



Original Research Article

***Nimíciwinán, nipimátisiwinán* – “our food is our way of life”: On-Reserve First Nation perspectives on community food security and sovereignty through oral history in Fisher River Cree Nation, Manitoba**

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Abstract

Food insecurity in Indigenous communities in Canada continue to gain increasing attention among scholars, community practitioners, and policy makers. Meanwhile, the role and importance of Indigenous foods, associated knowledges, and perspectives of Indigenous peoples (Council of Canadian Academies, 2014) that highlight community voices in food security still remain under-represented and under-studied in this discourse. University of Winnipeg (UW) researchers and Fisher River Cree Nation (FRCN) representatives began an action research partnership to explore Indigenous knowledges associated with food cultivation, production, and consumption practices within the community since 2012. The participatory, place-based, and collaborative case study involved 17 oral history interviews with knowledge keepers of FRCN.

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The goal was to understand their perspectives of and challenges to community food security, and to explore the potential role of Indigenous food knowledges in meeting community food security needs. In particular, the role of land-based Indigenous foods in meeting community food security through restoration of health, cultural values, identity, and self-determination were emphasized by the knowledge keepers—a vision that supports Indigenous food sovereignty. The restorative potential of Indigenous food sovereignty in empowering individuals and communities is well-acknowledged. It can nurture sacred relationships and actions to renew and strengthen relationships to the community's own Indigenous land-based foods, previously weakened by colonialism, globalization, and neoliberal policies.

Keywords: Indigenous food sovereignty, Indigenous food security, Indigenous food systems, Indigenous food knowledges, On-Reserve First Nation, Manitoba

Introduction: Indigenous foods and food systems

The kids I am teaching right now, what I'm talking to them about is not really their fault. I asked them, 'what are the activities that your parents do?' And a lot of them say, 'my parents are not into those kinds of things'. And I say, 'what about your grandparents'? And they say, 'my grandparents were into that and we've seen them do that'. A lot of parents that I know, it's not really their fault either, because they have been taken away from that part of our culture. – Jack, April 8, 2013

Indigenous communities throughout Canada have experienced drastic changes to culture over the past hundred years, including traditional forms of food collection, cultivation, and processing (Thompson et al., 2011). Today within reserve communities, diets have changed drastically towards nutrient-poor market-based processed foods (Kuhnlein & Turner, 1996; Kuhnlein & Receveur, 1996; Neufeld & Richmond, 2017). This is causing diet-related health conditions including diabetes and heart disease (Elliot, Jayatilaka, Brown, Varely, & Corbett, 2012) and obesity (Health Canada, 2015). Indigenous peoples in Canada today participate in a combination of two food systems: conventional (market) food systems (Elliot et al., 2012) and Indigenous (local) food systems (Council of Canadian Academies, 2014).

Indigenous or local food refers to all “food species that are available to a particular culture from local natural resources and the accepted patterns for their use within that culture” (Kuhnlein & Chan, 2000, p. 596). Market foods, on the other hand, are available in local grocery stores, which are supplied from industrial scale agriculture, animal husbandry and allied sectors and supported by a well-established market network. The contemporary diet of many Indigenous communities are dominated by market-based foods, most of which are of poor in nutritional quality (Willows, 2005). The interaction of these systems is of interest (Kuhnlein et al., 2006)

due to the increased acceptance of the role and importance of Indigenous foods in maintaining healthy Indigenous communities (Kuhnlein, Erasmus, Spigelski, & Burlingame, 2013).

While Indigenous food systems are as diverse as the myriad of Canada's ecosystems (Wittman, Desmarais, & Wiebe, 2011), an example illustrating the composition of such a system is well documented by Kuhnlein et al., (2013). The Gwich'in community (also known as the *Tetlit Zheh* community), in Canada's Northwest Territories, have an Indigenous food system based to a large degree on the harvesting of local wildlife. In particular, the Porcupine caribou is regarded as an essential element of this system. Other essential wild harvesting consists of large animals, (moose, Dall sheep, and bear), small mammals (rabbit, beaver, muskrat, squirrel, porcupine, etc), fish species (whitefish, char, trout, loche, and inconnu), and birds (migratory ducks, geese, spruce hen, and swan) along with numerous edible plants.

The food system encompasses the practices which govern the processing and community distribution of the harvested animals, as guided by Elder oral tradition and cultural values. (Kuhnlein et al., 2013). Indigenous food systems thus include sociocultural meanings, acquisition/processing techniques, use, consumption, and nutritional consequences for people using the food" (Kuhnlein et al., 2009, p. 19).

Indigenous food has also been referred to as "country food" or traditional food, (Gombay, 2010; Council of Canadian Academies, 2014; Thompson, Kamal, Alam, & Wiebe, 2012; Bolton, Davidson-Hunt, 2015). Indigenous food has the potential to provide more health benefits than conventional market based foods (CCA, 2014), and also contributes to the facilitation of knowledge transfer and cultural resilience (Elliot et al., 2012; Gombay, 2010; Johns & Sthapit, 2004). For many Indigenous peoples, Indigenous foods are linked with identity and mental, physical, spiritual, and emotional health (Gombay, 2010; Turner & Turner, 2008). Pierotti (2011) describes the role of hunting, fishing, and harvesting of Indigenous foods as an integral component to a complex and layered worldview including one's relationships with, and responsibility to, the environment.

While research is revealing the benefits of Indigenous food systems in reducing food insecurity (FAO, 2009; Himli et al., 2012; Kuhnlein, Erasmus, & Spigelski, 2009), the potential of Indigenous perspectives and knowledges in food security policy and programs are often undermined. Indigenous food systems are thus organically supported by an emerging theory on 'Indigenous food sovereignty' in Canada as demonstrated by the pioneering work by Indigenous Food System Working Group from British Columbia, Canada.

Indigenous food sovereignty (IFS) as the backbone of Indigenous food systems

Indigenous food sovereignty (IFS) has been recognized as the strategic practice of Indigenous peoples to sustain traditional practices of harvesting, which include fishing, and hunting, and respecting the "sovereign rights and power of each distinct nation" (Morrison, 2011, p. 98). The Indigenous food sovereignty framework invites scholars and practitioners alike to explore the

diversity of circumstances and relationships Indigenous people have with their traditional foods and food systems.

IFS recognizes and underscores the rights and uniqueness of Indigenous groups in defining and managing their own Indigenous food systems. A useful framework for exploring IFS was conceptualized from an Indigenous perspective from the West coast of Canada, within the last ten years. It identifies the four following pillars: 1) sacred or divine sovereignty, 2) participation, 3) self-determination, and 4) legislation and policy (Morrison, 2011). *Sacred or divine sovereignty* acknowledges food as a gift from the Creator, and as such it is a sacred responsibility to take care of the source of that gift, namely, the land including plants and animals (Morrison, 2011). *Participation* is necessary at the individual, community, and regional level to actualize *self-determination* (“the freedom and ability to respond to our own needs for healthy, culturally-adapted indigenous foods” (Indigenous Food Systems Network, n.d., para 3-4). These principles are then supported through *legislation and policy* to ensure food sovereignty while navigating public policy, law, economic, and political structures and processes (Indigenous Food Systems Network, n.d., para. 5; Morrison, 2011).

Indigenous food systems: Manitoba context

In Manitoba, colonization resulted in the involuntary intrusion of external policies and practices into Indigenous ways of life (Truth and Reconciliation Commission, 2015), drastically affecting individual and communal control of local food systems (Campbell, Diamant, Macpherson, & Halladay, 1997; Cidro, Adeskunle, Peters, & Martens, 2015). Harvesting, hunting, gardening, and most cultural and spiritual practices were regulated or banned. As a result, the loss of access to and practice with Indigenous foods has eroded community knowledge about food and relationships with food (Gaudin, Receveur, Walz, Girard, & Potvin, 2014), weakening cultural resilience, and local health and food security (Cidro et al., 2015; Skinner, Hanning, Desjardins, & Tsuji, 2013).

There are limitations on research studies that examine food security among Indigenous communities in Manitoba. For example, many studies use the food security framework (FAO, 2009), which does not adequately capture community-based or Indigenous perspectives (Power, 2008; Willows, 2005), or the consideration of Indigenous foods (Cidro & Martens, 2015; Hilmi et al., 2013; Neufeld and Richmond, 2017). Research studying the impacts on health from changes in diet is typically focused on urban First Nation populations, rather than First Nations people on-reserve (FNFNES, 2017). Among the scholarship pertaining to First Nation populations on-reserve in Manitoba, the focus is predominantly on Northern and remote communities, which in most cases are affected by lack of access to certain service infrastructure, such as roads (Rudolph & McLachlan, 2013; Thompson et al., 2011; Thompson, Wiebe, Gulrukh, & Ashram, 2012).

More recently, several studies have used a community-based Indigenous research approach to engage and improve community food security in Northern Manitoba. For instance, a participatory action approach was used to engage Cree youth in long-term food security planning (Islam, Zurba, Rogalski, & Berkes, 2017) in Norway House Cree Nation. In another community-based research from O-Pipon-Na-Piwin Cree Nation (OPCN), Kamal and co-researchers (2015) designed a community-based food program called Ithinto Mechisowin (IMP) (“food from the land”) to improve access to, and restoration of, their own Indigenous food systems and IFS. Very little literature is available pertaining to Indigenous perspectives and community-based research on food security in southern Manitoban communities (Neufeld & Richmond, 2017; Shukla et al., 2014). Notwithstanding irregular flood events, Fisher River is generally connected to southern service infrastructure (Statistics Canada, 2007). This research, therefore, addresses the gap in knowledge about southern Canadian communities by undertaking a case study intervention from a southern Manitoban First Nation community. We sought to explore community perspectives on food security as well as to identify barriers and opportunities for increasing food security in the community, using a community-based participatory research approach.

The central purpose of the research was to understand and explore Indigenous food security and sovereignty from the community perspectives. Our specific objectives were (a) to derive meanings and interpretation of food security and IFS from FRCN knowledge keepers’ perspectives; (b) to understand local challenges in implementing IFS in FRCN; and (c) to generate recommendations to enhance IFS in FRCN.

Methodology

Following a participatory approach (Creswell, 2013), our collaborative research project used a qualitative research design and used oral history as a strategy to allow the exploration of complex phenomena (Okimiro, 1981) through in-depth semi-structured interviews with 17 FRCN knowledge keepers. Our collaborating partners, who are also co-authors of this paper, suggested that in the context of FRCN, *knowledge keepers* was an appropriate term to use for the participants, as it was more representative of the diversity in age and the important role they play in the community. The knowledge keepers in this research represent the participating FRCN community members in this study, who possess a specific knowledge, skill and understanding of Indigenous foods, associated cultural history and common usages. In many cases, these individuals are also recognized by the local community as “community Elders”.

Oral history as a community approach to data collection emphasizes “the telling of cultural and personal stories; a method many Indigenous communities have practiced for generations...[and] provide opportunities to respond to [the] relatively newer topic of Indigenous food sovereignty in a contextual and effective way” and works to foster relationships that empower knowledge keepers (Shukla et al., 2014, p. 5). Furthermore, the choice to adopt an oral history strategy privileges the inherent oral nature of Indigenous knowledge transmission (Hart,

2002) and allowed the researchers to honour participants' stories (Kovach, 2010). Our methodological approach responds to the call to use a qualitative and community-based approach by the Indigenous food security researcher (Powell & Jiggins, 2003; Willows, 2005) and to make visible and empower Indigenous community voices (Skinner et al., 2013).

In alignment with an Indigenous research methodology (Kovach, 2010), relationship building was a focal point of all research-related activities. The intent was to maintain long-term personal relationships as well as a long-term partnership between the University of Winnipeg (UW) and the FRCN community. Secondly, the study was conducted in collaboration with the FRCN Health Services and FRCN Band Council members from October-December 2012, with the prior and informed consent of knowledge keepers. FRCN Health Service representatives provided input at the study's design stage and in preparation of the oral history interview checklist (Figure 1). This also served to coordinate the logistics throughout the research process by engaging local contacts to help identify potential interview candidates and arrange interviews.

Figure 1: Checklist of questions for FRCN knowledge keeper Interviews

- 1 What is your favorite food?
- 2 Where do you get your food from?
- 3 Is the way you eat now similar to the way you ate as a child? How about community in general?
- 4 What are some staple local foods? What values do these food hold?
- 5 Do you choose your foods based on nutrition, price, access, cultural value or other considerations?
- 6 Are there foods you would like to have greater access to?
- 7 Food security is a term that means different things to different people. What does it mean to you?
- 8 Are there any food security concerns in your community? What can be done to address these issues?
- 9 Do you play a role in making or sharing food?
- 10 Where did you learn what you know about food? (From who? How?)
- 11 Do you teach what you know?
- 12 Are there local foods that have disappeared or changed?
- 13 Do you think younger generations have enough knowledges about food?
- 14 In any community programs, what food you would like to see promoted? Why?
- 15 Is there anything else you'd like to share (stories, comments, etc.)?

All knowledge keepers were living on the FRCN reserve during the time of the interview and were asked where they preferred the interview to take place, either at the FRCN Health Services office or their homes. An interview checklist guide (Figure 1) was memorized by researchers from University of Winnipeg and was brought to each interview for reference. Interviews were one and a half to two hours in duration and conducted through conversation, often over tea, refraining from the use of academic jargon. FRCN Health Services acted as a gatekeeper to ensure that community-based cultural protocols (First Nations Centre, 2007) were

followed throughout the research process. The Human Ethics Board of the University of Winnipeg also reviewed and approved the research.

With the approval of knowledge keepers, interviews were audio-recorded, transcribed, and coded according to themes specific to the above three objectives. Each objective was then organized into a result category. Within each result category, the frequency of themes was tabulated into percentages to identify what knowledge keepers spoke of most, making reference to the weight of the perspectives and knowledge they wanted to highlight and share. Further data was gathered from a field course on “Indigenous food systems” facilitated by the primary researcher in collaboration with Charles Sinclair School and knowledge keepers from FRCN. For a final project, one student group filmed a video documentary that was made public on YouTube in February 2017, following FRCN cultural protocols and approval from participating knowledge keepers and community members. Some quotes were also used from this video, edited by University of Winnipeg student Donna Kurt. Pseudonyms have been used throughout to protect individual identities and for document consistency.

Results were verified through peer-audit among the four academic team members, as well as research team members checking with selected respondents in FRCN. The research team also made three visits to FRCN for community sharing presentations with residents, band and council members and Health Services in February 2014. Prior to the finalization of any publication of research, FRCN was contacted for consent as according to OCAP (Ownership, Control, Access, and Possession) Principles (First Nations Centre, 2007). Our analysis focuses on revealing and understanding Indigenous perspectives on food security and IFS through thematic data analysis.

Findings

All knowledge keepers discussed perspectives in line with Morrison’s IFS framework (2011). Participating in both conventional (market) food systems and local Indigenous (Cree) food systems, knowledge keepers understand food beyond the political and neoliberal frameworks of food security. Knowledge keepers spoke to a deep connection to food that is metaphysical and culturally inherent to their identities. The interviews highlight their personal, communal, and spiritual relationships with food. We have summarized our findings in Tables 1, 2, and 3, according to the three project objectives. Each table demonstrates theme frequency in percentages and identifies sub-themes, which are further supported by relevant quotes from knowledge keepers. The inclusion of participant quotes were meant to illustrate the experiences and understandings of community perspectives on IFS and honour the voices of the participating knowledge keepers.

Indigenous perspectives on meanings and interpretation of food security and IFS

Scholars and practitioners significantly shape the discourse pertaining to both food security and food sovereignty. The definitions and meanings of these terms are often assumed, without giving voice to community-led understandings. In alignment with an Indigenous research paradigm, founded on reciprocity and relationship (Chilisa, 2012; Kovach, 2010), our intent was to not impose our own understanding of food security and sovereignty, but rather to engage in a dialogue which would reveal knowledge keepers’ understandings of food security and sovereignty, and how these concepts related to their community.

Table 1: Community perspectives on food security using IFS lens

Food security is:	% times theme is reported in knowledge keeper responses, n = 17
Access to food	67%
Traditional land-based foods	
A harvester who can share traditional foods	
Store-bought foods	
Healthy foods/good medicines	
Healthy store-bought foods	
Culturally relevant foods	
Affordable store-bought foods	17%
Beyond sustenance	
For health	
For medicinal purposes	
Preventing diet related illnesses	
Maintaining health during illness	
For ceremonial purposes	
Tool to preserve traditional and land-based foods	12%
Spirituality	
Traditional lifestyle	
Traditional knowledge	
Traditional lands	
Ability to practice traditional preservation methods	
Being able to plan season/licenses	
Physically being able to practice harvesting	5%
Healthy environment	
Animals have access to good medicines	
Water health	5%
Land health	

What we heard during these conversations was that identity and culture were significantly tied to their interpretations. Several of the key themes that emerged from the interviews are: 1) access to food; 2) beyond sustenance; 3); traditional lifestyles, and 4) healthy environment.

Access to food

From the community's perspective, food security is, in part, having access to traditional wild harvested foods. It is also access to fellow community members who are skilled in hunting, fishing, gardening, or edible plant harvesting. This theme proved highly relevant to elders who have difficulties going onto the land themselves (due to physical abilities in old age, acute or chronic ailments, and/or disability).

We always had a garden...I'd love to have a garden but I just can't take care of it the way I want to the way you have to take care of it. (Maria, 2016)

I can't walk anymore in the bush, even to go berry picking, I don't go berry picking too much. (Janet, 2016)

Hunters tended to share their catch widely throughout the community, including with elders who are not able to hunt for themselves. However, the concern was expressed that there are not many hunters left in the community.

Store-bought food is also an important element of community food security and ones' sustenance and requires financial and logistical resources to access food from the on-reserve grocery store. Jessie (2016) explains "[my family use to] go to the trapline seasonally when they needed to". "Getting those fresh vegetables, [at the grocery store] where it is costly" is an option, but not preferred (Jessie, 2016)

Beyond sustenance

Diet was commonly related as being important for health, preventing illness, maintaining health during illness, and is an important part of ceremony.

All the time I ask for the food to be blessed that I'm eating...that it'll work in a good way in my body. (Lisa, 2013)

[At ceremony] for those that have passed on to the spirit world, we feed them too. There's a four-year cycle that we do. We offer into the fire a plate of food to help her. And then we all feast. We all eat. (Sally, 2013)

Re-valuing the Indigenous food and associated knowledges

Throughout interviews, the knowledge keepers stressed the role that food played in their personal development. For example, one elder, Lisa, described her relationship with food as a child. Reminiscing about the foods she would eat, Lisa describes her distaste for food at the residential school and her excitement upon returning home to enjoy the foods her mother made. Without much interest for cooking herself, Lisa relied on store-bought foods while raising her children, until she began to recognize growing rates of cancer and diabetes in the community that made her question the root cause of these illnesses.

[I] began to [appreciate] and recognize the value of traditional foods...the only way I could talk about it is the spiritual value of food...we do a lot of feasting...blessing...and memorial feasts for our relatives who have passed on...[It] doesn't have to be anything big... maybe wild meat, rice, raisins, berries, tea or water...because I've learned along the way, where they are, they like to get that food and they like to be remembered... because they say that our relatives that have passed on can come and look after us where they are. (Lisa, 2013)

Healthy environment

Food security requires a healthy environment where land and water are healthy, where animals consume good medicines in the environment.

They are very healthy foods because they ate all the natural medicines from the water in the bush eh? And all that medicine we absorb into our bodies. (Jane, 2013)

When we plant those seeds into the ground we pray that we reap a good garden, and then afterwards of course we have to say thank you to the food that was provided, it came from the earth. (Lisa, 2013)

A theme reinforced by nearly all knowledge keepers, is that Indigenous *food is a medicine* for mind, body, and spirit (Alfaro & Shukla, 2016). The acquisition and consumption of food had a spiritual significance, in particular as it related to ceremony, whether memorialization of loved ones or celebratory feasts. In this light, food security can only exist when the community has the knowledge to practice and preserve cultural food traditions and land-based foods are accessible.

Local challenges in implementing IFS

The common community perceptions pertaining to challenges or barriers to food security and IFS are as follows: 1) less involvement in traditional practices; 2) environmental changes; and 3) options for store-bought food.

Table 2: Local perceptions of challenges to food security and IFS

Challenges to food security and IFS are:	% times theme is reported in knowledge keeper responses, n =17
Less involvement in traditional practices (because)	44%
Elders (physical ailment)	
Elders (passing away)	
Youth (no value for traditional foods)	
Youth (no knowledge)	
Parents (stopped practicing, no value)	
Parents (no knowledge for traditional foods)	
Parents (have addictions and don't pass on knowledge to youth)	
Laws, regulations regarding harvest make difficult	
Technology, media is distracting	
Wage economy takes too much time	
Not enough community involvement/dynamic to encourage community participation	25%
Changes in lifestyle	
Influence of dominant model that improves access to modern foods through markets	
Reservation life, less mobility than traditional habits	
Residential school changed lifestyle of person, family, community	
Addictions influence choice	
Modern developments affect lifestyle (i.e., water plants, agri-business, fridges)	25%
Environment changes	
Flooding/disasters	
Pollution	
Land degradation	
Forest degradation	
Less populations of land and water animals	
Water degradation	
Have to go further to harvest than traditionally	
Population of animals diseased = bad medicine	8%
Options of store-bought food (are)	
Healthy options limited	
Healthy options too expensive/processed foods are less expensive	
Healthy options are infrequently available	1%
No physical barriers to achieve land-based food security	

Less involvement in traditional practices

The decline in individual and community involvement in traditional practices is complex and rooted deeply in histories of control and oppression from colonial practices. Elder Donna recalled her time in residential school in Cross Lake, Manitoba from 1951 to 1952 when she was severely sick and was hospitalized in Norway House, a remote region of Northern Manitoba. Her declaration that “I was totally isolated and too afraid to ask for traditional foods”, revealed a missed opportunity which could have helped her heal physically and psychologically (Donna, April 1, 2013). When Donna’s family relocated to FRCN they had a trap line and lived off the land without ever being hungry (Chartrand-Eishchen, Mulhall, & Ozero, 2016). These findings are well-echoed in the *Truth and Reconciliation* (TRC) report’s findings that the food served in residential schools were of poor quality, insufficient, and mostly unfamiliar (TRC, 2015) to children. The TRC report further notes, “In their home communities, many students had been raised on food that their parents had hunted, fished, or harvested. These meals were very different from the European diets served at the schools. This change in diet added to the students’ sense of disorientation” (TRC, 2015, p. 91).

Few knowledge keepers spoke directly to the negative impact of federal regulations on mandatory schooling that required all children to attend an English boarding school from September until June each year. Prior to this regulation, children were involved in all almost all aspects of food acquisition, production, distribution, and consumption. The children’s school schedule interrupted their participation in the spring and fall harvests along with their families. Not only were there less hands to help, it also did not provide the chance for children to learn through experience and parents to pass on vital knowledge about the traditional food system.

Growing up, most knowledge keepers described that gardens provided substantial contributions to family household food security. This changed in some households, as the constraints of growing a garden varied over time. For some families, as their parents found work and their households transitioned to a modern wage economy, many families found it difficult to sustain the level of effort required to maintain their gardens. For other families, illness and old age led to gardeners unable to maintain their gardens as they once did in good health, reducing their food security. Three knowledge keepers talked specifically about the role of welfare payments interfering with gardening practices. Paige described it as follows: “...they [federal government handling welfare payments] said, ‘Look you have a garden, you have food. You don’t need this money.’ And what are you going to do? If you’re knees aren’t good anymore you’re going to take the money” (Paige, 2013).

It was communicated on several occasions that a lack of wild food harvesting, whether hunting, fishing, trapping, or gathering, has resulted in the community forgetting about the value of “the old ways” (Kurt, 2017).

Our people today are very sick people because of illnesses contributed because of how we eat...Many years ago our people were healthy...Time

has changed...we used to walk, canoe, to find game and family. Today we just drive to the grocery store” (Wayne, 2017).

The lack of values and interest in Indigenous food systems by FRCN youth was also considered an important factor contributing to reduced involvement in traditional food practices. To further support these claims, Jack, a knowledge keeper, describes that if and when youth are interested in participating in traditional food practices, many do not have anyone in their life to show them because their parents don’t know how. “They’re trying to find someone that will take them but that’s just a matter of who it is. I’ll say it’s few and far between” (Jack, 2017). Further, “people used to share more in general in generations before. Might be people have less to share, financial restraints, maybe some people want more for themselves” (Lois, 2013).

Environment changes

All knowledge keepers identified having noticed negative environmental changes throughout their lifetime. These changes were identified in the interview in relation to the challenges they created to the maintenance of their food traditions, including the access and quality of their traditional foods. More specifically, knowledge keepers spoke to: the increasing prevalence of pollution; water, land, and forest degradation; decline in land and water animal populations; the negative role and effect of flooding/disasters; and declining animal health due to pollution.

The river that flows through FRCN had once been a place to bath and drink from. Within the lifespan of the knowledge keepers surveyed, this water became heavily polluted, removing the level of access to foods and habitats for learning. Now no longer able to swim in the river or collect from inside or near by the community, people must travel away from FRCN to collect or purchase food instead.

Growing up in front of the house the water was clear – you could put your hand right to the bottom and see the rocks at the bottom of the river. But now you can’t see even a foot into the water...They say the medicines are turning black in there. (Jane, 2017)

Lisa, a local knowledge keeper, spoke about the connection of water to land and the effects on the plants. Lisa collects foods for ceremony including berries, sage, and sweet grass only from land at a distance away from the community and long rivers because of the pollution in the water. She stressed that taking medicine that is not pure or that is tainted, is bad medicine that will not work and could make you sick (Lisa, 2013).

Within the past few years hunters and fishers are witnessing a decline in animal health. One Elder, Bill, shared his knowledge of a moose that was caught a few years back. He shared that it was being quartered in the wild when one of the hunters noticed that the flesh of the moose looked odd. No hunter ever leaves parts of an animal behind, he said. Unable to provide much detail of the exact condition of the flesh, he was troubled by the mere event. This moose

was left whole in the wild for the hunters feared getting sick from eating it. Additionally, sores on tainted fish have been discovered around FRCN. Bill discussed the first time he saw a fish with sores when he was fishing with his nephew.

One of them was like that. I don't know what's causing that. Too much garbage in the waterways I guess. Too much sewage getting dumped into the rivers. City of Winnipeg dumping too much in the rivers. Saying 'it's overflowing, an accident'. They dumped millions of litres. (Bill, 2013)

Options of store-bought food

Community members communicate that while they had a sense of food security with store-bought food, there was a sense that it was not necessarily healthy food, and that healthy options were often limited or too expensive. Many community members drove three hours to Winnipeg for the majority of their food. This is a logistical hurdle for most Elders, who may have difficulty driving this distance themselves. Dot elaborated: “We have a store here but the food is still expensive and they don't have everything. They don't have fresh stuff here either, fresh vegetables eh. It's hard” (Dot, April 15, 2013). Despite the presence of the grocery store, sentiments regarding preference for foods that come from the land were emphasised by young and old generations of community members.

The main cause for reduced involvement in traditional practices is due to changes in lifestyle. It can be explained further through the influence of the market economy; the historical influence of the reservation system; the detrimental role of colonization from residential schools on individual, family, and community structures and lifestyles; the impact of intergenerational trauma and addictions; and the ease of modern developments such as technology that shift individual practices away from traditional ways. Furthermore, we found that (Table 2) environmental changes and perceptions of pollution have drastically influenced FRCN community members away from practicing harvesting, fishing, hunting, and gardening on a regular basis, and/or require people to travel further to acquire these foods and medicines. The decline in oral history of Indigenous food systems in FRCN, coupled with the gradual loss of knowledge keepers, resulted in the loss of transmission of Indigenous food knowledges to younger generations who are the *knowledge carriers*.

Community suggested strategies and opportunities to improve food security and sovereignty

An overarching theme expressed by knowledge keepers regarding their understanding of FRCN's “food security” and “food sovereignty” largely revolved around the idea of *control*, in both a historical and contemporary context. Throughout the interviews, community strategies identified were reflective of the four pillars of Indigenous food sovereignty (sacred sovereignty,

participation, self-determination, and legislation and policy) (Morrison, 2011); however, explicit references to Morrison’s pillars were not identified.

Community recommendations to enhance food security and IFS in FRCN that emerged from our conversations are presented in Table 3. These findings emphasized the opportunity and role of education in intergenerational transmission of traditional food knowledges for change, primarily through 1) the existing education system; 2) community-based education initiatives; 3) working with and strengthening existing community resources; 4) promoting self-production; and 5) the promotion of culture and identity. Knowledge keepers stressed the role of youth in the revitalization and future of FRCN and further community empowerment.

Table 3: Recommendations to enhance food security and IFS in FRCN

Opportunities for food security and IFS	% times the theme is reported in knowledge keeper responses, n =17
Create change through education system	30%
Bridge knowledge gap - parents/Elders could help	
Make changes to regulations (e.g., no junk food)	
Encourage youth to engage with community	
Build on individual youth potential (character, skill)	
Create change through community education	25%
Encourage education through traditional teachings/values	
Encourage education through health lens	
Encourage hands on learning and practice	16%
Work with FRCN land & community resources	
Improve water quality in the community	
Recognize the potential of resources in community	
Encourage sharing of resources/harvest	11%
Promoting self-production	
Community gardening	
Box gardening	
Chicken farming	10%
Personal garden	
Promotion of culture & identity (as a foundation to food)	
Learn traditional culture & beliefs	4%
Promote community/family practices	
Create economic opportunities in community	4%
Support local gardeners, healers, etc.	
Create programming that is not yet in FRCN	4%
Youth mentorship program	
Get a community pool	

Create change through formal educational system

According to those surveyed, the primary solutions to enhance food security and IFS are to bridge generation gaps between the aging Elders and traditional knowledge deprived youth; build on individual youth potential (specific characters and skill sets); and encourage youth to engage in community. Some knowledge keepers believe that schools should move to restrict access to unhealthy, highly processed foods from K-12 in schools.

Jack is celebrated widely by community members as the facilitator of a program that helps to bridge the gap with youth and Indigenous ways-of-being and promotes wild foods. This program is successful in inspiring the engagement of youth, aged 15-16, in traditional practices of gathering, hunting, fishing, and outdoor skills for high school credit. This is the only program of its kind available to FRCN students, and its benefits were widely discussed by respondents. Benefits included: students experiencing an increased sense of self-esteem; passion for learning Indigenous ways; participating in wild harvesting outside of school hours; basic survival; and, cultural awareness (Kurt, 2017).

Though the programming has a waiting list for registrants every year, funding is still always at risk. There is a maximum capacity of 16 students, and a wide array of teaching that includes canoeing, hunting, trapping, harvesting, and processing of foods. Jack has an unsustainable workload demand because of this, and also spends time writing grant applications, in addition to holding a contract teacher position. “I’d rather be spending my time with the kids instead of sitting down writing budget proposals”, he says (Jack, 2013). Knowledge keepers agreed that programming such as this needs to be better supported in schools, as local organizations are foundational to community health and nutrition (Pimbert, 2008).

Create change through community education

Knowledge keepers shared a sense that they have a strong role to play in the community’s development. They shared a feeling of responsibility to encourage more community-based education, with a focus on hands-on-learning with traditional teachings and values. Many knowledge keepers acknowledged the cooperative spirit and supportive role of FRCN community in working towards positive changes to improve their health and food security.

Some community resources, such as earnings from slot machines in FRCN, sponsor food-related community projects including the school breakfast program and school garden. Jesse describes the benefit of supporting projects that are educational and promote healthy living in schools but also reach parents at home. “Bringing it into the school [and]...giving people that awakening of the importance of living off the land [is invaluable in increasing awareness and connection to food]”, says Jesse (Kurt, 2017).

Many knowledge keepers were still involved in some form of traditional food practice including hunting, fishing, gardening, berry picking, and medicine collection. They expressed deep interest in passing on their ancestral food knowledges when they had opportunities to

interact with youth through their family structures or community involvement. “We have been bringing back Elders within our school to teach [respect] again so that it doesn’t get totally lost”, (Lisa, April 14, 2013).

Grandparents placed the greatest value on traditional food harvesting practices. However, most parents did not engage in traditional harvesting, processing, consuming, or distributing of food. Those who did were passionate about teaching the skills, as Jesse explains:

I think it is a need to push because when I was a young mom I did a lot of cooking from scratch...I knew how because my mom taught me how. But today there is a lot of that missing in our younger generations. How I know that is because when I go to have cooking classes with the young women, there is a lot of things they don’t know and even by comments that they make, a couple of ladies, these are from pre and post-natal groups, you know they say, ‘you know I wish some days I can just go home and make a home cooked meal for my boyfriend or my kids’. Because its mostly Kraft dinner, cutlets, and things they can just cook up eh and I see a desire and need for me to learn and just push that, eh.
(Jesse, 2013)

Promoting self-production

Knowledge keepers urged the rediscovering of once-common practical practices in FRCN, including maintaining personal gardens and chickens, and community gardens:

That’s how I was brought up, used to work on the farm. My dad was a fisherman and he raised a farm. He knew what to do, how to provide food to eat. He raised beef, ducks, and chickens. We had to prepare those for the winter, cattle too, to milk. All of us worked hard, my brothers and my sisters. Sometimes I tell my children about that, the way we were brought up. I try to encourage them. (Robert, 2013)

Promoting culture and identity

Food was seen to be foundational to understanding one’s culture and identity, and knowledge keepers were seen to play a critical role within the community to ensure the connection was made.

I think there is going to be more [Indigenous knowledge] because there is a lot of young people interested in it right now. Like compared to what there was...there are families that go and pick herbs and stuff like that, there are a few families around like that. (Anna, 2013)

Anna continued to share that many children within those families take part in cultural practices such as Sundances and sweats and are learning “the red path”. Ashley further describes the cultural context of learning:

First Nation people, we teach our children. It’s a way of doing, we teach our children from doing things with them, right from small, right from babies to adults. It is just like a baby that is put in a tikanagan and the baby is propped up right there while mom has to do something, so while mom is doing something, baby is laying there and watching and observing, and seeing and hearing and tasting. So that whole learning process starts at an early age. (Ashley, 2013)

Knowledge keepers agree that community involvement in traditional food practices is evolving, and that the community is witnessing more youth becoming engaged in cultural food ways, which is having a positive impact on the community. The education system has a big role in bridging connections between youth and knowledge keepers, and more community education and outreach is required throughout the community to enhance collaborative learning. Learning by practice (and the role of the family unit) is extremely important in ensuring knowledge is maintained and passed onto future generations.

Discussion

The community spirit and collective efforts to enhance food security and revitalize their own Indigenous food systems is well echoed in IFS as a social learning model (Morrison, 2011). Such a vision of IFS in FRCN and is reflective of the experiences shared by FRCN knowledge keepers, despite these individuals not having had previously heard of the framework. Influenced by two food systems—modern market based (commercial) foods and Indigenous foods—FRCN has been gradually moving towards IFS despite the barriers to food security. FRCN is in the process of asserting more control over their food system, and is strengthening cultural and community health and wellbeing through relationships with food. In half of the cases, an interviewee’s response, when asked what food security meant to them, related to food security as access to food for consumption. On first impression, this response aligns with a food security paradigm (FAO, 2009). However, direct connections to Indigenous foods were evident when knowledge keepers described key foods not found in the market based food system (such as muskrat, deer, moose, and rabbit). Such foods were identified by every interviewee as essential to one’s food environment, pairing closely with concepts of identity and self-determination.

In general, food was almost always mentioned in the context of coming *from the land*, and it was expressed culturally as *food that is shared* (not bought). Foods from the land possess significant cultural and spiritual value. Therefore, access to traditional, land-based foods is integral to one’s identity and overall physical, mental, emotional, and spiritual health and

wellbeing. Community perceptions of cultural values and perspectives place layers of food issues in FRCN. This is evident through the frequency of knowledge keepers' responses, corresponding to sentiments and embodiment of the pillars of IFS.

Not all community members and age groups viewed food in the same way. However, knowledge keepers note that youth and adults within the community are expressing interest in alternate approaches that draw from an Indigenous worldview, moving FRCN closer to IFS. Knowledge keepers' responses, oral histories, and stories reveal their individual and collective sacred connection and relationship to food. Beyond food sovereignty, knowledge keepers underscore an Indigenous worldview, which exhibits a deep acknowledgement and readily accepted role of upholding a sacred responsibility to “interdependent relationships with the land” (Indigenous Food Systems Network, n.d). Some knowledge keepers directly describe Indigenous food as *sacred*. Other knowledge keepers described wild Indigenous food as *gifts* of the Creator, maintaining that nature and animals should never be disrespected. Access to food, its harvesting, and consumption are to be approached respectfully and are returned to mother earth to share with other creations. *Sacred or divine sovereignty*, and the necessity and desire to practice and maintain cultural harvesting practices to continue them for future generations (*participation*), align with IFS's first two pillars (Morrison, 2011).

In sharing stories and responding to *self-determination* (the third IFS pillar), knowledge keepers have varying ability to respond to their own needs for healthy and culturally appropriate foods primarily due to their age, varying health conditions, and varying economic conditions. Knowledge keepers rely on family, friends, and community to access most foods, and no interviewee is completely dependent on grocery stores. Further, knowledge keepers often conveyed an ability to “reconcile Indigenous food and cultural values with colonial laws and policies and mainstream economic activities” (Morrison, 2008).

Food is medicine and medicine is food—this concept was prevalent throughout interviews in the manner in which knowledge keepers spoke of “good food” (that contributes to one's overall health and wellbeing) and “bad food” (that contribute to sickness and do not contribute to good health). When describing the traditional foods they grew up with and their stories, knowledge keepers became filled with energy and excitement. When speaking of changes since then, knowledge keepers described the (primarily negative) effects of assimilative external policies with sentiments of understanding, as well as hope for enhanced realities for generations.

Community responses broadly illustrated the challenges to food security (Table 2), and they revealed significant histories in FRCN. The experience of these challenges stemmed largely from external influences and drivers; and the outcome was reduced ability of the FRCN community to remain self-sustaining. Involvement in traditional practices was, for many years, in serious decline due to various legislative policies that continued to oppress Indigenous peoples, stemming from the Indian Act. Particularly, all knowledge keepers spoke of the role of outlawed ceremonies and residential schools that destroyed the traditional food systems of FRCN. The role and rapid effect of changes in lifestyle from traditional to modern lifestyle

caused instability in social structure (Hill, 2013) and further perpetuated the decline in participation of and in Indigenous food systems (Gombay, 2010). These experiences in FRCN are similar to the ones reported in studies by Cidro & Martens (2015) and Gendron, Hancherow, & Norton (2006).

Barriers to IFS were primarily attributed to the loss of Indigenous knowledge about food and environmental changes. Environmental health became a prominent and dynamic discussion piece in every interview. As supported by other research (Skinner et al., 2013; Pingali, Alinovi, & Sutton, 2005), decline in local environmental conditions were highlighted by knowledge keepers. These included water quality decline, forest degradation, and decline in land and water animals, and the role of flooding /disasters in reducing both individual and communal food availability. These sentiments directly support the claim that environmental degradation is of serious concern to establishing IFS (Morrison, 2011; Coté, 2016). They directly influence food consumption behaviour based on the perceived presence of pollution (Campbell et al., 1997; Hlimi, Skinner, Hanning, Martin, & Tsuji, 2012).

Moreover, FRCN community members are traveling further from FRCN to access the healthiest and safe food available because of concerns with environmental contamination. While market-based foods offer a variety of options to community members for food to consume, especially in times of crisis or traditional food unavailability, store-bought foods tend to be highly processed and understood to be unhealthy (Neufeld, 2003). Similar to research conducted by Rudolph and McLachlan (2013) in Northern Manitoba, knowledge keepers described that while nutritious food are often available at the grocery store, these options are usually limited and more expensive than processed foods.

Residential schools greatly impacted the passing of knowledge to younger generations (Truth and Reconciliation Commission, 2015; Elliot et al., 2012), and prevented their ability to participate in Indigenous food systems (Coté, 2016, Neufeld & Richmond, 2017). Community structure prior to residential schools was heavily reliant on the role of children in food cultivation, processing, and consumption (Morrison, 2011; Health Canada, 2004). This was exemplified by knowledge keepers in reference to federal regulations on mandatory schooling. Removing children from the ability to participate in these life skills drastically changed the food security of each household towards the forced dependency on market-based foods and eroded the ability for transmission of knowledge.

Participation is a key pillar to IFS; it articulates the conceptualization of culturally appropriate, shared foods, but it also reveals the weakening of ties to market-based foods (Morrison, 2011; Kuhnlein & Turner, 1996; PFPP, 2011; Pati & Shukla, 2015). FRCN is varied in its relation to participation in its food system. In general, laws and regulations can make harvesting difficult; there is not enough involvement and dynamic to encourage impactful community participation; and youth's interest in traditional foods have started to increase only recently. While knowledge keepers' perceptions that youth food preference and taste are attuned more to highly processed foods (McMullen, 2012), without further research with youth themselves this cannot be verified for FRCN. Disinterest in practicing cultural livelihoods

(Morrison, 2011; Abrell, Bavikatte, & Jonas, 2009) may result from changes in family structure, high accessibility of market based foods, parental reliance on economic ventures, the effects of residential schools, and the introduction of social assistance—all of which have been shown to be detrimental to Indigenous food systems (Turner & Turner, 2008).

Elders rely on community sharing in order to access foods important to their health and wellbeing. The role of sharing is of significant importance in all First Nation communities, particularly in conduct with elders, as their plate is usually made by someone from the community and given to them to eat first before all other adults as a sign of respect. Sharing in this way is expected community behaviour, and directly influences elder confidence in knowing that their next meal will in fact come and will come in a good way. This important community protocol further lends insight to the importance and impact of traditional foods and was described as deeply profound. Food was not simply a means for filling one's stomach. Thus, the knowledge of food and its spiritual connection to the environment is extremely significant to knowledge keepers (Shukla, 2015). The negative effects of colonization have greatly changed livelihoods and practice away from traditional modes of accessing food, and market based foods have facilitated this transition. Nevertheless, it can be said that market-based foods have supplemented traditional diets during times of crisis and food unavailability (Cidro & Martens, 2015).

Perceptions of opportunities for IFS in FRCN were varied, and centred on the role of education. This education included formal and informal avenues, focusing on youth and the importance for youth to learn from knowledge keepers (Gendron et al., 2006). It is important to highlight that the concept of “change” was highly stressed by knowledge keepers. Change towards Indigenous ways-of-being that promote learning, sharing, environmental awareness, connection to the land, pride in identity, strong culture, and self-governance were all discussed throughout each interview. The role of education were perceived to fall in the hands of formal schooling (K-12) at the community level and families (household level) equally. Knowledge keepers agreed that the role of family in teaching their children food knowledge is extremely important; this idea is supported throughout literature (Rudolph & McLachlan, 2013; Turner & Turner, 2008; Gaudin et al., 2014). Where families are unable to fill this need (due to many reasons including the multigenerational impact of residential schools and the rapid shift from Indigenous livelihoods to colonial livelihoods), the formal school system was seen as a desirable alternative venue to ensure that youth are knowledgeable about and are practicing food skills. Food was universally perceived to be an important vehicle for cultural awareness and positive behaviour.

Since there are not many Elders left in FRCN, a strong educational support is necessary in the community in order to engage youth to lead FRCN into its future. One outdoor education program was recalled by a local youth:

School can sometimes feel like a prison... this class is a chance to escape and get outdoors doing something... (Youth from FRCN, personal communication, 2016)

Conclusions

Since May 2015, the FRCN Outdoor Education program has also been in collaboration with University of Winnipeg (UW) on a new Indigenous food systems field course. This has helped the revitalization of Indigenous food knowledges by connecting FRCN youths, University of Winnipeg students, FRCN band, council, community members and knowledge keepers.¹ Also, with the help of the UW research team and outdoor education program, a community garden pilot project was initiated in FRCN in spring 2017 with funding support of Northern Manitoba Food Culture and Community Collaborative (NMFCC)

You know in life nothing ever stays the same – there are always changes...in the area of life...Our beliefs and values might change when we were young but the natural laws never change – the creator – those never change never. One of those is respect. Respect for the food we eat. Respect for the plants we eat. If we don't respect that food or that plant it might hide and we can't find it. Those things never change. Nothing ever stays the same. (Alexandra, 2017)

The results of our study show that in addition to community-based learning of Indigenous food systems, formal education is perceived to play an important role in achieving IFS in FRCN. Interviewees felt that formal education needs to be more involved in teaching youth about Indigenous foods and Indigenous food systems, particularly given the competing and influential role of the conventional market-based food systems. In FRCN, both formal and informal education regarding Indigenous food systems are vital to ensure that no more knowledge is lost and existing knowledge is promoted. The opportunity that FRCN outdoor education provides in educating youth about traditional foods is valued as extremely important by youth and knowledge keepers.

Despite many challenges to community food security and IFS, most knowledge keepers described their confidence and unwavering support and love for their community, and the untapped potential of FRCN community members. Knowledge keepers spoke of the importance of embedding the value of traditional foods in youth and community, and youth were described as the key to the future. Family and community structures had once shifted away from

¹ See <http://news-centre.uwinnipeg.ca/all-posts/learning-about-indigenous-foods-in-the-field/>

Indigenous ways-of-being, they said, and are now beginning to return to honour Indigenous values and histories at a more visible level within the community.

Our findings contribute to the emerging field of IFS and add further contextualization to the Canadian definition and understanding of IFS. This information can also be further extrapolated to understand the principles of and variations to food sovereignty within a global context. The responses of FRCN knowledge keepers underscore the restorative potential of Indigenous food sovereignty in empowering individuals and communities to engage in sacred relationships and action—to renew and strengthen relationships to their traditional foods and lands. IFS has worked to further legitimize Indigenous demand for change in Canada towards holistic food systems that build local community and culture.

Out of 17 knowledge keepers interviewed in 2013, three of them have since passed away. With the passing of each elder, the unique food history, personal stories and Indigenous food knowledges also disappears (Simon, FRCN Councillor, and May 2013). This decline in knowledge keepers is a physical representation of the decline in cultural knowledge of FRCN. With the gradual loss of knowledge keepers continues the loss of knowledge unless stronger intergenerational mechanisms of knowledge transfer emerge.

The FRCN community, like many other Indigenous communities in Canada, are gradually empowering their own IFS in meeting their community food security needs in a time of unprecedented changes and challenges (Settee & Shukla, 2019). Revitalization of their Indigenous foods and associated knowledges and practices is not only important in ensuring their own food security for the present and future generations, but also helps to revitalize past traditions in an era of reconciliation.

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