch, and compensation based on rates determined by the HTA. The final workshop group included 10 Elders (six women and four men) and one interpreter (Simon Okpakok, himself an Elder).

We used a semi-structured group interview and discussion format, where the workshop facilitator posed questions designed to initiate broader conversation among participants. Questions addressed during the Elder workshop focused on: (1) personal food preferences, including traditional country foods and store-bought foods; (2) perceptions on the current status of community food security and indicators of food insecurity; (3) vulnerable populations; (4) barriers to food access, seasonal variation in food access; and (5) success or failure of food programs in Gjoa Haven. As part of the broader discussion, participants shared their perceptions of what might have caused shifts in food availability and changes in food preferences over time, and whether the factors responsible for these shifts were associated with the segments of the population previously identified in the same focus groups (question 3) as vulnerable to food insecurity. Throughout the workshop, we recorded keywords on flip charts in both English and Inuktitut, and workshop administrators recorded notes.

Food Security: Youth Perspective

Elder participants in the first workshop did not feel they could speak about the food security perspectives of the broader community. So, on 20 August 2017 we held a separate workshop to address Inuit youth perspectives. With the support of the HTA executive board and the principal at Qiqirtaq High School, we recruited youth from grades 10 to 12 through an open call for participants over the school's PA system during morning and afternoon announcements in the days preceding the workshop. The final composition of the youth workshop included four females and five males aged 16 to 19. A parent or guardian of any participant under the age of consent provided consent in accordance with TCPS 2 protocols for working with vulnerable populations.

The semi-structured discussion format and questions addressed in the youth workshop aligned with topics covered during the Elder food security workshop held in May 2017. Unique to this workshop were discussions addressing factors specific to young people, including preferences for traditional country foods compared to their Elders, accessing traditional country foods, participation in traditional activities, such as hunting or country food preparation, and potential improvements in access to these activities.

Food Security: Perspective of Elders, Food Preparers, and Providers

Discussions in both the Elder and youth workshops repeatedly highlighted a lack of knowledge exchange between youth and Elders. In response, we decided to facilitate a knowledge exchange land camp to provide an opportunity for young people, Elders, and other family members to come together and discuss traditional hunting, fishing, and food preparation practices. In August 2018,

TABLE 1. Details of focus groups addressing food preferences, access, and availability of country food in Gjoa Haven, Nunavut.

	Elder Focus Group	Youth Focus Group	Focus Group on the Land	Program Survey and Focus Group	Hunter Focus Group	Stakeholder Meeting
Date	May 2017	August 2017	August 2018	May 2019	May 2019	February 2020
Location	School	School	On the land	Hamlet office	Hotel	Health centre
Participants	10 Elders	9 youth (ages 16–19)	5 Elders, harvesters, and food preparers	11 program coordinators (8 in focus group, 11 surveys)	32 hunters	7 stakeholders
Topics	Food preferences, country food vs. store food, access to food, challenges and solutions, commercial fisheries	Food preferences, country food vs. store food, access to food, food sharing and selling, traditional skills and knowledge, food safety	Access to fish, consumption, hunting practices, food safety, food sharing, commercial fisheries	Food security, vulnerable populations, food programs, sources of country food, challenges in accessing country food, program needs	Hunter support programs, challenges, needs	Recommendations and considerations in aiding the development of support programs

we held this knowledge exchange camp at the local fishing weir, approximately 2.5 hours by all-terrain vehicle (ATV) northeast of the community. Given that much of the decision making regarding household food consumption was reported to be done by those who hunt and prepare food, a third focus group was held that included adults that self-identified as either hunters or individuals responsible for food preparation in the home. This focus group was held during the larger knowledge exchange land trip and once again followed similar format and lines of questioning as the preceding focus groups. The focus group added questions about concerns of contaminants in country food, particularly in specific key fish species used as country food.

Food Security: Perspective of Program and Service Providers

In acknowledgement of the role played by program and service providers in increasing accessibility and use of country food, especially for vulnerable populations, we further collected information from 11 program and service providers. Our single inclusion criterion was that potential participants must work with programs and services that collect, distribute, prepare, and serve food to members of the community free of charge on a regular or semi-regular basis. All 11 program and service providers participated in a short survey to provide basic information about how their program or service operates, and to assess the scope and context of country food provision (May 2019 and February 2020). Eight of the 11 programs and service representatives also participated in a two-hour focus group discussion held at the Gjoa Haven hamlet office in May 2019. Prior to the focus group, all participants were informed of the purpose of the study and completed a consent form stating whether they would like their program to remain anonymous. Participants did not consent to the session being recorded. However, notetakers were present for the duration of the focus group and highlighted key discussion points on flip chart paper for participants to refer to. Researchers contacted program coordinators representing nearly all food related programs in Gjoa Haven directly; one program was missing: a food bank run through a local church. Participants indicated that the food bank only operates around Christmas time. Thus, it did not fit our inclusion criteria. Although not formally part of the study, researchers also had the opportunity to participate in a cooking class at the wellness centre, which provided additional insights and context to the input provided by program and service providers.

Food Security: Perspective of Hunters

Noting the importance of hunters in supplying programs and community members with country food, we held a fifth focus group with hunters, also in May 2019, to better understand their perceptions and challenges around supporting access to and distributing country food in the community. The focus group was a short, 20-minute segment of a separate, larger meeting related to the ongoing harvest study (summarized in Schott et al., 2020). We recruited hunters using radio and word of mouth; they were compensated for their participation. A total of 32 hunters (primarily male) took part, and all consented to participate in the study.

Food Security: Perspective of Program Coordinators and Various Local Practitioners

In February 2020, we held a meeting with community workers at the Gjoa Haven (Kativik) Health Centre to validate initial findings of the research and discuss possible ways forward. This meeting brought together the regional clinical dietitian (Government of Nunavut Department of Health/Kitikmeot), a homecare worker, a mental health nurse, a midwife, a CPNP coordinator, a hunter who supplied fish from commercial test fisheries to Elders and pregnant women through CPNP, and the local conservation

officer representing the Government of Nunavut Department of Environment. Participants provided verbal consent and were comfortable including information discussed in the meeting in this paper.

Analysis and Development of Recommendations

Our analysis and development of recommendations took an iterative approach. Two or more research team members took notes during focus groups, which we later analyzed and coded by hand into predetermined categories in alignment with the components of food security named in the Nunavut Food Security Strategy and Action Plan 2014 – 16: availability, accessibility, quality, and use (Nunavut Food Security Coalition, 2014). We coded comments touching on multiple components into both categories. While the earlier focus groups with Elders and youth touched on potential actions to improve food security and food sovereignty, those actions were developed into recommendations in subsequent discussions with hunters, food preparers, and program providers. We presented these recommendations to key community actors, including the Gjoa Haven HTA, program and service providers, and a community dietitian with the Government of Nunavut, who validated them, and further discussed these with a broader audience during a panel discussion at the Inuit Studies Conference in Montreal in 2019, which included the research team, regional dietitian, and a community program representative (Elizabeth Anavilok).

FINDINGS

Accessibility

Across focus groups and workshops, the number one barrier to accessing country food is cost. Although purchasing country food is not common for individuals, participants articulated how a lack of money and resources is a major barrier to hunting. Elders pointed out the contrast between traditional hunting practices, where dog teams and kamutiqs provided free transportation, and the high cost of purchasing, maintaining, and operating ATVs, boats, and snowmobiles. Additional expenses that limit accessibility of hunting include the cost of equipment and supplies, like bullets and nets, as well as basic necessities required while out on the land, like food and warm clothing. These expenses, combined with the opportunity cost of missing work, lack of economic opportunities, and high unemployment rates, have had a dramatic impact on hunters' activities in the region.

Program coordinators, on the other hand, purchase country food and, therefore, face a different set of challenges compared to individuals. Program coordinators have reported that funding does not cover the necessary amount of country food they would need for adequate distribution in the community year-round. This is strongly linked to availability of country food. Because of seasonal fluctuations, programs typically need to purchase the bulk of country food in the summer months when country food is plentiful, and they therefore incur the bulk of their expenses in the summer, which poses additional budgeting and planning challenges. In addition to the direct costs of purchasing country food, programs also need funds to cover the cost of purchasing and maintaining a freezer, (which none of the food programs currently possess), to store food so it can be strategically distributed throughout the year. Without adequate storage, programs must use the country food shortly after being purchased. The HTA has sourced a community freezer; however, maintenance and energy costs to keep it running year-round are prohibitive, at approximately $10,000 per month in the summer (Gjoa Haven HTA board, pers. comm. 2019). Furthermore, policies related to purchasing country food can result in additional accessibility barriers. For example, the need for food safety certificates or the requirement to use purchase order forms, as opposed to cash, pose logistical barriers for programs when purchasing food from local hunters. This forces coordinators to purchase more store-bought food than they would like, or to turn to commercial, certified country food sources outside the community (e.g., Kitikmeot Foods Ltd. in Cambridge Bay).

Barriers associated with country food accessibility are not only linked to high cost. Another barrier is the inability to go hunting due to the physical demands of the practice or the lack of experience and training, both of which disproportionately affect Elders and youth. Participants in both demographics indicated that they are interested in going out hunting more frequently, but often do not have anyone to go with. Elders find it increasingly difficult to get out on the land due to declining physical fitness and therefore need younger hunters to support them. At the same time, youth reported that they do not go out because they lacked the land skills, knowledge, and supplies (e.g., cold weather gear, vehicles) to safely go hunting on their own. Elders reported that they do not have strong connections with many youths, often because the youth do not speak Inuktitut. Youth, on the other hand, do not reach out to Elders to ask them to take them out on the land or to teach them necessary skills. Loss of language, cultural barriers, and social shyness were similarly reported by youth as reasons why they are not connecting with Elders to go out harvesting. Youth also reported that time obligations associated with school and work can prevent harvest activities.

In line with these accessibility barriers, focus group participants highlighted segments of the population who need the most support in accessing country food. The consolidated lists revealed that nearly every demographic in the community faces some form of barrier and could therefore benefit from support. In particular, they pointed to those with physical or financial barriers, including Elders; families with infants; pregnant women; those with no family; people on income support; and people without

access to hunting gear as needing the most support. Hunters echoed these statements, with the addition of single parents, large households, unemployed people (lack of finances), and employed people (lack of time). In discussing these needs and the demographics that programs currently serve, the program and services focus group identified middle-aged adults, particularly men, as a demographic that is often overlooked as beneficiaries in targeted programs, representing a major service gap. They stated that this population also requires support because they are often responsible for supporting multiple generations in their immediate and extended family, have limited resources, and sometimes lack the expertise or time to go out hunting.

Availability

It was unanimous across all focus groups that availability of country food has declined, both on the land and in the community. On the land, wildlife conditions, climate change, and conservation efforts can restrict the availability of and access to certain types of country food by for example, increasing travel distances/time and exposure to unsafe conditions. Participants also reported that wildlife populations and changing distributions influence harvest rates. Harvesters and the conservation officer noted that some species might have declined in the area and may be at risk of long-term extirpation. The causes of declines might be multiple, including migratory pattern shifts, increased pressure on food sources, new parasites, etc. For example, shifts towards less nomadic lifestyles and growing populations can lead to a larger and more concentrated demand on wildlife in a particular area. As a result, some animals, such as muskox and polar bears, are regulated in the area by tags or quotas, which has the potential to limit access.

The Elder focus group stated that there is a lot less country food available in the community because fewer hunters are going out on the land. The youth also recognized this trend, explaining that they eat store-bought food more often because it is consistently available, unlike country food. The focus groups made up of Elders, youths, program and service providers, and hunters and food preparers further noted that availability of country food fluctuates with the seasons, with particularly limited availability in the winter months because of the cold weather, lack of equipment, and high level of hunting experience required, due to the extreme conditions. Several focus group participants also said there is less country food available now through sharing compared to when they were younger. This confirms some data from the Nunavut Wildlife Harvest Study (NWHS), which indicated a lack of intensive hunters (those who go out often) in Gjoa Haven who could provide country food all season to the community, and especially vulnerable households (Lysenko and Schott, 2019). In fact, the problem might have been exacerbated since 2001, when the NWHS concluded, by recent population growth, drastic cost increases, and availability challenges. For those who do not have a hunter in their immediate family, sharing is often the primary source of country food. However, with fewer hunters going out on the land, the number of sources within the sharing network has decreased and, in some cases, contracted, leaving more isolated individuals or families who our participants reported are left stranded outside of sharing circles. Participants also explained that the overall reduction in sharing practices has also reduced country food donations to programs. Finally, participants reported limited country food availability in stores. This is, in part, due to the fact that there are no certified meat processing plants and butchering facilities in the community and very few in the region. For example, the local HTA, where meat can be processed and stored, does not undergo the annual inspections from the Canadian Food Inspection Agency (CFIA) that are required for the commercial sale of foods and has limited storage and processing space. These factors make it difficult to build up adequate country food stocks for the community and to trade country food with other communities.

It is important to note that any efforts to increase availability of country food in the community (i.e., through increased harvesting) will need to be balanced with the sustainability of wildlife on the land.

Quality

Country food is valued by both youth and Elders for its taste and health benefits. Despite an increasing preference for store-bought food, youth recognize that country food is healthier. Youth do enjoy country food and wish they could have it more often, but reported a preferred mix of both store-bought and country foods. In contrast, Elders reported a strong preference for country foods supplemented with store-bought staples, such as flour and baking powder to make bannock. Participants from the on-the-land focus group explained that store-bought meat has too much blood taken out of it and too many chemicals and is not fresh, which is why they prefer country foods. Youth participants echoed the idea that there is a lack of fresh food in stores. Further, the dietitian noted the value in eating a variety of different country foods, as it provides a diverse range of nutrients.

Focus group participants acknowledged that the community is becoming increasingly aware of the importance of food safety in ensuring the quality of country food and reaping its benefits in terms of taste and health. Participants from the Elder, food program, and hunter focus groups acknowledged food safety concerns regarding food handling, processing, and storage in local food preparation settings, and described strategies they use to tell if an animal is healthy and safe to eat (also supported by the Government of Nunavut and Northern Food Security Alliance in 2017). For example, if a muskox, caribou, or fish is too thin, or if fish have visible parasites, they won't eat it. Program coordinators were also familiar with concerns around contaminants, such as mercury, in

certain types of fish and indicated that they avoid providing those types of country foods to program participants. Program providers and hunters, in particular, were interested in further training on food safety, as they were aware of its importance in selling and distributing country food, especially to vulnerable populations (e.g., Elders, pregnant women). These insights point to an opportunity to renew and update food safety strategies, messages, and training in the village, something that could occur, for example, through the 2020–2030 Kitikmeot Health & Food Security Action Plan, which covers Gjoa Haven and the entire region (Kitikmeot Inuit Association and Kitikmeot Chamber of Commerce, 2020). In addition to training, program providers and hunters also expressed a need for infrastructure that facilitates proper processing, handling, and storing of country food. They noted that the current infrastructure is inadequate and does not provide food safety certification options.

Use

The dissemination of traditional knowledge from one generation to the next is decreasing. As a result, youth and young hunters lack the necessary skills and knowledge to safely go out hunting on the land. The previously mentioned disconnect between Elders and youth in getting out on the land also applies to passing on traditional knowledge about hunting. Participants from the Elder and on-the-land focus groups said they felt young hunters do not know the land well enough and lack practical experience. Participants from the on-the-land focus group stated that more practical training is needed for safe hunting practices, and that the high school could be more involved in it. Elders felt youth need to be on the land for longer periods of time to gain hands-on experience. Male youth agreed, expressing interest in getting out on the land more, as opposed to learning about hunting in school, but said they often have no one to take them or they don't have time because they are in school. In contrast, female youth expressed interest in learning more about hunting and sewing in school. Overall, male youth had more experience hunting because they tend to go out more often with their parents and grandparents, while girls stay home or at camp preparing food. It was further noted that some female youth feel uncomfortable handling guns. The gender imbalance in hunting, fishing, and processing, and the previously described problem of getting Elders and youth to go out on the land might result in serious, long-term effects in transferring knowledge, skills, and enthusiasm for going out on the land and acquiring country food in all types of conditions throughout the year.

Still on the subject of food safety training, participants in the food program focus groups said they would welcome teaching by both Elders and the Government of Nunavut Department of Health. They mentioned that some people leave the community to get food safety training, but it would be beneficial to have someone in the community that could pass the knowledge on to others. Similarly, participants from the hunter focus group expressed interest in food safety training regarding the handling, processing, and storage of country foods. Participants recognized food safety as playing an important role in expanding the sale of country food and as a requirement for providing country food to vulnerable populations.

Lastly, food program focus group participants emphasized food preparation as an important aspect of food security, but said there needs to be more emphasis on the preparation of country food. Participants in the focus group also said that although students do take cooking classes in school, they rarely learn how to cook country foods. A home economics teacher from the local high school explained that teachings vary depending on the curriculum, the current teacher's experience cooking country food, and whether country food is available. Community wellness programs do offer cooking classes in Gjoa Haven. However, unreliable access to a variety of local country foods and insufficient storage limit their ability to consistently incorporate country food into the recipes they are teaching. Participants also expressed an interest in sharing more recipes and acquiring country food cookbooks that integrate store bought food into nutritious and attractive meals for young and middle-aged families. Since we conducted the focus groups, the Government of Nunavut Department of Health has launched several cookbook and recipe competitions, including a collaboration with Rebecca Veevee (Chef on the Inuit TV cooking show *Niqitsiat* (healthy cooking) to produce a video *Serving Country Food with Rebecca Veevee*. We had the opportunity to participate in some of the food preparation and cooking classes at the wellness centre. Our own recommendations for new country food recipes that we had tried ourselves during numerous visits to the Arctic were very welcomed. An interesting insight was that some of the country food resources that are readily abundant all year round, such as Greenland cod, are not really part of most families' diets because of a lack of experience in cooking with that type of fish. When we cooked it in combination with other well-used food sources, like Arctic char, and some store-bought food to make a cod-char chowder, most participants were quite elated about the taste of the meal and the potential of this highly underutilized local resource. Similarly, our story about battering and deep frying freshly caught cod during a hunting trip in August of 2016 introduced youth and food preparers to new ways of using this resource and was especially appealing to youth, but also to some Elders, who traditionally in the past ate cod, but mostly by boiling it. Our experience in the wellness centre classes suggests that rediscovering traditional food items prepared in modern ways can bring Elders and youth closer together. It is possible for these two generations to exchange different ways of processing and cooking country food meals and to revive the harvest of underutilized country food resources. These positive experiences reinforced to all those who participated, the value of home economics and food literacy activities in facilitating the introduction of

changes to eating habits, developing confidence in capacity and skills, and advancing intergeneration knowledge of the community's food system, how it is changing, and how to adapt to it (Kitikmeot Inuit Association and Kitikmeot Chamber of Commerce, 2020).

DISCUSSION

Three thematic areas emerged from our workshops that transcend the above-mentioned components of food security: (1) finances and the economy, (2) resources and infrastructure, and (3) skills and knowledge. Indeed, these themes highlight common challenges to country food security and align with previous results from research conducted across the Arctic and in northern Canadian Indigenous communities in recent decades (Chan et al., 2006; Ford and Berrang-Ford, 2009). The unique outcome of our work is in the diversity of perspectives within a single community. These perspectives inform our recommendations for ensuring a community-driven, wholistic, and tailored approach to reducing country food insecurity and working towards food sovereignty. The opportunities we identify below for program and policy interventions to improve food security and promote food sovereignty in Gjoa Haven, Nunavut, can be adapted to other Arctic communities experiencing similar challenges.

As described by Wilson et al. (2019), food sovereignty is the right for Indigenous peoples to determine the future of their food systems. Food security and sovereignty are interrelated and encompass knowledge and preferences; human rights and governance; nutrition and food safety; and availability, access, use, and logistics (Council of Canadian Academies, 2014). Community members, hunters, and program providers have a strong sense of what they want their food system to look like, but have expressed a need for financial and economic supports, adequate resources and infrastructure, and opportunities to further develop relevant training and knowledge. The recommendations detailed in Table 2 are aimed at strengthening food security and food sovereignty and are based on challenges expressed in one or more of the focus group discussions. We used an iterative approach to develop these recommendations, building on suggestions from one focus group to the next, as supported by literature, and we validated them through presentations, meetings, and panel discussions with key community actors who have a vested interest in food security and the local food system.

Finances and the Economy

When workshopping our recommendations, the first strong theme that emerged consistently across participant groups was economic barriers, a challenge that negatively impacted both accessibility and availability of country food. Examples included the high price of transportation, equipment, and fuel. This finding resonates with other recent findings in the literature (Chan et al., 2006; Lambden et al., 2006; Beaumier and Ford, 2010; Ford and Beaumier, 2011). We also found that the mechanisms behind economic barriers vary. For example, participants in our program focus group pointed to the fact that, because hunting is so resource intensive, the cost of purchasing country food is high and prohibitive for many. This fact echoes previous findings by Ford and Baumier (2011) and Lardea et al. (2011). Previous work has highlighted financial barriers stemming from unemployment or underemployment, limited access to financial resources, lack of budgeting skills, and the increasing cost of living in the North (Chan et al., 2006; Lardea et al., 2011; Ford et al., 2012; Wenzel et al., 2016). This sentiment was echoed by participants in our program focus group.

Improved financial and economic circumstances, in theory, would increase hunting activity and therefore the amount of country food available in the community, in turn, increasing the amount of country food shared, and reducing the cost of local country food available for purchase, while diminishing the reliance on expensive and less nutritious store-bought food. Below, we detail recommendations emerging from our workshops to achieve these goals.

Ensure Subsidies Administered Through Hunter Support Programs Cover Ongoing Costs Associated with Hunting: Hunter support programs, also called harvester assistance programs, aim to reduce the cost of hunting by subsidizing the purchase of vehicles and harvesting equipment (Wilson et al., 2020). However, there is limited support for the ongoing costs of maintenance and fuel, which greatly reduces the efficacy of the programs in Gjoa Haven. Chan et al. (2006) similarly noted that harvester support programs are inadequate and do not cover many hunter costs. The Nunavut Food Security Coalition recognized this limitation and in its Nunavut Food Security Strategy and Action Plan, 2014–16, it suggested establishing a harvesters support working group to review existing harvester support programs and recommend modifications (Nunavut Food Security Coalition, 2014). Likewise, ITK's Inuit Nunangat Food Security Strategy (INFSS) highlights the need to evaluate use of, and access to, existing programs and services that are intended to improve food security and to assess their efficacy (ITK, 2021). Hoover et al. (2016) recommended focusing efforts on increasing people's awareness of economic support programs and their application processes, as well as simplifying applications and increasing funding rates. We concur but add that eligible costs covered by programs should be expanded to include ongoing costs regularly incurred by hunters, such as maintenance, repairs, and operating costs.

In addition to this kind of financing for subsistence harvesting, however, it is also important to support sustained economic development. For example, locally processing surplus harvests of certain fish species and land and marine animals (e.g., muskox, whale meat) and selling these products directly to consumers or retailers

TABLE 2: Recommendations and associated policy objectives to support food sovereignty in Gjoa Haven, Nunavut*

Goal	Recommendation
Finances and the Economy	
• Hunting is affordable for all hunters	1.1 Ensure subsidies administered through hunter support programs cover ongoing costs associated with hunting. 1.2 Facilitate bulk purchasing and low-cost finance of hunting equipment and supplies through community organizations.
• Hunters can sustainably participate in the local economy	1.3 Promote fair compensation rates to ensure hunters are adequately compensated for costs associated with hunting. 1.4 Reduce barriers for programs to purchase country foods from local hunters by providing flexibility in how, where, and when country foods can be purchased.
• Hunters have a sense of job security	1.5 Allow workers to take time off so they can participate in hunting, processing, and food preparing activities without the opportunity cost of missing work or fear of losing their job. 1.6 Create more formal jobs for hunters to ensure sustainable income and to guarantee more even flow of country food to the community. Examples include salaried hunter positions or pay hunters to go out more regularly for the HTA or other food distribution programs.
Resources and Infrastructure	
• Peripheral services required for hunting are readily available	2.1 Increase the number of mechanics and shops available in the community.
• Local facilities meet community needs	2.2 Establish an Inuit community nutrition and food centre (country food butchering; food processing; plant food production; composting; school and community meals programs; nutrition education; sustainable development; home economics programs; food safety training; etc.).
• Hunting equipment and gear is produced locally	2.3 Subsidize and support the sourcing of materials used in producing hunting tools and clothing.
Skills and Knowledge	
• Younger generations have opportunities to learn traditional skills and knowledge	3.1 Resources and subsidies should be made available to facilitate opportunities for families and community members to go out hunting together. 3.2 Traditional skills and language should be integrated into school curriculum and offered as extracurricular activities to community members who do not have the opportunity to learn from family members.
• Indigenous knowledge and scientific knowledge are integrated in food safety training	3.3 Food safety skills and training should continue to be jointly offered by Elders and the Government of Nunavut on a consistent basis to promote traditional practices that complement food safety requirements, with consideration of traditional butchering and food processing techniques.

* This table summarizes the objectives and actions listed in the Nunavut Food Security Strategy and Action Plan 2014–16, prepared by the Nunavut Food Security Coalition.
See https://www.nunavutfoodsecurity.ca/sites/default/files/files/Resources/Strategy/NunavutFoodSecurityStrategy_ENGLISH.pdf

in the South would dramatically increase support for local hunting activities, with the double dividend of creating part or full-time jobs while providing more country food for the community.

Facilitate Bulk Purchasing and Low-cost Financing of Hunting Equipment and Supplies Through Community Organizations: Although some hunting equipment and supplies are subsidized through hunter support programs, limited eligibility and barriers in the application process preclude some hunters from benefiting from these programs (Hoover et al., 2016). Bulk purchasing through a centralized community organization would ensure all hunters could access resources at a reduced cost by avoiding markups commonly seen in stores and eliminating eligibility criteria. The local HTA would be well positioned to facilitate this process, given that many hunters are connected with the organization through various other hunting programs and resources it offers. The HTA is also more attuned to the needs of hunters and could monitor and anticipate inventory needs better than a generalized store could. This would, however, require additional capacity and could not be imposed on already overburdened HTA managers. Two possible ways forward include adding an assistant HTA manager position or creating a new committee that would include this assistant manager, a representative from the hamlet of Gjoa Haven, and active hunters from the community.

Promote Fair Compensation Rates to Ensure Hunters are Adequately Compensated for Costs Associated with Hunting: Not all costs incurred by hunters are reflected in the compensation they receive when harvesting for government-funded community feasts or programs (Schott

et al., n.d.). For example, many hunters forgo wages so they can hunt and regularly invest substantial amounts in machinery and equipment that often needs to be renewed. The opportunity cost of foregone wages and capital costs can be greater than the compensation they receive, depending on the type and amount of country food they harvest and the mode of transportation they use. Fair harvest rates would ensure hunters do not need to choose between supporting their community's country food security and their own livelihood. This recommendation aligns with the Nunavut Food Security Coalition's (2014) recommendation to support harvesters so they can pursue traditional livelihoods. A local harvest study with the HTA and a number of local hunters is underway since August 2017, which will provide accurate information on how much hunters need to spend to achieve a sustainable livelihood (Chapman and Schott, 2020; Schott et al., n.d.).

Reduce Barriers for Programs to Purchase Country Foods from Local Hunters by Providing Flexibility in How, Where, and When Country Foods can be Purchased: It is important that policies and procedures take into consideration the realities of the informal economy and the constraints faced by local hunters and program providers. Policies and procedures, such as the requirement for programs to use a purchase order, prohibit programs from participating in the informal economy, where cash or bartering might be used. Moreover, some programs cannot accept country food from local hunters because of food safety certification requirements. Food Secure Canada's recommendations for a food policy for Canada in 2017 recognize that food safety regulations pose barriers for regional and local food systems (Martorell, 2017a). We would like to see more discussion of barriers specific to the North, and to country food in particular. With regard to the question of informal purchases of country food, the Nunavut Food Security Coalition in collaboration with the Government of Nunavut's Department of Health, has developed new policies and procedures for country food procurement and services in government-funded facilities (GN Health and Nunavut Food Security Coalition, 2017). In doing so, policies and procedures should provide flexibility to facilitate the mutual benefit of program providers sourcing country food from local hunters. For example, relaxing purchasing requirements (e.g., allowing cash payment) would allow for the flexibility to procure country food opportunistically from local hunters who do not take purchase orders.

Allow Workers to Take Time Off so They can Participate in Hunting, Processing, and Food Preparing Activities Without the Opportunity Cost of Missing Work or Fear of Losing Their Job: Limited participation in wage-based and land-based activities are a result of a cyclical barrier, where a job is needed to finance hunting but reduces time available to hunt. Our harvest study (Schott et al., n.d.), like other studies (Ready, 2018; Arriagada and Bleakney, 2019), found that Inuit who were not in the labour force were less likely to participate in land-based activities. As previously mentioned, the cost of hunting can be prohibitive; however, participants in the hunter focus groups also noted that being employed made it difficult to find time to get out on the land. Although not specific to hunting, the Nunavut Food Security Coalition understands that there are disincentives to employment and suggests exploring policy changes that will ensure adequate income while reducing these disincentives (Nunavut Food Security Coalition, 2014; Qikiqtani Inuit Association, 2019; ITK, 2021). A small Indigenous community in Ontario addressed this challenge by allowing those employed by the band to go out on the land half of the week without losing wages; in return, they have to donate half of their harvest to the community freezers (Martorell, 2017b).

Create More Formal Jobs for Hunters to Ensure Sustainable Income: One context-specific suggestion we heard to increase opportunities for formal jobs in Gjoa Haven was to establish a small-scale commercial fishery. This aligns with the Nunavut Food Security Coalition's (2014) recommendation to explore sustainable commercialization of country food and echoes what Wilson et al. (2020) discuss in relation to a broader context. Harvesting related jobs would increase access (through income and getting out on the land fishing) and the availability of country food (through redistribution in the community), while supporting hunters' livelihoods and the local economy. Some communities are, therefore, hiring hunters for food provision and distribution (e.g., the professional hunter program in Clyde River; MakeWay, 2023).

Resources and Infrastructure

In today's modern food system, reliable infrastructure and access to resources have become foundational aspects of food sovereignty. Without the appropriate tools and facilities, small communities may need to rely on larger urban centres for processing and distribution of country foods, which, in turn, limits community members' ability to make decisions about their local food system. Local small- to medium-scale processing and butchering facilities would help to safely butcher and store country food and could also be used to prepare surplus food to barter with other communities, or for limited sales within the community or to direct buyers outside the region. Unfortunately, governments often fail to recognize food system infrastructure as a necessity. For example, the Infrastructure Index for Remote Indigenous Communities fails to incorporate any food-related infrastructure into either of the economic or quality of life indexes (The National Indigenous Economic Development Board, 2019). Instead, government funding tends to directly subsidize food products shipped in from the South.

As noted in the literature, the remote nature of the Arctic exacerbates challenges associated with infrastructure and availability of materials in most Inuit communities, not only in Canada but in Greenland as well (Natcher et al.,

2019). These barriers affect more than just the availability and accessibility of country food through hunters' ability to go out on the land, or program providers' ability to store and process food; they also affect the quality aspect of food security. For example, Wilson et al. (2020) note that the lack of processing infrastructure makes it difficult to meet food safety requirements, which was acknowledged as a prerequisite by some of the program and service providers we spoke to.

The federal government recently committed to supporting infrastructure development in northern communities through the Investing in Canada Plan (Infrastructure Canada, 2022). The INFSS also recognizes the need for climate-resilient infrastructure that supports country food harvesting, promotes population health and safety, and reduces the cost of living (ITK, 2021). However, more support is required, as infrastructure development on its own will not solve country food insecurity. These supports should include investments to improve the availability of peripheral services, ensure local facilities meet community needs, and to support the local production and sale of resources. With resources and infrastructure in place, more hunters will be able to get out on the land, and country food brought into the community can be properly processed, stored, and prepared.

Increase the Number of Mechanics and Shops Available in the Community: Rough terrain and extreme weather conditions lead to significant wear and tear on vehicles used for hunting. An ATV that would normally have a life span of 10-plus years in the South, lasts only three or four years in the Arctic (Schott et al., n.d.). Although maintenance is an eligible expense under the federal government's Harvester Support Grant, mechanics, tools, parts, and space in a heated shop are limiting factors for hunters in Gjoa Haven. Infrastructure funds should be used to create more spaces where hunters can repair their vehicles. Moreover, funding should also go towards training locals in mechanics and maintaining a supply of tools and parts to ensure repairs can be done in a timely manner.

Establish a Food Safety-Certified, Multi-Purpose Community Centre: The Nunavut Food Security Coalition is in support of infrastructure projects that facilitate harvesting activities and traditional livelihoods, and advocates for the creation of community food centres that encompass communal food preparation facilities and wellness programming (Nunavut Food Security Coalition, 2014). A multi-purpose community centre would be a central location where country food could be stored, processed, and prepared, and where program coordinators, hunters, food preparers, and community members of all ages could gather to share knowledge and food.

Multi-purpose centres increase communication among program providers, hunters, and community members, which can facilitate exchange of resources, such as country food for programs or traditional clothing and tools for hunters. Moreover, a shared space would reduce overhead costs, allowing more resources to be dedicated towards maintenance and repairs of hunting equipment, and ensuring the space meets food safety certification standards.

Subsidize and Support the Sourcing of Materials Used in Producing Hunting Tools and Clothing: Some hunters enjoy making their own traditional hunting tools. Funding exists for tool-making programs through the Department of Culture and Heritage. In fact, the Government of Nunavut has published Traditional Clothing and Tool Making Program Guidelines to promote community-based Elder and youth programs (GN, n.d.). The guide helps program coordinators identify the materials required for tool making and provides information on how to apply for grants. However, hunters who already have the skills and wish to make tools independently often lack the resources necessary to do it on their own. We recommend that the local government subsize and support the sourcing of materials to facilitate hunters' ability to make tools independently as needed and when needed.

Skills and Knowledge

The third theme that emerged from the focus groups is skills and knowledge, which is intimately linked to the use component of Nunavut Food and Security Strategy and Action Plan 2014–2016's (2014) four components of country food security. Intergenerational knowledge transmission is key to both individual and community well-being (Council of Canadian Academies, 2014). All Inuit should have the opportunity to acquire harvesting knowledge and skills (ITK, 2021). Pearce et al. highlight the importance of building skills, such as navigation, hunting, and meat preparation (Pearce et al., 2015). Participants from our focus groups echoed this sentiment and noted that there are fewer hunters going out on the land because they lack these types of traditional skills and knowledge. Much like others have reported elsewhere, our participants attributed their lack of knowledge to challenges associated with intergenerational transfer of knowledge and limited opportunities to gain hands-on experience (Naylor et al., n.d.). Further conversations with Elders and youth in Gjoa Haven identified limited knowledge of Inuktitut, lack of time, and not having a mentor as key barriers to developing hunting knowledge and skills.

Long-term Inuit country food security is dependent on younger generations' ability to hunt and prepare country food, and on them continuing to pass those skills and knowledge on to future generations. Federal policies and programs should facilitate opportunities for intergenerational transfer of knowledge and more hands-on experience. This traditional way of learning should be supplemented by formal training for those who wish to provide food safety–certified country food. Increased skills and knowledge will enable more hunters to get out on the land safely and will promote the increased use of country food in family and community kitchens, and by programs and service providers.

Resources and Subsidies Should be Made Available to Facilitate Opportunities for Families and Community Members to go Out Hunting Together: In addition to reducing the financial burden of acquiring country food, hunter support programs can be used as a mechanism to promote knowledge exchange by supporting family and community outings on the land (Martorell, 2017b). For example, the Nunavut Food Security Coalition recommends hosting regular community harvests (Nunavut Food Security Coalition, 2014). These types of community events can be used to bring more country food into the community while also exposing young hunters to traditional practices. For example, family summer camps are already being organized in Cambridge Bay and Gjoa Haven, which are another type of land training that encourages knowledge exchange. Funding for supplies and equipment would help facilitate more opportunities for families to get out on the land for long periods in the summer when youth can be immersed in traditional practices.

Traditional Skills and Language Should be Integrated into the School Curriculum and Offered as Extracurricular Activities to Community Members Who Do Not Have the Opportunity to Learn from Family Members: The INFSS highlights the need to promote program models that teach harvesting skills and knowledge and ensure equitable participation (ITK, 2021). Foundational skills, such as language, facilitate the acquisition of other traditional skills and knowledge, including hunting, storing, and preparing country food (Nunavut Food Security Coalition, 2014). Often these skills are passed on from one generation to the next through hands-on experience. For many reasons, including some not discussed in this paper, many Inuit do not have the opportunity to learn from their Elders or family members. Schools, wellness, and health programs can play an important role in filling that gap by facilitating knowledge sharing and experiences (Martorell, 2017b). Maintaining traditional knowledge sharing practices is important; therefore, opportunities for students to learn from their Elders should be further encouraged. For example, school authorities could consider giving credits to students who learn traditional skills at home and on the land from Elders and family members. In addition, high schools could develop their own outdoor and wilderness education program and couple it with nutritional science and cooking classes.

Food Safety Skills and Training Should be Jointly Offered by Elders and the Department of Health to Promote the Use of Traditional Practices that Complement Food Safety Requirements: Food safety training is necessary for hunters and program coordinators who wish to provide country food in regulated settings (e.g., in government-regulated facilities). The INFSS recommends supporting Inuit-specific nutritional knowledge and literacy initiatives to promote the production of safe food in Inuit Nunangat (ITK, 2021). Traditional practices have long been used to mitigate food safety risks. A new food safety training program should be co-developed that integrates traditional practices and considers new realities brought about by climate change and socioeconomic adjustments. This new program will require collaboration and relationship building among locals, health officials, and scientists Friendship and Furgal (2012). Chapman and Schott (2020) provide a framework that can be used to guide the process of knowledge co-evolution in the development of a culturally appropriate food safety training curriculum. Empowering local knowledge holders to offer this training will build local capacity and reduce food safety risks.

Limitations

Several limitations arose during our study that might impact the applicability of our findings. It is important to note that country food security is community specific, and the challenges expressed by focus group participants are specific to their experience living, working, and hunting in Gjoa Haven. This does not mean recommendations are not applicable to other communities, but rather, that policy interventions should be tailored to the needs expressed by community members. It is also possible that responses were biased by the group effect, given that Inuit tend not to disagree openly with others in a public setting (Carey and Smith, 1994). We tried to control for these effects by asking individual participants to separately express their preferences and opinions; to use the guidance of focus group facilitators; and to validate notes and observations directly after each focus group session, and in repeat visits with knowledge holders, advisers, and relevant organizations. These steps encompassed out iterative approach of learning together with knowledge holders about preferences; food source access and availability; cultural importance of country foods; and barriers to program delivery. These steps were also in line with our knowledge co-evolution approach (Chapman and Schott, 2020) that requires us to constantly revisit research objectives and approaches for the benefit of the community.

Another limitation linked to our methodological approach was that only a limited number of participants from each demographic could take part. Therefore, it is important to interpret the information cautiously, and participants' views may not be representative of all views in the demographic they represent. This is particularly important for the Elder and youth focus groups, given the small number of participants representing a large proportion of the population. Similarly, we would also like to emphasize that our findings are based on community members' perceptions, and that it is outside of the scope of this study to corroborate statements made by participants with tangible data (e.g., evidence to support reduced sharing of country food). It may be worthwhile in future research to collect more evidence to support these statements, should it be of value in addressing food security and food sovereignty challenges.

CONCLUSION

Nunavummiut in Gjoa Haven place significant value on country food but are faced with a myriad of challenges that limit their country food security. With growing recognition of the importance of food sovereignty, it becomes more obvious that a one-size-fits-all approach to achieving this goal will not work. Despite similarities in challenges and experiences among Arctic communities, tailored, community-driven approaches are essential to ensure effective implementation of policies and programs aimed at country food security.

Our study explores challenges to country food security from a variety of community perspectives, including Elders, youth, food program coordinators, hunters, and food preparers. This diversity provides a more comprehensive view of the barriers faced by the community of Gjoa Haven as a whole, and highlights interdependencies in access, availability, quality, and use of country food. As seen consistently in previous research across Inuit Nunangat, the primary barrier to accessibility was cost, followed by the physical ability to go out hunting. In addition, study participants reported that limited intergenerational sharing of knowledge and skills and lack of hands-on experience limit younger generations' ability to go out hunting. Conservation practices might further limit the availability of wildlife that can be hunted by imposing limits on harvest. All these factors affect availability of and access to country food in the community. In turn, they limit Inuit sovereignty over food choices and lead, indirectly, to less sharing through formal food programs and informal social networks. When country food is available, knowledge of how to process, prepare, and store food, as well as food safety, become matters of concern.

Taken together, the three thematic areas emerging from our focus groups offer a lens through which to evaluate policy and program options that could improve country food security and promote food sovereignty. Our financial and economic recommendations focus on ensuring hunting is affordable, that hunters can sustainably and consistently participate in the local economy, and that hunters have job security. The latter could consist of community hunter positions, as in Clyde River, Nunavut, or could allow hunters to harvest a guaranteed number of days per year without pay reductions, or to take advantage of special work-sharing arrangements. However, any initiatives that create economic incentives to harvest or promote the sale of country food should be undertaken thoughtfully with a full understanding of the potential long-term impacts (Searles, 2016). Our resource and infrastructure recommendations emphasize the need for peripheral services, facilities that meet the community's needs, and support for locally produced tools and equipment. Lastly, recommendations in support of enhancing skills and knowledge focus on ensuring that younger generations have opportunities for hands-on experience, and that formal training is a complement to not a substitute for traditional knowledge.

Food sovereignty can only be accomplished from a community-driven approach with a foundation in Inuit culture, traditional skills, and knowledge (Qikiqtani Inuit Association, 2019; ITK, 2021). Nor can it be achieved without physical and financial means. Government policies and programs need to do more than just address barriers to country food security and provide subsidies for equipment, operating cost, and store-bought food to enable hunting activities. Initiatives must operate alongside communities to empower local people through the shared objectives of food security and building a stronger country food system aligned with Inuit preferences. Only then will we be able to overcome a food security crisis in the Canadian Arctic that is being amplified by rapidly increasing food prices and fuel costs and by the uncertainty imposed by climate change on the availability and distribution of country food across the Arctic.

Community and regional initiatives centred on the provision, distribution, and processing of country food are essential to elevate food sovereignty and reduce food insecurity in the Arctic. For that reason, all five communities in the Kitikmeot region, including Gjoa Haven, decided to come together in February 2020 to identify six initiatives to improve food sovereignty and security. Since then, the group has met several times to define community and region-specific programs, infrastructure needs, and ideas for inter-community country food trading. People in Kitikmeot are actively and independently taking matters into their own hands to tackle food security in their region.

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