# Community-driven initiatives to strengthen local food security and food sovereignty: Scale-up of the Learning Circles approach with First Nations communities

by

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## EXAMINING COMMITTEE MEMBERSHIP

The following served on the Examining Committee for this thesis. The decision of the Examining Committee is by majority vote.

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## AUTHOR'S DECLARATION

This thesis consists of material all of which I authored or co-authored: see Statement of Contributions included in the thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

## STATEMENT OF CONTRIBUTIONS

The chapters contained in this thesis have all been published, submitted and/or prepared for peer-review publication in scholarly journals. To acknowledge the contributions of academic and community-based colleagues who have been integral to the completion of this work, they have been listed as co-authors of manuscripts developed. Authorship for each thesis chapter and corresponding manuscript are detailed below.

| Chapter[a] | Description | Reference | Status |
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[a] Thesis chapters are based on two information sources of which include: primary information gathering and analysis in collaboration with partnering communities of the Williams Treaties First Nations (Chapter 2.0; funded by Ontario Ministry of Agriculture, Food and Rural Affairs, 2017-2018); and secondary analysis from the study, "Refining a Scaling up Strategy for Bringing Local Healthy Food to School Through Learning Circles in First Nations and Métis Communities" (CIHR: 2016-2021 (extended due to COVID-19); Hanning & Yessis [CO-PIs]).

Detailed authorship and contribution to development of each chapter is described below.

**Chapter 1.** Ashleigh Domingo was responsible for developing background content, original concept and rationale for the thesis. Dr.Rhona Hanning provided intellectual guidance, input and revisions. Community partners provided leadership in identifying priorities and visioning of project identified.

**Chapter 2.** The grant proposal for this project, encompassing the original concept, rationale and approach, was co-developed by Ashleigh Domingo, community collaborators Kerry-Ann Charles and Michael Jacobs, Dr. Rhona Hanning and Deborah Brooker of OMAFRA. Ashleigh Domingo was responsible for the community engagement, information gathering and analysis, synthesis of the results and preparation of the manuscript for publication. Community partners provided leadership in identifying priorities and visioning of project identified. Dr. Rhona Hanning, Kerry-Ann Charles and Michael Jacobs, supervised the work and provided intellectual guidance, input and revisions.

**Chapter 3.** Ashleigh Domingo was responsible for establishing the theoretical framework, data analysis, duplicate coding, interpretation and synthesis of the results, and preparation of the manuscript for publication. Dr. Rhona Hanning supervised the work and provided intellectual input and revisions. Drs. Kelly Skinner and Jennifer Yessis reviewed thematic interpretation and suggested revisions to the manuscript.

**Chapter 4.** Ashleigh Domingo was responsible for conceptualizing and conducting the data analysis, interpretation and synthesis of the results, and preparation of the manuscript for publication. Dr. Rhona Hanning supervised the work and provided intellectual input and revisions. Drs. Kelly Skinner and Jennifer Yessis reviewed thematic analysis and suggested revisions to the manuscript.

**Chapter 5.** Ashleigh Domingo was responsible for the content of the concluding chapter summarizing overall objectives and outcomes of the integrated articles, including a discussion on

scholarly contributions to the field, limitations and recommendations. Dr. Rhona Hanning provided intellectual input and revisions.

## ABSTRACT

**Background:** Community-driven initiatives to enhance food security and food sovereignty have supported Indigenous self-determination of food practices including revitalization of traditional food systems to promote holistic wellness through connections to the land. Highlighted are two community-based initiatives to strengthen First Nations food security, sustainable food systems, and food sovereignty in western and central Canada: Towards food security and food sovereignty with partnering Williams Treaties First Nations (WTFN); and Learning Circles: Local Healthy Food to School (LC:LHF2S).

**Objectives*:*** (1) Apply *two-eyed seeing* to build a shared understanding of food security and sustainability with the Williams Treaties First Nations. (2) Document the priorities, challenges and opportunities of WTFN communities to enhance local food access and food system sustainability. (3) Use the ABLe Change Framework to assess scale-up of the learning circles (LC) approach for collaborative planning and action, as applied to the local and traditional food systems of four distinct First Nations school communities participating in the LHF2S project. (4) Identify key learnings and successes of scaling-up the LC model within LHF2S participating communities and opportunities to leverage the approach in other communities with shared priorities, such as the WTFN.

**Methods:** Decolonizing approaches and an implementations science framework were used to undertake this participatory research with First Nations communities. To support objectives 1 and 2, an Indigenous method, storytelling, was used in community-based dialogue sessions to understand WTFN perspectives of food security, sustainability and projects of interest. For objectives 3 and 4, data were analyzed from the LC:LHF2S initiative to assess the LC process as a participatory approach to iterative planning for food system actions within divers Indigenous community contexts. An implementation science framework, Foster-Fishman and Watson's (2012) ABLe Change Framework, was applied to thematically analyze transcribed interviews (n=52), meeting reports (n=44) and tracking sheets (n=52) to describe the enabling features of the LC process. For objective 4, data from objective 3 were examined to translate key learnings

and successes to recommendations for adapting the LC approach and considerations for decolonization in action planning.

**Results:** Objectives 1 and 2 – Themes and subthemes were identified from engagement and dialogue sessions with WTFN communities. These included the following: Community perspectives of food security and food sustainability: food and wellness, food access, sustainable food systems; Challenges to food security: climate change and environmental degradation, income, loss of traditional food knowledge and skills; Priorities to enhance food security and strengthen local food systems.

Objective 3 – Themes derived from community perspectives and experiences using the LC process to plan and facilitate local food system action were oriented according to ABLe Change Framework components. Overall, the analysis demonstrated the ways in which the LC approach facilitates a process for convening a range of people to share ideas, deepen understandings of a community's specific context for food system change and strategize ways to improve access to local traditional and healthy food within their community. Across the four communities, LC facilitated a process to: (1) identify and build on strengths to increase readiness and capacity to reclaim traditional and local food systems; (2) strengthen connections to land, traditional knowledge and ways of life; (3) foster community-level action and multi-sector collaboration and relationships; (4) drive actions towards decolonization through revitalization of traditional foods; (5) improve availability of and appreciation for local healthy and traditional foods in school communities; and (6) promote holistic wellness through greater food sovereignty and food security.

Objective 4 – A set of proposed principles emerged from utilizing the ABLe Change Framework as a guide for a cross-community analysis of the LC approach. These principles included the following: (1) Create safe and ethical spaces for dialogue by establishing trust and commitment from the ground up; (2) Understand context for change through community engagement; (3) Foster relationships to strengthen and sustain impact; and (4) Reflect and embrace program flexibility to integrate learnings.

**Conclusions:** The participatory initiatives described are responsive to calls for greater Indigenous leadership in research and decision-making, as well as community-led actions to strengthen food security and food sovereignty. The approaches undertaken to support community-based initiatives promote decolonizing ways of working with communities that can strengthen research partnerships and accelerate local actions for food system change. Application of decolonizing methodologies and implementation frameworks can advance community-driven participatory research and mobilization of community interests and strengths for sustainable food systems, food sovereignty and food security. These findings add to emerging scholarship on Indigenous participatory research in relation to food security and sovereignty; and implementation science scholarship on decolonizing approaches to building respectful and reciprocal partnerships for community-led action.

## ACKNOWLEDGEMENTS

*The land on which the University of Waterloo is situated is the Traditional Territory of the Attawandaron (Neutral), Anishnaabeg, and Haudenosaunee Peoples. It encompasses the Haldimand Tract, land promised to Six Nations that includes six miles on either side of the Grand River.*

*I am grateful to have undertaken this participatory work with partnering Williams Treaties First Nations communities. Thank you for welcoming me to your communities and for the opportunity to continue my learning journey through relationships and actions grounded in reconciliation and Indigenous ways of knowing.*

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| | |
|---|---|
| ABLe Change | Above the Line, Below the Line Change Framework |
| BC | British Columbia |
| CIHR | Canadian Institutes for Health Research |
| CBPR | Community-based participatory research |
| CHN | Council of the Haida Nation |
| FN | First Nation |
| FNFNES | First Nations Food, Nutrition and Environment Study |
| GGC | Gitksan Government Commission |
| KT | Knowledge translation |
| KTA | Knowledge to Action |
| LC | Learning Circle |
| LCF | Learning Circle Facilitator |
| LC: LHF2S | Learning Circle: Local Healthy Food to School |
| MB | Manitoba |
| OMAFRA | Ontario Ministry of Agriculture, Food and Rural Affairs |
| ON | Ontario |
| Our Land | Our Land, Building Capacity in Ontario First Nation Communities |
| OCAP | Ownership, Control, Access and Possession |
| SK | Saskatchewan |
| SSHRC | Social Sciences and Humanities Research Council |
| TRC | Truth and Reconciliation Calls to Action |
| WTFN | Williams Treaties First Nations |

# CHAPTER 1: INTRODUCTION

## 1.1 Indigenous peoples in Canada

Indigenous peoples in Canada are a diverse and growing population recognized as First Nations (58.4%), Inuit (29.1%) and Métis (51.2%) [1]. Approximately, 76.2% of First Nations peoples have registered Indian status and 44.2% live on-reserve [1]. For years, the holistic wellness of Indigenous peoples has been supported by their local food systems and connections with the environment [2]. However, through the loss of land, degradation of the physical environment, and dominance of agri-food structures, the resilience of Indigenous food systems has been threatened [2-5]. Forced displacement from traditional territories, rooted in the history of colonization, has limited access to land and its resources, including water, animals and plants that make up traditional sources of food [2,6,7]. Consequently, the traditional cultural practices to acquire, grow or collect food have been affected, presenting challenges to food security [3-7].

Contextualizing these health inequities within the socio-cultural and political environments of Indigenous peoples provides a deepened understanding of their underlying structural processes rooted in colonial laws and practices [2,7,8]. A decolonizing theoretical perspective [9] has therefore been applied in reviewing the literature on Indigenous health and food systems, and to promote ethical and culturally appropriate research that deconstructs colonial relations and processes of knowledge production in this thesis [9-13].

## 1.2 Indigenous food security, food sovereignty and wellbeing

Food insecurity can be described as an outcome of inadequate, limited or uncertain access to sufficient, safe, personally accepted, and quality healthy food [14,15]. Household food insecurity and its impact on health and wellness, however, is not a shared experience as it is felt most strongly by Indigenous households in Canada [4, 16-18]. Results from the First Nations Food, Nutrition and Environment Study (2008-2018) revealed 48% of First Nations households to be food insecure, a rate almost 5 times higher than what has been found in the CCHS (2017-2018) for the general Canadian population (12.7%) [15, 19, 20].

As Indigenous health is considered in relation to community wellness and connectedness to local food systems, including the environment in which they are located, the impact of food insecurity spans various aspects of Indigenous holistic wellness [8]. Access to food from both traditional and market food systems is essential to food security in First Nations households [3, 21, 22]. These two food systems, however, have distinct characteristics. A traditional food system has been described as "all food within a particular culture available from local natural resources and culturally accepted. It also includes the sociocultural meanings, acquisition/processing techniques, use, composition and nutrition consequences for the people using the food" [6, p. 418]. Contrastingly, a market food system consists of agribusiness products available for global consumers [21, 23].

Though a decrease in overall consumption of traditional foods has been observed over time [4, 24], traditional foods remain an important part of Indigenous culture, identity, and holistic wellness [3, 20, 24-29]. Community-based studies on local First Nations perspectives of food security highlight the importance of traditional food acquisition and food sharing as a community-identified solution to greater access to food [23]. In addition, traditional food has also been found to be an important source of nutrients rich in vitamins, minerals, and proteins [30-33]. However, consumption of energy-dense processed food associated with food insecurity has placed a nutritional burden on Indigenous populations, with implications for risks of obesity and diet-related chronic diseases [18, 34-41]. Inequities tied to the disproportionate burden of food insecurity and its health impacts are driven by ongoing impacts of colonization, racism and forced relocation from traditional environments and the resources provided from the land [2, 4, 42, 43]. Access to land and resources required to hunt, harvest, grow and prepare food is therefore essential to supporting Indigenous peoples food security and food sovereignty, namely the right to sustainable and just local food systems [43-45].

Food sovereignty considers the right of peoples to determine and control their own food systems, food cultures and environments [46-48]. Within Indigenous contexts, food sovereignty has been described as "present day strategies that enable and support the ability of Indigenous communities to sustain traditional hunting, fishing, gathering, farming and distribution practices" [49, pg.98]. This is also inclusive of land-use practices and traditional knowledge as examples of

community-based control that can contribute to food security and sustainable food production [45, 46]. Efforts to restore food sovereignty may therefore provide a pathway to food security through actions taken to promote land access and use as a right and need that should be self-determined [45,46,50]. It further recognizes the importance of protecting and honouring traditional food practices against ongoing colonial pressures [47].

To summarize: key drivers of the transition away from traditional food use towards greater consumption of market food (and therefore, factors impacting food and nutrition security and food sovereignty for Indigenous communities) include: reduced access to traditional resources and physical displacement from traditional territories driven by colonialism [2, 3, 7, 51]; introduction of westernized food and imported goods [17, 51]; greater engagement in a wage-based economy [21, 36, 50]; and altered land, plant and animal resources within regional environments affected by climate change and environmental contaminants [8, 10, 52]. These are large, complex challenges and efforts to address such factors through, for example, land treaty negotiations, advocacy for living wage, the green energy movement and progress on the Truth and Reconciliation Calls to Action [54], are ongoing among Indigenous leadership, governments, communities and other stakeholders. Yet, while system transformation moves forward, the adage to "think globally, act locally" has merit to address more immediate and specific needs of First Nations communities.

### 1.3 Rationale for community-led actions on food security and food sovereignty

Indigenous communities are increasingly driving the reclamation of their local food systems as a means to enhance food security and sustain local food systems [2, 55]. Actions are being taken at a community-level and in partnership with broad system stakeholders across sectors and disciplines, including representation from academia, governments, community-based and health system organizations with vested interest in mobilizing efforts aimed at environmental sustainability, social justice, equitable food systems and secure access to food.

While few published studies have documented key enablers and lessons from implementing community-identified projects within Indigenous contexts, small-scale food-related studies highlight the importance of project champions to oversee planning and implementation, a shared

sense of community ownership, time and commitment, access to resources, and knowledge of food sustainability practices and production as enablers for implementation [2, 20]. Other key enablers for successful implementation of Indigenous health promoting programmes highlight the importance of co-governance to ensure transparency and accountability in decision making [14], and integration of a dynamic and process-oriented model that can guide and foster community participation in planning, implementation and evaluation [37].

The specific aims of this participatory research were to inform a pathway of community driven actions to strengthen food security and sustainable local food systems, thereby promoting Indigenous people's food sovereignty, including the right to food and holistic wellness. The community engagement processes and outcomes described were based on participatory work led by partnering First Nations communities who have identified access to food from sustainable food systems, both traditional and market-based, as a challenge and opportunity for revitalization.

Thesis chapters comprise a three-part story that uses decolonizing methods and implementation science to support community-level action planning in strengthening food security and food sovereignty. **Chapter 2.0** describes a community-based food security and sustainability project with the Williams Treaties First Nations (WTFN) communities, Cambium Indigenous Professional Services, the Ontario Ministry of Food, Agriculture and Rural Affairs (OMAFRA). While **Chapters 3.0 and 4.0** describe findings from an analysis of scaling-up the Learning Circles model (LC) in four diverse First Nations contexts. The documented learnings from scaling-up LC support the goal to integrate knowledge and successes to support implementation planning for community-led action within communities such as WTFN.

### 1.4 Thesis organization

**Chapter 2.0** describes formative work undertaken in 2017- 2018 in collaboration with partnering Williams Treaties First Nations communities, Cambium Indigenous Professional Services, OMAFRA, and the University of Waterloo, to understand community experiences and perspectives of food security and sustainability (objective 1). However, following the achievement of project deliverables, OMAFRA support ended with the new government and

shift in priorities, a common challenge that has been identified to sustaining Indigenous health promoting programs [42]. Partners remained committed to the advancement of community-led actions of food security and sustainability by building on preliminary outcomes. The outcomes included established relationships and partnerships, built understanding of communities' perspectives and experiences of food security and sustainability, as well as knowledge products and tools developed. Relationships with community partners have been maintained, and a next step is to explore opportunities to support action planning by mobilizing community perceptions, strengths and interests to advance food security, sustainability and food sovereignty. Findings described in subsequent chapters from a community-based program, Local Healthy Food to School (LHF2S), has potential to facilitate this process.

**Chapters 3.0 and 4.0** highlight evaluative successes from scaling up Learning Circles (LC) as a participatory approach to fostering collaboration and building of community strengths. Essentially, the learning circles of LHF2S, under a Learning Circle Facilitator, brought together people with an interest in local healthy and traditional food access and skill-building for youth of the community (e.g., hunters, fishers, gatherers, knowledge keepers, food producers, chefs, school administrators, teachers, community members, youth). While promising, it was unknown how the model would support ongoing work in Haida Gwaii (vertical scale-up) and application in diverse First Nations communities (horizontal scale-up). As such, the LC:LHF2S project evaluated the model and associated changes in local food systems within Haida Gwaii, BC and three other communities within Hazelton /Upper Skeena, BC, Ministikwan, SK, and Cross Lake, MB over 2016-2019.

The current thesis describes results from analysis of the process of scaling up Learning Circles across these four contexts. More specifically, key enablers, challenges, successes and lessons were analyzed from scale-up of the initiative within Hazelton /Upper Skeena, BC, Ministikwan, SK, and Cross Lake, MB using the ABLe change model (to be described). Findings support an understanding of how the LC model could support the desired changes within the contexts of WTFN.

Continued efforts were made to maintain community relationships and project momentum (UW-SSHRC 2021). A SSHRC's Insight Development Grant (2021-2022) which has been obtained, can support knowledge mobilization of key successes from implementation of the LC model in WTFN as an approach to community capacity building and action planning.

## 1.5 Research scope

### *1.5.1 Project objectives*

1. Apply *two-eyed seeing* to build a shared understanding of food security and sustainability with the Williams Treaties First Nations [56].
2. Document the priorities, challenges and opportunities of WTFN communities to enhance local food access and food system sustainability.
3. Use the ABLe Change Framework to assess scale-up of the learning circles (LC) approach for collaborative planning and action, as applied to the local and traditional food systems of four distinct First Nations school communities participating in the LHF2S project.
4. Identify key learnings and successes of scaling-up the LC model within LHF2S participating communities and opportunities to leverage the approach in other communities with shared priorities, such as the WTFN.

### *1.5.2 Research questions*

***Williams Treaties First Nations*: *Community perspectives and strategies to enhance food security and sustainability of local food systems***

1. What are WTFN community perspectives of food insecurity and its relation to wellness? *(O1)*
2. What are the challenges and opportunities to strengthen food security and sustainable food systems relevant to WTFN communities? *(O2)*
3. What kind of community-based projects relevant to WTFN communities could enhance food security including access to healthy foods? *(O2)*

***LC:LHF2S Program:*** *Evaluating the scale-up of the LC model using the ABLe Change Framework [57].*

*ABLe Change Framework:*

1. How was the LC model applied within Indigenous contexts to support community-driven approaches to identify opportunities and considerations to strengthen food security and local food systems (i.e., understanding the problem from a strength-based perspective (above the line)? *(O3)*
2. How has the LC model been applied to support community-driven actions to strengthen local food systems as part of LHF2S (i.e., below the line)? *(O3)*
3. What key challenges, enablers and successes have been identified in scaling-up the LC across four distinct First Nations contexts? *(O3)*

*Key lessons and opportunities identified for scale-up of the LC model:*

4. What key processes and enablers have been identified to overcome challenges and sustain implementation efforts (e.g., protocols, practices, and commitment)? *(O4)*
5. How can WTFN leverage the LC model to plan and mobilize community actions to strengthen local food security? *(O4)*

## 1.6 Methodological approaches

### *1.6.1 Research position*

*I have taken the opportunity to position myself within this research. This will provide the readers with an understanding of methodological approaches selected that are intended to support with undertaking the work in a respectful manner. As a Black woman undertaking participatory research, I am committed to addressing health inequities and creating space for disempowered voices and experiences to be heard. By doing so, I intend to expose the conditions and processes that give rise to unjust health experiences and identify appropriate responses to address such challenges.*

*The lived experiences I bring to this work fosters my commitment to undertaking research with communities that is collaborative, change-oriented, and impactful. I intend to ensure this participatory research project brings benefit and best serves the priorities and interests of*

*communities involved. The research and selection of methodological approaches to inquiry described are reflective of a critical and transformative worldview and draws from the experiences and knowledge of Indigenous communities involved. Through this work, I intend to maintain strong relationships with community partners and will strive to be an ally through actions grounded in reconciliation and traditional ways of knowing.*

### *1.6.2 Project design*

A participatory project utilizing Indigenous methodologies has been applied to address the primary research questions of the study. The project uses Indigenous and non-Indigenous approaches to inquiry, akin to *two-eyed seeing* [56], as a way to decolonize the research process and draw on the strengths and wisdom of Indigenous knowledge and ways of knowing. The following are approaches utilized to advance project objectives.

1. A community-based participatory research (CBPR) framework [58] to support a partnership-driven approach that shifts community priorities and values to the centre of research.
2. Conversational/storytelling interviews [30, 31] with key informants from WTFN communities.
3. ABLe Change Framework to evaluate the scale-up of the LC model in the Local Healthy Foods to School (LHF2S) program[1].
4. Thematic analysis [39] to synthesize findings from conversational interviews with key informants and the ABLe Change Framework analysis of the LC:LHF2S.

The application of these methods to further project objectives are described in this chapter and in depth in chapters 2-4. In addition to the methodologies described, a decolonizing theoretical perspective, was applied to develop and undertake this work (9, 11, 59-63). As an understanding of the social and political context of Indigenous communities is required when undertaking work with Indigenous people [7,8], a decolonizing perspective can help expose ongoing colonial influences that suppress Indigenous knowledge, values, and practices [9,11,12]. A decolonizing lens centres the strengths of Indigenous knowledge and ways of knowing and can allow for a

[1] Funded under CIHR's Pathways to Health Equity for Indigenous Peoples program

better understanding of contemporary food-health outcomes within the social and political context of Indigenous peoples [9,11].

This research is also guided by the Tri-Council Policy Statement: Ethical Conduct for Research and specifically Chapter 9 of the Tri-Council Policy Statement "Research Involving the First Nations, Inuit and Métis People of Canada", as well as the First Nations principles of Ownership, Control, Access and Possession (OCAP) of data [64]. Approval for the Pathways study was obtained from the University of Waterloo Office of Research #30819.

### *1.6.3 Project Advisory Team and Partnering Williams Treaties First Nations*

***Williams Treaties First Nations*:** *Community perspectives and strategies to enhance food security and sustainability of local food systems*

A project advisory team with liaisons within each of the four partnering WTFN communities was established to identify and undertake project activities and objectives. The project team consisted of both Indigenous and non-Indigenous partners (from University of Waterloo and OMAFRA). Two project co-investigators from Cambium Indigenous Professional Services provided First Nations led expertise as members of Georgina Island First Nation and Curve Lake First Nation and through their extensive engagement with communities through environmental projects and other initiatives. Pre-existing relationships established with each of the partnering communities provided the opportunity to select community advisors with previous project management expertise and established knowledge of and networks within their own communities. These local advisors are well positioned to inform project approaches, identify key community informants and gather data in ways that were acceptable to their communities.

Academic partners, co-facilitated conversations with community expert advisors, co-develop data collection tools, analyze findings and prepare project reports for funder and communities. Community advisors, identified through Cambium Indigenous Professional Services contacts are critical to engaging with key informants willing to share their knowledge, experiences and expertise in food security, sustainable agriculture, chronic disease, climate change, traditional

knowledge and environmental health. Community key informant engagement and dialogue for O1 took place in 2017-2018 with the following WTFN communities: Georgina Island First Nation, Rama First Nation, Beausoleil First Nation, and Curve Lake First Nation.

***Partnering communities of the Williams Treaties First Nations***

The Williams Treaties First Nations are located in the province of Ontario, Canada within the Georgian Bay and Lake Ontario watersheds. The Williams Treaties First Nations comprise of the Chippewas of Georgina Island First Nation, Beausoleil First Nation, and Rama First Nation; and the Mississaugas of Curve Lake First Nation, Alderville First Nation, Hiawatha First Nation and Scugog Island Fist Nation. These communities, which include First Nations people with non-registered and registered Indian status, are a diverse and growing population that strongly embrace a holistic relationship with the land, water and its local food system. Communities of Georgina Island First Nation, Beausoleil First Nation, Curve Lake First Nation and Rama First Nation expressed interest in participating in this project as community partners.

Collaborators Kerry-Ann Charles and Michael Jacobs were known to the manager of OMAFRA through other projects within the Lake Simcoe environment, and when they expressed interests related to community food security and sustainability a meeting with UW researchers was set to explore collaboration and funding. Three phases of the collaborative research were planned and funding for the first phase secured. Subsequent phases were initially postponed due to the change in provincial government. This stopped all funding for a year and when limited funding resumed, the project no longer fit with government priorities. This prompted the shift to analysis of the LC:LHF2S to identify and apply key learnings and successes within WTFN community contexts to support ongoing food activities.

### *1.6.4 Project advisory team and partnering First Nations communities in Western Canada*

***LC:LHF2S Program:*** *Scale-up of the LC model using the ABLe Change Framework*

The LC:LHF2S management structure consisted of an advisory council with representation from participating communities to ground the project within Indigenous values and ways of knowing.

The advisory council also consisted of research applicants, non-governmental organization partners such as the Heart and Stroke Foundation, and a project manager from Propel Centre for Population Health Impact (the project-wide administrative coordinating centre) to provide guidance and support to communities with operationalizing their project objectives and activities.

This research (O3) used the Foster-Fishman and Watson's ABLe Change Framework (2012) to assess the scale-up of the LC model in the process and actions towards food systems change [57]. The intent of the analysis was to identify strengths of the approach that can be leveraged in other contexts (where identified barriers are not relevant or can be addressed). Findings from this have been shared with partnering communities, including the Williams Treaties First Nations as a way to disseminate cross-learnings and mobilize opportunities for the approach to be considered and implemented by other communities with shared priorities and interests (O4).

***Partnering communities of the LC:LHF2S***

The Haida Nation embraces a strong relationship with the environment, including connections with the land, water and wellness. The traditional territory is on the archipelago of Xaayda Gwaay.*yaay* (Haida Gwaii) and southern Alaska and is home to approximately 4500 people. The majority of residents are located in Gaaw Tlagee (Old Massett) at the north end of Graham Island and HlGaagilda (Skidegate) at the south end. The Council of the Haida Nation is the elected governing body of Haida Nation. The Secretariat of the Haida Nation administers funds on behalf of the Council of the Haida Nation.

Gitxsan First Nations located within the Skeena watershed of north-western British Columbia, maintain intimate knowledge and relationships from taking care of the land. Approximately 3,403 people reside within the seven Gitxsan communities. In addition, approximately 5,544 people represent the total population of all Gitxsan Wet'suwet'en communities and the two municipalities of Hazelton and New Hazelton. Gitxsan Government Commission (GGC), a tribal council, provides administrative services to four local band councils.

Ministikwan Lake Cree Nation is a remote community within north western Saskatchewan. The community has approximately 1,300 residents. Food-land related activities remain of high importance to community members, including harvesting practices in the surrounding boreal forest. Meadow Lake Tribal Council is responsible for delivering services to community members and comprises of representation from 9 local Meadow Lake First Nations, 5 whose Indigenous ancestry is Cree and 4 Dene.

Black River First Nation is an Ojibwa community on the banks of the O'Hanley and Black Rivers, and the east shore of Lake Winnipeg, Manitoba. The First Nation has a population of approximately 1,500 and 1,000 people live on-reserve. Harvesting of wild rice, commercial fishing, and agricultural development are essential components of the community's economic base. The community is governed by a band Chief and Council, and is a member of the Southeast Resource Development Council Corporation which supports planning and delivery of community programs.

### *1.6.5 Community-based participatory research (CBPR)*

***CBPR background***

The project described was pursued within CBPR, which provides a framework for collaboration, co-production of knowledge, and non-hierarchical relations to advance social change and health equity [66]. CBPR has been identified and used as a method to undertake Indigenous health research as its relational component aligns with an Indigenous paradigm [59-63].

Wilson (2001) describes participatory approaches as relevant and informative to working with Indigenous peoples given the methods focus on relationships as a requirement in its process [59]. Driven by a partnership approach that shifts community priorities and values to the centre of research, its application within Indigenous contexts can facilitate space for Indigenous knowledge systems [11,12; 65]. CBPR provides an approach that emphasizes an iterative and cyclical process [58] of sharing experiences and creating a safe space for co-learning and knowledge production [66].

CBPR used with an Indigenous methodology, such as storytelling, has been considered as an appropriate approach to embedding Indigenous inquiry [61,62 67,68]. Recommended use of CBPR in Indigenous research [9, 64; 59-62; 69] emphasize the importance of integrating principles that enable reciprocity and community control in all aspects of the project [60, 70].

Israel, Shulz, Parker, & Becker (1998) describe the principles of CBPR as the following [10]:

1) *Recognizes community as a unit of identity.*
2) *Builds on strengths and resources of the community.*
3) *Facilitates collaborative partnerships in all phases of the research.*
4) *Integrates knowledge and action for mutual benefits of all partners.*
5) *Promotes a co-learning and empowering process that attends to all social inequalities.*
6) *Involves a cyclical and iterative process.*
7) *Addresses health from both positive and ecological perspectives.*
8) *Disseminates findings and knowledge gained to all partners.* (p. 178-180)

Such principles highlight knowledge collaboration and relational processes to knowledge generation [11]. The principles of CBPR acknowledge and honour the importance of lived experiences, building of trusting relationships, and awareness, especially for non-Indigenous collaborators, of one's privilege and influence in knowledge production.

***Application of CBPR in the Current Research***

Fundamental to this project, is the reciprocal relationship between Indigenous and non-Indigenous team members. As the principles of CBPR emphasize reciprocity and respect, they guided engagement with partnering communities and informed actions and ways of working that prioritize community needs and preferences.

This was done through efforts to create a safe space that centres and privileges the guidance of Indigenous narratives and knowledge systems [60,61]. Community project liaisons were engaged to determine the approach and setting for inclusive, community-based dialogue and knowledge sharing. Non-Indigenous partners have been present at the invitation of community and with

appropriate orientation to culture. This approach facilitates community strengths, power and control and promotes the value of Indigenous ways of knowing among non-Indigenous team members [60].

### *1.4.6 The conversational method*

***Background: Conversational method***

The conversational method, congruent with Indigenous methodologies, has been described as a dialogic approach to generating and gathering knowledge through oral storytelling [11,12]. Encompassing of other approaches such as storytelling, yarning, and talk story, the conversational method is considered a qualitative approach found within the realm of narrative inquiry and is therefore not unique to Indigenous methodologies [12,61,71]. However, as an approach that crosses cultural divides, the underlying knowledge system that sustains the experiences shared through storytelling evokes distinct characteristics in its use [11]. The conversational method in Indigenous research is an approach driven by Indigenous knowledge, which honours use of story as an organic process for transmitting and gathering knowledge [11].

Telling stories as a means for sharing reflections of experiences is an important component of Indigenous culture that embodies holistic dimensions of historical, social, spiritual, and cultural memories [11,12,63]. When applied within Indigenous contexts, the conversational method is relational and guided by an Indigenous paradigmatic approach [11,12, 61,63]. This has been described by Kovach [11, p.43] as the following:

a) *"it is linked to a particular tribal epistemology (or knowledge) and situated within an Indigenous paradigm;*
b) *it is relational;*
c) *it is purposeful (most often involving a decolonizing aim);*
d) *it involves particular protocol as determined by the epistemology and/or place;*
e) *it involves an informality and flexibility;*
f) *it is collaborative and dialogic; and*
g) *it is reflexive*."

The conversational method provides the project team with flexibility to determine the structure for facilitating an engaging dialogue that can produce highly contextualized stories [11,12, 61, 72]. The method can be applied in one-to-one discussions or within a group of participants and can involve semi-structured or less-structured questions. The CBPR framework supports use of the conversational approach as a decolonizing research method [9,65,67]. Together, the conversational method and CBPR guide collaboration, partnerships and reciprocity within research.

***Application of the conversational method in the current research***

Recognizing the value of Indigenous-led approaches to the conduct of ethical research; the conversational method has been used to engage WTFN in understanding perspectives of food security and sustainability, as well as to document community priorities, challenges and opportunities to enhance local food systems. The approach has helped to ensure work is guided by Indigenous knowledge and experiences that bring benefit to communities. The purpose of using this methodology to undertake group conversations and one-to-one engagement with key informants, as described above, is to decolonize the research process through actions that can create a safe space for WTFN partner voices to be heard. An important element of the conversational method is the necessity for the researcher to "self-locate", sharing their objectives, purpose, and commitment to community and the project [11,73]. In the formative work that has taken place, this process was used to facilitate introductions and create a space for everyone to engage in storytelling and active listening; it provided the opportunity to deepen conversations and build relationships. Using this method has allowed for an organic dialogue where any pre-determined semi-structured questions were introduced when relevant.

The conversational, dialogue approach, was used in a series of community engagement meetings with partnering WTFN held between December 2017 and March 2018. Community liaisons in each partnering community helped to identity advisors to participate in community dialogue sessions. Advisors with extensive knowledge of and expertise in environmental sustainability, food systems, traditional food practices, health, education and community development were invited to participate in the project. Engagement sessions provided the opportunity to build

relationships with respective community members and solicit input from the communities on perspectives of food security and food sustainability. In conversations with communities, participants identified priorities, challenges and opportunities to inform community-driven food-related projects to enhance food security and support sustainable local food systems.

The *Our Land, Building Capacity in Ontario First Nation Communities* (Our Land) is a First Nations led and informed conference that was held on January 2018 at Casino Rama, Rama, Ontario. This annual conference, organized by the project partners from Cambium Indigenous Professional Services, convened representatives from over 30 First Nations communities across Ontario. On day one of the conference, the project team facilitated a participatory workshop to explore ways to increase access to healthy food through the development of local food initiatives. Information gathered from community-based engagement and dialogue sessions, participatory workshop at the conference, and survey were transcribed and thematically analyzed to inform cross-cutting themes across all four partnering communities. All project team members contributed to the development of interview guided questions, a facilitator guide for the participatory workshop discussion, and survey questionnaire utilized at the conference. Qualitative analyses of codes and themes were reviewed by the project team for refinement and to ensure inclusiveness and appropriate representation of community voices.

### *1.6.7 Above and Below the Line (ABLe) Change Framework*

Foster-Fishman and Watson's ABLe Change Framework (2012) [57] was used to explore and describe the scale-up process of the LC:LHF2S program within four diverse communities: Haida Gwaii and Hazelton/Upper Skeena in British Columbia, Ministikwan in Saskatchewan and Black River in Manitoba.

A review of the literature on different implementation science frameworks and models informed the selection of the ABLe Change Framework to guide an analysis of implementation strengths and barriers, within the framework's contextual factors (Table 1-1). The Framework was used to provide insights into scaling up the LC:LHF2S model in Indigenous communities in Canada, like WTFN, and more broadly.

Table 1-1 includes a comparison of different implementation frameworks and models and opportunities for their application within Indigenous contexts. Recognizing similarities between the ABLe change Framework and action research, the ABLe Change Framework was selected given its relevance and opportunity for application within Indigenous contexts (see section 3.5.3)

### *1.6.8 Background and application of ABLe Change Framework in the current research*

Scale-up has been described as efforts to increase or expand the impact of a successful intervention to benefit more people and to foster maintenance and sustainability [74]. The process of scaling-up is therefore informed by evaluated initiatives that have demonstrated promising impacts and are of value to leverage and adopt in other settings. In this project, efforts to sustain implementation was approached through scaling-up to increase and maintain the benefits of the LC:LHF2S program. Horizontal scale-up or spread has been described as the dissemination of best practice and knowledge with the goal of replicating the program of interest in other settings [74,75]. Vertical scale-up has been described as vertical diffusion or deliberate, systematic approaches to increasing the coverage, range, and sustainability of implementation efforts [76].

A framework for implementation, such as the ABLe Change Framework [57], can be used as a guide for implementation efforts to scale-up. The ABLe change Framework is a strategic and conceptual tool to guide planning for implementation of community change projects to promote system change. The Framework was used to assess how the LC model facilitated community engagement to inform design, infrastructure, and processes required to support implementation efforts. An analysis using the ABLe change framework helped to inform the “how to” process for planning with communities to enhance readiness and capacity for transformative system change that can maximize the effectiveness of implementation and outcomes within Indigenous contexts. Figure 1 of the ABLe Change Framework captures key components of how the framework was used to evaluate the scale-up process and identify implications for opportunities for scaling-up the LC model and LHF2S initiative with the Williams Treaties First Nations.

The *Above the Line component* of the Framework embeds systems change thinking to address the root source of the issue to understand why the desired change is needed. This component draws on theory of change and embeds a systemic lens to understand the root sources of the problem by engaging stakeholders to gather their perspectives on why the problem exists and the need for the desired change of interest [57]. Understanding the problem from a systemic lens involves partner engagement to identify system characteristics that generate and sustain the problem. The partner-driven collaborative approach emphasized is particularly relevant to work involving Indigenous communities which requires relational-based approaches to information gathering such as large group dialogic processes [11,12].

The *Below the Line* is focused on four key elements of the implementation process, readiness, capacity, diffusion and sustainability to ensure change pursuits achieve the intended change of interest. This component is intended to provide guidance with considering implementation strengths and barriers as it relates to readiness, capacity, diffusion and sustainability. Change pursuits are expected to simultaneously work within the above and below the line components as they are interdependent processes that respond as actions are taken and stakeholders are engaged. As such, both components are expected to work together to support an environment for transformative change.

| Table 1-1 Comparison of implementation frameworks and models | | | | |
|---|---|---|---|---|
| **Framework/Model** | **Description** | **Theory** | **Scale** | **Relevance and opportunities for application within Indigenous contexts** |
| **ABLe Change Framework [57]** | • Strategic and conceptual tool to guide planning for implementation that can promote system change | Implementation theory<br>Systems dynamic theories | System<br>Community<br>Organization | • Context specific<br>• Stakeholder/partner driven and centred<br>• Systemic action learning<br>• Action research<br>• Requires an Indigenous methodological approach to operationalize |
| **The Quality Implementation Framework [77]** | • Guide of action-oriented steps to consider in the planning and execution of high-quality implementation plans<br>• A "how to" guide for operationalizing implementation and stakeholder engagement | Implementation theory<br>Systematic theory | Community<br>Organization | • Context specific<br>• Stakeholder/partner driven and centred<br>• Requires an Indigenous methodological approach to operationalize |
| **The Consolidated Framework for Implementation Research [78]** | • Meta-theoretical framework to guide understanding context for implementation<br>• Can guide data collection approaches and analysis and/or reporting of implementation findings<br>• Guide formative evaluation of interventions | Process theories<br>Impact theories | Comprehensive, large scale change organization | • Partner/stakeholder engagement<br>• Requires an Indigenous methodological approach to operationalize |
| **Knowledge to Action Model [79]** | • A process model for considering action-oriented steps involved in knowledge translation practice, as well as approaches to building capacity for effective knowledge translation to inform project design, methods, and implementation | Planned action theories | Community, organization | • Action research<br>• Collaborative, shared decisions making<br>• Requires a framework to operationalize and implement model steps<br>• Incorporation of Indigenous methods to information gathering<br>• Requires an Indigenous methodological approach to operationalize |
| **Theoretical Domains Framework [80]** | • Guide to making behaviour change to address implementation problems | Behaviour change theories | Individual | • Requires an Indigenous methodological approach to operationalize<br>• Program specific (e.g., professional and other health-related behaviors) |

### *1.6.9 Analysis using ABLe Change Framework*

Within each of the four communities participating in the LC:LHF2S program, information documented in learning circle reports, meeting minutes, annual reports, LC tracking sheets were thematically analyzed using the ABLe Change Framework as a guide to assess implementation. Analyses provide a collective story of mediators for change, including key community champions for community led action to take place. NVivo software version 12 Pro was used to code transcribed narratives. Discussion with members of the project team of emergent thematic codes took place to ensure consistency and relevance between independently coded transcripts.

Utilizing the ABLe Change Framework as a guide to conduct a thematic analysis [81-83], key enablers for building a shared understanding of the community desired interests for change were identified (above the line). In addition, key community identified strengths were examined to identify the processes, change actors and influencers required to enhance community capacity and readiness for change (below the line). This was analyzed within a structured process to synthesize findings across all communities [81,82,83]. The research team shared findings with community members to ensure utility and contextual relevance of findings generated by theoretical and practical understandings. Such validation and community sense making of findings support how the LC model may be adopted by other remote communities such as the Williams Treaties First Nations.

### *1.6.10 The ABLe Change Framework applied within Indigenous context*

The ABLe Change Framework is a guide to transformative change that emphasizes a strong collaborative approach to undertake change pursuits. Integrated in the frameworks structure is an iterative and flexible process to allow for program planning and implementation to be tailored and adapted to the priorities and needs of the local context. This includes participatory engagement of those involved to support shifts and adaptions as needed [57]. One of the key methodological strategies emphasized by the Framework is systemic action learning which has its roots in action research [57]. This particular orientation is congruent with the methodological approach of participatory action research that currently frames the current work. Both

approaches align with a critical/transformative paradigm [84] to advancing social change utilizing a collaborative approach to prioritizing community values and actions.

As such, the strong process and relational component of the ABLe Change Framework presents relevance to participatory programs and research involving context-based actions and approaches integrated. Application of the ABLe Change Framework within CBPR and Indigenous approaches to inquiry can support application in a culturally safe way that acknowledges the social and political context of the partnering communities. In doing so, the evaluation results analyzed are reflective of community contexts to identify key enablers and challenges to inform planning for community change and effective implementation. As the Framework necessitates a systemic lens to understanding the system and context for change, this welcomes the opportunity to apply a decolonizing lens that recognizes the systemic drivers that impact the holistic wellness of communities, including their connections to the land, food and traditional knowledge. The emphasis placed on understanding the need for community change from a systemic lens places an emphasis beyond a focus on individual, behavioral or program levels, but rather structural and decision-making power processes, policies or procedures. In addition, the relational component embedded throughout the framework and the partner driven approach to implementation is fitting within the broader objectives of this participatory project which is to undertake the work in a culturally safe way that brings benefit to communities.

### *1.6.11 Thematic Analysis*

As previously described, key informant and group interviews with WTFN communities were audio-taped with the consent of participants, transcribed and thematically analyzed (section 3.4.2). Using the ABLe Change Framework as a guide to conduct a cross-case analysis, data from LC:LHF2S were thematically analyzed from documents such as learning circle reports, meeting minutes, annual reports, LCEF tracking sheets, and annual and end-of-grant transcribed interviews (section 3.5.2).

Thematic analysis is a qualitative method of analysis for systematically identifying and organizing patterns of meaning and experiences across a data set [81-83]. It is an approach to

identifying common topics shared and understanding commonalities from written or verbal perspectives from participants. Thematic analysis allows for insights and patterns of meaning to be identified in relation to a topic or questions being explored. The method has increasingly been recognized as a valuable and unique qualitative approach as it offers the research accessibility and flexibility in being a method for data analysis [81]. This flexibility allows the researcher to analyze qualitative data systematically that can facilitate either a deductive or inductive approach to data coding participant perspectives and meanings.

As the ABLe Change Framework is used to guide a thematic analysis, deductive reasoning was made based on the concepts and ideas from the ABLe Change Framework to code and interpret data. In addition, the decolonizing lens applied in this project represents a source of concepts and ideas that I as a researcher approached in analysis and interpretation. However, inductive reasoning was also applied as gaps of the ABLe Change Framework as a guide for implementation were identified. Key principles for participatory planning and implementation within Indigenous contexts were proposed based on enablers and successes identified to support a model for change with communities.

The process of analysis involved reading through information gathered from participants (e.g., transcripts, code book, interview recordings, documents), identifying the frequency of terms and phrases used, coding responses specific to the ABLe Change Framework and categorizing to identify recurring themes. Documents were coded according to ABLe Change Framework and discussed with the LC:LHF2S project manager with extensive knowledge and experience working with the LHF2S communities. Duplicate coding was also applied in coding a sub-sample of the materials coded by research team members with graduate level training and experience in qualitative methods but who had approached the material with a learning circle, or a food system or a knowledge translation lens and not specifically an ABLe change. Those involved with the coding process discussed emergent themes from the data and the conditions by which such themes have been defined. Codes created in the final phase of analysis were used to capture and synthesize the major themes observed in the interviews and other documents.

The selection and use of the frameworks and theoretical lens applied, stems from the philosophical worldview and assumptions of a critical/transformative paradigm [82,84]. This stance advocates for an action agenda based on the interests and priorities of communities of people who have faced issues related to racism, oppression, and social injustice [82,84]. As a Black woman with lived experiences of issues related to racism, inequities in the determinants of health, I am committed to ensuring the research undertaken to improve health equity will have real impact and best serve the lives of participants involved. Thus, the research and selection of methodological approaches to inquiry described are reflective of such personal worldviews and experiences.

# CHAPTER 2: INDIGENOUS COMMUNITY PERSPECTIVES OF FOOD SECURITY, SUSTAINABLE FOOD SYSTEMS AND STRATEGIES TO ENHANCE ACCESS TO LOCAL AND TRADITIONAL HEALTHY FOOD WITH PARTNERING WILLIAMS TREATIES FIRST NATIONS, ONTARIO, CANADA

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## 2.1 Overview

In partnership with communities of the Williams Treaties First Nations in southern Ontario (Canada), we describe an approach to work with communities, and highlight perspectives of food security and sustainability, including priorities and opportunities to revitalize local food systems as a pathway to food security and food sovereignty. The objectives of our project were: (1) to build a shared understanding of food security and sustainability; and (2) to document community priorities, challenges and opportunities to enhance local food access. Utilizing an Indigenous methodology, the conversational method, within the framework of community-based participatory research, formative work undertaken helped to conceptualize food security and sustainability from a community perspective and solidify interests within the four participating communities to inform community-led action planning. Knowledge generated from our project will inform development of initiatives, programs or projects that promote sustainable food systems. The community-based actions identified support a path towards holistic wellbeing and, ultimately, Indigenous peoples' right to food security and food sovereignty.

**Keywords:** Indigenous health; food security; food sovereignty; food systems; sustainability; colonialism; community-based; participatory

## 2.2 Introduction

Indigenous communities are increasingly driving the reclamation of traditional food systems (the term, traditional food systems, has been described as all foods identified within a particular culture that derive from local natural resources and includes sociocultural meanings associated with acquisition and use of such foods) as a means to enhance food security, food sovereignty and to sustain traditional food practices [1–4]. Indigenous holistic wellness has been supported by deep relations with the environment, including the natural resources it provides such as food and water for generations [3,4]. In Canada, however, the inequities faced by Indigenous peoples, tied to the loss of land, forced displacement from traditional territories and the history of colonization, have threatened the resilience of Indigenous food systems and impacted the right to food security and food sovereignty [1–6]. (Food sovereignty is the "right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods. It entails peoples' right to participate in decision making and define their own food, agriculture, livestock and fisheries systems" ([6]). The traditions and cultural practices to acquire, grow or prepare food have consequently been affected [1,4,7]. Challenges to ensuring food security have been further amplified by global climate change and environmental contamination of food systems, which have impacted access to, and quality of, land, water, plants and animal resources [8–11]. In addition to such processes that have threatened Indigenous food systems, rising costs of traditional food acquisition activities and local food production, along with the introduction of westernized food, has driven greater use of store-bought less nutritious food [12–14]. This nutrition transition has been tied to obesity and diet-related chronic diseases: a nutritional burden impacting Indigenous peoples worldwide [15–18].

In Canada, food insecurity has been felt most strongly by Indigenous peoples, recognized as First Nations, Inuit and Métis [12 –21]. Food insecurity, an outcome and determinant of health, can range from worry about having enough food to limited access to, or reduced intake of, sufficient, safe, personally accepted, healthy food and even to hunger [21 –24]. First Nations households on-reserve (Crown land designated by Canadian government for primary use of First Nations with registered Indian status [3]) in Ontario, have experienced a rate of food insecurity (41.7%) far greater than reported provincial household levels for the general population (11.6%) [24 ,25].

The extreme injustices exposed by the disproportionate rates of food insecurity impacting First Nations households highlight the need for community identified approaches to enhance food security in culturally safe and relevant ways. Sustainable food systems are central to long-term food and nutrition security [26] and extend beyond usual considerations for supportive economic, social and environmental conditions [27] to encompass cultural integrity.

In partnership with communities of the Williams Treaties First Nations in southern Ontario, Canada, we describe an approach to work with communities, and highlight perspectives of food security and sustainability, including priorities and opportunities to revitalize local food systems as a pathway to food security. Given the diverse challenges to food security described, momentum for the current work stemmed from broad considerations for the ecological health of the Lake Simcoe watershed under the Lake Simcoe Protection Plan and encompassed environment, climate change, agriculture and human health (the Lake Simcoe Protection Plan is part of the Lake Simcoe Protection Act, 2008, an Ontario government strategy to protect and restore the health of the Lake Simcoe watershed). Importantly, protecting and honouring harvesting rights for food, social and ceremonial purposes have long been recognized as essential to wellness by the Williams Treaties First Nations communities. Hence, creating opportunities to enhance and sustain local and traditional food access and knowledge has been identified as necessary to improve food security. As such, this participatory formative work was initiated and driven by communities to address food insecurity and enhance sustainability of food systems.

The objectives of our project were to: (1) build a shared understanding of food security and sustainability; and (2) document community priorities, challenges and opportunities to enhance local food access. The Williams Treaties First Nations, Cambium Indigenous Professional Services, the Ontario Ministry of Food, Agriculture and Rural Affairs, and the University of Waterloo coordinated and documented the process of data collection. Through the participatory process, we hope the formative work will initiate community capacity building and set the stage for further community-led action. The overall goal of this participatory formative work, is to inform a pathway of community driven solutions to strengthen food security and sustainable food systems, thereby promoting Indigenous people's right to food and holistic wellness.

## 2.3 Materials and methods

### *2.3.1 Project team and guiding principles: Indigenous communities and academic partnership*

A project advisory committee with liaisons within each of the four partnering communities was established to guide project activities. Respectful and reciprocal relationships, approached through a decolonizing and participatory process, represents the foundational core of how this formative project was undertaken in ways that are culturally safe and ethical. The project team consisted of both Indigenous and non-Indigenous partners who engaged directly with participating Williams Treaties First Nations communities to identify culturally-relevant capacity building approaches to increase access to affordable, nutritious foods.

The project teams' skills and knowledge positioned this participatory project to advance community-identified priorities and enhance access to sustainable local food systems. Project co-investigators from Cambium Indigenous Professional Services provided First Nations led expertise in environmental consulting and engineering services as members of Georgina Island First Nation and Curve Lake First Nation. Pre-existing relationships established with each of the partnering communities provided the opportunity to engage directly with community-identified expert advisors to continue ongoing food security and sustainability dialogues. Academic partners from the University of Waterloo supported by co-facilitating conversations with community advisors, evaluating and synthesizing findings and preparing project reports for funder and communities. Community members, identified through Cambium Indigenous Professional Services contacts and snowball approaches, were critical to the integrity of the process and relevance and utility of the findings.

Guided by the First Nations principles of Ownership, Control, Access and Possession (OCAP) [28], the project partners ensured engagement with communities was respectful, appropriate, beneficial and relevant to the communities involved. Information was only collected when informed assent was provided by participants, whose personal identification information remained anonymous. The OCAP principles applied helped to ensure integrity and meaningful engagement with communities to inform and control the direction of priorities identified throughout. Funding support was provided by the Ontario Ministry of Agriculture, Food and

Rural Affairs as part of a broader commitment to the Lake Simcoe Protection Plan. Canada's Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans ([29], article 6.11, p. 77), indicates the "initial exploratory phase, which is intended to establish research partnerships or to inform the design of a research proposal, and may involve contact with individuals or communities" does not require full REB review (U Waterloo, Office of Research Ethics).

### *2.3.2 Partnering communities of the Williams Treaties First Nations*

The Williams Treaties First Nations are located in the province of Ontario, Canada within the Georgian Bay, Lake Simcoe and Lake Ontario watersheds of Treaty 20. The First Nations of the Williams Treaties comprise of the Chippewas of Georgina Island First Nations, Beausoleil First Nation, and Rama First Nation; and the Mississaugas of Curve Lake First Nation, Alderville First Nations, Hiawatha First Nation and Scugog Island First Nation. These communities, which include First Nations with non-registered and registered Indian status (Registered Indian status refers to an individual registered under the Canadian Indian Act [30]), are a diverse and growing population that strongly embrace a holistic relationship with the land, water and its local food systems. Communities of Georgina Island First Nation, Beausoleil First Nation, Curve Lake First Nation and Rama First Nation expressed interest in participating in this project as community partners. The Beausoleil First Nation is situated at the Southern tip of Georgian Bay on Christian Island, Ontario. It is a small remote community, home to approximately 800 year-round residents, and has a membership of approximately 2214 people. The Island's main access is by ferry transportation except, during the winter months, when access to the island is made over ice roads or hovercraft. As such, community members need to travel by vehicle and ferry to access the nearest store for groceries. The Island is also referred to as Chimnissing, which means "Big Island" in the Ojibway language. The First Nation consists of three Islands known as Christian, Hope and Beckwith, as well as 25 acres on the mainland at Cedar Point. Members predominately reside on Christian Island, however, several families live year-round on Cedar Point.

Curve Lake First Nation is also an Ojibway community, located 25 km northwest of Peterborough, Ontario. It has a diverse population of 2500, which includes First Nation members

and non-First Nation members alike residing on territorial lands. There are 1918 registered status Indian members (1161 off reserve and 764 on reserve). The territory has a communal land base of 900 hectares, which consists of a mainland peninsula, a large island (Fox Island) and several other smaller islands located throughout the Trent Severn Waterway system. Curve Lake First Nation is a proud community known for its leadership and promoting Anishinabe culture. The health centre in Curve Lake, offers a range of programs and services including a healthy eating programming and a food bank. While there is access to convenience stores and a coffee shop, many must travel to Peterborough to shop at the nearest grocery store.

The Chippewas of Georgina Island First Nation is located both on and off the east shore of Lake Simcoe in the Region of York and is approximately 100 km north of the Greater Toronto Area. Georgina Island First Nation Reserve No. 33 consists of three separate islands and two mainland access points. The three islands (Georgina Island, Snake Island and Fox Island) are approximately 3 km off the southern shore of Lake Simcoe. The main population of the reserve resides on the largest island, Georgina Island, with approximately 90 households. The island's land mass is approximately 15 km, which is 4.5 km long and 3.2 km wide with an area of 1415 hectors. Snake Island is approximately 135 hectors; and Fox Island is approximately 20 hectors, both of which are comprised of seasonal cottage residence and non-First Nation member residence. Travel by vehicle and ferry is needed to access the nearest store for groceries.

### *2.3.3 Project design and process*

Applying a decolonizing theoretical perspective [31–35], we employed a community-based participatory research (CBPR) [33] methodological approach to advance the following formative project objectives: (1) to conceptualize food security and food sustainability from a First Nations perspective; and (2) to identify community-based approaches to enhance, protect and sustain local food systems in support of food security and sustainable food systems (Figure 1).

A participatory orientation emphasizes strong collaboration, non-hierarchical relations, and sharing of perspectives throughout the research process [36–38]. Given the partner centred and collaborative approach underpinning CBPR, it has increasingly been accepted as an appropriate

methodology to engage with Indigenous communities as its relational component aligns with an Indigenous paradigm [35,39–41]. Applying CBPR within Indigenous contexts can facilitate space for Indigenous knowledge systems by shifting a focus on community values, perspectives and priorities [33,34,38,39,41].

To support communities with enhancing local food security and sustainability, the principles of CBPR were applied to facilitate the identification of community-led action and enablers for project planning. Further, CBPR in conjunction with Indigenous approaches to inquiry, akin to two-eyed seeing [41,42], was used to decolonize the research process and draw on the strengths and wisdom of Indigenous knowledge and ways of knowing. Formative work helped conceptualize food security and sustainability from a local community perspective and solidify interest within the four participating communities to inform and support community-led action planning in moving forward with their identified priorities.

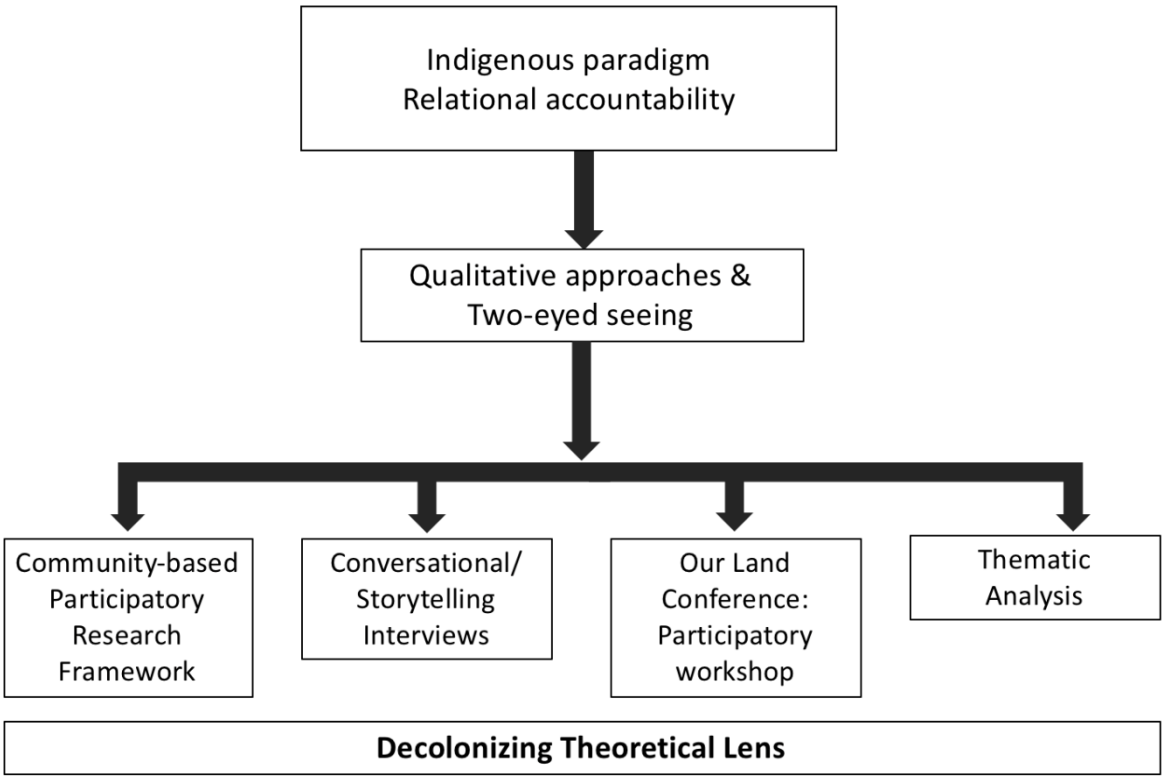


**Figure 2-1.** Overview of project design and Indigenous approach to inquiry.

*2.3.4 Indigenous approach to inquiry*

Recognizing the importance of telling stories in Indigenous culture, we used the conversational method to facilitate the sharing of reflections and experiences [33,34]. The conversational method is a dialogic approach to generating and gathering knowledge through oral storytelling and is congruent with Indigenous methodologies [33,34]. This was applied to facilitate community-based conversational/storytelling interviews involving semi-structured open-ended questions guided by the literature. This approach was undertaken with the aim of decolonizing the work by enabling the creation of a safe space for partnering Williams Treaties First Nations community voices to be heard (Figure 1) [33]. As such, conversations were co-facilitated by an experienced community member to enable a safe environment for dialogue.

Using the conversational method, a series of community engagement meetings were held between December 2017 and March 2018 with four First Nation communities. Community liaisons in each partnering community, employed by the First Nation on climate change adaptation in their community, helped to identity advisors to engage in community dialogue sessions. Advisors with extensive knowledge of and expertise in environmental sustainability, food systems, traditional food practices, health, education and community development were invited to be engaged in the project. Academic partners, cofacilitated conversations with community expert advisors. Engagement sessions provided the opportunity to build relationships with respective community members and solicit input from the communities on perspectives of food security and food sustainability. In conversations with communities, informants identified priorities, challenges and opportunities for community-driven food-related projects to enhance food security and support sustainable local food systems.

Our Land, Building Capacity in Ontario First Nation Communities (Our Land) was a First Nations led and informed conference that was held on January 2018 at Rama, Ontario. This annual conference, organized by the project partners from Cambium Indigenous Professional Services, convened over 30 First Nations community representatives across Ontario.

The conference featured keynote presentations, panel presentations, participatory workshops, as well as an interactive digital survey to engage with conference delegates. On day one of the conference, we planned and facilitated a participatory workshop to explore ways to increase access to healthy food through the development of local food initiatives. The workshop featured a short video on food sustainability and food security, preliminary digital information gathering, an ice-breaker activity (trivia game and card game), facilitated break-out group discussions, and a dot-voting method to identify shared priorities. Conference attendees visiting the project booth were also invited to complete an optional survey to provide input on priorities and challenges to food security in their community. On day two of the conference, a digital survey of all delegates took place, based in part, on the findings of day one information gathering. All notes, flip charts and votes were collected.

The workshop guiding questions and both the paper-based and digital surveys were informed by knowledge gained from a review of the literature and community engagement sessions with partnering communities as a way to fill any knowledge gaps. In addition, early findings from the workshop helped to refine questions included in the digital survey on day two of the conference. The purpose of the workshop, the paper-based survey, and digital survey was to solicit input from Our Land Conference delegates on understandings of food security and food sustainability, and perspectives on community-level initiatives and capacity needed to achieve food security.

*2.3.5 Data analyses*

Information gathered from the community-based conversational/storytelling interviews was transcribed and thematically analyzed [43,44]. Data used in this project are owned by communities as per First Nations Ownership, Control, Access and Possession guidelines (OCAP™). In addition, notes from the participatory workshop at the conference and surveys were also analyzed to inform cross-cutting themes across all four partnering communities. Thematic analysis was used to systematically identify and organize patterns of meaning and experiences as described by Braun, Clarke and colleagues [43] and Cresswell and Cresswell [44]. The approach identified insights and patterns of meaning as they related to perspectives of food security and strategies to enhance local access to food. The code book and emergent themes

were reviewed by the project team for refinement and to ensure inclusiveness and appropriate representation of community voices.

## 2.4 Results

### *2.4.1 Project participants*

Community key informants (n = 15) who were engaged in conversational/storytelling interviews (2–6 participants per community) included leaders in food security, environmental and energy sustainability, local food producers, and educators. Attendees of the conference included key partners and stakeholders working in the areas of climate change, environmental sustainability, energy, agriculture, public health, food security, and government. Conference delegates shared their perspectives through a participatory workshop (n = 65), and survey (n = 22 delegates), and large group feedback (n = 85). In addition to partnering communities of the project, the experiences and voices shared by First Nations community representatives across Ontario who attended the conference contributed to knowledge generation of priorities and opportunities for food security. The perspectives of key informants from each community on food security, food sustainability and associated challenges had common themes, though preliminary ideas for initiatives to strengthen local food systems were sometimes context specific. Given the small numbers, perspectives are not distinguished by respondent position or community.

### *2.4.2 Food security*

Food security was broadly understood from a holistic wellness perspective by all partnering communities. It was viewed as both an outcome and determinant of wellbeing. Participants highlighted the importance of access to food, knowledge of how to grow your own food, and the skills and resources to prepare food. Also emphasized was the importance that food procurement from the land, whether through hunting, fishing or gardening, should honour traditional practices and be carried out in ways that protect the environment.

Perspectives of individual and community food security were shared. Food security was commonly described as a way of life: promoting and maintaining overall wellness from a holistic

perspective. Perspectives shared largely centred around access and use of traditional foods and store-bought food (non-traditional food sources). The ability to grow and produce food all year round and the opportunity to share food with others within the community was widely appreciated by community members.

> Community advisor 1: *"I'll give you my whole idea on it, on what would be the dream for me, which would essentially be people growing their own food. Maybe having greenhouses to supply the things you're not getting from the summer. Having root cellars for storage. Having community freezers for those who hunt, fish, trap, but then also using the hide using the furs and putting that towards either making clothing or whatever it ends up being. But also knowing your medicines around, being able to identify trees, what parts of the plant are edible what parts are medicine."*

> Community advisor 2: *"I mean to me food security is everyone having access to healthy foods."*

In addition, the value of having the knowledge and skills to undertake traditional food activities was expressed. This was inclusive of community reflections on the importance of practicing ceremony associated with traditional food acquisition activities, as well as being able to partner with other communities to acquire local foods within a community established trading system. These were recognized as essential to supporting community's ability to provide its own food (e.g., grow, hunt, harvest, self-produce) for multiple generations.

> Community advisor 4: "*Food is medicine. If you're sick and have a cold, you don't take vitamin C capsules, you boil a light batch of cedar tea."*

### *2.4.3 Sustainable food systems*

While food security was the primary topic of community engagement dialogues, the connection between sustainable food systems and food security was recognized by each community. Communities often discussed the importance of engaging in environmentally

responsible food production as a way to protect the environment, while also growing and sustaining food within the community. In addition, communities expressed the importance of not relying on external food sources and also having the ability to control what goes into your food as a way to control the health of the community.

> Community advisor 7: *"The ability to produce all year round would be nice. Trying to get the younger generations interested in fishing again, if we could tap into that a little."*

### *2.4.4 Challenges to food security*

Community identified challenges to food security centred around the impacts of climate change and environmental degradation, income, food knowledge and skills, and limited availability of healthy food options (Table 2.1).

#### *2.4.4.1 Climate change and environmental degradation*

**Table 2-1** Community perspectives of challenges and priorities to enhance food security and strength local food systems

| **Challenges** | Priorities |
|---|---|
| Climate change and environmental degradation | Access to food |
| Income | Availability and use of fresh, nutritious food |
| Traditional food knowledge and skills | Restoring community connections to the land and traditions |
| | Support for locally grown food in the community |

Community members shared observations about changes in the abundance, distribution, and health of species (e.g., fish are smaller and have sores). Drivers of these changes identified include climate-related differences observed over time, from more drought in the summer (necessitating frequent fire bans) to longer growing seasons. Also shared was the observation of a growing number of invasive species that have altered plants and local food, including the presence of wildlife in the area. Some shared that environmental contaminants have also been

responsible for impacting water and soil quality (road spraying oil and salts), including chemical waste dumped in waterways from a factory (reports of agent orange). As a result of these changes to local sources of food, communities have expressed having to travel further distances to hunt and fish because there's not the same accessibility as there used to be.

> Community advisor 6: *" . . . under our environmental assessment that we just had completed, one of the major issues on there that kind of held up the whole process for us would be the stuff that they spray on the road the dust control. And so that gives people a lot of concerns because you know we are so close, like a lot of the houses are so close to the road, our water sources [is] there and you know what's running off into the water. So [this] makes you think about, you know, if you were to have a garden, if each family had a garden, what's running off into the gardens?"*
> Community advisor 8: *"People travel further to hunt and fish to trap because it's not the same like it used to be. So if they're hunting muskrat there's no muskrat left here really. There might be a few beavers."*

*2.4.4.2 Income*

Concerns were shared related to the high cost of food within the community, including high costs associated with travelling to grocery stores outside of the community. In addition, the costs to engage in traditional food activities related to travel to hunting areas, and access to tools or equipment to hunt was a concern. Amplifying these challenges is the dependency on social assistance due to low employment opportunities and rates in the community.

> Community advisor 2: *"Food insecurity is huge for us. What is the root problem? It's income basically."*

> Community advisor 6: *"I think also because we live in the cottage country that really determines the price especially meat and produce. I think sometimes we end up as during summer months like we are paying more for stuff that you know if you lived in the city you wouldn't be paying that price. I think costs is the biggest factor."*

*2.4.4.3 Traditional food knowledge and skills*

The loss of traditional knowledge, language and skills to engage in traditional food acquisition practices was emphasized as a barrier to food security. In particular, reflections were made on how the loss of traditional knowledge is tied to colonization and the Indian Act which have contributed to a lack of sovereignty and control over access to land to hunt, fish and gather (The Constitution Act (1876), Canada has the responsibility for 'Indians and Lands Reserved for Indians' under the Indian Act [3]. The Indian Act, which formally recognizes First Nations ancestry, is recognized as legislative authority that remains a source of internal colonization [3,30]). Shared was that such circumstances have not only led to less traditional food available to be consumed, but has also changed the perception and taste for traditional food.

> Community advisor 6: *"I think we need to start with the younger generations because I think with the older generation we're slowly losing that link to the past especially the ones that remember what it's like way back when times were simpler, when people helped themselves, help each other, they didn't have to rely with a lot of programs."*

Emphasized, was the implication of limited traditional knowledge, in particular the lack of opportunities for traditional knowledge of food and culture to be passed down to younger generations on how to engage in community food gathering and harvesting practices, including knowing the location of hunting grounds and how to use tools or equipment to hunt.

> Community advisor 9: *"I think there's a gap that needs to be bridged somehow because we are losing our traditions and cultures within our own community. Because of that we are having to bring other people in that are teaching the same skills, but they are not our community's skills."*

*2.4.5. Priorities to enhance food security and strengthen local food systems*

Priorities and actions were identified within each community to enhance food security (Table 1). These ranged from specific interests in food production, types of food, sustainability practices and developing food knowledge and skills, to community-based projects to implement in the short-term to support community interests and priorities.

*2.4.5.1 Access to Food*

Access to grocery stores outside of the community was emphasized. Within each community, the importance of having access to means of transportation (either by bus, car or boat) was commonly expressed, as this was recognized as essential to accessing food, and especially healthy food of good quality.

Having a community-based travel system in place with appropriate storage was identified as an opportunity to support access to grocery stores outside of the community. For example, having a community-based bus that could accommodate large grocery portions and preserve freshness of vegetables in the summer was discussed.

> Community advisor 5: *" . . . my one Aunt she won't even buy bananas in the winter because they are brown by the time they get on the boat across the bay, but I think too, a lot of people like having to transport and so many people are on the boat. So if the ice starts building up then we use our passenger ferry only, so if you have 70 people riding a ferry then all their food and stuff like you kinda have to watch yourself."*
> Community advisor 6: *"But again it's just our access has always been an issue because you know you have to bring stuff over. We do have farmers market in the summer, sometimes they are well received and sometimes they are not. It depends who's bringing stuff over; sometimes it's fresh, sometimes it's not."*

Also highlighted as key to supporting access to food, was ensuring sufficient income and employment opportunities within the community. Creating jobs within the community to support economic growth and security was emphasized.

> Community advisor 2: *"And we know about [how] income and accessing affordable fresh produce in general, changes their body. Chronic disease goes down, you feel good. You're not losing limbs because you're eating sugary bread all the time."*

*2.4.5.2 Availability and use of fresh, nutritious food*

The importance of making fresh produce available and affordable for communities to access at wholesale costs was emphasized. Having food markets in the community with a variety of vendors of locally produced food and other essential products was identified as an action that could support greater access to fresh food. Having stable and reliable access to enough healthy and affordable food year-round without worry was broadly understood by communities as having secure access to food.

Support for health promoting activities to increase food literacy and knowledge of healthy foods and recipes was also identified as a priority that can support community in healthy eating practices. Developing incentives to have community members engaged at local markets and community-based food initiatives was also discussed.

> Community advisor 7: *"I think with our community, I've heard from [a] few people that the issue too is education and equipment right. So, I mean, just finding out from people like, Ellen, you know getting that knowledge in order [to know] 'where do I start?'. Some areas in our community are so sandy that you probably couldn't get a garden, 'so what do you have to do, okay fine you need to build up, so you have to build a crib right.' 'Who do I talk to?' 'Who has the skills to build this crib right?'*
> Community advisor 3: *"I think it's trying to find ways to provide fresh foods and vegetables. Cause like I said, they have this program called, the good food box, but that's only catered towards certain people right; it's not available to everybody."*

An existing initiative within one of the partnering communities, Nourish, provides affordable access to local produce and market foods, was identified as an opportunity to support local food production and enhance community food security.

> Community advisor 2: *"Nourish is a collaboration from Peterborough and public health from the YMCA which we are housed out of. We are a small group. We try to bring people into the system to help with system change . . . It's all about food. We have people entering into our programs so we do cooking, we do growing, we have community meals, and we do advocacy work. Basically, the bottom line is to empower people to make decisions for themselves in order to make system changes."*

Accelerating the uptake of existing projects within the community to support scale-up efforts, including support for local business to enhance traditional food supply (e.g., Nourish Project JustFood Boxes, restoration of wild rice beds, fish habitat improvements) [45,46] is an approach that can be taken and led by community to improve access to and availability of local, fresh and nutritious food.

*2.4.5.3 Restoring community connections to the land and traditions*

Restoring and maintaining access to traditional food sources and distribution systems, such as wild rice production within the community, was emphasized. Communities shared the importance of promoting traditional food acquisition activities such as fishing, hunting and cultivating (e.g., wild rice production). This was discussed as an opportunity to reestablish connections to traditions, culture and the environment (e.g., water ceremony teachings, traditional medicines). This included promoting greater engagement with youth in traditional food teachings and encouraging younger generations to be advocates for local food projects and traditional food activities. In addition, utilizing social media platforms to engage youth and generate interest in learning more about traditional food and ways to contribute to food security in their community through gardening, gathering of traditional medicines, fishing, hunting, and harvesting and production (e.g., wild rice, maple syrup, net making), was emphasized. An

approach identified to support this was having hunters and trappers from the community share their knowledge and skills to other members of the community (i.e., community-specific, not just northern FN community coming down to teach), including teachings of food as medicine. In addition, having a communal resource for members of the community to access tools and equipment for hunting was also identified as an opportunity to enable greater engagement in traditional food acquisition practices.

> Community advisor 8: *"I think if we are able somehow to find a way to get the kids excited about farming, gardening, and fishing that we might see a difference, you know? Them bringing that home to their own parents and then getting them interested as well, but I think we need to offer some, I don't know some ways to get them involved."*

*2.4.5.4 Support for locally grown food in the community*

Creating a sustainable food system, that can support healthy eating in the community and opportunities to achieve food security through approaches that enable local food production (e.g., community gardening), was discussed. Communities highlighted the importance of having policies that enable better management, protection and preservation of the land from pesticides/herbicides, and industry related activities. This was identified as an important process to ensure food safety and minimize food system exposure to environmental contaminants.

Regulations in place, with community input to support ongoing environmental assessment of water and soil quality, was identified as a priority to support local food production and a way to build legislative trust within the community. As invasive species can pose a potential threat to traditional food systems, programs and services in place that can remove invasive species were identified as an opportunity to support long-term environmental health in the community. Holding workshops that can enhance community members' skills and knowledge to engage in local food production and activities that promote energy sustainability was also emphasized.

> Community advisor 7: *" . . . well I think there is movement already to tell you the truth. From what I see from the people who have access to programs and their wants and*

*their needs. I think even the younger are more [willing] now to try things. We've done canning workshops here. The only thing that I think of is if people were to grow their own food and they have all this extra produce. They get overwhelmed by okay, what do I do with all this kale? So, there's education in that and how to do that or maybe have a barter system set up or whatever trading and things."*

## 2.5 Discussion

The formative work undertaken in this participatory project aimed to facilitate the building of shared understandings of food security and food sustainability, including opportunities to strengthen access to nutritious and sustainable food systems. The Indigenous approaches utilized for knowledge generation and sharing helped to ensure appropriate engagement that centred the priorities of First Nations communities at the core. In addition, the findings will support community-led action planning and will be used to inform next steps for implementation. Knowledge generated from our project is
intended to help develop initiatives, programs or projects that promote sustainable food systems. Such community-based action supports a path towards holistic wellbeing and, ultimately, Indigenous peoples' right to food security and food sovereignty.

### *2.5.1 Strengthening Indigenous food security, food sustainability and food sovereignty*

Food security was broadly understood from a holistic wellness perspective by all partnering communities. It was viewed as both an outcome and determinant of wellbeing. Participants highlighted the importance of access to food, knowledge of how to grow your own food, and the skills and resources to prepare food. Also emphasized was the importance of food procurement from the land, whether through hunting, fishing or gardening, should honour traditional practices and be carried out in ways that protect the environment.

Conceptualizations of food security underscored the importance of considering unique dimensions as related to access, availability and use of market and traditional food systems in efforts aimed at enhancing food security in Indigenous communities [21 ]. For Indigenous

communities, this means a consideration of factors such as income and transportation that impact access to and use of market and traditional food; climate change and environmental degradation impacts on availability, use and access to traditional food and locally produced food; and how traditional food knowledge and skills, and connections to the land influence preparation and use of traditional and local food. In addition to such unique considerations of food security, an underlying theme was food sovereignty [5 ,6 ,47 –51].

Food sovereignty is closely aligned with how partnering communities described food security, food sustainability and opportunities to improve access to food [47 –51]. Underpinning community interests and priorities are actions that can support reclamation of access to land, revitalization of local food systems, reconnection with culture, traditional food and ways of knowing, and having greater control over ways to obtain healthy food within local food environments of the community. Such priorities align closely with what has been described as Indigenous food sovereignty.

Dawn Morison, for example, describes Indigenous food sovereignty as "present day strategies that enable and support the ability of Indigenous communities to sustain traditional hunting, fishing, gathering, farming and distribution practices, the way we have done for thousands of years prior to contact with the first European settlers" ([51], p. 98). Promoting food security and nutrition in a sustainable, culturally relevant and just way, as described by community members, is a window to enhancing Indigenous food sovereignty. Activities identified by communities that can improve greater access to food, restore connections and cultural ties to the environment, and support local food production, highlight their need to protect and restore the right to food and food sovereignty. As such, efforts to support revitalization of local food systems as a way to restore, protect and sustain community food practices is a community identified priority and opportunity to strengthen food security and food sovereignty.

*2.5.2 Moving from priorities to community-led action*

While partnering communities recognize the need to mobilize interests towards creating more sustainable and accessible food systems, moving from priorities to actions requires a level of readiness and capacity to plan, develop and implement initiatives. In addition, it requires working within the specific context of each community's traditional and market food systems. Building on the momentum to better understand their local context as it relates to challenges and opportunities to strengthen access and availability of food, communities can begin thinking about how to create an environment for transformation and meaningful change. Existing implementation and change frameworks have highlighted the importance of understanding local context to build shared knowledge, assumptions and practices to define the change pursuits of interest as an initial step before effective implementation can take place [51–53].

The community-identified priorities from this formative work therefore present opportunities for change, whereby communities mobilize their interest for sustainable food systems, food sovereignty and food security by identifying and building on existing strengths within the community to enhance readiness and capacity for action. This may include identification of key system actors and champions, along with existing projects, initiatives and programs that can be scaled-up within the community. In addition, successes and lessons identified from existing or previous projects can also be leveraged. For example, an existing initiative, Nourish, was identified by community members as an opportunity for scale-up; extending its reach to nearby First Nations communities and incorporating traditional food could support their access to nutritious, culturally-relevant food. Strengthening relational capacities with key system actors has been identified as a critical process to support successful change pursuits [52,53]. Within the context of Indigenous communities, this is especially critical to align change efforts with community identified priorities and interests [54]. Indigenous scholars have continuously emphasized the importance of appropriate and respectful approaches to engage with communities to build shared understandings of knowledge and practices as required to support the implementation of programs or policies intended to improve Indigenous health and wellbeing [31,35,54].

Ongoing engagement with key community members from this preliminary work will be essential to identifying key system actors and champions that can lead and sustain implementation efforts and ensure success is achieved in the community. Furthermore, such engagement, driven by the community, will be fundamental to ensuring that actions, including partner-support of implementation strategies, are taken in a culturally safe way that best serves the interests of communities.

### *2.5.3 Limitations*

Community-based participatory work, though well respected and recognized as an appropriate approach to working with Indigenous communities, is not without challenges or shortcomings. Short-term funding cycles may not support additional efforts to plan and implement community-identified projects of interest. While time and resource constraints limited the immediate uptake of the current project, partners continue to identify opportunities to utilize and leverage the findings from this project to inform other areas of existing or future funded projects.

## 2.6 Conclusions

We use Indigenous methodologies and western approaches to partner with communities and engage with community advisors to solicit input on priorities and opportunities to enhance food security, strengthen sustainability of food systems, and in doing so support the promotion of food sovereignty. The shared understanding of community perspectives, priorities, challenges and opportunities to strengthen food security will benefit participating Williams Treaties First Nations communities directly. Moreover, the approach taken in this formative initiative will help to inform other work to integrate robust Indigenous practices and approaches to community engagement critical to building shared knowledge and understanding as an initial step and requirement of implementation of programs intended to improve Indigenous health. Hence, the contributions made to understanding ways to support the wellbeing of partnering Williams Treaties First Nations by taking a community driven and participatory approach to identifying priorities and opportunities to revive local food systems, will promote greater food security, sustainability and food sovereignty that may resonate with other Indigenous communities.

The current research can serve as an important foundation for planning Indigenous community-based projects and initiatives to strengthen food security, create more sustainable food systems and work towards food sovereignty.

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Institutional Review Board Statement: Canada's Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2, article 6.11, p. 77), indicates the "initial exploratory phase, which is intended to establish research partnerships or to inform the design of a research proposal, and may involve contact with individuals or communities" does not require full REB review (U Waterloo, Office of Research Ethics).

**Informed Consent Statement:** Not applicable.

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# CHAPTER 3: SCALE UP OF LEARNING CIRCLES: A PARTICIPATORY ACTION APPROACH TO SUPPORT LOCAL FOOD SYSTEMS IN FOUR DIVERSE FIRST NATIONS SCHOOL COMMUNITIES IN CANADA

**Status:** Prepared for submission to Implementation Science

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### 3.1 Overview

**Background:** Addressing Indigenous food security and food sovereignty calls for community-driven strategies to improve access to and availability of traditional and local food. Participatory approaches that integrate Indigenous leadership have supported successful program planning and implementation. Learning Circles: Local Healthy Food to School is a participatory program that brings together a range of stakeholders including food producers (e.g., hunters, gatherers, fishers, chefs), educators and Knowledge Keepers to plan, prioritize, implement and monitor local food system action. Pilot work (2014-2015) in Haida Gwaii, British Columbia (BC), showed promising results of the Learning Circle (LC) approach in strengthening community capacity and enhancing local and traditional healthy food access, knowledge and skills among youth and adolescents. The objective of the current evaluation was therefore to examine the LC processes scaled-up vertically within the Haida Nation; and horizontally across three diverse First Nations contexts: Gitxsan Nation, Hazelton /Upper Skeena, BC; Ministikwan Lake Cree Nation, Saskatchewan; and Black River First Nation, Manitoba between 2016 and 2019.

**Methods:** An implementation science framework, Foster-Fishman and Watson's (2012) ABLe Change Framework, was used to understand the process of extending LC as a participatory approach to facilitate community capacity building to strengthen local food systems. Transcribed interviews (n=52), meeting summaries (n=44) and tracking sheets (n=39) were thematically analyzed.

**Results:** The LC facilitated a collaborative and iterative process with enough inherent flexibility that it enabled communities from diverse contexts to: (1) identify and build on strengths to increase readiness and capacity to reclaim traditional and local food systems; (2) strengthen connections to land, traditional knowledge and ways of life; (3) foster community-level action and multi-sector partnerships; (4) drive actions towards decolonization through revitalization of traditional foods; (5) improve availability of and appreciation for local healthy and traditional foods in school communities; and (6) promote holistic wellness through greater food sovereignty and food security. The process of scaling vertically within Haida Gwaii supported a growing, robust local and traditional food system and enhanced Haida leadership. The approach worked

well in other diverse First Nations contexts, though baseline capacity and the presence of champions were enabling factors.

**Conclusions:** Findings from this work highlight LC as a participatory approach to build capacity and support iterative planning-to-action for local food system change. Identified strengths and challenges support opportunities to expand, adopt and modify the LC approach in other Indigenous communities with diverse food systems.

**Keywords**: First Nations; Community health promotion; Participatory research; Implementation; Learning Circle, Collaboration; Co-creation; Food systems; Food security; Food sovereignty; Scale-up

*"We existed in food security and sovereignty for millennia until Um'shu'wa (settlers) arrived. Now that our food systems have been disturbed, it would make little sense for those who disturbed them to repair them. However, for the role of Um'shu'wa society has played in disturbing our systems, they certainly have a role to play a role in restoring [local Indigenous peoples] food sovereignty. But it must be understood by all those involved that we are the ones who know our land best and know how to exist here best."*

*- Learning circle participant*

**Keywords**: First Nations; Community health promotion; Participatory research; Implementation; Collaboration; Co-creation; Food systems; Food security; Food sovereignty; Scale-up

### 3.2 Background

Protecting traditional food practices and relationships to the land against ongoing colonial pressures has long been of importance to maintaining Indigenous wellbeing in communities across Canada. Community programs have increasingly focused on revitalization of local food systems as a pathway to greater food security and food sovereignty [1,2]. Successful implementation of such endeavours has valued community engagement and centred Indigenous perspectives and strengths in program planning [1-9]. Non-Indigenous partners in program planning have looked to strong Indigenous leadership and community collaboration to ensure actions are community-driven and reflective of community priorities. This greater movement towards fostering strong relationships and co-development has been supported by participatory approaches, which emphasize collaboration and co-production of knowledge to advance social change and health equity [10-13].

Learning Circles: Local Healthy Food to School (LC:LHF2S) is a participatory program that was developed in collaboration with communities. The goals of the initiative were to strengthen community capacity to enhance local and traditional[2] healthy food access, knowledge and skills among community members. In Haida Gwaii, the traditional home of the Haida People, a 'Learning Circle' (LC), as it became known, was adapted from the US Farm to School 'Learning Labs' by Farm to Cafeteria Canada in 2014 [14]. This was the first time the model had been applied within an Indigenous context in Canada. LC as an approach to strengthening food-health related community priorities, supports a participatory community engagement practice. The LC fosters multi-sector relationships, collaboration, and shared decision-making with a broad range of people with interest in locally grown and traditional food [15-18]. The process is supported by an LC facilitator (LCF) who brings a range of community members together such as hunters, gatherers, farmers, food producers, Knowledge Keepers, school staff, families and students to engage in an iterative process of planning, prioritizing and re-assessing local food actions.

[2]A traditional food system has been described as "all food within a particular culture available from local natural resources and culturally accepted. It also includes the sociocultural meanings, acquisition/processing techniques, use, composition and nutrition consequences for the people using the food" [13, p. 418].

Scale-up has been described as efforts to increase the impact of a successfully evaluated intervention to benefit more people and to foster maintenance and sustainability [18]. While piloted work of the LC showed promising results (2014-2015), it was unknown at start of the current evaluation in 2016 how the LC approach to building capacity within local school community food systems would support ongoing work in Haida Gwaii (vertical scale-up[3]) and apply in diverse First Nations[4] communities (horizontal scale-up). We therefore explored whether an approach that had been successful in one Indigenous context could be applied in different contexts. Enabling features of successful implementation were examined in each community.

Little is known about scaling up initiatives in Indigenous contexts with diverse traditions, governance structures and relationships that influence readiness and capacity for food system change [19,20]. Few published studies have evaluated implementation of community-identified food-related projects within Indigenous communities. Several small-scale studies highlight the importance of enabling factors: project champions to oversee planning and implementation, a shared sense of community ownership, time and commitment, access to resources, and knowledge of food sustainability practices [2,9]. Others highlight the importance of understanding the social and cultural context in which interventions are implemented to foster reciprocal relationships between the programme and its context [5, 21, 22], co-governance mechanisms to ensure transparency and accountability in decision making [21], and integration of a dynamic and process-oriented approach that can guide and foster community participation in planning, implementation and evaluation [5].

In this paper we use an implementation science framework, Foster-Fishman and Watson's (2012) ABLe Change Framework [23], to help us understand key enabling functions of the LC as an approach to facilitating community-led processes to strengthen local food systems. The objective

[3] Horizontal scale-up includes expansion or replication of a project or intervention; while vertical refers to focused efforts on the changes needed to support institutionalization [18, 24].

[4] Indigenous peoples in Canada are recognized as First Nations (58.4%), Inuit (3.9%) and Métis (35.1%) [25].

was to evaluate LC process scaled-up within four partnering First Nations communities from 2016-2019: Haida Nation, Haida Gwaii, British Columbia (BC); Gitxsan Nation, Hazelton /Upper Skeena, BC; Ministikwan Lake Cree Nation, Saskatchewan (SK); and Black River First Nation, Manitoba (MB). Findings from this work highlight LC as a participatory approach to build capacity and support iterative planning-to-action for local food system change. Strengths and challenges discussed will support opportunities to expand, adopt and modify the LC approach in other Indigenous communities with diverse food systems.

## 3.3 Methods

### *3.3.1 LHF2S: Project advisory structure*

Partnerships within the LHF2S initiative were governed by two advisory groups: Local LC Council and Project Stakeholder Advisory Council. Within each community, a local LC council was established with community members representing local governance and key community partners encompassing leadership within health, schools or partnering organizations. The LC council oversaw research processes, including hire and support of a LC facilitator. The facilitator, often a community member or ally with strong relationships established and connections to local food systems and school(s), led facilitation, project planning and evaluation activities. In addition, the LC facilitator engaged community members, convened partners at LC meetings and workshops, and provided ongoing communications and support for project activities prioritized by the LC. Coordination for the full cross-community project involved a Project Stakeholder Advisory Council consisting of the LC facilitator and a representative from each community, core research team members and representatives of key partnering national health organizations, such as the Heart and Stroke Foundation. This group coordinated project progress, supported communications between communities, oversaw evaluation and knowledge mobilization activities and planned annual project gatherings.

In support of community leadership, funding and sharing agreements were administered by each community in partnership with the University of Waterloo. Ethics approval to pursue evaluation activities was obtained from the University of Waterloo Office of Research Ethics (ORE# 30819). The First Nations principles of Ownership, Control, Access and Possession (OCAP®)

[26] were applied in the conduct of evaluation activities in addition to specific protocols taken as identified by the partnering community. The research was funded through a Canadian Institutes of Health Research initiative: Pathways to Health Equity for Indigenous Peoples, that aimed to further understandings of how to design and implement sustainable programs to improve Indigenous health and health equity [27].

### *3.3.2 Project conceptualization and implementation initiation*

Prior to the three-year period (2016-2019) during which the LC model was scaled up in four diverse communities, the Project Stakeholder Advisory Council shaped the initiative and secured funding. The opportunity to extend and evaluate the LC model began with an Expression of Interest to CIHR-Pathways (February 2014) and a seed grant through the Waterloo Chronic Disease Prevention Initiative (August 2014). This seed funding brought together partnering organizations, community contacts and research team members who had worked together on previous Indigenous food-health projects. Four communities became engaged in a subsequent proposal planning meeting in Haida Gwaii in 2015. Other organizations who became involved at this stage were the Native Women's Association of Canada (a CIHR Pathways-identified Partner in Engagement and Knowledge Exchange) and Storytellers' Foundation.

The four communities that chose to collaborate in the LC:LHF2S proposal had shared interest in strengthening their local and traditional food systems. At the 2014 and 2015 planning meetings, communities had the opportunity to learn about the work that was done in Haida Gwaii to implement the LC model and advance community food systems. Subsequent meetings throughout 2016 and 2018 took place in each of the communities (in-person and over teleconferences) to shape the work, enhance relationships and evaluate progress.

### *3.3.3 LHF2S: Partnering communities and context*

While communities were joined by a shared interest for local, healthy and traditional food, each community had distinct cultural, social, governance and geographic contexts.

The people of Haida Nation embrace a strong relationship with the land and surrounding waters, and are committed to strengthening relationships between the environment and wellness [28, 29, 15]. The traditional territory of Haida Nation is on the archipelago of Xaayda Gwaay.*yaay* (Haida Gwaii) with over 200 islands, and encompasses parts of southern Alaska. Located approximately 100 kilometres from the North Coast of British Columbia, Haida Gwaii is home to approximately 4500 people, with most residing in two main areas, Gaaw Tlagee (Old Massett) at the north end of Graham Island and HlGaagilda (Skidegate) at the south end.

Gitxsan First Nations is encompassing of 14 distinct community-based populations within the Skeena watershed of north-western British Columbia [30]. Approximately 3,403 reside within the seven Gitxsan communities, while approximately 5,544 people make up the total population of all Gitxsan Wet'suwet'en communities and the two municipalities of Hazelton and New Hazelton. The landscape throughout the Upper Skeen area is mountainous, with surrounding vegetation of pine forests, hemlock, and cedar. Connection to land and embracing the sacredness associated with intimate knowledge and relationships from taking care of the land is of importance to Gitxsan [31]. Gitxsan Government Commission (GGC), a tribal council, provides administrative support to four local band councils[5], was engaged in collaboration with the Storytellers' Foundation to provide administrative support for the project in this community.

Ministikwan Lake Cree Nation is a remote community within north-western Saskatchewan and has approximately 1,300 residents. Situated within a subarctic climate, cold weather generates a shorter growing season in the community. However, food-land related activities remain of high importance to community members, including fishing and access to hunting in the surrounding boreal forest. The community receives administrative support from Meadow Lake Tribal Council (MLTC) responsible for delivering a range of services to community members and secretariat for the project [32]. The MLTC comprises of representation from 9 local Meadow Lake First Nations, 5 whose Indigenous ancestry is Cree and 4 Dene.

[5] A locally elected body that is administratively linked to the Government of Canada under the Indian Act.

Black River First Nation is an Ojibwa community on the banks of the O'Hanley and Black Rivers, and is situated along the east shore of Lake Winnipeg, Manitoba (Black River, 2009). Located approximately 138 kilometres northeast of the provincial capital city, Winnipeg, and 36 kilometres north of Pinefalls, the First Nation has a population of approximately 1,500, with 1,000 people who live on-reserve [29]. Harvesting of wild rice, hunting, commercial fishing, and agricultural development make up essential components of the community's economic base. Governed by a band Chief and Council (the Secretariat of the project), the community is also a member of the Southeast Resource Development Council Corporation which supports planning and delivery of community programs. The community is accessible year-round by a paved road, and the surrounding water and landscape are accessible via boat and snowmobile for harvesting and other traditional practices and activities.

### *3.3.4 ABLe Change Framework*

Implementation science provides a suite of models, frameworks and theories to implement knowledge into practice [34, 35]. The ABLe (Above the Line, Below the Line) Change Framework (the Framework) is a strategic and conceptual tool to guide planning and implementation of community change projects [23]. A guide to transformative system change, the Framework emphasizes a strong collaborative approach to defining the desired change, identifying key people to engage, and how they can co-plan change pursuits.

Based on a review of the literature on implementation science theories and models, the Framework was selected for its flexibility and emphasis on community engagement which closely aligned with participatory approaches. The Framework's iterative and flexible process to working with partners is supportive of tailoring and adapting program planning and implementation to the priorities and needs of people and their local context. This includes a consideration for participatory engagement of those involved to support shifts and adaptions as needed [23]. Principles of community-based participatory research have supported decolonizing ways of working with Indigenous communities [36-41], and the Framework's flexibility presents opportunities for linkages to other models that can inform community project plans. For example, the Framework's emphasis on collaboration is particularly relevant to work involving

Indigenous communities which requires relational-based approaches to information gathering such as large group conversational processes [42-44].

We therefore used the Framework to evaluate and describe the process of LC in four diverse communities. Elements of the framework guided the evaluation of the LC: process, outcomes in terms of local food system activities, and factors that supported success within and across contexts.

The main elements of the adapted Framework are described as *Above and Below the line (Figure 1)*. Change pursuits are expected to simultaneously work within the above and below the line components as they are interdependent processes that respond as actions are taken and partners are engaged. In adapting the Framework to this project's context, modifications were made to better align and respond to implementation planning with Indigenous communities. Changes made are described below.

The *Above the Line* component embeds systems change thinking to address the root source of the issue and to understand why the desired change is needed. It does so by engaging stakeholders to gather their perspectives on why the problem exists and the need for the desired change [23]. In the current project, we therefore, utilized the elements in the *Above the line* component to focus attention to understanding context for change as aligned with local and traditional food system change within school communities. This component guided considerations for how LCs facilitated space for dialogue among community members and stakeholders to understand and strategize ways to promote food security and food sovereignty. We modified the *Above the Line* focus to incorporate a decolonizing lens which has been regarded as essential to any work conducted with Indigenous communities [36-41]. In addition, considerations for Indigenous perspectives of holistic wellness were made.

*Below the Line* refers to the implementation process in supporting a climate (modified to environment to support Indigenous values and connections to the land) for food systems change and is focused on four key elements: readiness, capacity, diffusion and sustainability. This component guided consideration of features of LC that support the implementation process.

Both *Above* and *Below the Line* components are expected to work together to support an environment for transformative change [23]. Strategies to integrate *Above* and *Below the Line* include a focus on: simple rules (modified to protocols, guidelines and principles), systemic action learning teams (modified to governance and advisory structures), and small wins (modified to celebrations and successes of milestones and short-term outcomes achieved). Modifications made reflect approaches taken within the LC:LHF2S to honour Indigenous ways of working which included the following: Applying Indigenous specific protocols such as the First Nations principles of ownership, control, access and possession (FNIGC, 2022), engaging in participatory engagement, and utilizing Indigenous approaches such as storytelling (Further described with illustrative quotes in Table 2) [42-44].

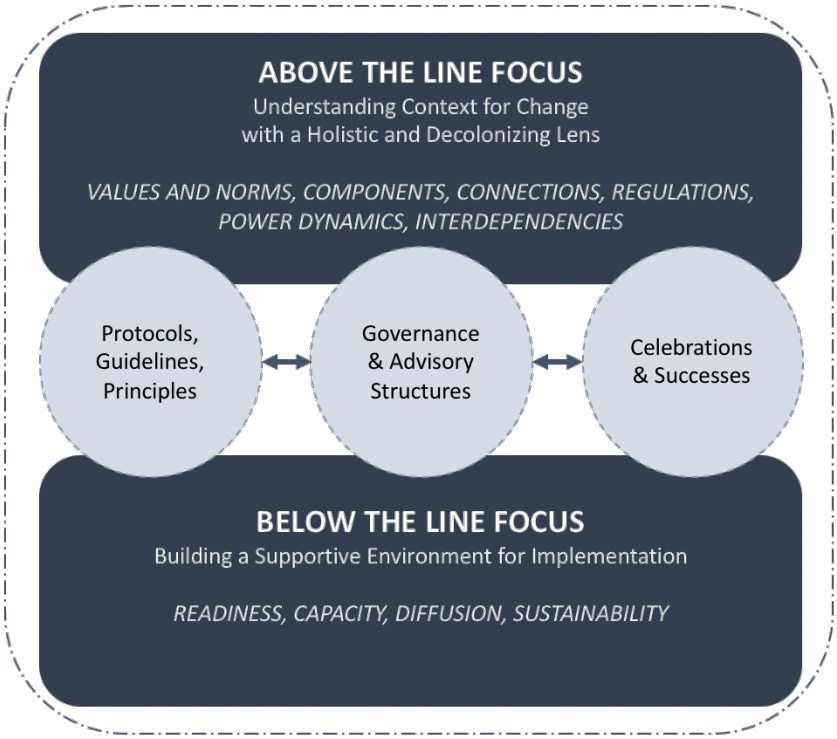


**Figure 3-1** The ABLe Change Framework illustrating the *Above the Line* components for building an understanding for system change and the *Below the Line* components for enhancing state of readiness and capacity for change. Adapted and modified from Foster-Fishman & Watson (2012) [23].

### *3.3.5 Thematic Analysis*

Information sources including interviews (n=52), LC reports (n=11), meeting summaries (n=44), and tracking sheets (n=39) were thematically analyzed [45-47]. The data sources analyzed spanned the research planning, implementation and post-program evaluation phases (Table 1). As the ABLe Change Framework was used to guide analysis of scaling-up LC, deductive reasoning was made based on the concepts and ideas from the ABLe Change Framework to code and interpret data. Data were thematically analyzed by the research team utilizing a structured phased-approach as outlined by Braun and Clarke (2012) to synthesize findings across all communities [45-47]. Members of the team (AD, BZ, LWM, RV) independently reviewed the data and generated initial codes, with the second coder (AD) conducting a deeper analysis to identify themes and synergies across the data initially coded by others. In addition, discussion with the project team of emergent codes and themes took place to ensure findings were accurate based on the standpoint and perspectives of the project leads and community partners involved. As such, intercoder agreement took place during the analysis phase, while discussions with the broader team supported consensus, validity and ensured alignment with community partner priorities. Further, the variety of data sources (Table 1) were triangulated [47] to build comprehensive themes reflective of community perspectives. Analyses provide a collective story of mediators for change, for example, key community champions for community-led action to take place. NVivo software version 12 Pro (QSR International) was used to code transcribed narratives.

| **Table 4-1** Data sources reviewed and thematically analyzed | N |
|---|---|
| Activity Tracking Reports [a] | 39 |
| Learning Circle Meeting Summary Reports[a] | 44 |
| Interviews[b] with LC participants | 52 |

A brief description of each type of data source is described.
[a]Following each Learning Circle, the LCF developed a report describing key takeaways and action items from meetings. Written documentation included notes taken during conference calls between project partners, and emails, which took place and were exchanged throughout the duration of the LHF2S initiative.
[b]Annual interviews (four sets in total conducted between 2015 - 2018) were conducted with LCFs, community members and other key partners using a semi-structured interview script. Questions focused on the experiences of participants at the Annual Gatherings where appropriate, the goals of the Learning Circle, experiences of participants connected to the Learning Circle and associated activities (challenges, things that are working well), local foods and food systems in their respective communities, and developments in the community as a result of the Learning Circle. A cross-community gathering took place in each community with project advisory members to build relationships, share project stories, engagement experiences, and evaluation activities. The first was in Haida Gwaii B.C.in 2015 followed by gatherings in Hazelton/Upper Skeena B.C. in 2016, Ministikwan Lake S.K. in 2017, and Black River M.B. in 2018.

### 3.4 Results

Implementation of the LC approach in partnering communities enabled a participatory process for planning, capacity building, and action on local food system change. Across the four communities, successful implementation of the approach led to the following main outcomes: (1) development of a proactive community-driven response to food security and food sovereignty; (2) fostering of relationships and establishing trust between food system collaborators, key decision makers, and community champions; (3) advancement on the Truth and Reconciliation Commission[6] call to action number 22 through revitalization of traditional and local food

[6] The Truth and Reconciliation Commission of Canada includes 94 calls to action to protect the rights and wellbeing of Indigenous peoples in Canada intended to provide a path towards healing from the impacts of the residential school system [48]. This work broadly supports call 22, "We call upon those who can effect change within the Canadian health-care system to recognize the value of Aboriginal healing practices and use them in the treatment of Aboriginal patients in collaboration with Aboriginal healers and Elders where requested by Aboriginal patients"

systems to strengthen relationships between food, land, culture and health; and (4) enhanced community skills and dedicated resourcing through development of food security and food sovereignty projects that support revitalization of local food systems.

The results of how key elements of the ABLe Change Framework to guide implementation planning were observed, and in the way LC was operationalized, are described below. Key themes and supporting quotations from community perspectives using the LC process to plan and facilitate local food system action are in Table 2 oriented by ABLe Change Framework components.

**Above the Line: Who and what constitutes local and traditional food systems?**

Key themes were identified within the six system characteristics outlined in the of the *Above the Line* component of the framework. These include (1) components; (2) values and norms (3) connections; (4) power dynamics; (5) regulations; and (6) interdependencies. These elements are intended to provide an understanding of the root source the problem that has led to the desired change of interest, in this case greater food security and food sovereignty. As such, themes highlight how the LC process facilitated community discussions to understand characteristics of the food system including challenges related to food security and food sovereignty, and opportunities to strengthen local food systems.

*3.4.1 Components of the system*

The first element in the *Above the Line* planning phase of ABLe Change draws attention to understanding components of the system. Within LHF2S, understanding the range, quality and location of existing programs and supports for food system change was facilitated by community engagement under the LC process.

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through community-led action to strengthening local and traditional food systems as a pathway to promote Indigenous holistic wellness.

*3.4.1.1 Components: Engaging with community knowledge holders, local leaders and food system partners to understand community priorities*

> *"The Learning Circle offers a space where diverse views, passionate ideas and heated discussions are facilitated to develop a common vision and goals." [LCF 4, Annual gathering participant]*

As an initial step to inform action planning, community priorities were identified through engagement with knowledge holders and partners who could collaborate to strengthen existing activities and address gaps identified. The LC allowed for broad engagement with key community members to understand components within the local food system, including community-specific priorities.

> *"So it's trying to connect the people so that they can understand what each other is trying to do. And then trying to figure out a mechanism to make it possible – then removing barriers, especially to traditional foods. So yeah getting different perspectives to look at it, instead of looking at is just through, you know this is my system and this is your system." [LCF 1]*

Within each community, the LC facilitator worked with the community's advisory committee to identify and collaborate with a range of people who had knowledge of the food system, school communities and wellness priorities. This collaborative work enabled LC facilitators to leverage relationships with people committed to championing community food priorities and projects of interest.

> *"I think the diversity of people that are at the circle, so we have elementary school teachers, we have high school teachers, there's a number of folks from different governance levels in the community and also there's farmers involved. I think that's really critical, and there's mainly women but a few men. And there's a variety of ages too, right from some younger folk to old guys like me" [LC participant 3]*

Through the LC process, communities were able to identify partners and community priorities related to programs and processes requiring improvement. For example, one community was focused on developing food pantries, a co-operative hub of frozen and preserved local and traditional foods, as one approach to improve local access to food. The pantries also served as a place where food activities were offered (e.g., canning workshops).

> *"there are some strategic partnerships being built…pantries, LC, schools and farming community is engaged" [LC participant 4]*

As Haida Gwaii initially piloted the LC model, scale up in Haida Gwaii largely focused on enhancing Haida leadership and community engagement to support and sustain ongoing efforts. While ongoing activities were intended to enhance their food hub through the north and south food pantries, efforts were also focused on increasing engagement with Haida people to lead local food system activities. For the other communities, initial emphasis focused on engaging key community members, food system actors, and other partners to collaborate in planning and build on identified strengths and community interests.

*3.4.1.1.2 Components: Identifying existing community strengths including models, programs, and services*

Community engagement under the LC process provided an opportunity for LC facilitators to identify and engage key people in the community who could shape actions for food sovereignty and were invested in a culture of healthy, local, and, as emerged over the project, traditional food in school communities. As traditional food was valued by all communities, existing knowledge holders and programs that brought children on the land for traditional skills development were examples of existing strengths that were leveraged.

> *"We are trying to go on a healing journey, emotional healing, spiritual healing, and physical healing. We are providing wilderness first aid; we have a medicine garden. We are going back to the ceremony. We have a caller, traditionally trained as a caller; the*

*translation is come home – we are coming home to our knowledge systems, we are starting to train the teachers and the front-line workers. We have a healing garden and archery program" [Annual gathering participant 1]*

At LC workshops, diverse participants come together to share their knowledge of local food systems, who they see as food system leaders and existing projects and services they are aware of. They then plan and identify priorities for community-led actions (e.g., gardening and traditional medicine teaching). Subsequent LC's review progress and revisit planning, prioritizing and action planning steps. Programs such as overnight camps, medicinal plant teaching and river rafting for example, were identified as existing initiatives that focused on promoting traditional teachings and skills on how to harvest fish and garden.

*"There are two teachers at [school] who already do work with traditional and local foods in the school. The Cultural Teacher has been running a garden, smokehouse, medicinal plant walks and weeklong cultural hunting camps for over five years. Last year she secured funds to have a root cellar built at the school. There is interest from the Foods teacher to build a greenhouse at the high school to extend the season and have her students grow the food they cook with." [LCF 4]*

Other program supports identified through the LC process include a wellness model, school-based food programmes, greenhouses, community gardens, and youth-based land programming. For example, in the Gitxsan Nation, the process of understanding community perceptions of wellness lead to the development of a Wellness Model [49]. The Gitxsan within Hazleton/ Upper Skeena had collaborated to develop and disseminate a community informed wellness model and this served as a guiding lens within which the food system work could be situated.

*"the Gitxsan Wellness Model and the relationship of lax yip (of that land, Gitxsan knowledge) and otsin (spirit) to the work of connecting young people to their wellbeing through their relationships with culture, relations, food and land. The Wellness Model encompasses a holistic worldview in which the wilp (mother and relations) and the wilksawitx (father and relations) intersect and overlap with the lax yip and the otisin. All*

*pieces are interconnected and wellbeing is expressed through the health and strength of these relations. Food cannot be separated out from all of the other relationships and is an integral part of Gitxsan wellbeing." [LC participant 6]*

Integrating the wellness model into LC meant promoting an awareness and understanding of traditional food as scared and the process of bringing healthy traditional food to school to support holistic wellness.

### *3.4.2 Values and norms*

This component of the framework draws attention to the attitudes, values and beliefs that may underlie perceptions of the problem and how desired changes can be addressed. Within LHF2S, the LC model facilitated the sharing of community perspectives and values related to local, traditional and healthy food. Efforts were centred on creating space for each community to share ways to improve access to and availability of local and traditional food.

#### *3.4.2.1 Values and norms: Incorporating local knowledge to understand community values and preferences for food system change*

Communities highlighted the importance of promoting traditional food activities among youth and supporting local production of food. Increasing access to locally grown food was often explored though development or expansion of school gardens that could also build skills among youth and restore connections to culture and traditional food for next generations.

*"shifting values around local food in the school culture would happen by building capacity to create more opportunities for children and youth to connect with food in a hands-on way." [LC participant 7]*

As traditional food was widely valued by community members, activities that can promote traditional food knowledge and skills were emphasized. For example, developing a curriculum about traditional food and other local foods through in-person workshops and mentorships

programs within schools was discussed. Community knowledge keepers held workshops on traditional knowledge, for example about medicinal plants, and skills including food procurement (e.g., fishing) and preparation (e.g., filleting and drying).

> *"The teachings for preparing food traditionally, that are based on values, sustainability, and survival, are important to share." [Annual gathering participant 2]*

Building capacity to engage in traditional food activities and growing of local food was viewed as pathway to reconnect youth with culture, language and traditions of the community.

> *"...teaching respect for the food and the places that it comes from, you know it's really helping to bring people together around the traditions and the cultural practices around food." [LCF 1]*

**Table 3-2** Summary of key themes from community perspectives and experiences using the Learning Circle process to plan and facilitate local food system action in four First Nations contexts (Oriented by ABLe Change Framework Components [23])

| **ABLe Change Framework Components** | **LC as a participatory process for action** | **Community voices** |
|---|---|---|
| Above the Line | | |
| **1. Components of the system** | **1.1 Engaging with community knowledge holders, local leaders and food system partners to understand community priorities** | *"[The] important thing was hiring somebody to have these programmes work was key to I think to their success. It's good to involve different people from the community on different levels, like you have the youth picking the berries and then feeding the Elders. So I guess one of the things was seeing how much work they put into all their projects"[*LC participant 5*]*<br><br>*"[LCF] did a survey in the community, about 200 houses, got about half of it done, got positive thoughts about getting a box garden; met with HSF to look for funding for doing a box garden; was trying to implement a fishing training however it was felt that the fishing was more the responsibility of the lands program;" [LCF 2]* |
| | **1.2 Identifying existing community strengths including models, programs, and services** | *"I have been linked in originally through another organization that I work for and we had been working really hard to get some of the local produce out into our river rafting program. So yeah it was kind of – it was nice to be able to bring that piece into the early parts of the Learning Circle process, because you know we're trying to show like it actually can work." [LCF 5]* |
| **2. Values and Norms** | **2.1 Incorporating local knowledge to understand** | *"Student peer leadership has been important – not perceived as an "outsider" initiative." [LCF 3]* |

| | | |
|---|---|---|
| | **community values and preferences for food system change** | *She talked about fish strips feeding children and allowing them to continue playing and learning. She mentioned that it is important to always having enough to share with all the children. "Use everything," she said, "everything has value." [LC participant 8]*<br><br>*"…have that sense of community and this is where a lot of Elders, um, will gather. Um, a lot of youth, um, and it's basically a bit of a gathering place, I guess, is, is the best way to say it, for the community. So we've been fortunate in this respect where, um, when we have hosted Learning Circles, um, we do have somewhat of an invite base." [LCF 3]* |
| **3. Connections** | **3.1 Promoting holistic wellness by restoring connections to land and culture through food** | *"Food is medicine, is tied to the land, is tied to every aspect of the relations. So, you can't measure it in terms of like its' health unless the whole like system is changing to foster a deep, healthy vibrancy on sovereign land." [LCF 5]*<br><br>*"So we have to help bring awareness around the more healthier lifestyle and being more 'well'. And so really trying to eh, give some health promotion around that." [LC participant 10]* |
| | **3.2 Acknowledging Truth in tensions from colonization** | *"There is still a necessity to sort of unpack, for non-indigenous people to kind of like explore those different narrative and unpack that in the sort of messiness of relationships that some of which have sort of existed between Indigenous and non-indigenous people here for hundreds of years." [LC participant 11]*<br><br>*"But bringing parents into schools and schools as a place of healing or mending is just... here in this community, it's either too early or there is too much racism or things are just too unbalanced for that to be the place for it to happen in my feeling." [LCF 5]* |

| | | |
|---|---|---|
| | | *"there's a fear piece about how to talk about current effects of colonialism without sending non-Indigenous people into this fear reactive, defensive place when it's maybe something somebody hasn't talked about. And from other work [community organization] is doing from around the work of internal reflection and dialogue that I feel non-Indigenous people need to do…I really feel like, with reconciliation, there is work that both Indigenous and non-Indigenous people need to do. " [LC participant 12]*<br><br>*"something else we kind of came across was like the connection of farming and farm labour to, um, residential school times. And so, for some of the older generation, the connection to farming is like immediately… traumatizing and, and brings up these memories of this other time. And so, that is a bit of a barrier there, too because there's like resistance to engage with it because, um, of that history…" [LC participant 13] [Holly 2018 Ministikwan]* |
| | **3.3 Embracing Indigenous and Western worldviews through partnerships for food system planning and action** | *"Another barrier is the willingness to sort of…and that's linked to regulations, sort of the ability to see a different or accept a different or even acknowledge that there's maybe a different world for non-Indigenous people to acknowledge that there is a different world view or different way of seeing things than what you've come into the world with and what's sort of dominant" [LC participant 12]* |
| **4. Power Dynamics** | **4.1 Establishing trust from the ground up to foster multi-level** | *"Then the politics get in the way you know – limited funding and people chasing the money around and that can get a bit tiresome, and you know, jurisdiction issues pop up and there's limited resources for everyone. Uh-- Sometimes it can get a little political." [LC participant 2]* |

| | | |
|---|---|---|
| | **collaboration and commitment** | *"I think a lot of people in the community would agree that there's certain divisions within the community that we find a challenge whether its political or family. And this is where we try and, you know gauge many different people within the community and I think really stress the idea that this is an open forum." [LCF 3]* |
| **5. Regulations** (policies, practices and procedures) | **5.1 Considering community governance, leadership and protocols** | *"Asking permission from the Chiefs to harvest traditional foods on their territories. "Let them know you are going out," she said, "they may want to come with you." [LC participant 6]*<br><br>*"Developed list of key people to contact, met with people at three different schools, finding out what people are already doing; there is a lot going on but not coordinated. Connecting with the bands is a slow process, priorities are in different areas right now." [LCF 2]* |
| | **5.2 Working within federal, jurisdictional, and organizational level policies and regulations** | *"We can write a* [government project funder] *progress report that reflects the reality as identified by communities, and the barriers and struggles of timelines, metrics and outcomes." [Annual gathering participant 4]* |
| **6. Interdependencies** | **6.1 Making strategic linkages between processes, programs and perspectives** | *"Then the learning circle got involved to help the school apply for some funding and stuff like that. So that was kind of the initial part of that relationship and as I chatted with [LC member] a bit more, he gave me this model about how this community is approaching food security and how it's not just based in the school, but based in the school and health, and fisheries and all these other pieces that are going on in their community" [LCF 5]* |

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| | | *"what I like about the learning circle when we get together, is that I get to see how the – this uh system's approach, whatever is working at different ages. So seeing how its used with the little preschoolers and then uh in the elementary school, and then into the secondary school." [LC participant* 15*]*<br><br>*"I think the learning circle in it of itself has been action-oriented. So right off the bat there were goals that were set and those goals have been reviewed every single time and actions have, like really specific actions have been taken into those goals, so members of the learning circle have been really active in working towards them and each learning circle is built on the last one, so I think in that process that the process of the learning circle has worked well, but whether or not, you know how it was set up really involved as many people as we could or whether we got the right perspectives involved in it. [LCF 5]* |
| **Below the Line** | | |
| **7. Readiness** (necessary, feasible, and desirable) | **Supporting community readiness and food system partnerships** | *"Connecting with other partners and sharing information, and – and just being able to access additional resources. Whether they're financial or otherwise, I feel like we can – we can do that much better collectively. And with strong leadership from them, because then there's – there's a great deal more trust."*<br>*[LCF 1]*<br><br>*"Learning circles connect people around a specific goal, connecting people to community, help each other learn protocol around food harvesting and preparation, re-connecting the people to the land, bringing healing, involving Elders, coordinators help find support for the* |

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| | | *food goals people have prioritized, creating a common vision together." [Annual gathering participant 5]*<br><br>*"it's interesting how all the different communities that have come on board with this project, all of them have a different level of readiness, but all of them also have are advanced in some areas for different reasons." [Cross-community project advisor 1]*<br><br>*"But its also seems to depend on who is in the place in, in the food coordinator position. The person that's doing the ordering in the school, it's not – it's up to them, 100 percent, right. So it might be good if there was more of a um, I don't know how that could happen, but maybe a – the administration being more involved instead of just the one person that's – I'm not sure how it – how we could see that into – but if the, the people that are working now in the schools on the south end are invested in buying local, personally." [LC participant 14]* |
| **8. Capacity** (skills and knowledge) | **Strengthening capacity to effectively transform local food systems** | *"Share teachings so we are able to learn together and be aware. –create space where we can stand in our own truth, be who we are, and be safe there. –openness-non-judgmental atmosphere in order to allow us to learn. –we have to show up with our baskets full (what is my own culture, where do I come from, what is my truth? engaging as people from a place of truth). –we are always teachers, students, and learners. –respectful dialogue among nations-there is always more to learn." [Annual gathering participant 6]*<br><br>*"Most people felt that shifting value around local food in the school culture would happen by building capacity to create more opportunities for children and youth to connect with food in a hands-on way." [LC participant 22]* |

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| | | *"important we think as a group to provide opportunities for children and youth to learn differently in ways that support them and help them to build skills that will contribute to their wellbeing." [LC participant 22]*<br><br>*"I think [*LC] *really helpful in addressing that barrier in terms of just sharing knowledge around like 'oh how do you get the kids to eat this', to have some ideas around that. So that was really, I thought productive." [LC participant* 9*]* |
| **9. Diffusion (**adoption, use, and spread) | **Meeting communities where they are at** | *"the model [LC] presents as an accelerated way of building on a set of capacities to move a school towards deeper procurement of local food for the students, but that assumes that there are farmers or hunters and gatherers that have a regular yield at a sufficient level and to the safety standards that a school could buy. It also assumes that the school would have the storage facilities and a local champion and coordination abilities and requisite food standard protocols all established in order to facilitate that. So the model is good in the sense that it's flexible and can be adapted to different levels of community capacities for this kind of change….but there is no mechanism presently in place for assessing the level of capacity of the willing participating schools and related partners." [LC participant* 18*]*<br><br>*"Project is not only having a positive impact on the participating community, but the effects are spreading out, especially with* [Tribal Council] *being connected to 9 communities, circles are extending." [LCF 3]*<br><br>*"You can adapt a learning circle to have more Indigenous people if it's not working. We didn't get tons of Indigenous people at this learning circle because it had to be on a Pro-D* |

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| | | *day. Can we go to the [First Nation] school and get your involvement? What works for you, how could we get your involvement?" [LCF 5]*<br><br>*"That was a good partner in, in kind of getting a bunch of stuff kind of and activities happening, on the ground. And now they've kind of branched off to do other food security projects in the community, so it's kind of neat to see that happening um, as kind of a spinoff of, of Learning Circle stuff." [LCF 5]* |
| **10. Sustainability** (maintaining policies, practices, and changes) | **10.1 Funding Stability** | *"For a local food to school food system to be sustainable there must be funds in place to start and keep programs going otherwise it will just be another pilot project that fizzles out in a few years. Additionally, teams and relationships must be built so that it's not just reliant on one or two champions that may move on without the momentum in place to keep the programs going. We talked about sustainability in terms of generations, how the experiential learning children do now can shift value around food to further generations." [LC participant 21]*<br><br>*"Having that ability to sustain yourself is hugely important, so it's already kind of happening here and people are just kind of "oh great" so now we can use this little bit of funding to be able to support our kids to learn this in more of a formal way." [LCF 5]*<br><br>*"Once the funding for the Learning Circle evaluator facilitator is not here in this community anymore um, we will see whether those structures can stay. We're really finding that sort of external support, the schools are definitely telling us that its needed um, that it helps support with different grants and that sort of thing." [LC participant 11]* |

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| | | *"Talking about sustainability also led us to talking about the real cost of growing local and a need for there to be a better understanding of the financial challenges of making a living as a small-scale farmer. School food systems must be able to pay market price for local food and not expect donations from farmers because they are community programs." [LC participant 16]* |
| | **10.2 Partnering to maintain project activities and planning** | *"The bands built boxes in their yards... people are growing more food than they have in years. It's happening in a different way; people are growing food and sharing food because that's what is needed now. For sure relationships were built that are probably ongoing and I know there has been a big connection between [Community organization] and the schools that's ongoing. I'm sure that's been positive for a lot of people." [LCF 5]*<br><br>*"So in my view what it needed is a pre-initiative capacity assessment that would chronicle in detail the different levels of capacity or rather the different levels of capacity attainment across different domains of capacity….You've got an assessment, you place yourself and there's some menu of options of this version of the model that would best fit your particular circumstances and then you work through the mechanics of how that would work" [LC participant 18]*<br><br>*"The most beneficial part of that was bringing people together um, bringing together the producers and the schools, and the others" [LC participant 18]*<br><br>*"I think on a bigger scope, if we really wanted to have this project to make lasting community change that's going to be sustainable, it needed to start in a different way and* |

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| | | *really be centered in Gitxsan community or centered outside of the school and in community so that that community piece could continue to support the schools to keep their end of the project running." [LCF 5]* |
| **Integrative Strategies** | | |
| **Simple Rules** | **Community specific protocols and principles to ensure respectful engagement and promote community ownership** | *"..so we would never approach the crown in a manner that wasn't respectful of the fundamental principles of the terms of engagement of the crown, and the crown of course has the bureaucratic strength to assert its rights around those matters, but some nations don't have the strength of bureaucracy to assert those rights, although they expressed agreement with, you know, in this case OCAP principles, the burden of proof to demonstrate commitment rests on the shoulders of the outsider" [LC participant 18]*<br><br>*"They are getting a letter of support from the [B*and *Council], are on the agenda for OMVC, and CHN; expects that it will be categories of data, e.g., student survey, food procurement, value of this is that a process will be in place going forward for future research, for example, the impact on the land. This is a good example of what happens when communities learn to take ownership of what is going on." [LCF 1]*<br><br>*"…to change those systems and support more things like community workshops to build that empowering sense for communities, that really they can be the ones to seek out researchers for the purpose of, you know, empowering their communities and, and helping to address their own needs…" [LC participant]*<br><br>*"So for the, the University of Waterloo Research Team, to be able to sit back and listen and, um, hear what people are saying and be respectful and actually encourage because I don't* |

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| | | *think that communities would have taken that leadership if that hadn't been encouraged by us." [Cross-community project advisor 2]* |
| **Systemic Action Learning Teams** | **Project advisory structures to champion community-driven actions, leadership and partnerships** | *"this project is focused on schools, communities need to be "on board" perhaps bring together an ethics committee; HG currently has an ethics committee but not related to food" [LCF 1]*<br><br>*"And so I think just the, the way that [community organization] has worked in our community around developing change and, and creating systemic change and working to address you know issues around whether it's food security or food sovereignty; or around you know engaging in the community." [LCF 5]*<br><br>*"There's a lot of positive pieces. And I think a lot of them do land on these champions, whether they're teachers or community [connectors]"*<br>*[LC participant 12]*<br><br>*"I've been familiar with the [tribal council] for a number of years now, and you know their goals are, you know definitely community benefit oriented. They have a plethora of individuals employed through the [tribal council] that help out with health, education, finance um, and they're a very large – a corporation. I think the structure mechanism of the [tribal council] is definitely appreciated."*<br>*[LCF 3]* |
| **Small Wins** | **Celebrations and successes (e.g.,** | *"I think having a formal process like having the people who did come together at the learning circle helped in some way because people got to see each other face to face and* |

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| | **relationships, trust, and commitment)** | *then they could make that connection of oh I'm involved in the learning circle and this is what the learning circle is or what it's coming to be." [LCF 5]*<br><br>*"We haven't gotten any this year, but in years past – the past two or three years, the fish donations have been so generous, and have just made an incredible difference to our learning, our feeding the kids; nourishing them, our budget. Um, so that's been incredible. And the other thing I would say would be um, the deer, which we usually get via Parks Canada." [LC participant 15]*<br><br>*"I've been able to provide a connection to the local farmers, fishers, hunters, gatherers um, and I also bring the – my love and passion to the program. The spinoffs are family members stopping me in the grocery store, etc., - telling me that their children are eating salad." [LC participant 20]*<br><br>*"Helping to get some of those grants and working alongside what the principal was doing. So it was like there's an isolated incident of this worked well, we got food, into the schools, it happened." [LC participant 12]*<br><br>*"I think a big piece was just that it got schools interested in prioritizing having gardens and having their students spend time out on the land….So it is building relationships in the community and it is connecting places like [community organization] to the elementary school, which is a really beneficial relationship. It helps both programs sustain themselves so I think those things are really great successes that we have seen."*<br>*[LCF 5]* |

### *3.4.3 Connections*

Emphasized in the Framework is the importance of relationships and making connections with key people who can inform planning and processes to embark upon changes of interest. Building connections across systems and sectors, like educators and food producers can help to improve coordination between services and strengthen partnerships. It can also support the building of trust amongst local organizations and ways to work together to share resources, information or partner on an initiative.

The LC model was perceived as an approach that facilitated connections among people, programs, and organizations. It allowed for efforts to be coordinated to maximize benefits to community; identification of areas where trust needed to be established; opportunities to build partnerships; and engagement that helped heal relationships. In addition, the approach enabled communities to make connections between different multi-sector partners at a community, regional and jurisdictional levels.

> *"The Learning Circle brought partners together who may not have otherwise engaged around food. It was exciting to have the Gitanmaax Nursery School attend the last Learning Circle as their participation is helping to bridge the project from pre-school age to school age. Many of the Nursery school staff are Gitxsan, are active gardeners, and knowledgeable about food systems." [Annual gathering participant 3]*

#### *3.4.3.1 Connections: Promoting holistic wellness by restoring connections to land and culture through food*

> *"To connect with our spirit-being on the territory, eating traditional foods all help to take care of the spirit." [Annual gathering participant 2]*

Emphasized was the importance of revitalizing connections between food and culture as a pathway to holistic wellness. Among youth in particular, promoting teachings in school about traditional food and land-based activities was encouraged. Engaging the community in more

traditional food activities, restoring connections to land and culture by bringing healthier food to the community was identified as a priority by communities.

> *"So learning how to enjoy foods in a way that's accessible I think is part of it. How do you make healthy food attractive and delicious and I think that's a skillset that some, um, many people have lost. And so even in the learning circle there was a cool opportunity to share some of that knowledge back and forth. Where it was like ideas about "oh this is how you can get kids to eat this". [LC participant 9]*

*3.4.3.2 Connections: Acknowledging Truth in tensions from colonization*

While support for locally grown and traditional food among youth and school communities was viewed as an important avenue for restoring connections between food, health, culture and land across all communities, many emphasized the importance of recognizing and understanding the impact of colonization within this context. In particular, recognizing tensions between farming and agriculture associated with the loss of traditional land and environmental contaminants from pesticides was strongly discussed by one community.

> *"Commenting on the "farm to school" concept, many children were sent to residential school and had to work in gardens/farms. The notion of a farm to school idea brings negative connotations to it. It is important to learn as much as you can, be sensitive, and consider history." [Annual gathering participant 3]*

Remaining sensitive to how gardening and farming may not always have a positive association was emphasized even when the intent and outcome is related to community priorities for healthier food.

> *"… when it comes to farming, I think there for sure is that tension of farming was not typical. Although there was tending and stewardship, farming is not a traditional practice." [LC participant 11]*

*3.4.3.3 Connections: Embracing Indigenous and Western worldviews through partnerships for food system planning and action*

> *"Recognize that self-determination is an important or central goal of reconciliation between First Nations and Canadian government. We need to work together to demonstrate that projects need to be centered around Indigenous ways of knowing and adequately support First Nations health and well-being." [Annual gathering participant 7]*

Under the LC process, space was created for community members to draw on the strengths of Indigenous knowledge and ways of life, and perspectives of non-Indigenous partners engaged in project planning. In doing so, community members were able to build relationships with those outside of the community and identify opportunities for partnership to take collective actions to promote youth in engagement in food projects. LC engagements offered opportunities to make connections with other members of the community and their work which supported coordination of activities to improve access to traditional and locally farmed food, and promote culturally appropriate ways of growing, harvesting in schools and beyond. For example, donations received from farmers and fishers at food pantries, were able to provide food to schools and hospitals.

Other LC activities focused on relationship building, gardening, developing food skills, and connecting youth to traditional food activities and the land. Building relationships with community members and establishing partnerships allowed for the opportunity to identify ways to partner.

> *"These are small communities and it's hard to know what relationships result in ongoing connection, although I would say it was for sure a positive experience, the learning circle, for people who were part of it and they felt connected to each other." [LCF 5]*

LC participants felt that connections were able to be made between projects focused on food to support actions in the community. In addition, annual gatherings created space for cross-community learnings and relationship building to support actions within individual communities.

### *3.4.4 Power dynamics*

Within the Framework this component highlights the importance of understanding how decisions are made and identifying who participates. This consideration is of particular importance to any work with Indigenous communities. Adopting a decolonizing approach such as participatory processes can be a way to redress power imbalances by centring Indigenous voices in decision making and promoting community empowerment.

#### *3.4.4.1 Power dynamics: Establishing trust from the ground up to foster multi-level collaboration and commitment*

All participating communities emphasized the importance of meaningful engagement to build relationships and establish trust. Trust and commitment to community was consistently viewed as not only essential to ensure accountability of those working with community, but to reconciliation and a path forward to heal from the impacts of racism and colonization.

> *"Healing can't start until the wounding is finished…the time is now to heal the wounds from colonization. We all live here; we all need to work together." [Annual gathering participant 4]*

A first step towards healing wounds was engaging key leaders with decision making power and trusted members of the community involved with implementing on the ground activities.

> *"The hope for the project is that University, partners, Learning Circle facilitators and communities treat this as a true partnership in which the strengths that we each bring to the project are valued and that challenges can be faced openly." [LC participant 4]*

Within Haida Gwaii for example, piloted work was established without substantive Haida leadership. As such, scale up largely focused on enhancing Haida leadership and community engagement to support and sustain ongoing efforts. Haida leadership was integrated through the Secretariat of the Haida Nation to manage funds from the project and provide administrative

support. In addition, convening a project advisory committee, Xaayda (Haida) Foods Committee (XFC), was a way to ensure decisions made throughout the project were by and for community. This advisory committee was established in 2016 which informed project activities and facilitated partnerships. A memorandum of understanding called the "Spirit of Collaboration" (Isda ad dii gii isda (S)- Isdaa 'sgyaan diiga isdii (M)) was codeveloped and signed between the HFC and the University of Waterloo in 2017 to guide evaluation. Such an agreement helped to align research scope with community priorities and cultural values and promote self-determination of programs implemented.

> *"And over time, we have been able to develop partnerships and processes, and especially [the Haida Foods Committee], which is now able to – in addition to the Learning Circle, provide me with guidance on how to move forward appropriately with food programming in our communities. And how to properly work towards following and communicating of protocols – [Indigenous community] protocols" [LCF 1]*

For the LC in Upper Skeena, partnerships were established between the Storytellers' Foundation, a non-governmental organization based in the community since 1994, and members of the Gitxsan Government Commission (GGC) tribal council that provided direction and advisory support for the project. Meetings held as part of the LC approach helped to initiate a process of engagement and shared understanding of priorities and goals for the community. Storytellers' held the funding agreement and prioritized the work to be led and informed by community on activities focused on food, active living, healthy eating, food sovereignty and land-based activities. Additional partnerships, include Skeena Watershed Conservation Coalition, Hazelton Secondary School, Majagaleehl Gali Aks School (MGA) and Senden Agricultural Resource Center, that participated in shared decision-making processes to understand perspectives of local, healthy, and traditional foods in schools within the community through the LC.

> *"I think there's huge community support for this type of work in the Hazelton region and the Upper Skeena region. The agricultural community and the farming community got onsite as much as they could and members of that community like farmers and growers like*

*Harriet Hall or Senden have been involved in more of an ongoing leadership process." [LCF 5]*

Community action planning within Ministikwan Lake Cree Nation involved engagement with Meadow Lake Tribal Council and an established advisory committee with Indigenous leadership. Leadership from such partners supported greater engagement from community members in planning efforts around traditional food activities and bringing healthy food to community. The LC model provided the opportunity to address power dynamics that arise when someone outside of the community was engaged in the work. Trust and relationship building to bring members from community along the LC journey was recognized as a process requiring time and meaningful engagement. In addition, community members shared that tensions and divides within the Indigenous community itself arise when uncoordinated efforts among leadership are left unaddressed.

In Black River, power was centred within an Indigenous context from the start. Black River First Nation identified a number of key partners to engage in planning efforts including the Band Council as a way to ensure support was led and informed by community. Key partners included Nanaandawewigamig First Nations Health and Social Secretariat of Manitoba, Food Matters Manitoba and HSF.

### *3.4.5 Regulations*

Policies and practices that influence system behaviour are acknowledged within the ABLe Change framework as key factors to consider when thinking about action and system change. Key areas considered under this component include any organizational policies that may be a barrier or enabler for change and how existing policies or procedures may support achievement of the overall goal. Within the LHF2S initiative, consideration for community level protocols and working within jurisdictional food policies were an important step in planning under the LC process.

*3.4.5.1 Regulations: Considering community governance, leadership and protocols*

> *"Right to land, right to harvest, protocol, how does that work, like one of the circles I remember asking the question- you know teachers were talking about going out and picking soap berries... so then I posed the question, who do you ask to go? How do [you] get out there? Who do you have to ask and what do you have to put into place to take your class and go do that?" [LC participant 12]*

Understanding the importance of working within local community governance, the project team including the LC facilitator relied on elders for direction on relevant decision making. For example, working with the Chief and Band Council System and/or Tribal Council/ Secretariat for support was viewed as essential by community advisors, recognizing their influential role in community-level decision-making of practices, policies and programs implemented. As such, each community's governing system was engaged in planning efforts, including administration of funds and decisions for how resources would be used for food system transformation. In addition, formalized advisory committees established informed non-Indigenous partner organizations of specific community protocols for appropriate engagement to be followed.

Working within an Indigenous governing system and establishing a community (Indigenous)-led committee was recognized as a way to seek guidance for evaluation efforts and ensure that it respected local Indigenous ways.

> *"I think Haida Foods Committee is something I'm really, really happy about because I feel that I can actually now do my job with much more comfort than before….in terms of connecting with other partners and sharing information, and just being able to access additional resources." [LCF 1]*

*3.4.5.2 Regulations: Working within federal, jurisdictional, and organizational level policies and regulations*

While First Nations communities in Canada are governed by their own leadership (elected, e.g., Band Council or ancestral e.g., hereditary Chiefs) they also fall under regulatory governance at Canadian federal and provincial levels. Recognizing Canada's multi-level jurisdictional environment, which brings differences in policies and practices on food security, food safety, and land use practices were important considerations made.

> *"In terms of the national Indigenous health strategy, there is a lot of policy work at the national level, nation to nation; at the community level they are looking at providing training to students, have heart smart program that has Indigenous health incorporated into it, talks about some Indigenous health concepts" [LCF 3]*

While some policies and strategic plans developed may support and accelerate actions and priorities identified through LC engagements, others considered some health and safety regulations as a challenge to promoting uptake of traditional foods and integration into schools.

> *"There is the structure of health and safety regulations for food in Canada. Basically, make Indigenous traditional food that is harvested, prepared and served to, throughout the Indigenous community and non-Indigenous communities here, basically says that is no good, it is not good enough by the health and safety regulations that exist" [LC participant 11]*

*3.4.6 Interdependencies: Making strategic linkages between processes, programs and perspectives*

Recognizing how each of the Above the Line elements interact and reinforce each other is highlighted in the framework. Focused efforts on understanding the values of community members, for example, may inform other areas to support planning such as characteristics of the

food system and programs that communities would like to see more aligned with community preferences.

> *"it's taking lots of players and bringing them together. And then they all have their own networks and it's a really good way to make connections in the food world, or any kind of thing that you're working on. But it gets people out of their silos and gives an opportunity to work towards common goals." [LCF 1]*

As LC's are fluid, its process can be shaped by priorities identified and membership can change over time. Identifying and engaging new people within the community can help with identifying shared interest, resourcing, and opportunities for new relationships that can strengthen efforts to plan, overcome challenges and sustain project activities.

**Below the line: Building a supportive environment for implementation**

The Below the Line element of ABLe Change is focused on aspects to support successful implementation and ensure that planning efforts achieve intended outcomes. Elements of the Above the Line focus on understanding system characteristics, also help to inform below the line components which consists of *readiness, capacity, diffusion, and sustainability*. The LC model applied by each community enabled a process to assess and build on existing strengths, levels of readiness and capacity for food system change. In addition, efforts to raise awareness about the initiative (diffusion) and planning to maintain changes brought about by bringing more healthy food to school (sustainability) were made by community members at LC meetings.

*3.4.7 Readiness: Supporting community readiness and food system partnerships*

Readiness has been described as a state in which those involved who will be impacted by change efforts understand and believe that change is necessary, feasible and desirable (Foster-Fishman & Watson, 2012). At LC meetings, the various people convened were able to better understand challenges and opportunities for greater food sovereignty, and brainstorm ways to integrate local and traditional food among youth.

Awareness of the proposed change, its feasibility and desirability among those leading change efforts is an important part of successful implementation. As community engagement is essential to planning that reflects the preferences and priorities of the people directly impacted by the change, LC meetings and cross-community annual project gatherings allowed for readiness to be advanced at various levels including organizational, leadership, and community by identifying where strengths and gaps exists. In-person gatherings enabled a process for each community to understand their context, local food experiences, interests and reflect on how the LC process could evolve in each community.

Organizations such as University of Waterloo, Farm to Cafeteria Canada, the Heart and Stroke Foundation, and Native Women's Association Canada were key partners supporting cross-community visions and project activities. Partners were engaged in building a shared understanding and awareness of community food systems considerations such influence of external environments like market food systems or climate change.

> *"One thing definitely I think there are a lot more food security initiatives, a lot more awareness on food security, there is awareness that living in the Northwest we are at risk of you know, we've been seeing lots of things happening around us- droughts, fires, all of those kinds of things. So, we really need to think about having our food here." [LCF 5]*

Fostering awareness of food system changes is also important to building strong partnerships with community members and leadership who can shape and drive change efforts. Communities shared the importance of obtaining support from local leaders and champions such as the school principal, teachers, committee's, Chief and Band Council or Tribal Council. The leaders were identified as playing a strong influential role in decision-making and planning with school communities and supporting integration of local food into schools.

> *"It's that the fact that it has – that person has to be invested in wanting to buy local…and having um, it become policy that they source local first." [LC participant 14]*

> *"It will be important to mobilize people. There are other meetings and gatherings in between the LC where work can happen. People need to commit to working together. Bringing together people with different perspectives and priorities around food." [LC* participant 4*]*

Engaging local leadership helped to ensure broad community participation toward shared awareness, trust, and sense of ownership of activities. Such an approach has helped to generate excitement and enthusiasm by community members to be engaged in action planning and lead on the ground change efforts.

> *"Connecting with other partners and sharing information, and – and just being able to access additional resources. Whether they're financial or otherwise, I feel like we can – we can do that much better collectively. And with strong leadership from them, because then there's – there's a great deal more trust." [LCF 1]*

Understanding and working through interdependencies between elements outlined in the 'above the line' component helped to enhance state of readiness for food system change. For example, understanding components of the system such as existing programs and new initiatives helped with facilitating connections, cross-cutting priorities and building of relationships. Further, the trust and respect established through built relationships and formal partnerships can support navigation through power dynamics and policies that may either function as a barrier or facilitator for food system change.

### *3.4.8 Capacity: Strengthening capacity to effectively transform local food systems*

Building community capacity was at the forefront of LC planning efforts. Community-based meetings and cross-community annual project gatherings provided the opportunity to share learnings and leverage successful approaches taken to support planning and implementation in and across respective communities.

*"Share teachings so we are able to learn together and be aware. –create space where we can stand in our own truth, be who we are, and be safe there. –openness-non-judgmental atmosphere in order to allow us to learn. –we have to show up with our baskets full (what is my own culture, where do I come from, what is my truth? engaging as people from a place of truth). –we are always teachers, students, and learners. –respectful dialogue among nations-there is always more to learn." [Annual gathering participant 8]*

With support by the LC facilitator to organize a workshop, communities were able to engage in a process to identify a vision and key actions to support community identified priorities. For example, in Hazelton, their goals consisted of four areas: build relationships, build gardens, learn about food, and share information. One of the objectives to support this overarching vision of the community was to have a garden and greenhouse in each school that would broaden students' knowledge, experience and skills with local food through curriculum-based projects. As such, actions were taken with two elementary school gardens and a partnership with Skeena Watershed Conservation Coalition (SWCC) for students from New Hazelton Elementary to grow food and host a seed-planting workshop with the students. In addition, with a grant from Farm to Cafeteria Canada, students from Majagaleehl Gali Aks Elementary School were able to start a garden and local food salad bar in the school.

*"Most people felt that shifting value around local food in the school culture would happen by building capacity to create more opportunities for children and youth to connect with food in a hands-on way." [LC participant 21]*

Contingent capacity is inclusive of system knowledge, relationships built between organizations who can support management of the change, and system actors to ensure availability of resources to support with change efforts [23]. Leadership provided through commitment from local governance helped to obtain funding support to promote change capability and support for project activities to take place in the community.

*3.4.9 Diffusion: Meeting communities where they are at*

Diffusion is described as a purposeful spread, adoption and use of the change of interest. The LC was often identified as an approach that is flexible and can be adapted to best meet the needs of where communities are at in their level of readiness and capacity to begin planning for food system change.

> *"the model [LC] presents as an accelerated way of building on a set of capacities to move a school towards deeper procurement of local food for the students, but that assumes that there are farmers or hunters and gatherers that have a regular yield at a sufficient level and to the safety standards that a school could buy. It also assumes that the school would have the storage facilities and a local champion and coordination abilities and requisite food standard protocols all established in order to facilitate that. So the model is good in the sense that it's flexible and can be adapted to different levels of community capacities for this kind of change….but there is no mechanism presently in place for assessing the level of capacity of the willing participating schools and related partners." [LC participant* 18*]*

At annual cross-community project gatherings people shared the benefits of LC and interest in its continued use as an approach bringing various perspectives together, facilitate identification of synergies in priorities and opportunities to work together. There were other forms of diffusion including word of mouth and various communications related to the project within a community.

> *"Project is not only having a positive impact on the participating community, but the effects are spreading out, especially with* [Tribal Council] *being connected to 9 communities, circles are extending." [LCF 3]*

LC workshops and annual gatherings that brought partnering communities together enabled a process to support awareness of each community's project objectives and activities and ways to modify and improve application of LC in each community. In Haida Gwaii where a LC goal was supporting more Indigenous leadership and engagement, it became clear that some of the

processes of the LC (e.g., planning them on a teacher's professional development day (Pro-D day) was not working for the First Nations schools that were part of a different school jurisdiction.

> *"You can adapt a learning circle to have more Indigenous people if it's not working. We didn't get tons of Indigenous people at this learning circle because it had to be on a Pro-D day. Can we go to the [First Nation] school and get your involvement? What works for you, how could we get your involvement?" [LCF 5]*

Annual Gatherings permitted diffusion across contexts as participants from each program shared their perceptions of what success looked like, what processes were working well and experiences or outcomes people were proudest of. The group also brainstormed about responses to challenges faced. Through this process, participants brought new ideas back to their community.

### *3.4.10 Sustainability*

Sustainability is an important element of action planning and implementation, ensuring that project activities or outcomes are maintained through policies or practices. Communities were encouraged to think about sustainability in their engagements and at each planning meeting.

Sustainability was an ongoing focus topic of discussion within the context of each project to identify ways to continue work across each community. Though each community worked within their local context and different stages of readiness and capacity, stable funding and diverse partnerships were identified as key sustainability strategies.

#### *3.4.10.1 Sustainability: Funding stability*

The LC:LHF2S project provided research funding support for a LC facilitator in each community to assist with LC process and project evaluation. Implementation and infrastructure support were not provided by the research grant. For example, funding for school food programs, was sourced from within communities and external sources, as shared among communities. It is

noteworthy that in the exemplar context of Haida Gwaii, the established project had identified sustained funding sources within and external to community. This enabled, for example, two pantries to be staffed and operate as local food hubs where stored locally sourced traditional foods could be accessed for a fee by schools or other community programs. Other communities had varying levels of internal and external funding support for priority initiatives. Considerations for long-term and consistent funding to support resources required to manage and maintain project activities beyond CIHR funding were therefore made by communities.

> *"For a local food to school food system to be sustainable there must be funds in place to start and keep programs going otherwise it will just be another pilot project that fizzles out in a few years. Additionally, teams and relationships must be built so that it's not just reliant on one or two champions that may move on without the momentum in place to keep the programs going. We talked about sustainability in terms of generations, how the experiential learning children do now can shift value around food to further generations." [LC participant 21]*

> *"Having that ability to sustain yourself is hugely important, so it's already kind of happening here and people are just kind of "oh great" so now we can use this little bit of funding to be able to support our kids to learn this in more of a formal way." [LCF 5]*

> *"Once the funding for the Learning Circle evaluator facilitator is not here in this community anymore um, we will see whether those structures can stay. We're really finding that sort of external support, the schools are definitely telling us that its needed um, that it helps support with different grants and that sort of thing." [LC participant 11]*

The importance of ongoing and additional funding support was a fundamental priority expressed by all communities as key for sustaining LC engagements and building economic support for food security projects.

*3.4.10.2 Sustainability: Partnering to maintain project activities and planning*

Other key considerations made from cross-community discussions on project sustainability included the importance of partnerships that can support sharing project successes with other communities; creation of a plan to continue cross-collaboration among the communities to foster knowledge exchange and opportunities to align efforts to obtain funding. Building strong relationships was recognized as necessary to identify connections between programs, continue the momentum established from projects, and identify supports required to manage project activities.

> *"Connecting with other partners and sharing information, and – and just being able to access additional resources. Whether they're financial or otherwise, I feel like we can – we can do that much better collectively. And with strong leadership from them, because then there's – there's a great deal more trust." [LCF 1]*

The importance of relationships and key partnerships in supporting ongoing work and maintaining actions beyond a funding cycle was highlighted. Reflections were shared at LC meetings on ways to improve project planning and setting up communities for success, such as having tools and resources to build capacity for implementing food system changes. One suggestion was a pre-project assessment that can serve as a planning tool to better understand levels of readiness and capacity that would position communities to move ahead with their projects of interest. Such a tool could be used to facilitate relationship building and partnerships to plan for sustainability.

> *"So in my view what it needed is a pre-initiative capacity assessment that would chronicle in detail the different levels of capacity or rather the different levels of capacity attainment across different domains of capacity….You've got an assessment, you place yourself and there's some menu of options of this version of the model that would best fit your particular circumstances and then you work through the mechanics of how that would work" [LC participant 18]*

*3.4.11 Celebrations and successes ("quick wins")*

Even though different communities were at different levels of readiness and capacity, they all managed to implement activities related to healthy local or traditional foods. So, while one community may face challenges with limited resources or capacity for multi-stakeholder engagements through LC workshops, they did, over the time of the project, experience small wins in facilitating school-based food programs on the land.

## 3.5 Discussion

We used the ABLe Change Framework to evaluate how the LC approach as scaled-up across four communities facilitated capacity building for community-led actions to strengthen local and traditional food systems in partnering First Nations communities. A process led by communities, the LC approach facilitated collaboration with multi-level partners to encourage community actions related to food system transformation. The LC enabled a participatory process for community members and partner organizations to collaborate in understanding community priorities, context for project development, and strategies to create a supportive environment for local action.

Collectively, the LC facilitated a process for communities to (1) identify and build on strengths to increase readiness and capacity to reclaim traditional and local food systems; (2) strengthen connections to land, traditional knowledge and ways of life; (3) foster community-level action and multi-sector collaboration and relationships; (4) drive actions towards decolonization through revitalization of traditional foods; (5) improve availability of and appreciation for local healthy and traditional foods in school communities; and (6) promote holistic wellness through greater food sovereignty and food security.

Implementation science scholars have often pointed to the importance of understanding context for change and for the process to be informed by the people such changes are intended to serve [5, 23, 50, 51]. Participatory approaches that can facilitate a collaborative process are therefore fundamental to program development that is responsive to community priorities. As documented

in this paper, LC can offer such an approach to facilitate co-planning for collaborative and community-driven action.

LC supported a community-engaged, iterative and dynamic process for understanding *why* healthy, local and traditional food are needed; *who* should be engaged, and *how* key decision makers, implementers and champions can work together within the community. In addition, the LC allowed for an understanding of key components that make up local food systems, as well as identification of where strengths and gaps may exist. By collaborating with a broad range of food system actors and leaders, communities were able to create a vision for food system change that builds on community identified strengths, traditions and resources. As LC's are intended to bring various people together across and within each community, creation of a safe space was a fundamental component of the approach that centres Indigenous voices and addresses power dynamics that may arise from different perspectives. This process prioritized Indigenous perspectives and supported an interactive process for communities to engage in participatory decision-making on actions for local food system change.

Being community-driven, the LC approach was also adaptable to diverse community contexts. Though partnering communities were joined by their shared interests in strengthening local food systems, each community worked within its own context and level of readiness and capacity for local action. Flexibility built in the LC approach allowed for each community to modify and adapt its process based on community-specific needs. While some communities had supportive relationships established with community leadership and organizations that accelerated planning, others leveraged the LC to support efforts on building awareness and relational capacity by identifying key people within the local food system to engage (e.g., food producers, consumers, community knowledge holders, community-based organizations and public health).

The vertical scale up of LC:LHF2S in Haida Gwaii saw sustained structures, like pantries, and growth in actions to support food system transformation. It also allowed for new relationships to form to better centre Indigenous peoples voices and reclamation of traditional food systems within the work. The horizontal scale up across the three new diverse contexts has shown that even over a short time period, the LC concepts of bringing people together to plan, resulted in

some positive action to enhance local and traditional food access and skills for youth. Elements like relationships formed and early successes may support sustainability.

With LC extended in diverse contexts, the documented successes of LC present opportunities for continued use and adoption in other First Nations communities. As food security and food sovereignty remain a priority for First Nations communities in Canada, calls have been made for initiatives that can support communities with building capacity, as well as maintaining or enhancing access to and availability of traditional food [52]. This includes efforts to establish culturally appropriate school-based programs that can ensure access to healthy foods [52]. Based on the cross-context analysis guided by the ABLe Change Framework, the LC model can be adapted to different Indigenous contexts. In particular, in communities where there is interest in food system change, the use of LC can be explored as a way to accelerate action and commitment on priority plans.

To support successful implementation of LC in other communities, this research suggests that the following elements are key: 1) a LC facilitator who has knowledge of the community and established relationships; 2) local champions to support activities, whether the LC facilitator or others; 3) support of local leadership and advisors; and 4) strong partnerships.

In community discussions about farming, the importance of acknowledging impacts of colonization, intergenerational trauma and racism was emphasized as part of the process for reclamation of local food traditions. A lack of awareness of history and racism within school communities may therefore function as a barrier to building trust and stronger relationships with schools as well as integration of traditional food and cultural teachings. Creating space within LC meetings to acknowledge the ongoing impacts of colonization on local food systems can support promotion of reflexivity and awareness among non-Indigenous LC participants as a way to bridge stronger relationships and embrace Indigenous knowledge and worldviews in action planning. Such considerations of settler-colonial relations and how they have disrupted Indigenous food systems including connections to the land has been emphasized as important for addressing food security [1,3,7,8].

This participatory project with First Nations communities responds to the broader call made by scholars which emphasize the importance of decolonizing approaches to Indigenous health research [42, 53-55]. While LC played an important role in facilitating actions towards decolonization through revitalization of traditional foods and promotion of holistic wellness, there is a need for Indigenous-led models or frameworks that can better support planning and implementation. There are opportunities for growth within this field. In planning the current study, we scanned the implementation science literature and found that a limitation of all available frameworks was that they did not provide guidance for sustainable implementation of health promoting and equity-focused programs and services intended to serve communities [51], let alone Indigenous communities.

Use of ABLe Change at a grassroots or community-level would require reconceptualization to better align with community-specific principles and values. As an implementation framework, the concept and elements offered by ABLe Change could also be made more accessible by creating an interactive tool to work through a critical assessment within the above and below the line elements of the framework. This would better support users of the Framework with development of an action plan for implementation. In utilizing the framework to guide the current analysis, attention was drawn to opportunities for growth within the field of implementation science to better meet the needs of Indigenous communities. In particular, the importance of relationships as foundational to supporting collaboration throughout all phases of work. The is consistent with the call for decolonizing approaches to community research and knowledge mobilization [51,53, 56-59].

We therefore adapted the tool to support relevance to Indigenous contexts. Specifically, principles intended to link elements *Above* and *Below the Line* were modified to better integrate community knowledge and respectful approaches to working with community. For example, systemic action learning teams, was modified to *governance and advisory structures* based on the current research and as informed by communities at the outset of project planning. Though ABLe Change does embrace a systemic lens which supports action research and whole systems considerations, its application within the Indigenous contexts of the current research required

integration of decolonizing approaches, like community-based participatory research and holistic perceptions of health.

ABLe Change can incorporate participatory action research and its inherent flexibility, relational approach and potential for sustainability are strengths of the framework. However, it falls short in centering Indigenous self-determination and equity. An Indigenous specific tool that can support action within participatory-based research and Indigenous principles would offer a great contribution to implementation science scholarship and practice. The findings shared from this evaluation highlight the LC model as a participatory approach with communities, but recognize the need for new methodologies to draw from decolonizing research and an Indigenous paradigm. Such attention to decolonizing approaches of inquiry, has also been highlighted by scholars who emphasize the importance of research with Indigenous communities to be centred on self-determination, engagement and collaboration to navigate power dynamics and prioritize community voices [53, 11].

### 3.6 Conclusion

The LC is a community-based participatory approach that fosters multi-sector and community collaboration. LC enables a community-led process to build on existing strengths to plan and implement community-identified priorities and activities aimed at enhancing access to local, healthy and traditional foods in school communities. Insights from a participatory implementation initiative, LC:LHF2S, were drawn from an evaluation of LC as participatory approach to facilitating capacity building and action planning in school community food systems within four partnering diverse First Nations communities across Canada.

An initiative co-developed and implemented with communities, the LC supported collaboration within and across each community and formal partnerships between Indigenous and non-Indigenous organizations to engage in an iterative and interactive planning process for community-led action. Utilizing an implementation framework, ABLe Change, as a guide to assess how LC functioned to enable critical elements of effective implementation, we highlight how LC supports a participatory process that allows for communities to drive *what* changes are

needed, *who* should be engaged in planning and decision making, and *how* information is gathered and shared. Further, flexibility built within the LC approach enabled scale-up across diverse community contexts and presents opportunities to further scale-up the approach to accelerate community action on food security and food sovereignty elsewhere. While implementation science offers a range of supporting resources to ensure program planning efforts are set up for success, impact and sustainability, the field calls for greater integration of decolonizing methodologies that can facilitate participatory community-driven work but also promote self-determination and health equity in Indigenous communities.

# CHAPTER 4. INTEGRATING KNOWLEDGE AND ACTION: LEARNINGS FROM AN IMPLEMENTATION PROGRAM FOR FOOD SECURITY AND FOOD SOVEREIGNTY WITH FIRST NATIONS COMMUNITIES IN CANADA

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**Status:** Prepared for submission to Implementation Science

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## 4.1 Overview

**Background:** Decolonizing research and knowledge translation (KT) practices are central to Indigenous self-determination and respectful partnerships. However, there is a need for examples of decolonizing approaches that have effectively supported public health research and program development with First Nations communities. To strengthen KT with communities, we proposed a set of guiding principles for participatory planning and action for local food system transformation. Principles emerged from a cross-community analysis of Learning Circles: Local Healthy Food to School, a participatory program for Indigenous food system action. The objective of the paper was to identify guiding principles from an analysis of learnings on scaling-up the Learning Circle (LC) approach in diverse First Nations community contexts. Application of these principles is considered in the context of our ongoing partnership with Williams Treaties First Nations (Ontario, Canada) to support community planning and actions to enhance food security and sovereignty. Proposed principles are intended to support researchers working with Indigenous communities and those occupying positions in the health system with taking a participatory approach to integrating knowledge and action for food system changes. When applied, they support a collaborative, iterative and dynamic process for action planning that can centre Indigenous leadership, knowledge and values.

**Methods:** A cross-community thematic analysis was conduct and guided using an implementation science framework, Foster-Fishman and Watson's (2012) ABLe Change Framework, to identify key learnings and successes from adapting the LC approach. Information gathered from community interviews (52), meeting summaries (n=44) and tracking sheets (n=39) were thematically analyzed.

**Results:** Proposed guiding principles for participatory food system planning and action included the following: (1) Create safe and ethical spaces for dialogue by establishing trust and commitment from the ground up; (2) Understand context for change through community engagement; (3) Foster relationships to strengthen and sustain impact; and (4) Reflect and embrace program flexibility to integrate learnings.

**Conclusions:** The proposed principles offer guidance to promoting Indigenous community-driven participatory research and mobilization of knowledge into action. Application of principles with implementation frameworks can strengthen KT in Indigenous contexts by promoting awareness and integration of community-protocols, perspectives, and values.

**Keywords:** Decolonization, principles, knowledge translation, participatory, First Nations, community-engaged research, Indigenous health

## 4.2 Background

Decolonizing processes that can enable effective knowledge translation (KT) have increasingly been recognized as fundamental to initiatives intended to promote health equity and Indigenous peoples' self-determination in Canada [1-4]. As KT is an integral part of planning and implementation of programs and services, the broader research community plays an important role in generating knowledge and informing opportunities for application within practice [5-7]. The overall goal of KT or the "knowledge to action" process is to bridge the research-to-practice gap [5,8]. KT has been described as a "dynamic and iterative process that includes synthesis, dissemination, exchange and ethically-sound application of knowledge to improve the health of Canadians, provide more effective health services and products, and strengthen the health care system" [9]. Within Indigenous health research contexts in Canada, KT is "Indigenously-led sharing of culturally relevant and useful health information and practices to improve Indigenous health status, policy, services and programs" [10, p.24-25].

Implementation science[7] models, frameworks, and theories have offered supports for advancing KT efforts, including opportunities to plan for sustainability and scale-up[8] of promising practices [7, 12, 14]. While interest in implementation science methods has grown [7, 15], its application within Indigenous contexts requires additional considerations to integrate Indigenous perspectives to inform KT practices [1, 16]. Use of decolonizing methods and methodologies such as Indigenous methods and community-based participatory research (CBPR) approaches, for example, have proved to be promising in supporting both equitable engagement with all partners in the research process and community-led actions in knowledge generation and

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[7] Implementation science emerged as a field to bridge the research-to-practice gap and facilitate the spread of evidence-based practices [7]. Implementation research is the "scientific study of methods to promote the systematic uptake of clinical research findings and other evidence-based practices into routine practice and, hence, to improve the quality and effectiveness of health care" [11, pg.1].

[8] Scale-up has been described as efforts to expand the impact of an evaluated intervention. Horizontal scale-up includes replication in other settings; while vertical scale-up includes efforts to support institutionalization [12, 13].

dissemination [1, 17-20]. However, there has been limited documentation and guidance on use of participatory approaches to enable community actions to drive change efforts of community-identified food-health related priorities. Further, while the literature on KT, including ways to engage knowledge users in the process, has advanced [8], there remains growing interest in continuing to improve collaborative approaches to support community-led actions [1,2, 18, 16].

In this paper, we offer guiding principles to facilitate participatory planning and action for local food system transformation derived from implementation learnings of the Learning Circles: Local Healthy Food to School (LC:LHF2S) initiative in four diverse First Nations community contexts. The LC:LHF2S initiative utilized a participatory model 'Learning Circles' (LC) to enhance local and traditional healthy food access, knowledge and skills among four partnering First Nations contexts in Canada over 2016-2019: Haida Nation, Haida Gwaii, British Columbia (BC); Gitxsan Nation, Hazelton /Upper Skeena, BC; Ministikwan Lake Cree Nation, Saskatchewan; and Black River First Nation, Manitoba.

The LC convened a range of Indigenous and non-Indigenous food system actors and leaders, including Elders, traditional food harvesters (e.g., hunters, fishers, gatherers), farmers, food processors, students, parents and those who work in public health and education. Through community-led LC workshops, participants were involved in a collaborative process to create a vision for food system change, brainstorm and prioritize community needs, and participate in decision-making processes for project development and implementation. As such, learnings from the process of implementing the LC approach and how it supported integration of Indigenous knowledge and perspectives to drive actions are described.

We previously applied an implementation science framework, Foster-Fishman & Watson's (2012) ABLe Change [21], to evaluate the process of scale-up of LC across four diverse contexts. We now offer a set of guiding principles[9] based on learnings from LC:LHF2S to support a participatory, decolonizing approach that integrates Indigenous knowledges and

[9] Principles were defined as "a fundamental truth or proposition that serves as the foundation for a system of belief or behaviour or for a chain of reasoning" [22].

leadership in program action. The objective of the current paper is to identify guiding principles derived from a thematic analysis of the learnings on scaling-up LC in four distinct community contexts. Considerations for how emergent principles foster synergies between CBPR and implementation frameworks are discussed. In addition, we offer reflections for how principles identified can be applied in scaling-up LC in other communities to plan and mobilize actions to strengthen local food security. This knowledge is considered in the context of our ongoing partnership with Williams Treaties First Nations (Ontario, Canada) to support their planning and actions to advance food security and sovereignty [23].

Findings are intended to support researchers working with Indigenous communities and those occupying positions in the health system (e.g., funders, decision-makers and non-governmental organizations) with taking a decolonizing approach to integrating knowledge and action for food system changes. This can enable culturally meaningful responses in services, programs and policies aimed at supporting Indigenous health. While efforts are being undertaken to identify promising practices for Indigenous KT [1], this paper draws attention to how participatory approaches can be used to integrate Indigenous leadership, methods and protocols for knowledge generation and application within Indigenous contexts. Findings support broader calls made for implementation efforts aimed at promoting health equity to be guided by collaborative strategies that can support sustainability, cultural safety, and effective transfer of knowledge into practice [1,14, 16, 17, 24].

## 4.3 Methods

### *4.3.1 LC:LHF2S and advisory structure*

The LC:LHF2S initiative was developed to support communities with strengthening capacity to enhance local and traditional healthy food access, knowledge and skills among youth in community. The program was initially adapted for First Nations contexts in Haida Gwaii, British Columbia, based on the US Farm to School ‘Learning Labs’ [25] model as supported through Farm to Cafeteria Canada [25-27]. The ‘Learning Circle’, as it became known, used a participatory approach to bring together diverse stakeholders to plan and implement local and traditional school community food actions. Based on promising results in Haida Gwaii (2014-

2015) [25-27], the LC model was scaled-up, over a three-year period (2016-2019) across four First Nations contexts within Canada: Haida Nation, Haida Gwaii, British Columbia (BC); Gitxsan Nation, Hazelton /Upper Skeena, BC; Ministikwan Lake Cree Nation, Saskatchewan (SK); and Black River First Nation, Manitoba (MB). Scale-up in Haida Gwaii focused on increasing community leadership from the people of Haida Nation to support ongoing work in the community. Scale-up in three other community contexts focused on adapting the LC process to best meet the needs of each community. The communities were joined by a shared interest in enhancing local, healthy traditional food and food skills for youth, however, the food-related actions taken were specific to each community's capacity and cultural and social context.

The work and partnerships established under the LC:LHF2S were guided by two advisory groups: Local LC Councils and a Project Stakeholder Advisory Council. The LC council in each community was responsible for hiring and supporting a LC facilitator and included representation by community leaders and partner organizations. The LC facilitator was either a community member or ally with strong connections to local food systems and school(s), that led planning with community members, workshop facilitation, communications and evaluation activities. The Project Stakeholder Advisory Council was responsible for managing the community-based participatory action research across communities and overseeing decisions on knowledge exchange activities. Members consisted of representatives from each community, including the LC facilitator, the University research team and partnering organizations (e.g., representation from Heart and Stroke Foundation and the partner in engagement and knowledge exchange [PEKE] identified through the funder [CIHR]). Ethics approval to pursue evaluation activities was obtained from the University Office of Research Ethics (ORE# 30819). The First Nations principles of Ownership, Control, Access and Possession were applied in addition to specific protocols identified by the partnering community. For example, in Haida Gwaii, British Columbia a Spirit of Collaboration Agreement was established with the Haida Foods Committee to support collaborative leadership and decision making on use and application of project findings.

*4.3.1 Implementation framework to guide analysis*

An implementation science framework, Foster-Fishman & Watson's ABLe Change Framework (2012), was used to guide an analysis of learnings from LC within and across the four contexts [21]. We now apply the strategic and conceptual elements of ABLe Change to inform development of guiding principles that can support a participatory approach to planning and implementation that promotes Indigenous values, perspectives and priorities for action. Specifically, the model addresses both components for understanding system change and components in local environments that facilitate readiness and capacity for change.

We selected ABLe Change given its emphasis on a strong relational and flexible approach which is important for community-based participatory research. In addition, the iterative, dynamic components built into ABLe Change, along with the emphasis on local engagement, was recognized to be relevant to work with Indigenous communities which requires relation-based approaches [28-29].

The implementation science framework guided analysis of the LC process across the four First Nation contexts with the expectation that key themes and emergent principles identified would support implementation within other Indigenous contexts. While we recognize there are Indigenous specific frameworks such as the First Nations Mental Wellness Continuum Framework and others based on the medicine wheel, these have been used specifically within Indigenous contexts to evaluate outcomes of health services or indicators of health and wellbeing, but not for implementation planning [30]. As such, the implementation framework used was fitting for identifying key learnings with respect to the preparing for implementation within Indigenous contexts. Emergent principles offer key considerations to strengthen a collaborative process for program or project planning and implementation efforts and respond to calls made for greater Indigenous leadership in research, program design, and evaluation processes [31].

*4.3.2 Thematic analysis*

Data were collected from a range of sources including interviews, LC reports, meeting minutes, annual reports, and tracking sheets (Table 1). Interview transcripts were coded deductively and thematically analysed according to the adapted version of the ABLe Change Framework using Nvivo software version 12 Pro (QSR International). Utilizing a structured phased-approach as outlined by Braun and Clarke (2012), data were thematically analyzed across all communities [32-34].

Themes arising from the coded data were organized according to guiding principles for planning and implementing participatory projects with Indigenous communities. Using elements of the ABLe Change Framework to guide the analysis, emergent principles were identified to support collaboration for planning and implementing participatory projects. For example, the above the line component of the ABLe Change framework is focused on understanding what challenges exist and processes contributing to the challenge to support planning for action. Principles and key considerations were identified to facilitate a collaborative process to understand context for change within the community that draws on the strengths, knowledge and values of community members (Table 4-2). Similarly, the below the line element of the ABLe Change framework is focused on building a supportive environment for implementation. As such, principles that emerged from the analysis promote a collaborative process to enhance state of readiness, capacity and support sustainability thinking to maximize impact. In addition, the framework supported key considerations for community governance, advisory structures and protocols within emergent principles.

Members of the team critically reviewed and reflected on emergent themes. Indigenous voices were centred throughout community engagements as facilitated by the LC, and project team members reviewed analysis and interpretation of data collected to ensure representation of Indigenous voices.

| **Table 4-1** Data sources reviewed and thematically analyzed | N |
|---|---|
| Activity Tracking Reports [a] | 39 |
| Learning Circle Meeting Summary Reports[a] | 44 |
| Interviews[b] with LC participants | 52 |

A brief description of each type of data source is described.
[a]Following each Learning Circle, the LCF developed a report describing key takeaways and action items from meetings. Written documentation included notes taken during conference calls between project partners, and emails, which took place and were exchanged throughout the duration of the LHF2S initiative.
[b]Annual interviews (four sets in total conducted between 2015 - 2018) were conducted with LCFs, community members and other key partners using a semi-structured interview script. Questions focused on the experiences of participants at the Annual Gatherings where appropriate, the goals of the Learning Circle, experiences of participants connected to the Learning Circle and associated activities (challenges, things that are working well), local foods and food systems in their respective communities, and developments in the community as a result of the Learning Circle. A cross-community gathering took place in each community with project advisory members to build relationships, share project stories, engagement experiences, and evaluation activities. The first was in Haida Gwaii B.C.in 2015 followed by gatherings in Hazelton/Upper Skeena B.C. in 2016, Ministikwan Lake S.K. in 2017, and Black River M.B. in 2018.

## 4.4 Results

Four principles emerged from a cross-community analysis of the LC:LHF2S program that support community-based participatory planning and implementation within First Nations contexts (Figure 1, Table 2). Each principle is described below and supporting illustrative quotes are presented in Table 2. In addition, Table 2 incorporates a set of questions that can be used by those working with communities to support application of the principles in participatory planning and action.


**Figure 1.** Principles and key considerations for community-based action planning and implementation

**Table 4-2 Learnings from scaling up LC as a participatory approach for action planning in four First Nations contexts: Principles to support community-based action planning and implementation**

| Guiding Principles | Key considerations and supporting illustrative quotes | | Questions to support participatory planning and action |
|---|---|---|---|
| **Principle 1: Create safe and ethical spaces for dialogue by establishing trust and commitment from the ground up** | **1.1 Recognize and respect community governance, leadership and protocols** | *"Right to land, right to harvest, protocol, how does that work, like one of the circles I remember asking the question- you know teachers were talking about going out and picking soap berries... so then I posed the question, who do you ask to go? How do [you] get out there? Who do you have to ask and what do you have to put into place to take your class and go do that?" [Learning circle participant 11]*<br><br>*"I think there were lots of things that did happen, like, you know, the land recognition at the beginning, and engaging an Elder. I think those pieces, you know, were done well. We did learn from that, but I think in the broadest sense, um, and maybe that's kind of an impossible expectation on my part…" [Learning circle participant 17]*<br><br>*"…the importance of including teachings around protocol if we are going to include traditional foods in a school food program. Food is not just food but also medicine. Chiefs are responsible for managing territories." [Learning circle facilitator 4]* | How will community members be engaged?<br><br>How will leadership and decision-making processes be engaged?<br><br>Is a formal partnership agreement required?<br><br>Is there a mechanism(s) to facilitate trust and commitment between local organizations and partners involved?<br><br>What principles and guidelines should be followed?<br><br>What mechanism(s) need to be in place to manage conflict? |
| | **1.2 Establish project advisory structures to guide and** | *"So, I think it's just, um, for me personally, really reinforced, the fact that we need to do a really good job, I think, from the very outset of, of projects in really letting the community guide the process, I guess. And be part of the development and I* | How will local knowledge, values and preferences be integrated? |

| | | | |
|---|---|---|---|
| | **champion community-driven actions, leadership and partnerships** | *think we think we're doing better at that, but I think we can all do so much better" [Learning circle participant 19]*<br><br>**"***communities need to be "on board" perhaps bring together an ethics committee" [Learning circle facilitator 1]*<br><br>*"I've been familiar with the [tribal council] for a number of years now, and you know their goals are, you know definitely community benefit oriented. They have a plethora of individuals employed through the [tribal council] that help out with health, education, finance um, and they're a very large – a corporation. I think the structure mechanism of the [tribal council] is definitely appreciated." [Learning circle facilitator 3]*<br><br>*"So that would be like one sort of helpful thing. I think um, where I have sort of learned the most in this work is working with local [community] Elders and traditional um, [community] connections – like the connection with the [community] Foods Committee, or these Haida leadership pieces." [Yvonne, LC participant]* | What perspectives, knowledge and skills will be helpful? |
| **Guiding Principles** | **Key considerations and supporting illustrative quotes** | | **Considerations to support implementation planning** |
| **Principle 2: Understand context for change through** | **2.1 Build a shared understanding of values, priorities and opportunities** | *"There needs to be a shift back to people growing and harvesting foods to share with one another. Foods are also medicine. The children are flowers that need to be cared for and fed. It is our responsibility to work together as a community to* | What areas can be strengthened within your local food system?<br><br>What challenges need to be addressed? |

| | | | |
|---|---|---|---|
| **community engagement** | | *care for them so they are valued each as the unique life that they are, so that they are not damaged." [Learning circle participant 22]*<br><br>*"Food is medicine, is tied to the land, is tied to every aspect of the relations. So, you can't measure it in terms of like its' health unless the whole like system is changing to foster a deep, healthy vibrancy on sovereign land." [Learning circle facilitator 4]* | What are opportunities for change? |
| | **2.2 Work within a community's social, political and historical context** | *"Acknowledge the history of appropriation of Indigenous lands for agriculture. All lands that agriculture takes place on in Gitxsan territory takes place on lands that were appropriated by the Canadian or BC government and reallocated or sold to agriculturalists. Furthermore, agriculture in the form that um'shu'wa use is a new introduction in Gitxsan society, and is seen as more of an um'shu'wa practice." [Learning circle facilitator 4]*<br><br>*And so, for some of the older generation, the connection to farming is like immediately… traumatizing and brings up these memories of this other time. And so, that is a bit of a barrier there, too because there's like resistance to engage with it because, um, of that history…" [Learning circle participant 13]* | Are current programs/models/supports grounded in community values and knowledge? If not, why?<br><br>Are current programs/models/supports helpful and meeting community priorities? If not, why? |
| | **2.3 Identify and build on community supports** | *"the Gitxsan Wellness Model and the relationship of lax yip (of that land, Gitxsan knowledge) and otsin (spirit) to the work of connecting young people to their wellbeing through their relationships with culture, relations, food and land. The Wellness Model encompasses a holistic worldview in which the wilp (mother and* | What supports currently exist that can be built upon?<br><br>What programs/supports are needed? |

| | | | |
|---|---|---|---|
| | | *relations) and the wilksawitx (father and relations) intersect and overlap with the lax yip and the otisin." [Learning circle facilitator 24]*<br><br>*"Each other, share successes and some challenges. We looked at some barriers that we needed to overcome and share, we had a workshop on traditional foods. And what's really important to keep in mind." [Learning circle facilitator 1]* | What skills and experiences are needed to support change efforts? |
| **Guiding Principle** | **Key considerations and supporting illustrative quotes** | | **Considerations to support implementation planning** |
| **Principle 3: Foster relationships to strengthen and sustain impact** | **3.1 Make connections between people, programs and processes** | *"so I think, I think what's worked really well is having some kind of core people involved right from the start" [Learning circle facilitator 5]*<br><br>*"when we did our community planning, parents and community members suggested we have more traditional foods and more healthy foods. And more local people working to prepare the foods" [Learning circle participant 2]* | Who needs to be engaged?<br><br>Who are key decision makers? How will they be engaged?<br><br>Who are key actors to support on the ground activities? How will they be engaged?<br><br>Who will be impacted by the change? How will they be engaged?<br><br>Who can support the maintenance of project activities and change efforts? |

| | | | |
|---|---|---|---|
| | **3.2 Integrate Indigenous worldviews, perspectives and values** | *"there's a fear piece about how to talk about current effects of colonialism without sending non-Indigenous people into this fear reactive, defensive place when it's maybe something somebody hasn't talked about. And from other work [community organization] is doing from around the work of internal reflection and dialogue that I feel non-Indigenous people need to do…I really feel like, with reconciliation, there is work that both Indigenous and non-Indigenous people need to do." [Learning circle participant 11]*<br><br>*"There is still a necessity to sort of unpack, for non-indigenous people to kind of like explore those different narrative and unpack that in the sort of messiness of relationships that some of which have sort of existed between Indigenous and non-indigenous people here for hundreds of years." [Learning circle facilitator 4]*<br><br>*"She's an Elder within the community who will often come and just keep an eye on things. She used to work in the schools as a teacher for a number of years but I remember her coming in and just kind of sitting, she came in halfway, just kind of sat, watching, and you know someone said oh, "we should ask [Name 4] about this topic on getting kids to eat healthy" and she just said "a potato is a potato. That doesn't really matter. Get those kids out of school and on the land. That's what they need to learn." [Learning circle facilitator 5]*<br><br>*"Recognize that self-determination is an important or central goal of reconciliation between First Nations and Canadian government. We need to work together to demonstrate that projects need to be centered around Indigenous ways* | What perspectives and knowledge are needed to support change efforts? |

| | | | |
|---|---|---|---|
| | | *of knowing and adequately support First Nations health and well-being." [Annual gathering participant]* | |
| **Guiding Principle** | **Key considerations and supporting illustrative quotes** | | **Considerations to support implementation planning** |
| **Principle 4: Reflect and embrace program flexibility to integrate learnings** | **4.1 Create space for reflection and mutual learnings** | *"I think what I've learned through this project, that the main barrier is getting everybody to come together and actually just figure out the details." [Community participant 25]*<br><br>*"Just to get their experiences- things that worked well, things that didn't work well when they were engaging with their students. Just to see how much other people are doing. So there is a little bit of solidarity from that to know that like other people are interested in these things and working to do more education around food in schools. So that was really encouraging. So that useful in itself to just have encouragement." [Learning circle participant 23]*<br><br>*"You know, their own community supports and where their community's at in terms of being able to keep the project sustainable and continue that work, you know, once funding process is done" [LC participant 19]* | How are principles and values guiding partnerships?<br><br>What is working well?<br><br>What can be done differently?<br><br>What areas can be improved? |

*4.4.1 Principle 1: Create safe and ethical spaces for dialogue by establishing trust and commitment from the ground up*

The process of co-developing an initiative with First Nation community members can be supported by establishing trust and commitment from all partners involved including community members and organizations (Indigenous and non-Indigenous). This was emphasized by participants as an important consideration to creating safe space for dialogue among a broad range of people that bring diverse perspectives and experiences. Key considerations to support principle 1 are outlined below as informed by community members.

> *"I think that any project with First Nations you know is contingent, is having relationships with those nations, and those relationships are strengthened through the practical integration of those OCAP principles. Especially when it comes to research projects in particular." [Learning circle participant 19]*

*4.4.1.1 Recognize and respect community governance, leadership and protocols:* This awareness can support collaboration to create safe and ethical spaces for engagement and dialogue in decision making processes. For example, engaging with a trusted member of the community (e.g., Elder, knowledge holder, community champion) as well as a member of the community's band or tribal council could help to identify specific guidelines to consider with respect to land use and management practices, engagement with broad members of the community, information sharing and use, and well as other mechanisms to establish a formal partnership with people or organizations outside of the community. Building this initial awareness of governance, leadership and protocols can foster better ways of working with communities.

> *"[LCF] feels that we are transitioning into a more collaboration with the Haida communities and there is a need to develop a better understanding of how we will work together with other partners in this project; protocol rather than agreement" [Learning circle facilitator 1]*

*4.4.1.2 Establish project advisory structures to guide and champion community-driven actions, leadership and partnerships:* This process can be facilitated by identifying key people who have deep knowledge of community priorities and who have a strong influence in how decisions are made. Identifying who can inform and provide guidance throughout a project can also support fostering trust and commitment from community leadership and drive project activities as informed by community. For example, each community had established advisory structures to help ensure project scope, objectives and activities were reflective of community values. Some communities also felt that having a committee involved helped to ensure ethical engagement and integration of community leadership in strategic planning.

*4.4.2 Principle 2: Understand context for change through community engagement*

Working within the LC process to support project planning and implementation, it was clear that enhancing a community's level of readiness and capacity for change required a deep understanding of community context. Doing so can enable impactful change efforts that are responsive to community priorities, preferences and Indigenous worldviews.

*4.4.2.1 Build a shared understanding of values, priorities and opportunities:* This was critical to understanding what changes communities would like to see with respect to their local food systems. LC provided a process to facilitate community engagement and brainstorming of current challenges, strengths and key people to engage in project planning. This process helped to build awareness and understanding of community identified priorities which enabled communities to see themselves in programs and services. Within the context of LHF2S, this meant convening a range of people to facilitate multi-sector collaboration to identify what gaps exists, what supports and programs are available or are needed, and opportunities for change within the local food system.

> *"So learning how to enjoy foods in a way that's accessible I think is part of it. How do you make healthy food attractive and delicious and I think that's a skillset that some, um, many people have lost. And so even in the learning circle there was a cool opportunity to share*

*some of that knowledge back and forth. Where it was like ideas about "oh this is how you can get kids to eat this". [Learning circle participant 23]*

*4.4.2.2 Work within a community's social, political and historical context:* This meant reflecting on the ongoing impacts of colonization and how it has shaped present day challenges within the community. In all communities, people shared the importance of understanding and recognizing the link between colonization and land use practices for food, including farming and loss of land. Indigenous community members identified that racism within off-reserve school communities can be a barrier to the participation of Indigenous people in school-based initiatives to promote food security and food sovereignty. Taking the time to engage deeply with community members to understand and work within the specific context of a community can help to ensure programs developed and delivered are grounded in community values.

*"It's about exploring voice and oppression, and how are all sort of, most of our – our ways of being and working in this world is, it's a – it's a racialized world, it's a racialized structure, and that is kind of ingrained and embedded throughout everything. Even here in the [community] where our population is 85 to 90 percent Indigenous." [Learning circle participant 11]*

*4.4.2.3 Identify and build on community supports:* An awareness of community strengths can help to accelerate project planning and action by identifying opportunities to build and expand existing work taking place or where relevant to expand a project to reach more people within the community. For example, one community adopted a wellness model to guide planning efforts and conversations with community members as a way to ensure projects were reflective of community values and perspectives. In addition, understanding what supports exist can help facilitate discussion on what other programs are needed including the resources and people required to inform program development.

*"there was some work between the [wellness committee] hereditary chiefs. Then the learning circle got involved to help the school apply for some funding and stuff like that….he gave me this model about how this community is approaching food security and*

*how it's not just based in the school, but based in the school and health, and fisheries and all these other pieces that are going on in their community and how for them it can't just be based in the school otherwise there is nothing to support it. So that was a really good perspective." [Learning circle facilitator 5]*

*4.4.3 Principle 3: Foster relationships to strengthen and sustain impact*

Relationships are fundamental to Indigenous ways of knowing and working. Having strong relationships within and outside of the community can help to identify opportunities for partnerships, collective actions and ways to maintain activities to maximize impact as shared by one LC facilitator:

*"Connecting with other partners and sharing information, and – and just being able to access additional resources, whether they're financial or otherwise, I feel like we can – we can do that much better collectively. And with strong leadership from [Indigenous community leadership] because then there's – there's a great deal more trust." [Learning circle facilitator 1]*

*4.4.3.1 Make connections between people, programs and processes:* This can be facilitated through meetings and workshops that bring together a range of people with shared interests and distinct roles within the food system, like the LC. This can enable communities to identify synergies in work and opportunities to strengthen coordination of services.

*"it's taking lots of players and bringing them together. And then they all have their own networks and it's a really good way to make connections in the food world, or any kind of thing that you're working on. But it gets people out of their silos and gives an opportunity to work towards common goals." [Learning circle facilitator 1]*

*4.4.3.2 Integrate Indigenous worldviews, perspectives and values:* Emphasized by all communities was the importance of ensuring project activities and programs intended to serve the community were grounded within Indigenous worldviews. Where Indigenous and non-

Indigenous peoples are engaged in community level conversations, this can be supported by creating space to centre Indigenous voices and perspectives in discussions and decision-making. For example, the LC process was facilitated by a trusted member by the community who would bring people from the community together to plan, share ideas, priorities and engage in decision-making on food activities. Where Indigenous leadership had a strong presence, the relevance of the LC plans and activities was enhanced.

> *"Making sure First Nations voice is heard. When teachers and principals are part of the LC it may be important to find ways to make sure that voices of community members are heard; perhaps have a co-facilitator who is from the community; also break into smaller groups. In terms of using a talking piece, while there is value in listening to one person speak at a time at some points during the day, there is also a place for dynamic group discussion." [Learning circle facilitator 4]*

*4.4.4 Principle 4: Reflect and embrace program flexibility to integrate learnings*

*4.4.4.1 Create space for reflection and mutual learnings:* This was recognized as an important consideration to identify successes, challenges and opportunities to improve project planning and action. This can allow for learnings to be integrated that can strengthen a program and enhance its benefit to communities. Identifying key learnings can inform opportunities to scale-up efforts to relevant contexts and where changes may be required to best meet community priorities.

Recognizing the importance of sharing stories of experiences within Indigenous culture and traditions, actively shaping opportunities to reflect and identify learnings can strengthen a program to better meet the needs of those for which it is intended to serve. Utilizing approaches that are iterative and dynamic such as LC can help support this process. LC's are designed so that actions prioritized through a previous LC are discussed and plans can be modified according to ongoing relevance and what worked well (or didn't).

> *"…in terms of, you know, recognizing, I think things like historical impacts on communities and things like that. Nutrition and what that means and how it can sometimes*

*be a trigger for people in communities. And just expanding our understanding, and growing from that." [Learning circle participant 19]*

### 4.5 Discussion

In this paper, we propose guiding principles for participatory planning and action for local food system transformation. These principles included the following: (1) Create safe and ethical spaces for dialogue by establishing trust and commitment from the ground up; (2) Understand context for change through community engagement; (3) Foster relationships to strengthen and sustain impact; and (4) Reflect and embrace program flexibility to integrate learnings. In addition, we outlined questions within each principle to support with their application to facilitate participatory planning and action (Table 4-2). The guiding principles described are based on a cross-community analysis of LC:LHF2S, a program that was scaled up as a participatory approach for actions to strengthen local food systems. The principles developed are intended to support community-engaged research and implementation with and by Indigenous communities. When applied together, they support a collaborative, iterative and dynamic process for action planning that welcomes integration of Indigenous leadership, knowledge and values.

These principles have their historical roots in action research [35] and community health development [36,37]. The term "action research" was coined by Lewin [35] who linked community engagement for social planning and action throughout the research process [35]. In addition, the work of Steuart (1969) in the field of community health development has also been recognized to have initiated considerations for evaluation and integration of research with practice. These two streams of thought have made significant contributions to informing approaches to co-productions of knowledge between communities and researchers, and application of research in practice [37, 8].

The commitment to working in partnership with communities is now widely recognized as community-based participatory research (CBPR), which has been used as an umbrella term for such approaches and is employed as a methodology for collaborative and equitable engagement

with partners in the research process [38-40, 8]. While CBPR has played a significant role in implementation research, its methodology is distinct from implementation models to support KT practices [8]. As such, we briefly consider points of convergence and divergence between CBPR and implementations frameworks, to illustrate the ways in which the proposed guiding principles, when taken together, support a participatory approach to knowledge generation and action within Indigenous contexts.

CBPR has been a long-standing source of guidance on approaches that emphasize collaboration and co-production of knowledge. Principles for CBPR as offered by Isarael, Shulz, Parker, & Becker (1998) emphasize the importance of prioritizing community needs, building on existing strengths, restoring power and control, and reciprocity [40]. Their points of convergence with KT practices can be found within its emphasis of collaboration between knowledge producers and users. For example, the ABLe Change Framework (2012) used in this study encourages collaboration to understand context and opportunities to co-shape implementation [21]. Other frameworks such as knowledge to action (KTA) (2006) emphasize a collaborative process between researchers and knowledge users [5]. The KTA cycle is frequently cited in the implementation science scholarship as a model for advancing KT by providing a conceptual overview of knowledge generation, dissemination and implementation [5, 41, 41]. While implementation frameworks such as KTA provide considerations for action-oriented steps in KT and collaboration, its emphasis on partnerships is with the goal of improving the effectiveness of bridging the knowledge-to-practice gap. This highlights a point of divergence between approaches to KT and CBPR, specifically, its rationale for research partnerships and collaboration. Further, approaches to KT within Indigenous contexts often requires integration of decolonizing approaches to support the building of research partnerships and collaboration in KT efforts.

Approaches to KT as supported by implementation frameworks emphasize a collaborative approach with the goal of improving the effectiveness of knowledge application or program implementation [8, 21, 39]. Contrastingly, the rationale behind the collaborative emphasis in CBPR is tied to redressing power imbalances between researchers and project participants to promote equitable partnerships. CBPR prioritizes collaborative efforts with the goal of building

capacity among community participants to drive social change and justice [24; 43-45]. The principles brought forth therefore present opportunities to action synergies between CBPR and implementations frameworks.

The proposed principles offer guidance to promoting Indigenous community-driven participatory research and mobilization of knowledge to action that draw on strengths offered by implementation science and CBPR. They present opportunities to advance KT through a participatory process between communities and researchers to plan and implement community priorities for action that promote capacity building and equitable partnerships. These principles offer guidance on decolonizing research practices by promoting relationships, centring self-determination, prioritizing integration of community knowledge, and embracing reflexivity (1,3, 46-49). In addition, the proposed principles can be used in conjunction with implementation models or frameworks such as ABLe Change and the KTA cycle [5,21] to support considerations for centring Indigenous voices in iterative planning and can strengthen collaborative action. In doing so, this could strengthen implementation within Indigenous contexts by increasing awareness of opportunities for integration of community-specific protocols, knowledge and preference throughout the KT process.

When applied within Indigenous contexts, these principles can enable research partners to be guided by community knowledge and welcome opportunities for use of a variety of techniques and processes as relevant to the communities they are working with. This can help to prioritize community needs and ensure steps are taken to produce and mobilize knowledge into actions that is representative of community values and perspectives. As such, the relational accountability components emphasized in these principles may support broad application within research aimed at promoting health equity within Indigenous contexts.

In Canada, where food security represents a challenge for many First Nations households in rural and remote communities, protecting traditional and local food systems as a source for healthy food and holistic wellness remains imperative [50-52]. Recognizing the principles outlined in this paper derived from a program specific to advancing food system transformation, we briefly share reflections on the potential for these principles to be applied in expanding the LC approach

to drive actions on food sovereignty and food security. Use of the principles described in this study in new initiatives may help promote Indigenous rights, self-determination, values and culture [50]. The principles outlined here can be used by those working with communities to support a process that centres community voices and perspectives to drive actions on food security.

For example, in applying principle 1. *Create safe and ethical spaces for dialogue by establishing trust and commitment from the ground-up*, in working with a community, one may ask the question "what protocols, principles and guidelines should be followed?" This could enable opportunities to honour community-specific protocols or integration of Indigenous ways of working and doing to be identified that can strengthen collaboration, trust, and relationships (e.g., two eyed-seeing; two row wampum belt; Reconciliation Pole). For example, in considering LC as a possible model to inform food system planning with Williams Treaties First Nations, alignment with the Seven Grandfather Teachings is important. Accordingly, humility, bravery, honesty, wisdom, truth, respect and love must guide the collaboration and programs [53]. Application of the proposed four principles in this context could embrace alignment with the Seven Grandfather Teachings to strengthen meaningful engagement and promote Indigenous ways of working in project planning.

Partnering WTFN communities are currently in the process of utilizing a community developed tool to inventory strengths and assets (e.g., wild rice beds, fish, market gardens) in the community to support project planning. Findings from the tool will be used by communities to inform ways to improve access to and availability of traditional and local food within their community. As research partners working to support community-based planning, principles outlined in the current study may be applied to facilitate a decolonizing research process for mobilizing change efforts with communities. Application of guiding principles may also support an exploration of community interests in a range of approaches such as the LC to accelerate project planning and build capacity for implementation and food system transformation. Hence, LC as a model that both supports flexible adaptation in advancing access to local healthy and traditional foods for school communities and supports principles of participatory, decolonizing knowledge to action integration in program implementation and evaluation. Application of these

principles and considering guiding questions may be used to support ongoing work and strengthen current processes in place to embed community leadership in planning, build on community strengths, foster strategic linkages between programs and partnerships, and engage communities in decision-making of strategies identified to drive actions on food security and food sovereignty.

### 4.6 Conclusion

Based on learnings from the LC:LHF2S program, we offer insights to facilitate participatory planning and action for Indigenous community-based food system transformation. We propose guiding principles intended to support the integration of knowledge and action in community-based research which draw on strengths from CBPR and implementation science. Application of the proposed principles in conjunction with implementation frameworks such as ABLe Change and KTA can strengthen KT processes by promoting awareness of community- protocols and ways to centre community perspectives and values. This can enhance program responsiveness to community-identified priorities. Findings are intended to support a range of partners working with Indigenous communities in taking a decolonizing approach to centre and integrate community knowledge and experiences for local actions on food sovereignty and food security. Such an approach can facilitate responses to provide culturally relevant services, programs and policies aimed at promoting Indigenous health equity and holistic wellness.

# CHAPTER 5: CONCLUSION

This concluding chapter provides a summary of the integrated articles within the thesis. In addition, limitations and strengths are discussed, including overall contributions and implications for the field of public health research and practice.

## 5.1 Summary and discussion of dissertation's major findings

The integrated articles tell the story of community-driven initiatives to strengthen food security and food sovereignty in First Nations community contexts across Canada. This project broadly responds to calls made for health promoting strategies to be community driven. Further, as food security remains a priority for many Indigenous households in Canada, findings highlight the importance of community-level responses that can promote self-determination, capacity, values and culture through actions taken to enhance access to and availability of local and traditional food. Findings from this thesis inform approaches to plan and implement community-level participatory initiatives to strengthen food security, sustainable food systems, and food sovereignty.

**Objectives of the thesis were as follows:**

1. Apply *two-eyed seeing* to build a shared understanding of food security and sustainability with the Williams Treaties First Nations (WTFN).
2. Document community priorities, challenges and opportunities from WTFN communities to enhance local food access and food system sustainability.
3. Use the ABLe Change Framework to assess scale-up of the learning circles (LC) approach for collaborative planning and action, as applied to the local and traditional food systems of four distinct First Nations communities participating in the LHF2S project.
4. Document key learnings and successes of scaling-up the LC model within LHF2S participating communities for opportunities to leverage the approach in other communities with shared priorities, such as the WTFN.

Chapter's 2, 3 and 4 collectively describe a community-led "knowledge to action" process enabled through community-based participatory research. The contexts for which each community-specific approach has been applied, however, are distinct. Further, each chapter can be viewed to represent a segment of the Knowledge to Action (KTA) cycle (2006), which provides a conceptual map of action-oriented steps for knowledge generation, dissemination and implementation [1]. As such, a summary of major findings has been discussed. within the context of the knowledge creation and action phases of the KTA framework as a way to highlight linkages among the separate manuscripts in the dissertation (Figures 2-4).

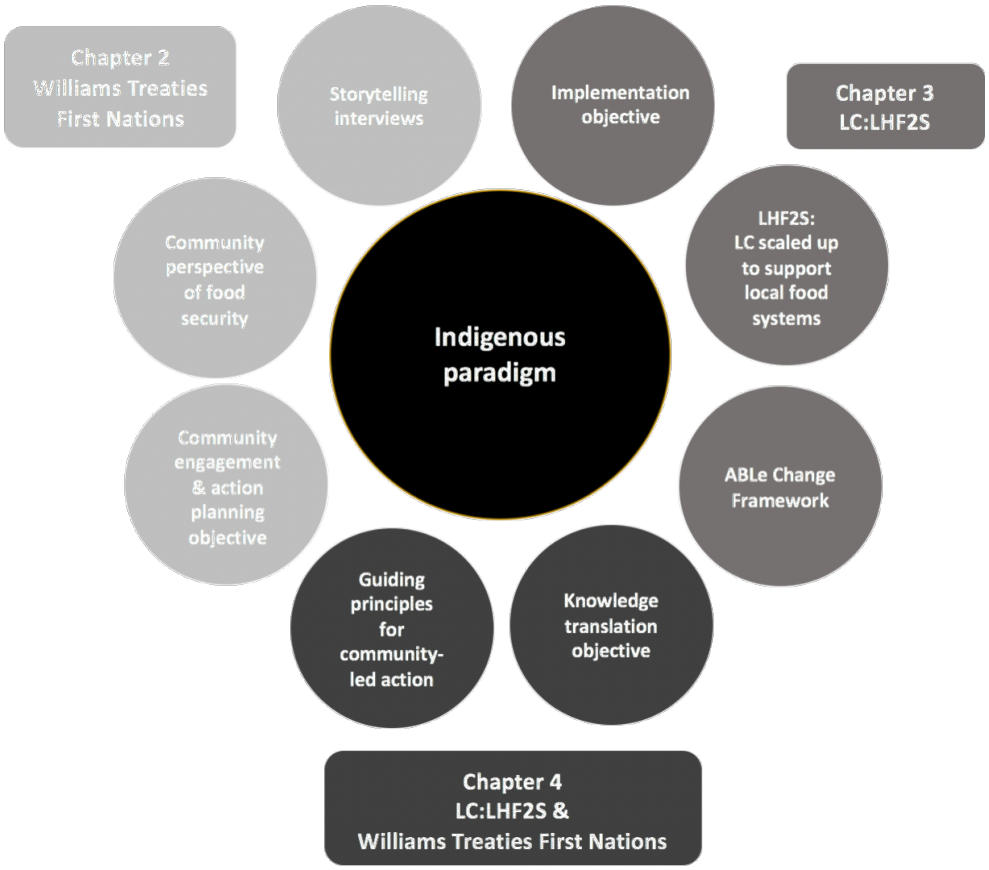


**Figure 5-1** An overview of the integrated articles that collectively tell the story of community-driven initiatives to strengthen food security and food sovereignty in First Nations contexts across Canada

*5.1.1 Summary: Indigenous Community Perspectives of Food Security, Sustainable Food Systems and Strategies to Enhance Access to Local and Traditional Healthy Food with Partnering Williams Treaties First Nations (WTFN), Ontario, Canada*

**Chapter 2** describes a participatory approach to working with partnering WTFN communities to identify strategies to strengthen local food systems. The objectives of this work were to (1) build a shared understanding of food security and sustainability; and (2) to document community priorities, challenges and opportunities to enhance local food access.

The specific research questions addressed under this study included the following:

4. What are WTFN community perspectives of food insecurity and its relation to wellness?
5. What are the challenges and opportunities to strengthen food security and sustainable food systems relevant to WTFN communities?
6. What kind of community-based projects relevant to WTFN communities could enhance food security including access to healthy foods?

The focus of the research in this paper was on the *knowledge creation* element within the KTA cycle (Figure 2). The knowledge creation funnel represents a process by which knowledge generated is synthesized to ensure relevance and applicability to knowledge users [1]. The work described in this paper is encompassing of inquiry and synthesis. Using an Indigenous approach to inquiry, the conversational method [4], formative work helped to generate and conceptualize food security and sustainability from a community perspective to inform community-led actions. The results from the thematic analysis [5-7] conducted have been summarized in Table 1.

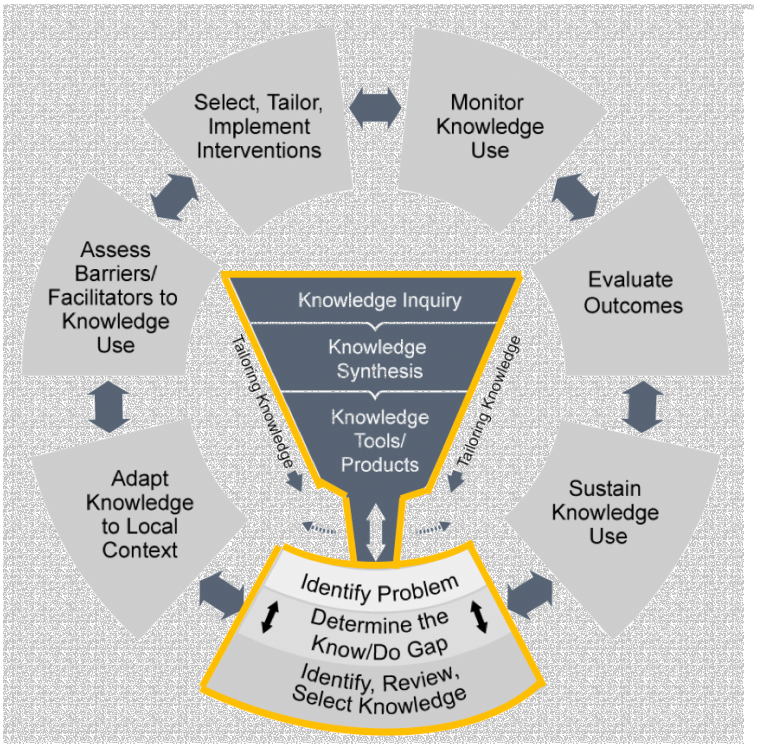


**Figure 5-2** Knowledge to Action framework. Adapted from Graham et al., (2006), and modified and reproduced from St. Michael's Hospital, Knowledge Translation Program (2017) [1]. The knowledge creation phase and identification of the problem highlighted to illustrate the phase of the KTA framework that aligns with the broad scope of chapter 2.

**Table 5-1** Summary of results from community-based engagement and dialogue sessions in partnering communities (adapted from Table 2-1).

| **Community perspectives of food security and food sustainability** | |
|---|---|
| Food and wellness | Food security was commonly described as a way of life: promoting and maintaining overall wellness from a holistic perspective. |
| Food access | The importance of having access to means of transportation (either by bus, car or boat) was commonly expressed, as this was recognized as essential to accessing food, and especially healthy food of good quality. |
| Sustainable food systems | The importance of engaging in environmentally responsible food production as a way to protect the environment, while also growing and sustaining food within the community. |
| **Community perspectives of challenges to food security** | |
| Climate change and environmental degradation | Community members shared observations about changes in the abundance, distribution, and health of species (e.g., fish are smaller and have sores). |
| Income | The high cost of food within the community, including high costs associated with travelling to grocery stores outside of the community was identified as a challenge. The costs to engage in traditional food activities related to travel to hunting areas, and access to tools or equipment to hunt was also a concern. |
| Traditional food knowledge and skill | The loss of traditional knowledge, language and skills to engage in traditional food acquisition practices was emphasized as a barrier to food security. |
| **Priorities to enhance food security and strengthen local food systems** | |
| Access to and availability of fresh, nutritious food | The importance of making fresh produce available and affordable for communities to access at wholesale costs |
| Restoring community connections to the land and traditions | Restoring and maintaining access to traditional food sources and distribution systems, such as wild rice production within the community |
| Support for locally grown food in the community | Creating a sustainable food system, that can support healthy eating in the community and opportunities to achieve food security through approaches that enable local food production (e.g., community gardening) |

Knowledge generated from this participatory project continues to inform development of community-based initiatives that promote sustainable food systems under a SSHRC insight grant separate from the current thesis. The community-based actions identified in this project support

holistic wellbeing and, ultimately, Indigenous peoples' right to food security and food sovereignty.

*5.1.2 Summary: Scale up of Learning Circles: A Participatory Action Approach to Support Local Food Systems in Four Diverse First Nations School Community Contexts in Canada*

**Chapter 3** describes the successes of scaling up Learning Circles as a participatory approach to community capacity building for actions on food security and food sovereignty. This chapter describes the enabling functions of the LC process to bring together diverse stakeholders to plan and prioritize action needed for food system transformation. The objective of this study was therefore to examine the LC process scaled up vertically in Haida Gwaii and horizontally in three communities: Gitxsan Nation, Hazelton /Upper Skeena, BC; Ministikwan Lake Cree Nation, Saskatchewan; and Black River First Nation, Manitoba between 2016 and 2019. Specifically, the enabling functions of the LC as an approach for community-led planning to strengthen local food systems across diverse community contexts were examined. An implementation science framework, ABLe Change (2012), was applied to examine the LC process in supporting community actions to enhance local food system [3].

The specific research questions addressed under this study included the following:

1. How was the LC model applied within diverse Indigenous contexts to support a community-driven approach to identify opportunities and considerations to strengthen food security and local food systems (i.e., understanding the problem from a strength-based perspective (ABLe Change Framework: above the line))?
2. How has the LC model been applied to support community-driven actions to strengthen local food systems as part of LHF2S (ABLe Change Framework: below the line)?
3. What key challenges, enablers and successes have been identified in scaling-up the LC across four distinct First Nations contexts?

As the LC approach was scaled up in four communities and adapted to best support community-specific priorities, planning, and evaluation, the scope of this work can be viewed within the

*action cycle* of the KTA framework. The *action cycle* of the KTA framework is focused on implementation, specifically, activities to support the application of knowledge [1].

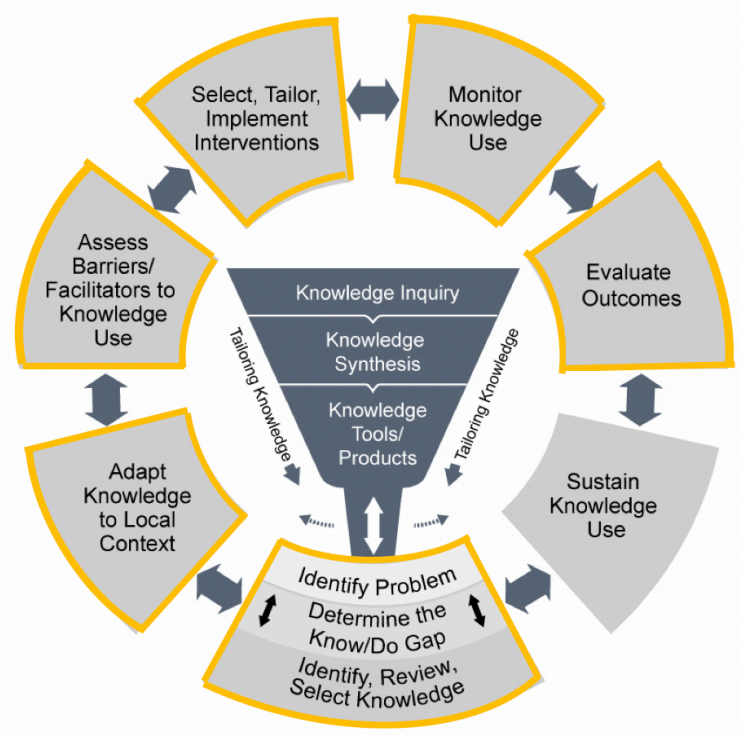


**Figure 5-3** Knowledge to Action framework. Adapted from Graham et al., (2006), and modified and reproduced from St. Michael's Hospital, Knowledge Translation Program (2017) [1,2]. The action cycle phases are highlighted to illustrate the phases of the KTA framework that align with the scope of chapter 3.

To address these questions, an implementation framework, the ABLe Change Framework (2012) was modified and applied to learn if and how a model (LC) that had supported vibrant food system actions in one community (e.g., establishing pantries, building school and preschool gardens, enhancing school food programs, creating more opportunities for kids to learn on the land) could be adapted and implemented in different contexts to support positive movement within the food systems. The ABLe Change was used to guide a secondary analysis of information sources including interviews, LC reports, meeting minutes, annual reports, and tracking sheets [2]. These were thematically analyzed using a process that involved generating initial codes, identifying potential themes and defining themes [5-7]. Based on the analysis, themes were identified using the above and below the line components of ABLe Change. Themes have been described in the table below.

**Table 5-2** Summary of key themes from community perspectives and experiences using the Learning Circle process to plan and facilitate local food system action in four First Nations contexts (Adapted from Table 3-2).

| **ABLe Change Framework Components** | **LC as a participatory process for action** |
|---|---|
| **Above the Line** | |
| **1. Components of the system:** understanding the range, quality and location of existing programs and support | Engaging community knowledge holders, local leaders and food system partners to understand community priorities |
| | Identifying existing community strengths including models, programs, and services |
| **2. Values and Norms:** underlying attitudes, values, and beliefs that direct current behavior and practices | Incorporating local knowledge to understand community values and preferences for food system change |
| **3. Connections:** the relationships and connections that exist for generations past and future | Promoting holistic wellness by restoring connections to land and culture through food |
| | Acknowledging Truth in tensions from colonization |
| | Embracing Indigenous and Western worldviews through partnerships for food system planning and action |
| **4. Power Dynamics:** how decisions are made within the system and who participates | Establishing trust from the ground up to foster multi-level collaboration and commitment |
| **5. Regulations:** policies, practices and procedures that regulate system behavior | Considering community governance, leadership and protocols |
| | Working within federal, jurisdictional, and organizational level policies and regulations |
| **6. Interdependencies:** current feedback mechanisms and how the above system parts reinforce and interact with each other | Making strategic linkages between processes, programs and perspectives |
| **Below the Line** | |

| | |
|---|---|
| **7. Readiness:** The extent to which system actors believe that change is necessary, feasible, and desirable. | Supporting community readiness and food system partnerships |
| **8. Capacity:** The skills and knowledge sets system actors need to effectively respond to the shifting demands of the Above the Line work. | Strengthening capacity to effectively transform local food systems |
| **9. Diffusion:** An intentional focus on the adoption, use, and spread of the targeted change. | Meeting communities where they are at |
| **10. Sustainability:** Maintaining policies, practices, and changes brought about by the change effort. | Funding stability |
| | Partnering to maintain project activities and planning |
| **Integrative Strategies** | |
| **Simple Rules** | Community specific protocols and principles to ensure respectful engagement and promote community ownership |
| **Systemic Action Learning Teams** | Project advisory structures to champion community-driven actions, leadership and partnerships |
| **Small Wins** | Celebrations and successes (e.g., relationships, trust, and commitment) |

From this analysis, the LC as a participatory approach for planning and actions on food security and food sovereignty was discussed. LC supported a community-engaged, iterative and dynamic process for understanding *why* healthy, local and traditional foods are needed; *who* should be engaged; and *how* key decision makers, implementers and champions can work together within the community. Having a clear understanding of the *who, what, when, why, and how* has been highlighted in the implementation science literature as important areas to define to prepare for implementation and sustainability [1,3, 8-12]. The analysis therefore demonstrated the ways in which the LC process helped to facilitate community awareness and understanding of their specific context for food system change and how communities can better plan, prioritize and take actions to improve access to local, traditional and healthy food within their community. Across the four communities, LC facilitated a process to:

1. identify and build on strengths to increase readiness and capacity to reclaim traditional and local food systems;
2. strengthen connections to land, traditional knowledge and ways of life;
3. foster community-level action and multi-sector collaboration and relationships;
4. drive actions towards decolonization through revitalization of traditional foods;
5. improve availability of and appreciation for local healthy and traditional foods in school communities; and
6. promote holistic wellness through greater food sovereignty and food security.

A strength of the LC approach is its flexibility which allows for communities to modify and adapt its process based on community specific needs. This built in feature supported extension to diverse community contexts. Other key enablers for supporting implementation of the LC as identified through the analysis included the following: 1) a LC facilitator who has knowledge of the community and established relationships; 2) local champions to support activities, whether the LC facilitator or others; 3) support of local leadership and advisors; and 4) strong partnerships.

Challenges experienced under the LC process included tensions between colonization and farming. The association between farming and the loss of traditional land was deeply discussed in one community. In all communities, the importance of acknowledging colonization and an awareness of its ongoing impacts including racism within school communities was discussed. Limited efforts by non-Indigenous partners to situate food insecurity within the context of colonization may therefore be a barrier to establishing trust and building stronger relationships; and engaging in project planning with schools to support integration of traditional food and cultural teachings. Other challenges identified were related to access to stable or long-term funding and resources requires to sustain project activities.

*5.1.3 Summary: Integrating Knowledge and Action: Insights from a community-based implementation program for food security and food sovereignty with First Nations communities across Canada*

**Chapter 4** captures the lessons learned from scaling up the LC in partnering communities of the LHF2S initiative. Considerations for non-Indigenous people engaged in participatory community-led action work were made through development of guiding principles. The emergent principles support a process to mobilize community-identified priorities into actions for food security and food sovereignty.

In this paper, proposed guiding principles to facilitate participatory planning and action were derived from an evaluation of an Indigenous community-based participatory food sovereignty program, Learning Circles: Local Healthy Food to School (LC:LHF2S). The objective of the study was therefore to provide a set of principles that can guide a process to plan and drive actions to strengthen local food systems. Recognizing the importance of taking a decolonizing approach to working with Indigenous communities, the proposed principles are intended to support researchers working with Indigenous communities and those occupying positions in the health system (e.g., funders, decision-makers and NGOs) with taking a participatory approach to integrating knowledge and action for food system changes.

In addition, considerations for how these principles foster synergies between CBPR and implementation frameworks such as ABLe Change and KTA are discussed. This is followed by reflections for how principles can be applied in the context of ongoing partnerships with the Williams Treaties First Nations (Ontario, Canada) to support their planning and actions to advance food security and sovereignty. The potential to scale up LC in this context was also discussed.

The following research questions have therefore been addressed in this study:

6. What key processes and enablers have been identified to overcome challenges and sustain implementation efforts (e.g., protocols, practices, and commitment)?

7. How can WTFN leverage the LC model to plan and mobilize community actions to strengthen local food security?

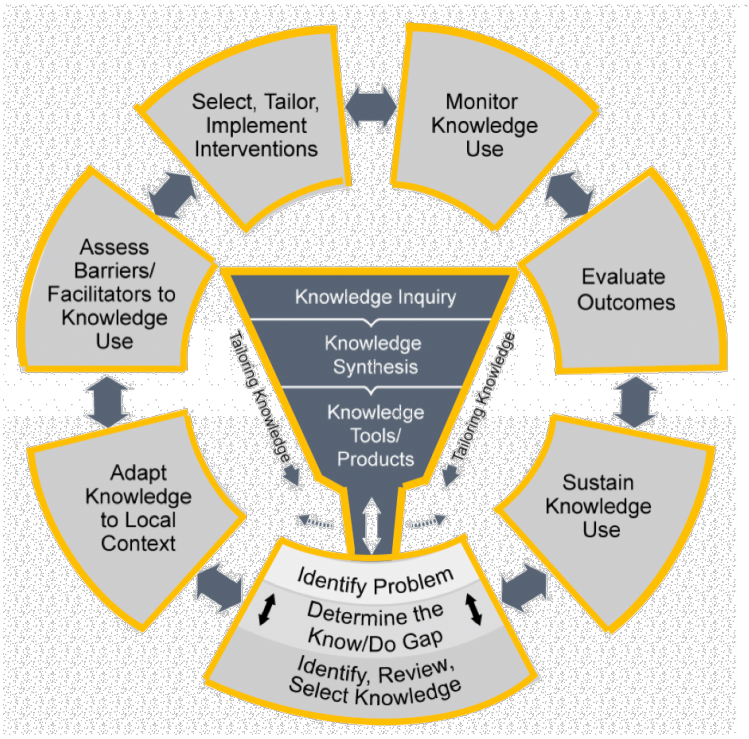


**Figure 5-4.** Knowledge to Action framework. Adapted from Graham et al., (2006), and modified and reproduced from St. Michael's Hospital, Knowledge Translation Program (2017) [1,2]. The knowledge creation funnel and action cycle phases are highlighted to illustrate the phases of the KTA framework that align with the scope of chapter 4.

The scope of this work can therefore be viewed to support both the knowledge creation and action phases of the Framework [1]. In particular, the principles can be applied to the action steps outlined within the KTA framework to support its relevance to Indigenous contexts. Further, the reflections provided on opportunities to share learnings and successes documented from scaling-up LC with other communities such as the WTFN, support efforts to sustain knowledge generated and applied from the project.

Secondary analysis was conducted using a variety of information sources including interviews, LC reports, meeting minutes, annual reports, and tracking sheets. Interview transcripts were coded deductively and thematically analysed according to the adapted version of the ABLe Change Framework [3].

**Table 5-3 Learnings from scaling up LC as a participatory approach for action planning in four First Nations contexts: Principles to support community-based action planning and implementation (Adapted from Table 4-2).**

| Guiding Principles | Key considerations | Questions to support participatory planning and action |
|---|---|---|
| **Principle 1: Create safe and ethical spaces for dialogue by establishing trust and commitment from the ground up** | **1.1 Recognize and respect community governance, leadership and protocols** | How will community members be engaged?<br>How will leadership and decision-making processes be engaged?<br>Is a formal partnership agreement required?<br>Is there a mechanism(s) to facilitate trust and commitment between local organizations and partners involved?<br>What principles and guidelines should be followed?<br>What mechanism(s) need to be in place to manage conflict? |
| | **1.2 Establish project advisory structures to guide and champion community-driven actions, leadership and partnerships** | How will local knowledge, values and preferences be integrated?<br>What perspectives, knowledge and skills will be helpful? |
| **Guiding Principles** | **Key considerations** | **Questions to support implementation planning** |
| **Principle 2: Understand context for change through community engagement** | **2.1 Build a shared understanding of priorities, gaps and opportunities** | What areas can be strengthened within your local food system?<br>What challenges need to be addressed?<br>What are opportunities for change? |
| | **2.2 Work within a community's social, political and historical context** | Are current programs/models/supports grounded in community values and knowledge? If not, why?<br>Are current programs/models/supports helpful and meeting community priorities? If not, why? |
| | **2.3 Identify and build on community supports** | What supports currently exist that can be built upon?<br>What programs/supports are needed?<br>What skills and experiences are needed to support change efforts? |
| **Guiding Principle** | **Key considerations** | **Questions to support implementation planning** |
| **Principle 3: Foster relationships and sustain impact** | **3.1 Make connections between people, programs and processes** | Who needs to be engaged?<br>Who are key decision makers? How will they be engaged? |

| | | |
|---|---|---|
| | | Who are key actors to support on the ground activities? How will they be engaged?<br>Who will be impacted by the change? How will they be engaged?<br>Who can support the maintenance of project activities and change efforts? |
| | **3.2 Integrate Indigenous worldviews, perspectives and values** | What perspectives and knowledge are needed to support change efforts? |
| **Guiding Principle** | **Key considerations** | **Questions to support implementation planning** |
| **Principle 4: Reflect and embrace program flexibility to integrate learnings** | **4.1 Create space for reflection and mutual learnings** | How are principles and values guiding partnerships?<br>What is working well?<br>What can be done differently?<br>What areas can be improved? |

Based on an evaluation of the LC process scaled up in the LC:LHF2S program, four principles were developed: (1) Create safe and ethical spaces for dialogue by establishing trust and commitment from the ground up; (2) Understand context for change through community engagement; **(**3) Foster relationships and sustain impact; and (4) Reflect and embrace program flexibility to integrate learnings. In addition, questions were identified within each principle to support applications (Table 1, Section 5.3). When applied, these principles and questions will be applied with WTFN to plan and implement community food system change. The proposed principles can support research partners to prioritize opportunities to be guided by community knowledge, protocols and practices in project planning for food system change.

### 5.2 Application of learnings from the LC:LHF2S

Learnings from the analysis of the LC approach can inform decisions to scale-up the LC and opportunities to improve implementation. The results presented in Chapter 3 and 4 highlight the strengths of the LC process as an approach to support iterative planning for food activities. As there are some programs that work well in a particular setting, replication of an approach in

another context may not always produce the same outcomes or promising impacts. Findings from the LC:LHF2S initiative, however, demonstrated strengths in the LC approach implemented across four First Nations contexts with distinct environments, traditions, and geography. For example, Black River First Nation, a remote, river and lakeside community in Manitoba with a humid-continental climate, has a population of 1,000 and one school (nursery-grade 10). Haida Gwaii an archipelago in British Columbia has a temperate climate with a population of 5,000, four elementary schools and one high school. The partnerships and programs established in each of these communities can influence level of readiness and capacity for change and actions on food security. Further, differences in geography and climate can influence the length of growing season and harvesting practices. Though there were differences in each community's context, the analysis drew attention to how the flexibility built into the LC approach can enable application across diverse contexts. This particular feature of the LC is supportive of communities to modify and adapt the process to their specific context. Where there is interest to accelerate local actions for greater food security and food sovereignty, the LC process can therefore be used foster multi-sector and community collaboration in iterative planning-to-action for local food system change.

The emergent principles from Chapter 4 respond to calls made for programs to better reflect community priorities and for efforts to be taken to promote Indigenous rights, self-determination in actions to improve food security [7]. As such, applying these principles in the context of ongoing work with Williams Treaties First Nations is of interest to support a decolonizing process for mobilizing community actions for food security and food sovereignty. Application of these principles could support the uptake of strategies identified in formative work (Section 5.1.1) and help to promote and strengthen current process to integrate Indigenous leadership, knowledge and wisdom throughout all phases of work. While each partnering WTFN represents a distinct community, there are commonalities that can be found across the communities and with LC:LHF2S communities including a shared priority to protect and honour harvesting rights for food and ceremonial purposes. Priorities to improve access to and availability of food, and restore connections to the land and traditions through activities such as community gardens, food skill building classes, workshops and harvesting traditional food (e.g., wild rice production; fishing) are also shared with community partners of the LC:LHF2S. These cross-cutting interests present potential to expand application of the LC approach to facilitate movement of

priorities into actions. For example, if there was interest in expanding the *Nourish Project JustFood Boxes* [13] (a community identified project in nearby Peterborough, Ontario) to enhance local access to healthy and traditional foods within WTFN, local food systems actors (e.g., producers, farmers, hunters, fishermen, gatherers, cooks) might be engaged and assets (e.g., wild rice beds, fish, market gardens) [14] enhanced through the LC process. Sharing the successes documented from expanding LC in four distinct communities with the WTFN would support opportunities for its use and can be facilitated through application of the principles brought forward in this study.

In summary, the principles proposed in this thesis can support partners working with Indigenous communities to take a decolonizing approach that centres community knowledge and experiences in planning and actions on food sovereignty and food security. These principles can be applied in conjunction with implementation frameworks such as ABLe Change and KTA to promote collaboration, awareness of community-protocols and opportunities to centre community knowledge, perspectives and values throughout the KT process. While implementation frameworks such as ABLe Change and KTA provide strong guidance for planning for implementation and improving the effectiveness of knowledge application, they have limitations when it comes to promoting equitable partnerships, centring community voices and informing program planning and implementation within Indigenous contexts. The emergent principles, considerations and questions provided in Table 5-3, which draw on strengths offered by CBPR and Indigenous methods, can support with filling this gap and strengthen KT efforts in Indigenous contexts [15-21]. This can support culturally relevant responses to promote Indigenous health equity and holistic wellness [19-21].

### 5.3 Limitations and opportunities

Short term or limited funding is often identified as a barrier to sustaining community-based work. This was experienced first-hand in formative work undertaken with the Williams Treaties Frist Nations when there was a change in provincial government and shift in funding priorities. The momentum established from work with the WTFN was further impacted by COVID-19. With short-term funding to undertake this work with WTFN communities, there was limited

support for additional efforts to plan for implementation of community-identified projects of interest. While the collaborative approach taken is an essential component to pre-implementation planning, the intent to support communities in developing a formalized plan that could be put into action support food system change could not happen immediately. Time and resource constraints limited the projects capacity to continue effective knowledge translation and implementation.

Though progress in food security work from this research had been paused within WTFN over the course of the pandemic, the importance of addressing food insecurity as a public health challenge increased in awareness. Households and communities already disproportionately impacted by food insecurity [22], were further affected by economic impacts of the COVID-19 pandemic [23,24]. Moreover, the reliance on external food supplies was accentuated early in the pandemic when grocery shelves across the province were understocked [23-25]. This heightened the importance of local foods and promotion of Indigenous self-determined priorities and strategies to strengthen sustainability of local food systems [23].

As so often happens, when one door closes, new doors open up. During the period of paused work, I pivoted to analysis of the Scale-up of the Learning Circle: Local Healthy and Traditional Food for School Communities. This presented the opportunity to conduct a cross-community analysis of the LC, identify key learnings and successes and develop recommendations for adapting the LC approach to new contexts. Such findings will inform the process of upcoming research with WTFN to strengthen existing relationships, build new partnerships, promote Indigenous leadership and ways of working in research and project activities.

Another limitation acknowledged is tied to the framework of community-based participatory research (CBPR) and its application in practice. Though CBPR is well respected and recognized as an appropriate approach to working with Indigenous communities, it is not without challenges or shortcomings. While CBPR emphasizes the importance of redressing power imbalances between researchers and project participants, it has been acknowledged that asymmetries of power are inherent in any relationship and are difficult to address [26]. Another key consideration that has been raised regarding participatory research is the risk of placing burden

on communities from project requests and time required to participate in co-development and implementation processes [26]. This also includes considerations for added pressures on communities from researchers required to meet institutional commitments and timelines set by funders to undertake the research. This is especially true where community partners do not have the salaried time to work on such new initiatives. In addition, institutional expectations set on academic productivity and accountabilities [26-29] may unintentionally function as a barrier for researchers to meaningfully engage with communities and build long-term relationships foundational to participatory work with Indigenous communities.

Another potential limitation recognized is the use of a westernized implementation framework to evaluate scale-up efforts in Indigenous context. As the ABLe Change framework used in this thesis was not developed from an Indigenous paradigm, the framework does not incorporate decolonizing ways of working with communities. However, application of the framework within CBPR, infused with a decolonizing lens to conduct analysis was an approach taken to support appropriate use within this Indigenous health research project. Further, key principles for participatory planning and action within Indigenous contexts can be used in conjunction with implementation frameworks such as ABLe Change or KTA to promote collaboration, Indigenous leadership in decision-making, and integration of community perspectives and preferences in project planning and action to support a model for change with communities. Such an approach can support a decolonizing process to apply implementation frameworks to support planning and action in Indigenous contexts.

### 5.4 Scholarly contributions and implications for practice

The integrated papers in this thesis add to emerging scholarship on Indigenous community-based participatory research in relation to food security and food sovereignty; and implementation science scholarship on decolonizing approaches to support community-led action. The approaches documented inform emerging research highlighting the importance and strengths of integrating Indigenous approaches to inquiry as critical to building shared knowledge and understanding of Indigenous priorities and actions. Further, the work demonstrates an approach

to meaningful engagement and partnerships with First Nations communities, academics and health system actors to develop and advance community-based food-health initiatives intended to promote Indigenous health equity, self-determination and holistic wellness.

Uptake of findings from work with the WTFN is already underway, with findings leveraged by communities in exploring the interest, readiness, and feasibility to build on formative work in project planning. Though funding for the work described in Chapter 2 with the WTFN was short-term, the commitment to the WTFN communities remained, including relationships with the investigators and community collaborators. In seeking opportunities to utilize and leverage the findings from this project in partnership with community collaborators engaged as key champions for the work, funding was successfully secured in 2021 from a SSHRC Insight Development Grant and UW-SSHRC Explore Grant. While this newly funded work is separate from my thesis research, findings from LC:LHF2S present opportunities to expand learnings and successes to prospective work with WTFN. Knowledge generated from the integrated stories in this thesis can therefore be applied to take a participatory approach to co-developing and implementing community driven initiatives aimed at promoting access to healthy and sustainable food systems.

This dissertation supports considerations for how decolonizing approaches and implementation frameworks can combine to inform theoretical perspectives of how to plan for and successfully embark upon change pursuits that further health equity and decolonizing agendas. The community priorities advanced through this community-based participatory research respond to broader calls made for greater engagement with Indigenous leadership in decision-making and forging solutions. In addition, the Indigenous and non-Indigenous partnerships formed from this work will support Indigenous community resilience and revitalization of local food systems to enhance food security and sustainability. In doing so, ongoing efforts towards reconciliation have been supported by promoting connections between people, place and land through community-driven food security and food sovereignty projects.

The publication of findings in peer-reviewed journals will further facilitate the sharing of the knowledge generated from this work to Indigenous and non-Indigenous populations in Canada

and globally. However, in addition to peer-review scholarship contributions, sharing the knowledge generated from this project with partnering communities is a priority. While community research partners are contributing authors of publications and conference presentations, the greater community also benefits from direct awareness and use of knowledge generated from research. Under the guidance of the project team and community collaborators, plans to further disseminate findings from this work may include, but not limited to, informal gatherings with communities, community summary reports, infographics and conference presentations.

### 5.5 Authors reflections

This thesis has set the stage for future work to support community-driven actions on food security and food sovereignty. With the current SSHRC insight grant (2021-2023) to continue the momentum established from formative work with partnering Williams Treaties First Nations, I have the opportunity to continue supporting communities through a participatory planning process of food project activities. This process has potential to be facilitated through scale-up of the LC and application of guiding principles to strengthen a community-led process for implementation. I look forward to continuing my learning journey with communities in future phases of research I will lead alongside communities as an independent investigator.

The proposed principles developed in this thesis underscore the importance of respect, reciprocity and relationships in undertaking community-engaged research. As such, personal learnings from engaging with communities include: respecting people, place, culture and community; giving back to community; and fostering relationships with people and the environment. In addition, this experience has expanded my research skills and interests beyond epidemiology to community-engaged research and implementation science methods. The work has also enhanced my understanding of the impacts of racism, colonization and other systems of oppression that have intersecting ways of generating inequities in health experienced by Indigenous peoples, Black communities and other people of colour.

I am grateful for the friendships that have been established from producing meaningful research that is responsive to community priorities. As I continue to grow in my academic research career, I intend to remain committed to producing relevant research that promotes self-determination, fosters relationships and centres Indigenous voices in decisions and solutions implemented. Such endeavors will set me on a path to be a catalyst for change and social justice as a public health scholar.

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**Chapter 5**


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