Food Security – Environmental Scan

National Collaborating Centre for Infectious Diseases (NCCID)
University of Manitoba
Technical Report

Created by:
The Centre for Indigenous Environmental Resources (CIER)
August 31, 2023
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Acknowledgements

The Centre for Indigenous Environmental Resources (CIER) and, the National Collaborating Centre for Infectious Diseases (NCCID) would like to thank the participants that responded to the survey questions and took time to participate in the interview phase.

1.0 Introduction

CIER is Canada’s first Indigenous directed, environmental non-profit charitable organisation. CIER focuses on meeting Indigenous Nations’ needs by enabling our Indigenous partners to build on their strengths using valued traditional, local, and western science methods. With a focus on building environmental capacity within Indigenous communities, CIER assists through educating, conducting research, and building skills to help Indigenous communities achieve their goals.

The NCCID consulted with CIER to discuss an opportunity to partner on an environmental scan, focusing on Indigenous food security and food safety in relation to climate change. CIER proposed to complete this initiative across two key phases over a two-year period.

1.1 Context

Food security for Indigenous people is an increasingly important issue across Canada. Since time immemorial, Indigenous peoples were able to enjoy food sovereignty through traditional practices of hunting, fishing, aquaculture, farming, controlled forest burning and harvesting of forest greens, mushrooms, berries, and tree sap. However, following colonization, and more recently factors such as climate change and the presence of extractive industries have caused a sharp decline in the ability of Indigenous peoples to live off the land.

The decline in hunting, fishing, agricultural and harvesting practices are related to increased hazardous terrains due to climate change, changes in weather patterns and migratory routes, access to traditional territories, and the declining quantity, quality, and safety of wild foods from pollution and other man-made effects. The loss of these practices has forced many Indigenous people to rely more on expensive Western food, leading to many socio-economic issues affecting both physical and mental health.

Indigenous people, from Youth to Elders, across all Nations, want to increase their food security by learning more about traditional food systems. Some solutions may include increased engagement with youth, supporting Indigenous food production, and implementing on-the-ground projects such as gardening, harvesting of food and medicines, and educating youth on traditional hunting practices.

However, in addition to these local, community-based programs to build food security, there is also a need for policy change at all levels of government to ensure that funding and capacity building are ongoing factors in helping Indigenous Nations build food security.

1.2 Project Purpose

NCCID is seeking to better understand Indigenous food security gaps and priorities in relation to climate change; learn about innovative strategies and projects already underway; and facilitate knowledge
exchange about Indigenous food security and food safety awareness to health care workers, community partners, and other stakeholders. More specifically, NCCID is looking to:

- Identify gaps and inequities related to food security.
- Identify food safety and climate change challenges across Indigenous Nations and communities.
- Gather, review, and summarize knowledge on promising food security practices and strategies.
- Identify innovative projects currently being implemented by Indigenous Nations, organizations, and/or individuals.
- Support the dissemination of Indigenous food security and food safety knowledge, awareness and provide education to health care workers, community partners, and other stakeholders that respect Indigenous ways of knowing and doing.

1.3 Funders and Support

The NCCID is one of six National Collaborating Centres for Public Health that work across disciplines and sectors to conduct research and educate public health audiences and professionals by forging connections between those who generate and those who use infectious disease public health knowledge. NCCID has a mandate to provide information and knowledges for public health planning and policy across various topic areas.

1.4 Workplan

Phase 1 included an environmental scan, a national survey and key informant interviews.

- The Environmental Scan involved scanning of online sources to identify food security gaps and inequities, to understand current knowledge, various strategies being implemented, and to identify contacts across Nations and organizations that are active in the food security-climate change nexus.

- The national survey for Indigenous Nations and organizations was co-developed between CIER and NCCID. This survey was to include questions related to understanding food security and climate change gaps, priorities, and capacities from Indigenous perspectives to support NCCID’s team with current and future educational awareness and knowledge exchange initiatives for public health audiences. The national survey was carried out from December 2022 to April 2023. It was sent out to one hundred and twenty two organizations and individuals, who had either participated in food sovereignty initiatives or were deemed experts in the field. CIER followed up numerous times with all organizations and individuals. Nevertheless, CIER received twenty responses representing all regions across Canada.

- A contact list was also created of Indigenous communities, organizations and individuals who are active in the food security-climate change nexus. Because CIER wanted to ensure that the people with whom we were going to reach out to for the national survey and the interviews, would be knowledgeable in the field, this list became a diverse yet targeted resource which evolved throughout that phase of the project. This list was sent to NCCID for review. CIER received suggested contacts to add and they were added to the contact list.

- CIER conducted a set of interviews with various Nations, organizations, and individuals across Canada. Based on the interviewee’s responses to the survey questions, each was asked to
expand on their responses. This approach ensured that the information shared was participant-driven and therefore more reflective of their priorities and what they felt was relevant and appropriate to share. The Interviews were carried out in April of 2023, with eight individuals, who had generously volunteered to be interviewed during the survey period. The responses given during the interviews were unique and insightful, furthering our understanding of the gaps and inequities related to food security and climate change, as well as knowledge on promising practices and strategies.

1.5 Expected Outcomes and Deliverables

The following is a summary of the outcomes and deliverables for the first Phase of the project.

Phase 1: Environmental Scan and Development of Resource Materials

Environmental Scan
- Carried out a desktop research literature review on the state of knowledge and evidence on Indigenous food security related to climate change, in addition to, knowledge translation gaps and promising initiatives and strategies.
- Developed a spreadsheet of resources gathered through the literature review. (Appendix A).
- Developed a comprehensive contact list consisting of Indigenous communities, organizations and individuals that are active in the food security-climate change nexus (Appendix B).

National Survey
- Developed a national survey and received feedback from NCCID (Appendix C).
- Distributed the national survey (December 2022 to April 2023).
- Created a ‘what we heard’ report of the survey results and shared back with participants for feedback.

Key Informant Interviews
- Developed an interview script and received feedback from NCCID (Appendix D).
- Identified key individuals across regions and jurisdictions to interview.
- Conduct interviews (April – May 2023).
- Provided a short progress report on surveys and interviews.

Project Evaluation and Final Reporting
- Produced technical report.
- Drafted pamphlets and short story book.

Activities moving forward for Phase 2 will include:
- Developing an educational webinar for public health professionals.
- Organizing and facilitating a set of virtual workshops for health care professionals.

2.0 Environmental Scan

CIER undertook an online environmental scan to understand current knowledge on food sovereignty and food security, and to identify various strategies being implemented across the country. The research was
also used to identify contacts across Nations and organizations that are active in the food security-climate change nexus.

2.1 Process

CIER utilized its internal networks of contacts as well as online research to identify potential participants for its online survey and subsequent informant interviews. This resulted in a database of contacts comprising of individuals, organizations and communities that had been or were currently involved in food sovereignty and/or food security activities. This database was continuously updated as new contacts were recommended or discovered.

Concurrently, academic articles and other forms of research and scholarship were noted during the research undertaking and a supporting Literature Review was produced by CIER.

2.2 Results

An extensive and targeted list of organizations, communities, businesses, and individuals were identified as potential contacts and participants for the National Survey and Informant Interviews. This list also serves an up-to-date resource of programs and contacts for over one hundred and twenty-one individuals, communities, business, and organizations that are active in food sovereignty and security programs and initiatives.

An up-to-date overview of the current state of research and scholarship was compiled by CIER, with a focus on academic journals and scholarship available online. Eighty-seven articles by Indigenous and non-Indigenous authors are compiled in this database. (See Appendix A)

3.0 National Survey

The following is a summary of the results from the national survey. The survey was conducted online and sent to well over one-hundred and twenty-two targeted individuals, organizations and communities that had been or were currently involved in food sovereignty and/or food security initiatives. The invitation to take the online survey was sent as a mass-mailout to the entire database twice, with individual follow-up emails sent in a final round, for a total of three attempts.

Twenty people responded to our survey. Out of all the respondents, fourteen were First Nation, five were Inuit and one was non-Indigenous.

3.1 Process

An online survey was drafted and administered by CIER, in collaboration with NCCID. See Appendix ‘C’ for a full list of the survey questions. A link to this online survey was then sent to the list of contacts identified in Appendix ‘B’. The link was also advertised on the CIER website for the duration of the survey response window, which ran from December 2022-May 2023.

1 The exact number is not available due to the fluid nature of networking: having potential participants recommend other participants and the ongoing nature of CIER’s outreach.
The purpose of the survey was to not only gather information and perspectives on Indigenous food sovereignty and security, but also to identify participants with unique insights and ideas for the subsequent interviews.

3.2 Results

Several themes were identified when participants were asked why food security was important for them.

Themes included:
- Personal health, particularly for children and Elders.
- Preservation of Indigenous Knowledge, particularly traditional food harvesting practices.
- Independence and accessibility to healthy food for everyone.
- Difficulties due to increased costs, both in accessing store-bought foods, and in the cost of gas which affects, harvesting access.
- Sustainability of traditional food systems for future generations, which also includes cultural values and teachings, such as sharing.

Participants were asked if climate change affected their community’s access to traditional food sources (e.g.: hunting, fishing, harvesting, agriculture, and aquaculture), and if so how. Some of the themes mentioned included:
- The disruption in traditional economic and social systems.
- Extreme weather.
- Food safety
- Food supply

Changes in climate has caused ongoing variances in land, air, and water temperatures, which then affect wildlife, as well as transportation and access to traditional territories where food is obtained. This means that not only is the number of available wildlife to harvest going down, the hunters and harvesters now have farther distances to travel to obtain them. It was mentioned several times that the cost of gas is so high in remote and northern communities that it is making traditional harvesting methods unfeasible.

Participants also noted that there have been changes to both ocean and freshwater temperatures and levels, and there are more frequent droughts, flooding, wildfires, and a rapid reduction in overall sea ice levels. All these changes effect both the quantity and quality of vital traditional food sources such as fish, shellfish, wild game, seal and edible plants (including berries).

Participants were asked if their community had experienced any changes in accessing other, non-traditional food sources (eg: store-bought food) and if so, what those were. Accessibility and availability of food had the most responses, along with higher costs. Higher food costs are an exemplary hardship to many Indigenous people who may already be facing issues related to poverty and barriers to employment. Many stated that there were currently many community members they knew that were struggling and in urgent need of support, particularly Elders and children. Respondents indicated that these groups were vulnerable in terms of their basic nutritional needs being met, which could then seriously impact their development (children) or lifespan (Elders).
When asked about health effects to themselves and their community, most of the respondents replied in the affirmative. Some of the most common health effects mentioned included diabetes, heart disease, obesity, and mental health issues. There was a strong consensus that these issues were a result of a lack of healthy food, such as fruit, vegetables and country/traditional foods, and more dependence on foods bought in a store that are often packed with preservatives, salt, and sugar.

Almost all respondents replied that their work and/or organizations participated in current food security practices. Some of these practices included the direct harvesting of traditional foods and supplements in their territories, such as the harvesting of sap from maple trees, which is then consumed directly (‘sweetwater’) or processed into maple syrup. Wild rice, mushrooms and various greens and berries are harvested from many different ecosystems. Other activities included fishing, clam digging, as well as hunting and trapping caribou, moose, deer, elk, rabbit, ptarmigan, duck and seal. In almost every instance, these practices were noted to include the safe handling and preservation of the food as well as the distribution of it to other community members, such as Elders and those who were unable to access these country foods on their own.

Aside from the harvesting of traditional/country foods on an individual or collective basis, there were other food security related initiatives, particularly in urban areas, that focused on addressing the economic issues that Indigenous people and communities are immediately facing. These included:

- General food cupboard/ food bank programs.
- Direct subsidy payments to community members to help with the increased cost of food at grocery stores.
- The coordination of opportunities for students to prepare food to bring to community events.
- A “Backpack” program for children, providing them with two breakfasts/lunches/dinners and snacks throughout the school year.
- Community freezers for storing shared of wild game and fish.
- A friendship Centre “country food orders”, which is a method of distributing caribou, whale, seal, ptarmigan, arctic char, goose and rabbit to people from Northern areas that are now living in the South.

There are also more forward-looking projects, in the sense that they are not addressing immediate and urgent food security issues but have a long-term vision. These projects can go a long way in promoting long term Indigenous food security and sovereignty. One such innovative project that was mentioned was the collection and storing of Indigenous and heirloom seeds of vegetables, herbs, and flowers received through gifts. There were also mentions of research projects which support, and fund community research leads and regional food security coordinators to facilitate food access.

Participants replied that they knew of other effective Indigenous food security initiatives. These included other Friendship Centre food programs, community freezer programs, food mail programs, and school breakfast programs for children.

Participants were asked what types of food security work they know is important to work towards but is not being done yet. Replies included: the establishment and maintenance of year-round greenhouses that can provide fresh and inexpensive produce, Indigenous-run grocery retail, monthly food supplement programs for families, increased support for the harvesting and the sharing/distribution of traditional foods, support for Elders to have access to country and sea foods, and work supporting Traditional Knowledge. Some specific and innovative ideas included urban knowledge spaces focussing
on local indigenous plant life, the provision of a reliable food security network that includes farming initiatives and Indigenous community gardens. It was noted that there was a need for reliable, multi-year funding for these initiatives to continue the work for community members that need direct food support, and that there was a need for the work already done by existing food security working groups (for example the Nunavik Regional Food Security Working Group) to be implemented.

Participants were asked if there was anything else they would like to add, and we received a variety of responses, from specific- the lack of a badly needed community freezer program- to general views on food security and food sovereignty. One participant further stressed the need for sea and country foods for Elder health, and another echoed that there must be more support for addressing food insecurity with Elders. One participant noted that it was important that we all work together on food security initiatives and another stressed that all efforts to address food insecurity were important and they must not go unrecognized.

4.0 Interviews

4.1 Process

A total of eight key informant interviews were arranged and held by phone or zoom call in the months of April and May 2023. Interviewees were told at the beginning of the call that there would be notes taken by the interviewer, but that it was not being recorded. They were also advised that their responses would be anonymous, and no quotes would be attributed to them, to ensure that they felt comfortable to share their opinions and perspectives freely.

The interviewees were asked to expand on the answers they gave in response to the survey. This was done to give the interviewees the option to direct the interview based on their identified priorities. Using this method not only served to reveal important information that was relevant to the project, but it also provided unique insights that the interviewer would not have even know to ask about. The feedback received will be summarized using broad thematic categories below.

4.2 Results

Social Issues
Social issues such as poverty, overcrowding in homes and a lack of employment, education and training opportunities were identified as key underlying stressors to all food sovereignty and food security issues. This was brought up by seven out of eight interviewees, who represented all regions across the country. Respondents who mentioned social issues and poverty represented residents of remote/fly-in communities, rural communities near urban centres and within urban centres, indicating that the problem is far-reaching.

Climate Change
Climate change was a factor that seemed to impact remote and fly-in communities the most. Three respondents indicated that the ice roads that brought in supplies were not freezing for as long, leading to a shorter window of less-expensive truck transportation and a longer time relying on more expensive airplane transportation. This results in store-bought food prices rising continuously (“almost monthly” according to one respondent). Two respondents in the North indicated that changes in climate caused
seasonal delays in the formation of, and an overall reduction in sea ice, which results in seals needing to give birth on shore, which then makes them and their pups more vulnerable to predators: contributing to a reduction in seal populations overall.

Climate change was also noted several times by those hunting and fishing for traditional foods further south: three respondents cited changing water temperatures combined with human over-harvesting as causes for the near decimation of wild salmon populations on the west coast. Other respondents noted that cold water fish were moving deeper down as water temperatures rise, making them harder to find. Four respondents noted that animals such as moose, elk and deer were moving to new territories, making it harder for them to access because they sometimes cannot hunt if it is not their “traditional territory”. Interestingly, two of these four respondents also stated that it was part of their Traditional Knowledge that animal herds move and migrate, so it should be noted that the food insecurity aspect of this problem is political, rather than directly related to climate change.

Cultural Aspects
Within all cultures, the obtaining, preparation, sharing and eating of food together has been bound by tradition and meaning. Indigenous cultures are no exception, and many respondents indicated that they feel a loss of culture when they are cut off from their traditional foods. One respondent relayed a story of an Inuk living in the south who was unable to get frozen seal or muktuk, so they bought themselves a frozen beef heart to replicate the experience. Fortunately, they were not sick after this, according to the respondent, but it indicates the high need for traditional foods for people who were raised on them, not just a physical but also on an emotional and cultural level.

Health Impacts
Several respondents had almost the exact same message about traditional foods: that they are complete sources of nutrition for their people, and they have been for millennia. The interruption of traditional food systems has caused an epidemic of diabetes and other related health concerns that relate to the consumption of unhealthy store-bought foods high in sugar, salt, and fat. Some of the reasons for this interruption include a lack of access to traditional land and territories, the reduction of hunting or fishing areas, the depletion of traditional food stocks, and the high cost of gas which is needed to travel to the areas where the food is.

Another interesting point was made that the interruption of traditional family systems due to colonization (residential schools, The Sixties Scoop and the foster care system, as well as on-reserve children needing to leave their communities to go to high school) has resulted in many individuals without the skills to cook or prepare healthy foods for themselves and their family, even when they do have access. This then results in a reliance on easy to prepare but often unhealthy foods that are often high in preservatives, sugar, and fats (such as fast food and junk food) and low in nutritional value (fruits, vegetables, whole grains, protein and healthy fats).

Innovative Ideas
There were several fascinating and innovative ideas participants shared had that could address gaps and inequities in food sovereignty and food security. Community gardens and greenhouses were mentioned as a great way to provide fresh produce to both urban and remote communities. However, it is difficult to obtain the equipment and resources that are needed for them to become successful. These gardens were identified as a great way to engage children and youth in food system initiatives, as well to transmit Indigenous Knowledge. Maple syrup harvesting was identified as another way to encourage the
transmission of cultural knowledge as well as provide a nutritional substance ("sweetwater") to Elders in their community.

Along with agricultural projects, there is also a strong interest in harvesting other traditional food products such as wild rice, mushrooms, and forest greens. However, it is important to note that Traditional Knowledge of these items must be respected and protected, lest non-Indigenous people take advantage and then Indigenous people lose access to those too.

Another idea was specific to the problem of accessing wild meat and fish: two interviewees mentioned that their communities had both traditional and now modern trading relationships, wherein they traded with other communities for what they harvested in theirs. One program that is designed to specifically help urban Atlantic First Nations and other Indigenous people that live there is called “Reclaiming Our Roots” and provides a valuable service to Indigenous people that cannot otherwise access traditional meat and fish. This is an organization that facilitates land-based learning opportunities rooted in Mi’kmaw values, through mentoring and workshops. A large component of their programming addresses the promotion and preservation of community-based food systems that allow for Indigenous youth and families to access traditional foods harvested with love, respect and care. Generosity is a central value to the program, which includes the gifting of traditional foods as an important value and rite of passage.

Several interviewees expressed support for these kinds of trading programs as a grassroots solution to a modern problem. It was specifically mentioned by one participant that the infrastructure of Air Canada, as the only airline servicing the participants far-north, Arctic community, did not contain freezers to preserve frozen traditional foods, even when there was the ability and desire to transport these foods from north to south. This resulted in frozen food spoiling before it could get to its intended recipients and is a source of frustration to those working in this area.

5.0 Key Findings and Next Steps

5.1 Key Findings

There is no shortage of creative and practical solutions to the problems surrounding food insecurity and food sovereignty for Indigenous people and communities across the country. Improved access to traditional or “country” food is seen as vital to both the physical, cultural, and spiritual well-being of many of the participants who provided feedback in this project. Embedded within traditional food systems is the concept of sharing within the community, and to those members that have traditionally been cared for collectively, such as children and Elders. Community freezers and other forms of food sharing programs, as well as funding and infrastructure (eg: freezers in airports, community greenhouses and gardens) to support long-distance traditional food-sharing would be one way to make a strong and specific impact on the issues surrounding Indigenous food security and sovereignty.

Other food sharing and food provision programs such as food banks, community gardens and school lunch programs are important and effective ways to address the immediate needs of many Indigenous people and communities currently facing food insecurity. Sustainable funding is required to maintain these programs for the long-term. Indigenous people have increased access challenges to affordable food sources because of changes to climate (eg: ice roads), remoteness and increased food costs, more so than the average Canadian resident.
Knowledge sharing programs and networks dealing with farming, traditional knowledge, seeds, traditional harvesting, and food preparation/cooking were identified as more forward-thinking programming that can also be useful for the long-term regarding addressing food insecurity needs. Traditional knowledge around climate issues and how it impacts both historical and modern food supply systems is key to solving these challenges.

Jurisdiction over fisheries and aquaculture, hunting and other forms of harvesting in traditional territories must be respected and encouraged. Because Traditional Knowledge is imbedded in these systems it is important that OCAP (Ownership, Control, Access, Possession) principles and intellectual property rights are respected and protected as well.

5.2 Next Steps

As part of the next steps of this project, a series of regionally based pamphlets for quick reference to key findings, priorities, and best practices are being developed. A short story book that captures various food security and safety strategies and innovations related to climate change currently being implemented by Indigenous Nations and organizations are also be developed for online use.

A set of educational webinars for health care workers, community partners and other stakeholders will also be undertaken. CIER will facilitate knowledge exchange of the following findings to health care workers, community partners and other stakeholders. This will include a brief analysis of the gaps and inequities faced by Indigenous communities and people in relation to food security and climate change. It will include opportunities and issues surrounding the sharing of Indigenous knowledge and priorities for the use of inclusive and effective public health planning and policy. There will be a discussion on best practices and strategies currently being implemented to successfully support Indigenous Nations and individuals in the food security-climate change nexus, and an examination of how to collaborate and engage with First Nations, Métis, and Inuit Nations/groups respectfully and appropriately on relevant topics.
Appendix A - Resource Materials developed through Environmental Scan

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Appendix B - Contact List

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Appendix C - Survey Questions

1. Do you self-identify as an Indigenous person? If so, what Indigenous Nation do you belong to?
2. Do you represent an organization or group? If so, what type of organization do you represent?
3. Why is food sovereignty/security important to you and/or the Indigenous communities you work with?
4. Has climate change affected yours or your community’s access to traditional food sources? (eg: hunting, fishing, harvesting)? If so, how?
5. Have you or your community experienced any changes in accessing other, non-traditional food sources (eg: store-bought food)? If so, what are they?
6. If you answered yes to questions 4 & 5, have either of these changes affected your health or the health of others in your community?
7. Do you participate in supporting Indigenous food sovereignty/security work? If yes, we would like to learn more about the work you/your organization does. Please describe the work you do within the Indigenous food sovereignty/security space below.
   a. Where did the initiative take place?
   b. What were/are the goals of the initiative?
   c. Describe any major outcomes or challenges with the initiative.
   d. If applicable, insert a link to a website where we can learn more.
   e. We would like to create a publicly available map of the Indigenous food sovereignty/security initiatives we learn about. Can we add the projects that you speak of to this map?
8. Do you know of other Indigenous food sovereignty/security initiatives? If yes, please describe those Indigenous food sovereignty/security initiatives below.
   a. Where did the initiative take place?
   b. What were/are the goals of the initiative?
   c. Describe any major outcomes or challenges with the initiative.
   d. If applicable, insert a link to a website where we can learn more.
   e. We would like to create a publicly available map of the Indigenous food sovereignty/security initiatives we learn about. Can we add the projects that you speak of to this map?
9. What types of food sovereignty/security work do you know is important to work towards, but is not being done yet?
10. Who do you think is left out of the Indigenous food sovereignty/security work you do?
11. We would like to reach more organizations/people like you. Can you recommend others for us to contact?
12. We would like interview people that contribute to Indigenous food sovereignty/security. Would you be open to someone contacting you for a follow up interview?
13. Is there anything else you would like to add?
Appendix D - Food Sovereignty and Security Survey Follow-up Questions

1. How do you currently access food (including traditional foods)?
2. What are the factors (if any) that affect your ability to access food (including traditional foods)?
3. Do you have any cultural protocols or traditions around food harvesting or food distribution?
4. If you could design an ideal system for food access and food distribution in your community, what would that look like?
5. What do you think young people in your community need for food security/food sovereignty? What can they contribute to the solutions?
6. What do you think Elders in your community need for food security/food sovereignty? What can they contribute to the solutions?
7. Is there anything else you would like to add?