



Sioux Lookout
First Nations
Health Authority

2019

SLFNHA Food Security Environmental Scan



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Our greatest acknowledgments, however, go to the many community members who have contributed to our knowledge and understanding of the vital importance of traditional foods and food programs. We are extremely grateful to the survey participants who took the time from their busy schedules to participate in the study. Without their participation offering valuable information on food security programs, and feedback, this report would not have been possible. Although this report provides a snapshot in time, SLFNHA will continue to gather information to be able to gain and share insights into community food practices. Gathering information for this project was one of the most challenging aspects and we know that we did not capture every program in every community, especially traditional efforts on the land for individual families or that are shared amongst the community.

Executive Summary

Traditional knowledge is strong in the communities and practices are being passed from elders to community members and youth. At the same time, communities in Northern Ontario face many challenges accessing nutritious food, primarily due to high cost, lack of accessibility and availability.

This project is designed to provide baseline information about food security initiatives undertaken in the 33 communities served by Sioux Lookout First Nations Health Authority (SLFNHA), through a comprehensive environmental scan.

Food Security Surveys were issued to the 33 communities served by SLFNHA in order to evaluate food security. While only 24 of the 33 communities returned surveys, these communities provided data showing that there is a large disparity in a community's food security – between communities in geographical proximity as well as within the same community over time.

Trends found in the data show that the majority of food security programs include traditional wild food or traditional medicine gathering like hunting and fishing, while few communities have organized any outdoor or indoor food growing programs.

To put it in perspective, many of the community organizations do have food retail operations, food distribution programs and/or healthy food education programs. For example, there are school nutrition programs in place in many of the communities, but there are still communities that lack these programs. Further, food security programs are broad in their potential, ranging from wildlife hunting to indoor artificial growing. It is difficult to determine actual traditional practices such as hunting, fishing and trapping, from the surveys themselves. This is just the way of life for many families. Communities do gather and share traditional foods but this has not been captured as it is not considered a “program” but instead is a lifestyle. Communities have community feasts where hunters bring food for community members, and these are held close to the hunting weeks taken in the spring and fall. Many communities follow this schedule, and schools are even closed to allow children to be involved. When addressing food security in the communities, it is important to note that there are numerous approaches to improve community food security. Surveys did not gather information about the most vulnerable and food insecure, and further work could be done to explore these needs.

During conversations with community leaders, it was determined that many of the communities showed interest in having more food programs in place but stressed the need for training on how to build/maintain a greenhouse/garden and/or grow healthy food. Others emphasized the lack of funding in place for these programs. This shows that despite widespread community hardships, there was considerable community support and desire for more programs to be in place. The need for further funding and training is required in order for communities to feel food secure.

This project provides some data that may be helpful in future planning, coordination and implementation of programs and services either through SLFNHA or other organizations that are working towards better health outcomes for northern communities. To capture more information about community food security strengths, researchers could visit communities and hold forums which discuss not specific programs but individual and family practices of hunting, fishing, trapping and gathering.

1.0 Introduction to Food Security in Northern Ontario

Food insecurity has become an increasingly common challenge, especially for northern and remote communities [1]. Factors influencing food security include traditional practices, nutrition education, public health, sustainable agriculture, and community development. Community food security focuses on the underlying social, economic, cultural and institutional factors within a community that affect the quantity, quality, and affordability of food.

Fresh vegetables can be hard to come by — and expensive — in northern communities, which can lead to high rates of diabetes. I’ve seen people in their 30s who need amputations, among other complications associated with the disease.

Survey
Respondent

Food insecurity happens when there is limited or uncertain availability and accessibility of nutritionally adequate and safe foods and:

- Food producers (hunters, gatherers and fishers) do not make fair or sustainable wages;
- People have to travel long distances to get to a grocery store or food source;
- Healthy food options are not available;
- People do not have enough money to access healthy foods;
- Food has to be transported too far to get to their stores;
- Food production systems are unsustainable (industrial agriculture); and,
- Challenges to accessing traditional foods, such as fish, moose, small animals, birds, berries, roots and other plants harvested from the land.

One of the key issues that northern communities face is the lack of knowledge regarding available programs, whether funding, training or other types of support offered by various levels of government. This has led to gaps in the services and food programs available in each community.

Northern communities are currently facing an epidemic of diet-related illnesses, which are rising to alarming levels. These include diabetes, obesity, heart disease and other chronic diseases. Consumption of foods high in fat, salt and sugar is a main contributor to the current health crisis [2]. Community or Northern Stores

often do not have healthy food options available, based on survey responses.

Current dietary practices of some peoples in northern communities pose significant health risks and diminish the quality of life. Factors that relate to food choice and food access often come down to higher food prices, due to shipping costs. The high price of food is a continuing factor to food insecurity and the struggle to have a balanced diet [3]. There are several other factors that can account for higher food prices which include increased travel costs, a lack of market competition, as well as inadequate road and transport infrastructure. It is important to gain information on the factors that relate to determinants of food choice and food access.

. First Nations traditional foods are being impacted from a variety of stresses including contamination of lands by pollution, hydroelectric operations, poor sewage systems, mining and forestry operations, agricultural run-off, and climate change to name a few [4]. Despite these challenges, research shows that traditional foods are safe for consumption [5]. Decreased consumption of traditional foods, accompanied by a reduction in resource harvesting activities, is also believed to be contributing to health issues among First Nations Communities, such as diabetes and obesity [6].

While some transportation is subsidized by the Canadian government, the transportation cost still represents a huge burden to northern communities. Higher food, transportation, and storage costs in the north lead to higher household spending on food. One study showed that on-reserve households in Northern Ontario spend approximately 50% of their household income on food, compared to the provincial average of 9%. In comparison, households in Thunder Bay spend 15% of their monthly income on food [7].

In Canada, several programs have been created to offset the high cost of food in northern communities. The longest serving program was known as the Mail in Food Subsidy Program. This program allowed individuals from these communities to send the government their receipts for applicable items, and then receive reimbursement. As of 2011, this program was officially replaced with the Nutrition North Food Subsidy. Unfortunately, under the Nutrition North Food Subsidy program, the determination for the eligibility of a community was based upon the previous mail order food program. Many remote communities do not receive any subsidy or have a severely limited subsidy which does not effectively lower the cost of food in their community [8].

Over time, complaints from Northern Communities regarding the ineffectiveness of the Nutrition North program were brought to the attention of the Auditor General of Canada, Michael Ferguson. The conclusion of his report notes that: “Aboriginal Affairs and Northern Development Canada has not managed the program to meet its objective of making healthy food more accessible to residents of isolated Northern Communities as it has not identified eligible communities on the basis of need”. The current system of shipping food to northern and remote communities is expensive and the steps taken by the government to reduce the impact of these costs has been ineffective and has not resulted in apparent benefits for these communities [9].

Health care and education programs are helping Ontarians understand the value and benefits of high quality and nutritious foods [10], which include:

- Ontario’s Healthy Kids Strategy;
- Student Nutrition Program;
- Northern Fruit and Vegetable Program;
- Healthy Fundraising for Ontario schools;
- Aboriginal Diabetes program; and,

“The high cost of staple supplies, like fruit, vegetables and fresh milk is something remote First Nations struggle with.”
Clifford Bull....
(former Chief of Lac Seul)

Under the Growth Plan for Northern Ontario, agriculture, aquaculture and food processing were identified as priority sectors that could help grow and diversify the Northern Ontario economy. Ontario is currently developing a Northern Ontario agriculture, aquaculture, and food processing strategy to help identify opportunities for growth of the sector [10].

Nishnawbe Aski Nation (NAN) has also been working to address the growing disparity between the northern communities and the rest of Canada in terms of access to affordable, nutritious food, and the direct impact on positive health outcomes. In 2011, NAN Chiefs in Assembly endorsed the NAN Food Strategy. The NAN Food Strategy “aims to rebuild food sovereignty across our nation in order to enhance our quality of life through access to food that is safe, nutritious, culturally appropriate, and affordable for all the people at all times.”

1.1 Purpose and Objectives of the Research

Food security is a growing challenge and reliable, detailed information about the food security of a community is important for the development of policies and initiatives to increase food security. The number of people living with food related illnesses such as diabetes are at epidemic levels [2].

The main objective of this project is to provide baseline data for each of the communities that will provide the basis for future planning, coordination and implementation of programs and services. Food security baseline data will also be used to identify ways SLFNHA can support the communities that SLFNHA serves in order to reduce replication and improve food security in each community.

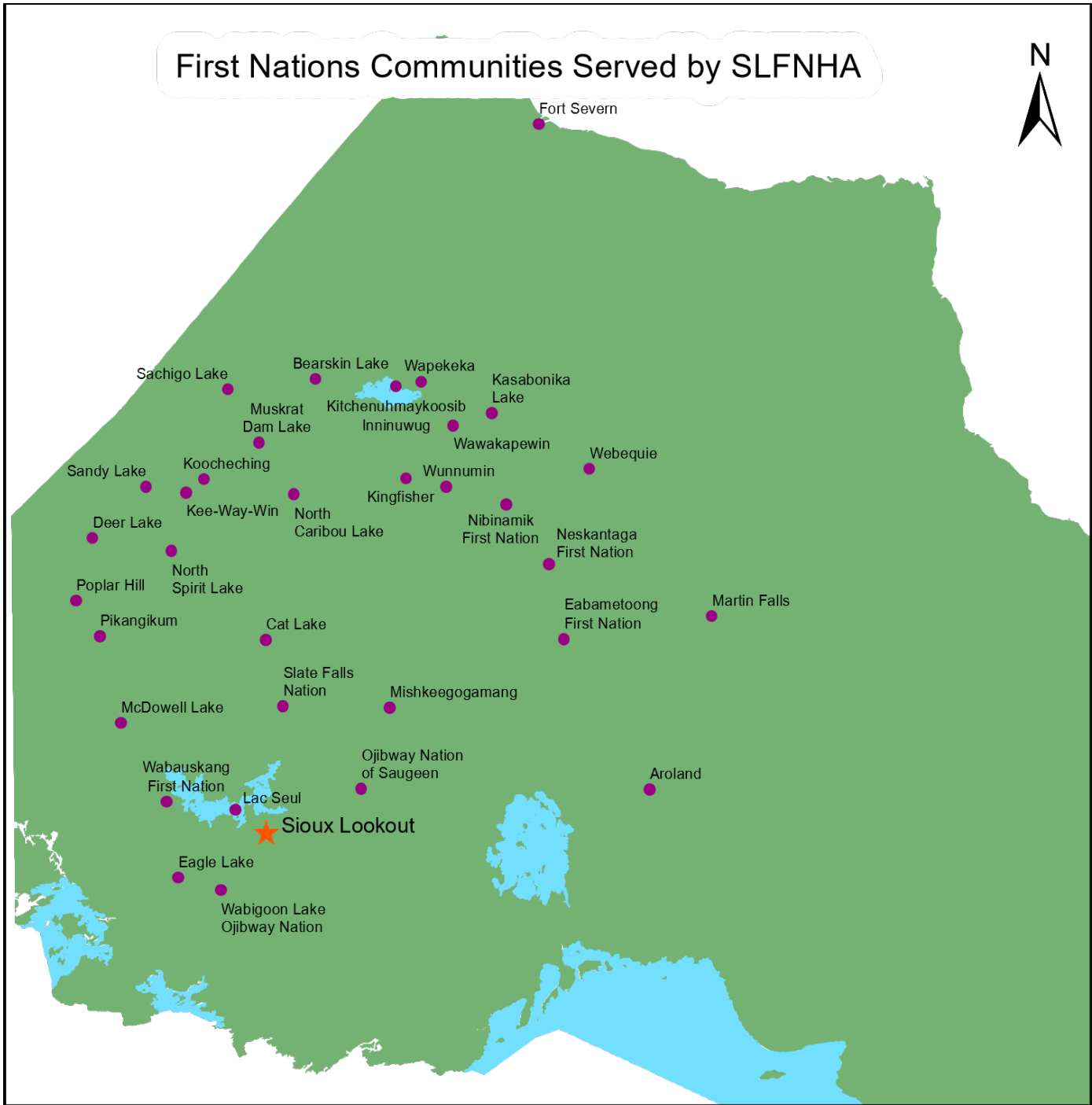


Figure 1. Location of First Nations Communities in Northwestern Ontario Served by SLFNHA

2.0 SLFNHA and the Communities they Serve

The Sioux Lookout First Nations Health Authority (SLFNHA) is a regional health authority that services 33 First Nation Communities in Northern Ontario. Due to the importance that food plays in healthy lifestyles and individual health outcomes, the organization is seeking to improve the quality and accessibility of food in these communities.

SLFNHA builds capacity and resiliency in Northern Communities by supporting local programs initiatives and education. SLFNHA's mission is to provide services, advocacy and leadership in the health of Anishinaabe people across the Sioux Lookout region by strengthening partnerships and empowering communities.

SLFNHA developed a model for Approaches to Community Wellbeing (AWS). AWS was designed through a community consultation process, and the model will enable SLFNHA to transition and integrate services in order to strengthen partnerships and implement a culturally appropriate system.

Under direction from the Sioux Lookout Chiefs in Assembly, Resolution #16-19 Implementation of Approaches to Community Wellbeing (ACW), SLFNHA has begun implementing ACW. ACW is a regional public health service that focuses on the prevention of illnesses and the promotion of healthy lifestyles. Promoting healthy lifestyles requires access to affordable, healthy and culturally appropriate food. One program area under Approaches to Community Wellbeing is Healthy Living -Preventing Chronic Diseases, which will use the Teachings of our People as the foundation for its initiatives to encourage traditional activities and foods.

In order to fulfill its mandate, SLFNHA aims to identify current food sovereignty and food security initiatives and programs in northern communities that support community progress towards food sovereignty, sustainability and self-determination. SLFNHA can then support communities to share lessons learned and result in improve food sovereignty and food security in each of the communities SLFNHA serves.

3.0 Programs and Food Security Initiatives

The following subsections outline broad categories of food security, and represent areas that communities should be aware of, and areas that could be incorporated into their own unique/community specific food security plans. Examples are given of communities within the SLFNHA service basin that have incorporated these types of food security initiatives in their community.

3.1 Wild Food and Traditional Medicine



Traditionally, the forest and fresh water foods once provided everything people in the North required. Maintaining a diet of traditional foods has many benefits to First Nations health and well-being. This concept is viewed in a holistic approach including the social, physical, emotional, and spiritual aspects of one's life. All of these aspects are connected and continuously influence one another [11]. A connection to the land promotes healing and is a protective factor for mental and emotional wellbeing, according to Elders.

Following a traditional diet offers many benefits to First Nations Communities [12]:

- Social Connections: provides opportunities for people to share and come together, gather, hunt, prepare and eat food.
- Cultural Strength: sharing, teaching and learning together keeps culture strong.
- Spiritual Wellness: participating in traditional ceremonies, hunting and gathering in a respectful way and the connection to the Earth to maintain spiritual connectedness.
- Nutrition: traditional foods tend to be higher in vitamins, such as vitamin A, increased iron, calcium and minerals such as zinc. They are also lower in salt, fat and sugar. In general, a traditional diet is higher in protein and low in carbohydrates.

Historically, people had their own food systems, relying on traditional knowledge of hunting, fishing, trapping and gathering. While many families rely on these systems, access to these traditional foods, such as, fish, moose and berries are becoming harder to obtain and they supplement their food supply with store-bought foods. This is a result of key barriers such as limited availability, environmental contamination of species, lack of equipment and means to purchase necessary supplies and fuel, lack of time to harvest and hunt, loss of traditional knowledge, greater distances to travel, and government restrictions that have disrupted traditional practices [13]. Climate change is also a factor affecting the availability of traditional foods as many traditional wild game, such as moose are susceptible to changes in temperature. Although these challenges exist, First Nations in northern communities still partake in traditional food harvesting and traditional knowledge is abundant.

Food that is harvested, whether from wild game or plants, is often shared amongst the community. Wild game hunted include: moose, caribou, deer, bear, rabbit, duck, partridge, goose, beaver, muskrat, and porcupine. Types of fish caught include: pickerel/walleye, pike, perch, bass, whitefish, lake trout, speckled trout, muskellunge, suckers and sturgeon. Food and medicine harvested include: blueberries, raspberries, saskatoon berries, pin cherries/choke cherries, cattails, wild Rice, Labrador tea, wild mushrooms, dandelions, edible wild greens, fiddle heads, birch syrup, rosehips, sage, cedar, sweet grass and birch bark.

Communities have a number of skilled hunters, anglers and members knowledgeable on traditional foods and medicines, who harvest meat, fish and plants. These harvests are shared within the community to benefit Elders or as community feasts. For example, Eagle Lake First Nation holds a number of community and school feasts including the annual Christmas Concert and Feast, the Community Thanksgiving Feast, Elder's Tea, Spring Feast/Potluck and Cultural Camp.

One community has utilized their traditional expertise in blueberry harvesting and has contributed to the economic development of the community. The Aroland Youth Blueberry Initiative (AYBI) began in 2008 as a social economy initiative. Community members tried to sell their surplus berries as a fundraising activity to help their youth [14]. The community formed a non-profit depot where people could sell their berries to the AYBI, and is the largest supplier of hand-picked blueberries in Northern Ontario.

3.2 Outdoor Food Growing Programs



Community gardening gives individuals access to fresh vegetables and fruits and the opportunity to garden even if they don't have an adequate space, good soils, tools or gardening skills. Community gardening enables people to learn and share gardening skills and cut costs by sharing seeds and tools with others community members. Community gardens also help people experience a sense of community and learning from the Elders. Community garden harvests can help ease the burden of paying the high costs of fresh vegetables and other foods that are shipped into communities.

Over the past century there have been several waves of popularity of community gardening throughout Canada. Railway gardens were popular from about 1890 to 1930. These began when the Canadian Pacific Railroad Company (CPR) began using station gardens to promote the fertility of land in the prairies to encourage settlements. This practice carried on through the 1930's but dwindled in influence with the popularization of other modes of transportation and the drastic post-WWII cultural changes. A general increase in concern for the environment, energy conservation and self-sufficiency facilitated community garden development in the later half of the century. Community gardening increased partly as a response to concerns about the Organization of the Petroleum Exporting Countries (OPEC) energy crisis, where people felt the need to become self-sufficient [12]. This movement saw that community gardening provided a vehicle by which to address all of these concerns.

Small community gardens or farms can include part-time staff or be run on a completely volunteer basis. Some medium sized community gardens can include full-time as well as volunteer staff, whereas a large community garden or farm can have full-time, employees and commercial equipment such as tractors, harvesters and tillage equipment.

Other activities that may occur within a community garden include the cultivation of fruit trees or nut orchards and building a seasonal greenhouse (or hoop house) to help extend the growing season. Types of vegetables grown in a community garden include: potatoes, carrots, onions, beets, lettuce, tomatoes, corn, squash/pumpkin, beans, peas and a variety of herbs (parsley, rosemary, thyme, chives etc.). Types of fruits that are cultivated/grown in a community garden can include: strawberries, raspberries, blueberries, apple trees, plum trees, cherry trees, hazelnuts, saskatoon berries, ground cherries, and rhubarb. It may be beneficial to plant foods that are indigenous to the area and will thrive in the soil and climate that already exists in the area. Saskatoon bushes, raspberry bushes, blueberries and wild strawberries are just a few plants that could do well in an outdoor garden.

There are community gardens in the communities that SLFNHA serve, such as the Kitchenuhmaykoosib Inninuwug Community Garden. This 2011 project was established with support from the Food Security Research Network (FSRN) and Cloverbelt Local Food Co-Op (CLFC) and trained a number of community members in gardening techniques.

Fort Severn has a number of greenhouses, and has been growing different fruits and vegetables. The project began several years ago with a single greenhouse in a community member's yard. Each year, one or two new greenhouses have been erected in a new yard. The greenhouses have produced: turnips, potatoes, radishes, green onions, peas, peppers, kale, tomatoes, lettuce and strawberries. The greenhouses are made entirely by community members

using recycled materials. Plants are grown out of the ground or in raised beds, old tires and even storage bins [15]. In another community, Wapekeka First Nation, a grad student helped to establish a greenhouse and school-based community gardening program [16].

Tammy Atlookan is a regional capacity facilitator, from Thunder Bay who lived in Eabametoong First Nation for more than 20 years. She stated that "a couple of homes in the community have made their own little back yard gardens which are successful for growing their own potatoes. I had my son work at the community garden in Fort Hope and although he says it was hard work tending to a garden that big, it was certainly worth it. He commented to me, that it brought him great joy and a feeling of satisfaction and appreciation to see the community members gratitude for eating fresh vegetables that our grounds had to offer."

Atlookan believes that the community would benefit from more training, material and supplies to assist families that are interested in growing their own vegetables in their yards.

The Waabshiki Penasi School in Wabigoon Lake currently has garden boxes that students' plant and take care of.

3.3 Community Farms

Community farms are similar to community gardens but on a larger scale. Community farms often need larger equipment to work the land such as tractors, seeders, discs and other implements. Community farms can feed a larger number of community members and also can be profitable where sales of vegetables or fruits can go back into purchasing equipment and seed. One of the biggest challenges to farming in Northern Communities is transporting tractors and other heavy equipment into the communities and also the availability of parts and maintenance of such equipment.

Currently, Eabametoong (Fort Hope) has a very successful community garden project and five-acre farm [17]. The farm has been growing fresh food for the community, offering jobs, training and creating a local farm business for learning from the traditional wisdom of Elders. The operational support for the Eabametoong Farm is supplied by Covenant North Incorporated Consultants. The farm is producing potatoes but have trialed a number of different crops. In 2018 the community won the first Rural Ontario Leaders Award for turning a small community garden into Fort Hope Farm. The award honours exceptional projects in rural communities [18].



Photo Credit: Covenant North Incorporated

Other food security initiatives in the area include the Mennonite Central Committee (MCC). The *Canada's Indigenous Neighbours Program (CINP)* and the *Ontario Indigenous Neighbours Program (OINP)* are both coordinated by the Mennonite Central Committee. At the request of First Nations, MCC has been providing seeds, tools, and other supplies purchased through a fundraising campaign to plant raised bed gardens to ultimately improve food sovereignty. The Community Gardening Kit Program provides 4 shovels, 4 hand cultivators, 30 pairs of gloves, 60 packs of flower seeds, 200 packages of vegetables seeds and 500 pounds of seed potatoes and the shipping to get the kits to the communities. Participating Communities include Cat Lake, Sachigo Lake, Bearskin Lake, Weagamow, Slate Falls and Mishkeegogamang.

3.4 Indoor Food Growing Programs

Indoor growing programs include growing plants and herbs indoors such as homes, offices, community centres or other structures. Some plants are grown without soil and utilize other growing mediums.

Indoor food growing programs are also gaining in popularity. Manitoba's Opaskwayak Cree Nation year-round gardens provide free fresh vegetables to hundreds of community members. One pilot project kicked off in 2016 with seven plants grown under LED lighting in hydroponic Styrofoam planters. The indoor growing facility in the community hall now has more than 75 plants that supply free, fresh produce to 125 families on a regular basis. Some of the vegetables grown from this project are also donated to other local facilities which provide programs that provide social assistance and teach how to cook healthy meals. Waabshki Penasi School in Wabigoon Lake runs a small educational indoor greenhouse.

One challenge to indoor gardening systems is that they require sophisticated equipment, lights, growing medium/solutions and fertilizers that are not readily available in northern communities.

3.5 Livestock Raising Programs

Livestock raising programs can include small animal husbandry (e.g. chickens, rabbits, goats and pigs) or large animal husbandry (e.g. cattle, bison). Communities can also have egg production projects or participate in bee keeping for honey production. Types of livestock that are typically raised on farms include: cattle – beef, cattle – dairy, bison, pigs, chickens for meat production, chickens for egg production, goat, sheep, duck, quail, turkey, bee keeping (honey), fish farming and raising minnows.



Livestock raising programs are not as popular in northern communities due to the logistics of having access to feed, forage, grain, veterinary care, animal housing, fencing and other specific equipment that is required to raise livestock. While land is available, administrative barriers or lack of mechanisms in place for individuals to utilize land the sometimes can be obstacles for agricultural development [16]. However, there are opportunities for communities to take on smaller projects such as raising chickens for eggs and rabbits where small animal husbandry does not require as much space or complex feeding systems.

3.6 Food Distribution Programs

One of the fastest ways to lower the cost of food in many Northern communities is to take advantage of existing distribution routes and supply chains, but optimizing them for community, rather than business benefit. This can include publicly funded food storage areas, community owned store, donation programs, food preparation facilities and the support resources needed to make them succeed.

3.6.1 Community Stores

Most communities have a community store or the Northern Store which stocks mainly canned food, dry goods, hardware, major appliances and other merchandise that can be specially ordered for customers. Having a community owned store can ensure that the costs of ownership are shared in the community as well as either the profit, or an equal reduction in costs for customers (ie. Non-profit).

3.6.2 Food Donation and Distribution

There are several religious or not-for-profit organizations that organize the distribution of donated foods to community members. For example, Christian Horizons, a non-profit charitable organization, has been sending trucks full of food, clothes and supplies to Mishkeegogamang about two times a year for the last few years.

Some communities close to Dryden participate in the Healthy Living Food Box program, where on the first Friday of each month they can pick up a food box. Also, many communities keep emergency food supplies on hand and operate community food banks.

3.6.3 Community Food Storage and Preparation Facilities

Some communities use food sharing networks as a strategy against food insecurity. Community freezers and other forms of community sharing enable food insecure individuals living on reserves or in remote regions to consume traditional foods [19]. Others have community freezers and fridges and other storage and preparation facilities such as: food prep kitchens, dry food storage/pantry, barbeque, smoker/smokehouse, dehydrator, canning supplies/waterbath and root cellars. These facilities are integral to community food security in particular where communities do not have adequate power. Some examples of communities that do have storage and preparation facilities in place are, Waabshki Penasi school in Wabigoon Lake has a dehydrator for students and staff to use.

Kitchenuhmaykoosib Inninuwig has a community prep kitchen with a fridge and freezer. Cat Lake and Muskrat Dam currently have a community kitchen in place along with food preparation equipment, including a smoker and dehydrator for community use.

Some communities have food banks or community cupboards that anyone can use, and can be stocked for emergency situations. Mishkeegogamang First Nation, Lac Seul, Cat Lake and Kitchenuhmaykoosib Inninuwig are a few communities that have a food bank or community cupboard but many communities are lacking one.

3.6.4 Food Retail Operations

Some communities have small restaurants or home-based food businesses (take-out orders, baking, cooking, catering). Many of the home-based caterers utilize social media to advertise their products, meals or baking online. Due to a lack of commercial development in many communities, finding commercial or even available space to operate a business can be a challenge, and many businesses are run from homes. Wabigoon Lake, Cat Lake, Lac Seul and Pikagikum and Kingfisher Lake, Kitchenuhmaykoosib Inninuwig First Nation are just a few communities that currently have a small grocery store open. Kasabonika owns a local hotel and restaurant that has created economic success in the community. Lac Seul First Nation community holds Pow-wows, bake sales, flea markets and raffles. The community of Weagamow currently has a grocery store, restaurant home-based food businesses, baking cooking and catering.

3.6.5 Regional Distribution

Sioux Lookout Regional Distribution Centre is an initiative to construct a regional, cooperative food and goods distribution centre which is located at the Sioux Lookout Airport. The communities of Sioux Lookout, Lac Seul First Nation and Kitchenuhmaykoosib Inninuwig (KI) are participating in the program, (2019) called First Nations-Municipality Community Economic Development Initiative (CEDI). The partners are working towards developing a Regional Distribution Centre focused on the 31 Far North communities currently served by the Sioux Lookout region [17a]. It has been planned to help supply nutritious, fresh and affordable food and consumer goods to the region, especially focusing on remote northern communities.

The Regional Food Distribution Association of Northwestern Ontario (RFDA) is another distribution centre that supports the delivery of donated food to community organizations. It currently distributes food to agencies in Thunder Bay, Ontario and the surrounding regions. The RFDA is a hub for charitable food distribution, representing Food Banks Canada in Northwestern Ontario. Eabametoong First Nation (Fort Hope), Neskantaga, Sandy Lake, Sachigo Lake, Weagamow (North Caribou Lake), Marten Falls, Nibinamik and Kasabonika Lake are all participants of the Regional Food Distribution Association of Northwestern Ontario.

3.7 School Nutrition Programs (including breakfast, lunch, educational or kitchens)

There are a number of different school nutrition programs in the communities that SLFNHA serves. The Northern Fruit & Vegetable Program (NFVP) is a program that has been running quite successfully over the last year in most of communities served by SLFNHA. Funded by the Ministry of Health and Long-Term Care, the program provides all elementary school students in Northern Ontario fresh fruit and vegetables, twice-weekly, from January to June, at no cost to the students or the schools. The NFVP focuses on Ontario-grown produce, and includes foods such as mini cucumbers, grape tomatoes, apples, and strawberries. In addition, teaching resources are provided to the schools to educate the students and their families on the benefits of eating fruit and vegetables, and the associated benefits of healthy eating and physical activity to overall health.

The First Nations Student Nutrition Program (SNP), operates in several communities including: Bearskin Lake, Cat Lake, Kasabonika Lake, Kingfisher Lake, Kitchenuhmaykoosib Inninuwug, Mishkeegogamang, Muskrat Dam, North Caribou, Sachigo Lake, Slate Falls, Wapekeka and Wunnumin Lake. In 2016 Kwayaciiwin Education Resource Centre (KERC) began administering the program to 18 program sites in 12 communities. The SNP works with local communities to provide nutritious, school-based meal and snack programs to children and youth to support healthy growth and development. The Student Nutrition Program (SNP) supports learning by providing nutritious food through breakfast, lunch and snack programs. It is funded by the Ontario Ministry of Children, Community and Social Services.

Keewaytinook Okimakanak Board of Education (KOBÉ) has been incorporated as a non-profit charity which also accesses additional funding from other sources. Each of their community schools receives funding from the Ministry of Children and Youth Services (MCYS) for a nutrition program which provides for a breakfast and snack program, as well as staff coordinators [20].

At Kingfisher Lake, the Maryann Aganash Memorial School offers an industrial kitchen facility and provides a hot breakfast program for students once per week. The school also offers cultural and traditional outings such as fishing and trapping.

Additionally, the Eenchokay Birchstick School in Pikangikum First Nation has two cafeterias, a full commercial kitchen, and vocational training classrooms among other educational spaces. The school also offers cultural and traditional events and outings including a 2-week break in September to allow students to participate in trapping activities with their family.

3.8 Healthy Food Education Programs

Many communities are offering healthy food education programs and initiatives into the communities. For example, Kasabonika Lake First Nation has undertaken *Back to Our Roots*, an economic and food security project that aims to revitalize traditional food harvesting to subsidize income and provide food to community members living in poverty. Under this program, youth will receive education and mentorship opportunities about traditional methods of hunting, gathering, preparing, and storing food. The project will also develop a comprehensive food protection strategy [21].

Similarly, Pikangikum First Nation is receiving funding for a project to help evaluate their Indigenous food security initiative. The *Kahminoshkahkemakahkiin mijjiman imaa tahshiikewiiniik* initiative aims to have a positive impact on the community by improving nutrition and economic opportunities. The initiative will teach 75 high school students how to prepare food and will support the school nutrition and lunch program by helping purchase locally harvested food from local traditional food procurers. It will also provide educational opportunities for youth and Elders on food-based knowledge.

Some communities have Elder meal programs such as Muskrat Dam First Nations, Kitchenuhmaykoosib Inninuwug, Cat Lake, Marten Falls and Weagamow. These programs are usually run by the community or home care. Other communities such as Wabigoon Lake have expressed the need to introduce more of these programs into their community.

Communities can increase food security by offering cooking classes community feasts, elder teachings on traditional foods, canning, preserving and/or pickling classes, recipe sharing and communal traditional food preparation. Many communities served by SLFNHA host Community Feasts, such as, Marten Falls, Cat Lake, Kitchenuhmaykoosib

Inninuwug, Lac Seul, Muskrat Dam and Pikangikum to name a few. Sachigo Lake hosts an annual summer festival, Weagamow First Nations has a fall feast where families cook traditional foods and get together to share with the community and Wabigoon Lake hosts a fall harvest.

3.9 Hunting/Fishing Field Trips & Education

Some communities offer adult and youth education programs or other health services in the following food-related services, training or classes: fishing skills classes, hunting skills classes, wild food gathering classes, healthy cooking classes and meal planning classes. An example of this is, the Kasabonika Lake First Nation *Back to Our Roots* project, where youth will receive education and mentorship opportunities about traditional methods of hunting, gathering, preparing, and storing food.

In Webequie, the Simon Jacob Memorial Education Centre, operates on a culturally sensitive schedule that allows students to participate in the spring and fall hunts with their families. Cultural enrichment allows a student to go out on the land to hunt. Mishkeegogamang also operates on a culturally sensitive schedule that allows students to participate in the fall hunts with their families. Martin Falls and Neskantaga schools offer a week of cultural activities and programs in the spring and a week in the fall.

Sandy Lake, Wapekeka, Wunnumin Lake, Weagamow, Sachigo Lake, Pikangikum, Muskrat Dam, Kasabonika Lake, Lac Seul and Bearskin Lake all offer cultural education to learn traditional skills such as hunting, trapping and fishing, and teachings of the local area.

Eagle Lake offers a cooking program & offers cultural and traditional outings such as ice fishing and also holds a fishing Derby.

3.10 Agroforestry

Agroforestry is the integration of trees into farming. In agroforestry, trees are an essential part of the farm. They help improve farm productivity and increase crop yields. Agroforestry can also help to protect the environment.

In agroforestry, combinations of trees, crop and livestock are intentionally designed and managed as a whole unit. The biological and physical interaction between the crop and the livestock components are manipulated to enhance the agricultural production of the land base. The benefits from agroforestry practices include: increased crop production and economic gain, soil conservation and improved soil quality, sequestration of atmospheric carbon and increased biodiversity. Growing trees with crops, forage and livestock can, improve yields, reduce soil loss, conserve soil moisture and recycle nutrients.

Trees and shrubs can increase profits when they are grown to produce high-value timber or other tree products (for example, fruit). Types of agroforestry initiatives can include: cultivating berries or other wild plants in a forest; planting/gardening in a forest setting (mushrooms, wild onions, berry bushes) and raising livestock in the forest such as pigs, goats or cattle.

Wabigoon Lake does organize an annual berry picking event and they do plant tree seedlings from the Resolute tree nursery in Ignace.

3.11 Food Policy

There are many ways that food policy initiatives can increase food security. Types of initiatives include: community-based food charters, food strategies, implementation and funding plans, food plans, food values integrated into

land use planning, price monitoring and food assessments, band council resolutions, such as bans on sugary drinks, ownership and control of the food systems, and other agreements such as the Four Party Agreement, allowing traditional foods to be served within the Sioux Lookout Meno Ya Win Health Centre.

Nishnawbe Aski Nation (NAN) is working with its First Nation communities to restore locally produced food that is integral to resilient ecosystems and development of sustainable economies. The continued emphasis and resurgence of traditional foods is essential, especially in this time of climate change, and epidemic of diet-related illnesses. NAN has a Food Strategy, advisory council, and website that lists community stores and other educational promotions. In 2014, NAN Chiefs in Assembly designated September 21st of each year as “NAN FOOD DAY” in support and recognition of the efforts to rebuild the right to food self-determination. Communities will be encouraged to highlight this day to further bring awareness and create meaningful discussion.

4.0 Methodology

This study included an environmental scan of food security approaches, which identified local and regional food security initiatives occurring in the communities served by SLFNHA. This included identifying the status of school nutrition programs, local hunting and fishing programs in the community, community initiatives such as community gardens and greenhouses, raising chickens, community freezers and other approaches communities are using to address food insecurity.

Surveys collect, organize, and analyze data in order to describe a snapshot in time [22] and are considered one of the best ways to get information and feedback to use in planning and program improvement [22].

The survey methodology was broken down into the following stages, adapted from, Statistics Canada, 2010, guidelines:

- Defining goals and objectives;
- Determining sample design;
- Research/Literature review;
 - Market Research/Case Studies of Indigenous Food Security Approaches;
 - Stakeholder Research;
- Choosing a method of data collection;
- Designing the questionnaire/Developing Criteria for Food Program Inventory and Interview Script/Questions;
- Collecting data; and, Data Analysis & Inventory Development.

4.1 Defining Goals and Objectives

The main objective of this project was to provide a baseline data for each of the communities which will provide the basis for future planning, coordination and implementation of programs and services by communities, SLFNHA, or other organizations working towards better health outcomes for Northern Communities. The food security baseline data will also be used to help SLFNHA provide more effective support to the 33 communities to reduce the replication of programs and improve the overall standard of food security in each community. The data collected during this study will provide a better understanding of past, current and anticipated food programs and initiatives, infrastructure, and gaps that will, in turn, help support food security in communities served by SLFNHA.

4.2 Determining Sample Design/Stakeholder Analysis and Engagement Strategy

A sample survey of 33 First Nations Communities served by SLFNHA was used for this project. The SLFNHA Food Security Initiatives Survey sample included First Nations Chiefs, community and tribal council health directors, education directors/principals, and other partners in communities, and consisted of 41 individuals representing 24 of the 33 First Nations communities, with one additional community response outside of SLFNHA's catchment area. The results of this community were excluded from this baseline.

Another component of the survey was selecting the survey list used to identify and contact participants of the survey population. A stakeholder analysis was completed to determine modes of communication/single point of contact between the project team and the individual communities. This task included developing a list of contacts for SLFNHA member communities and their contact information (name, email, phone number, preferred contact method and time, etc.). SLFNHA provided an initial contact list but more detail was required to complete this list before surveys could be sent out. This included searching for schools, health administrator and band office contact information and updating emails that were no longer in service.

4.3 Research/Literature Review

A literature search was completed using the terms "food security" combined with the term "Indigenous" and other terms such as "nutrition," "food programs," "initiatives," "agriculture," "aquaculture," and "traditional foods". The strategy used website searches (e.g., Nutrition North Canada, Indigenous and Northern Affairs Canada) to provide literature, and citations in articles, and books to gain an understanding of the food security issues in Ontario, which programs are available, and which food initiatives are or were successful.

4.3.1 Market Research – Case Studies of Indigenous Food Security Approaches

The project team reviewed the literature and past programs offered by the provincial and federal government/organizations. The project team is familiar with many of the past and current programs offered in Northern Ontario and Manitoba. Those programs and initiatives were listed, and success stories and case studies that have resulted in a beneficial change to communities were outlined.. Due to changes in the provincial government with the recent election, the project team also listed programs and indicated where possible, their current status (paused, canceled, etc).

4.3.2 Stakeholder Research

The project team reviewed the literature and past programs offered by SLFNHA as well as other regional delivery bodies. It also included any community-led food program efforts, such as community gardens, greenhouses, livestock, hunting, community kitchens, etc. Of particular importance during this stage was food related projects where a clear and identifiable outcome had been established, whether positive or negative, to provide an opportunity to evaluate past projects against future initiatives and incorporate any suggestions and improvements. Please contact the Preventing Chronic Disease Nutritionist at Approaches to Community Wellbeing (807)737-5189 for community specific information. You can also receive a funding table containing detailing information on funding opportunities.

4.4 Choosing a Method of Data Collection

The data collection process involved collecting the required information for each unit in the survey. For this project participants were given the opportunity to complete the survey by paper/pdf email, over the phone, or online

(computer assisted). The online method is beneficial because it combines data collection and data capture (the transformation of responses into a machine-readable form) allowing for a faster and more efficient process [22]. Participants were offered more than one mode of data collection to fill out their survey. This mixed-mode of data collection allows for the strengths of one mode to compensate for the weaknesses of another and can improve response rates by increasing the likelihood of securing data from different types of respondents [22].

A total of 31 online surveys, 8 pdf paper versions and 2 over-the-phone surveys, were accepted. The participants who completed the survey by paper, emailed a scanned version or faxed it back. If there were multiple entries, (ie. a Health Director and Principal answered for the same community); those participants answers were combined to represent one entry per community.

4.5 Develop Criteria for Food Program Inventory and Interview Script/Questions

Developing the questionnaire involves deciding what questions to ask and how best to word and format the questions [17]. The main purpose of this task was to ensure a comprehensive data set was gathered for each community. Each community was assessed for the criteria selected (in school food programs, hunters in the community, food growing programs, etc.) and used to compare on an 'apples to apples' basis. A list of questions was developed and then at least one representative of each community, with local, current and past knowledge of community food programs was contacted. During this stage, it was important to gather as much information on a community's willingness to have or expand food programs in the future.

4.6 Collecting Data/Stakeholder Interviews

The task of collecting the data and conducting stakeholder interviews included working with SLFNHA member community representatives to identify all food programs, initiatives, operations or infrastructure in each community and their current status as well as any future plans. Details of the survey administration process were recorded, including how and where respondents were contacted, the number of times each was contacted and who the contacting person was, to ensure methods were rigorous and standardized. The total number of people contacted to complete the survey, who refused/agreed to participate and the mode that was used to administer the survey and response was also recorded.

4.7 Data Analysis & Inventory Development

In this stage, information collected was summarized and interpreted in order to answer survey questions. From the data collected a community baseline was established outlining the different stages that each community is at during the past, present and future. The purpose of this organization was be to prevent replication of projects that have failed in the past and to ensure that future plans are incorporated in current planning sessions.

The data was also graphed to show which communities have had food programs in place in the past, recently, currently have programs in place or plan to in the future.

Similarities and trends in the data, such as the delivery of programs, availability of programs, or desires for similar programs were also noted.

4.8 Limitations/Research Challenges

Because of the unique challenges related to assessing food security using surveys, limitations need to be addressed when making an assumption on the status of a community's food security as a whole. Some of the challenges that were faced during this project is that the project team was relying on one community representative to provide answers for the community as a whole. Food security spans many different community sectors such as economic

development, health, education, etc. Although the surveys were sent to multiple people, generally only one came back. There were many cases where some participants were just unsure of what may be available in the community. As such, we cannot conclude that the programs mentioned here are an exhaustive list of community programs. Furthermore, many initiatives that support the food security of families and communities are not formalized programs. Many community members hunt, fish, trap or gather foods to support their families but also share them amongst the community. Although the survey tried to get information about traditional hunting, trapping, and fishing practices the methodology could not capture these informal practices.

Another challenge was in the design of the survey itself. The survey questions were lengthy and possibly too complex and time consuming, (even though a description was given, participants didn't understand what agro-forestry or aquaponics really is). On average, online surveys took 15 minutes to complete and over the phone surveys took up to 25 min. Some participants did not have time in their workdays to complete this survey. The survey was broken in 2 parts. Part one was the main questionnaire with general questions about food programs in a community and part two was designed for offering more detailed information regarding the contact information and funding in place for programs that a community did have. Because this survey was separated, it created challenges. Part One was sent out initially to all communities, but part two of the survey was conducted with participants after Part One was completed. It was sometimes difficult to follow up with a participant after they had already sent in their initial survey and this caused incomplete data given on a community as a whole.

Another limitation of this research is that it did not include an evaluation of the surveys against a specific set of criteria defining success. Further research into culturally appropriate criteria that can be used to evaluate surveys that would allow for a more standardized comparison of different surveys. It should also be noted that the results were self-reported and are quantitative, and do not represent the actual scope of food programs in the communities. In any such research, it would be important to involve communities in the design and define success through an Indigenous world view

The timeframe given to collect responses was limited and if given more time for calls a larger sample size of data may have provided more accurate results.

This research does provide a review of some methods used in First Nations community surveys to date, but additional case studies are needed to more thoroughly analyze and evaluate the survey methods used. Common themes and effective practices were highlighted, but without more case studies it is difficult to confirm whether the common themes identified here are indeed widespread and effective.

5.0 Food Security Survey & Questionnaire Results

The results of this project are based on a detailed sample survey of 33 communities in Northwestern Ontario that are served by SLFNHA. The survey was sent out on March 12, 2019 and participants were able to respond up to April 2, 2019. Participants were given the opportunity to complete the survey online, by paper/pdf email, or over the phone. The surveys included questions regarding wild food or traditional medicine gathering programs, indoor or outdoor food growing programs, livestock raising, food retail operations, food preparation or food distribution programs, healthy food education programs, and agro-forestry. It also asked questions about which kinds of animals/fish are/have been part of the community's hunting and fishing efforts, and asked to elaborate on the types of livestock, food preparation methods, vegetables and fruit that may be cultivated and which types of food education programs or classes may be in place. The data was collected over approximately 22 days between March and April of 2019.

Of the 33 First Nations communities contacted regarding the survey, a total of 33 online surveys, 8 pdf paper versions and 2 over the phone surveys, were accepted. The participants who completed the survey by paper,

emailed or faxed it back. If there were multiple entries, i.e. a Health Director and Principal answered for the same community, those participants answers were combined to represent one entry per community. After combining these responses, the number of communities represented was 24. This represents a 72.7% response rate, $24/33 = 72.7\%$.

The data was sorted based on whether a community had food programs in place in the past, recently, currently or plan to in the future (shown in Tables 1-4.). If a community had a program in place in the past, recently, currently or plan to in the future they were given 1 check (X) for each program. This gives a visual representation of which communities have, have had or plan to have in the future. Nothing was checked if a community was unsure or answered no to having food programs in the past, recent, present or future.

Table 1. Community Survey Questions with programs in the Past (over 5 years ago)

Q2 (Wild food or Traditional Medicine Gathering)
 Q3 (Outdoor food growing programs)
 Q4 (Indoor food growing programs)
 Q5 (Livestock raising programs)
 Q6 (Food retail operations, preparation areas or distribution programs)
 Q7 (Other food distribution or healthy food education programs)
 Q8 (Agro-forestry - management of trees, crops and/or livestock)

Community	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Total
C3	X	X	X	X	X			5
C1	X	X		X	X	X		5
C6		X	X	X			X	4
C7		X		X				2
C16					X	X		2
C5					X		X	2
C13	X	X						2
C9		X				X		2
C10						X		2
C22	X							1
C20								1
C2	X							1
C11								0
C4								0
C19								0
C24								0
C17								0
C23								0
C15								0
C14								0
C8								0
C21								0

Table 2. Community Survey Questions with programs Recently (with 5 years)

Q2 (Wild food or Traditional Medicine Gathering)
 Q3 (Outdoor food growing programs)
 Q4 (Indoor food growing programs)
 Q5 (Livestock raising programs)
 Q6 (Food retail operations, preparation areas or distribution programs)
 Q7 (Other food distribution or healthy food education programs)
 Q8 (Agro-forestry - management of trees, crops and/or livestock)

Community Name	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Total
C1	X			X	X	X		4
C18	X	X			X	X		4
C3	X	X			X			3
C16	X				X	X		3
C6	X	X				X		3
C15	X			X		X		3
C22	X				X	X		3
C22		X					X	2
C19	X					X		2
C5	X	X						2
C13	X	X						2
C17	X	X						2
C9		X				X		2
C8	X					X		2
C12	X				X			2
C21	X	X						2
C7	X							1
C10					X			1
C20								0
C11								0
C4								0
C24								0
C23								0
C14								0

Table 3. Community Survey Questions with programs Current/Ongoing

Q2 (Wild food or Traditional Medicine Gathering)
 Q3 (Outdoor food growing programs)
 Q4 (Indoor food growing programs)
 Q5 (Livestock raising programs)
 Q6 (Food retail operations, preparation areas or distribution programs)
 Q7 (Other food distribution or healthy food education programs)
 Q8 (Agro-forestry - management of trees, crops and/or livestock)

Community Name	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Total
C11	X	X	X		X	X		5
C2	X	X			X	X	X	5
C4	X	X	X		X	X		5
C23		X	X	X		X	X	5
C20	X	X			X	X		4
C7	X	X			X	X		4
C6			X	X	X	X		4
C15		X			X	X	X	4
C14	X	X			X	X		4
C12	X	X			X	X		4
C3	X				X	X		3
C10	X				X	X		3
C16	X				X	X		3
C5	X				X	X		3
C13	X				X	X		3
C9	X				X	X		3
C8	X				X	X		3
C19					X	X		2
C17					X	X		2
C1					X	X		2
C21	X				X			2
C22	X					X		2
C18	X					X		2
C24								0

Table 4. Community Survey Questions with programs Planned for the Future

Q2 (Wild food or Traditional Medicine Gathering)
 Q3 (Outdoor food growing programs)
 Q4 (Indoor food growing programs)
 Q5 (Livestock raising programs)
 Q6 (Food retail operations, preparation areas or distribution programs)
 Q7 (Other food distribution or healthy food education programs)
 Q8 (Agro-forestry - management of trees, crops and/or livestock)

Community	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Total
C5	X	X		X	X	X		5
C8	X					X	X	3
C7		X	X					2
C16	X	X						2
C1		X			X			2
C14	X					X		2
C19	X	X						2
C11		X						1
C2			X					1
C4		X						1
C6					X			1
C9			X					1
C12		X						1
C20								0
C3								0
C10								0
C24								0
C13								0
C17								0
C23								0
C15								0
C21								0
C22								0
C18								0

Communities with higher scores (for ex. 5 programs) have widespread food security initiatives and conversely, communities with 0 need more support. The data was also graphed to show a summary of the percentage of communities that have held or organized any Food Initiatives, either in the past, recently, currently or plan to in the future (Figures 2 to 8).

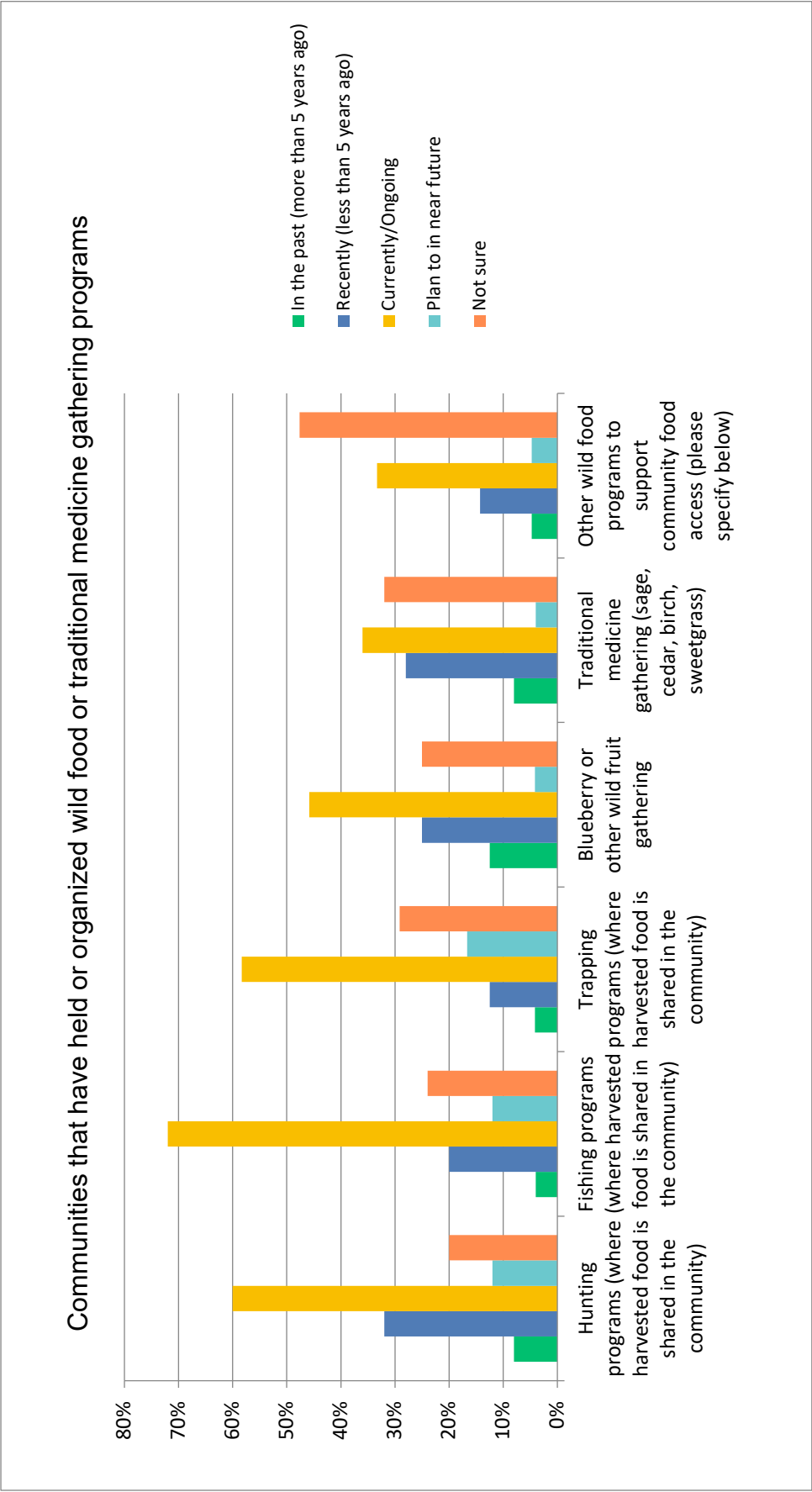


Figure 2. The percentage of communities that have organized wild food or traditional medicine programs in the past, present, currently and plan to in the near future.

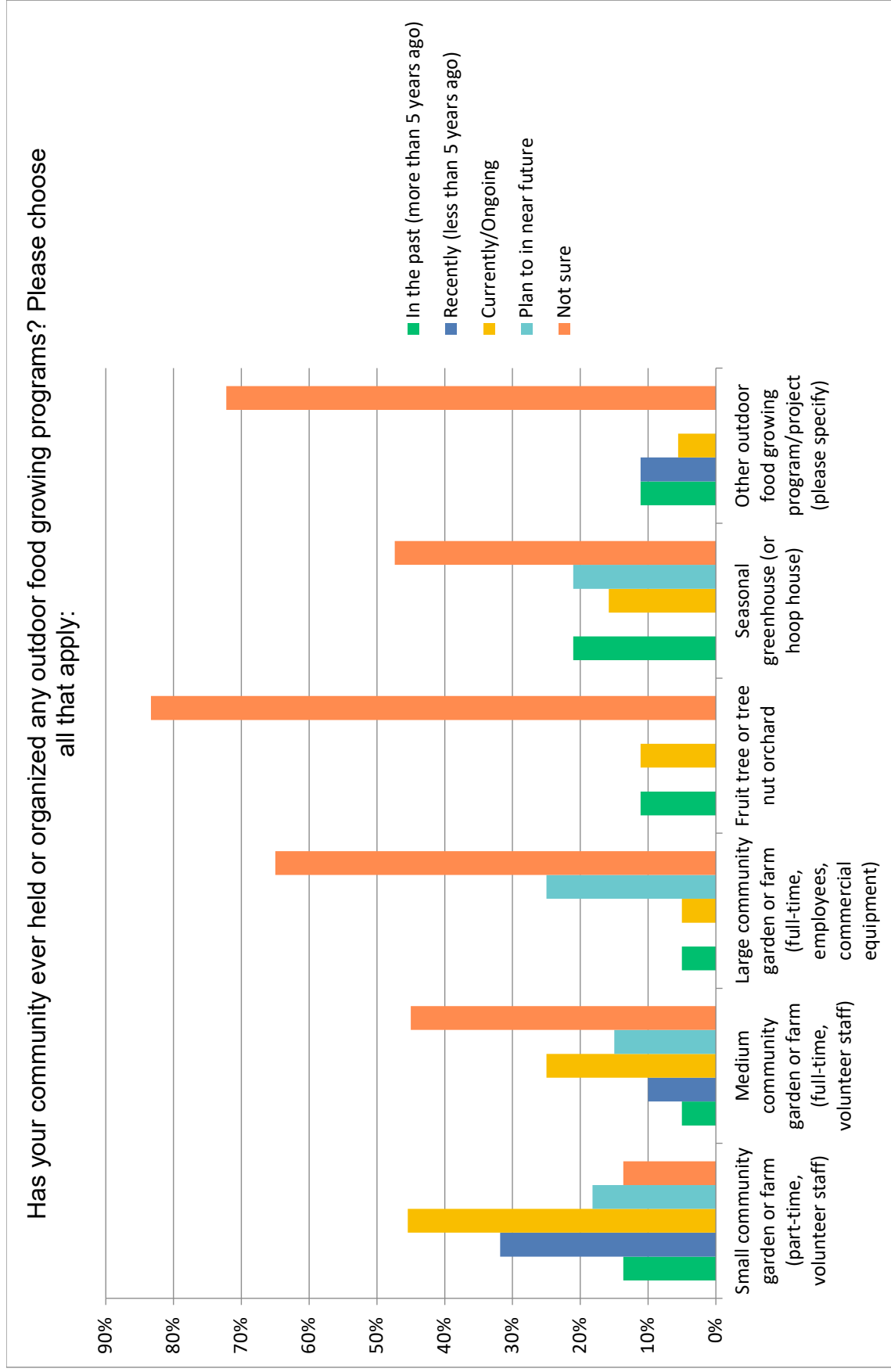


Figure 3. The percentage of communities that have organized any outdoor growing programs in the past, present, currently and plan to in the near future

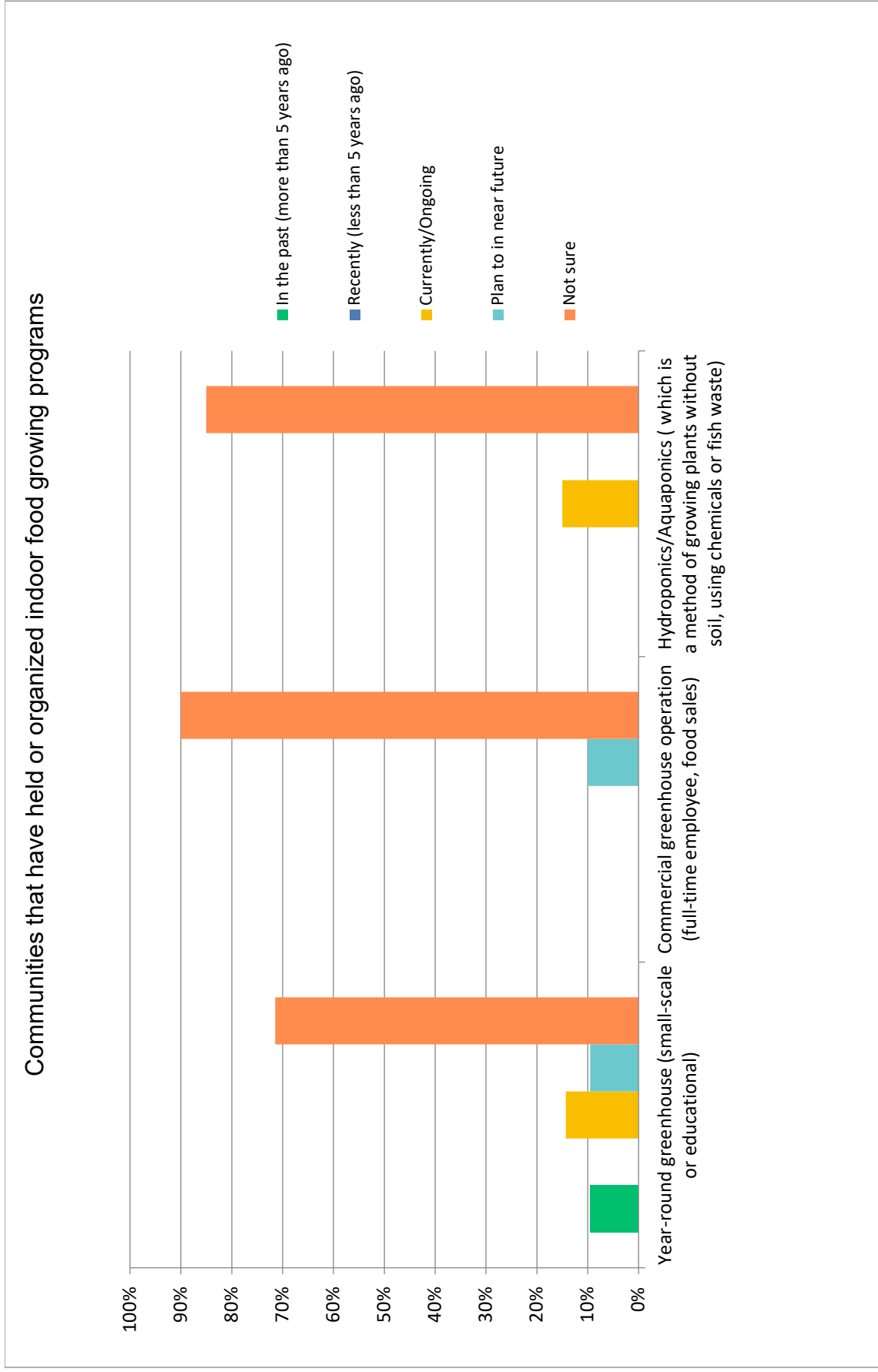


Figure 4. The percentage of communities that have organized any indoor growing programs in the past, present, currently and plan to in the near future.

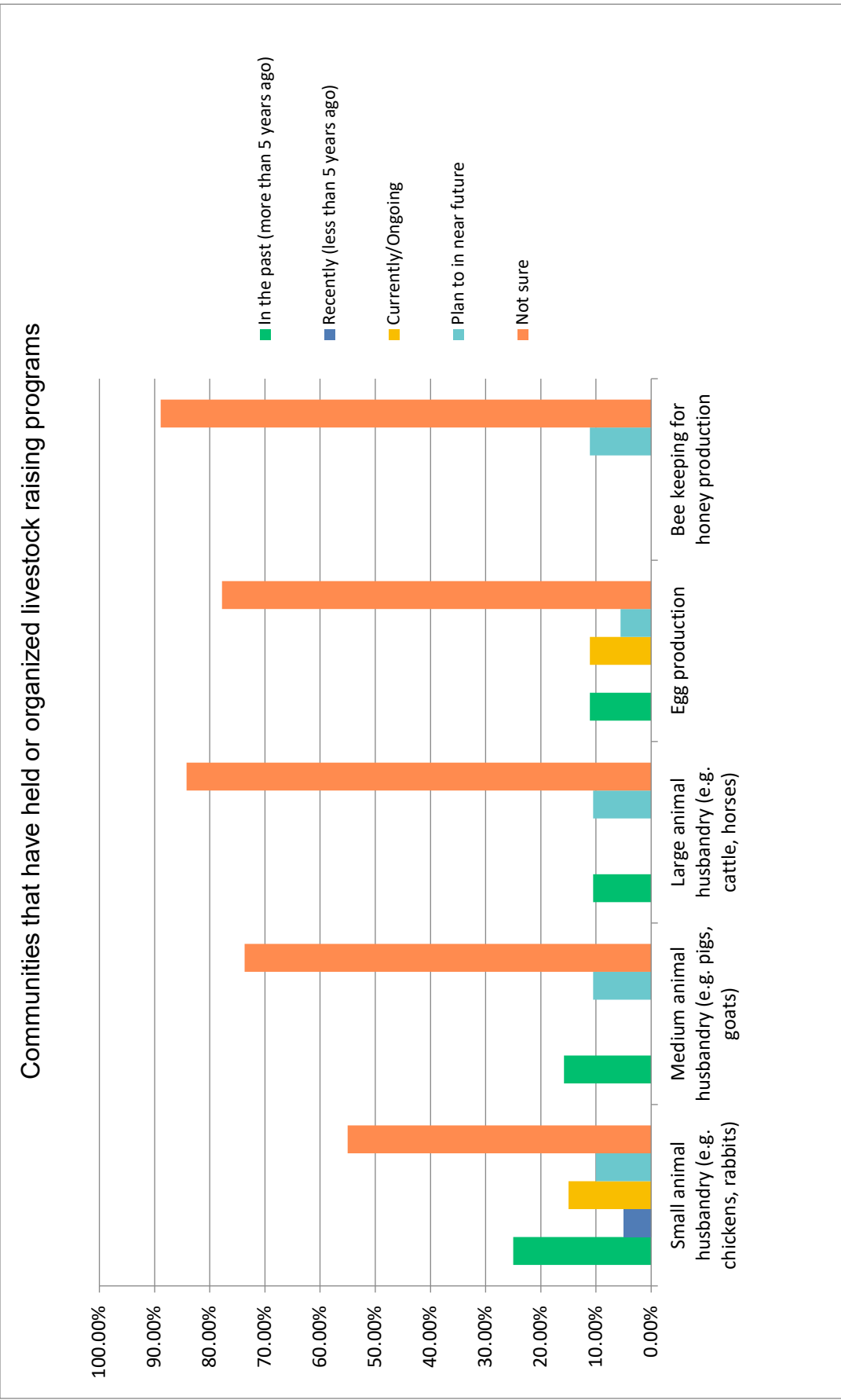


Figure 5. The percentage of communities that have organized any livestock raising programs in the past, present, currently and plan to in the near future.

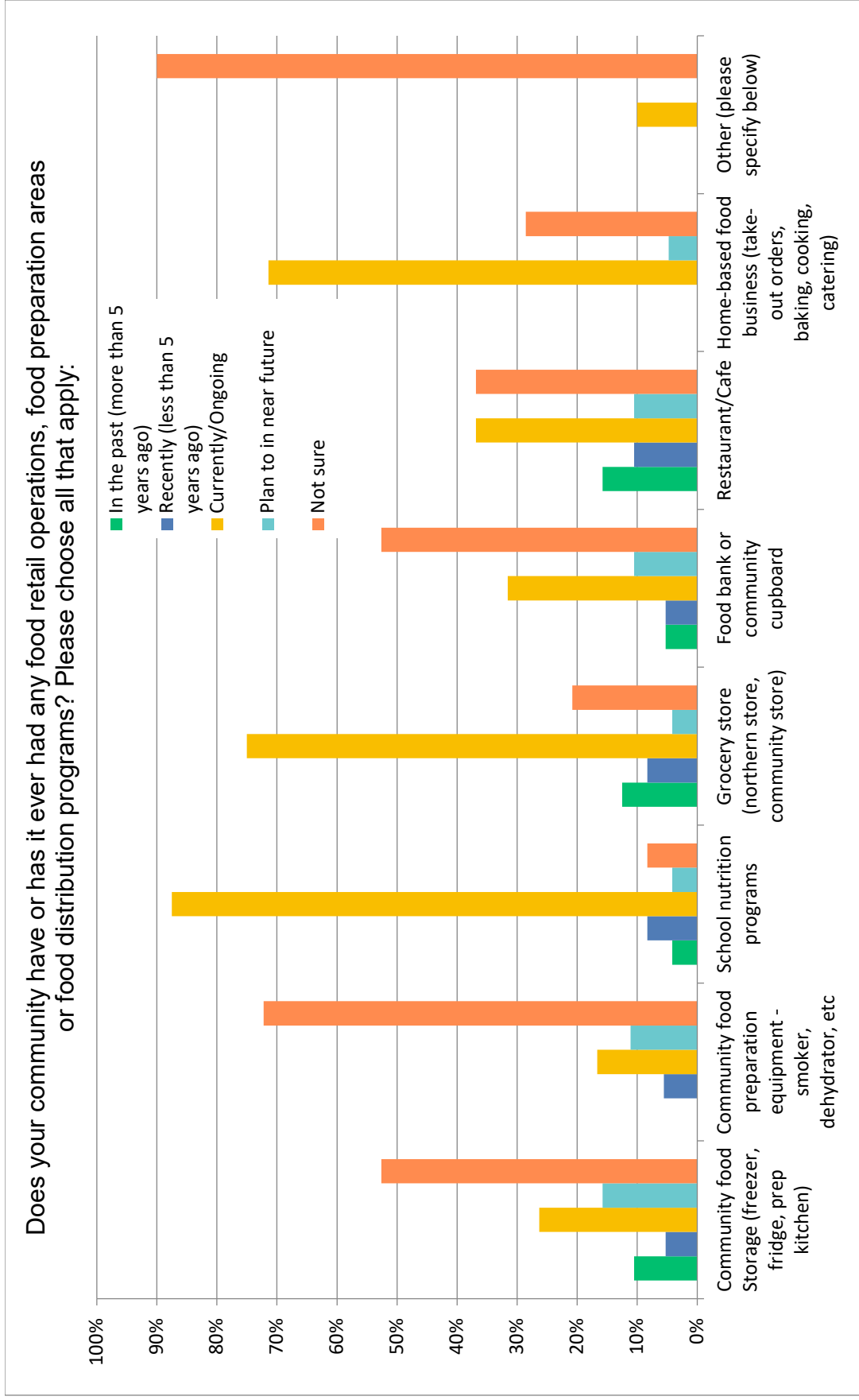


Figure 6. The percentage of communities that have had any food retail operations, food preparation areas or food distribution programs in the past, present, currently and plan to in the near future.

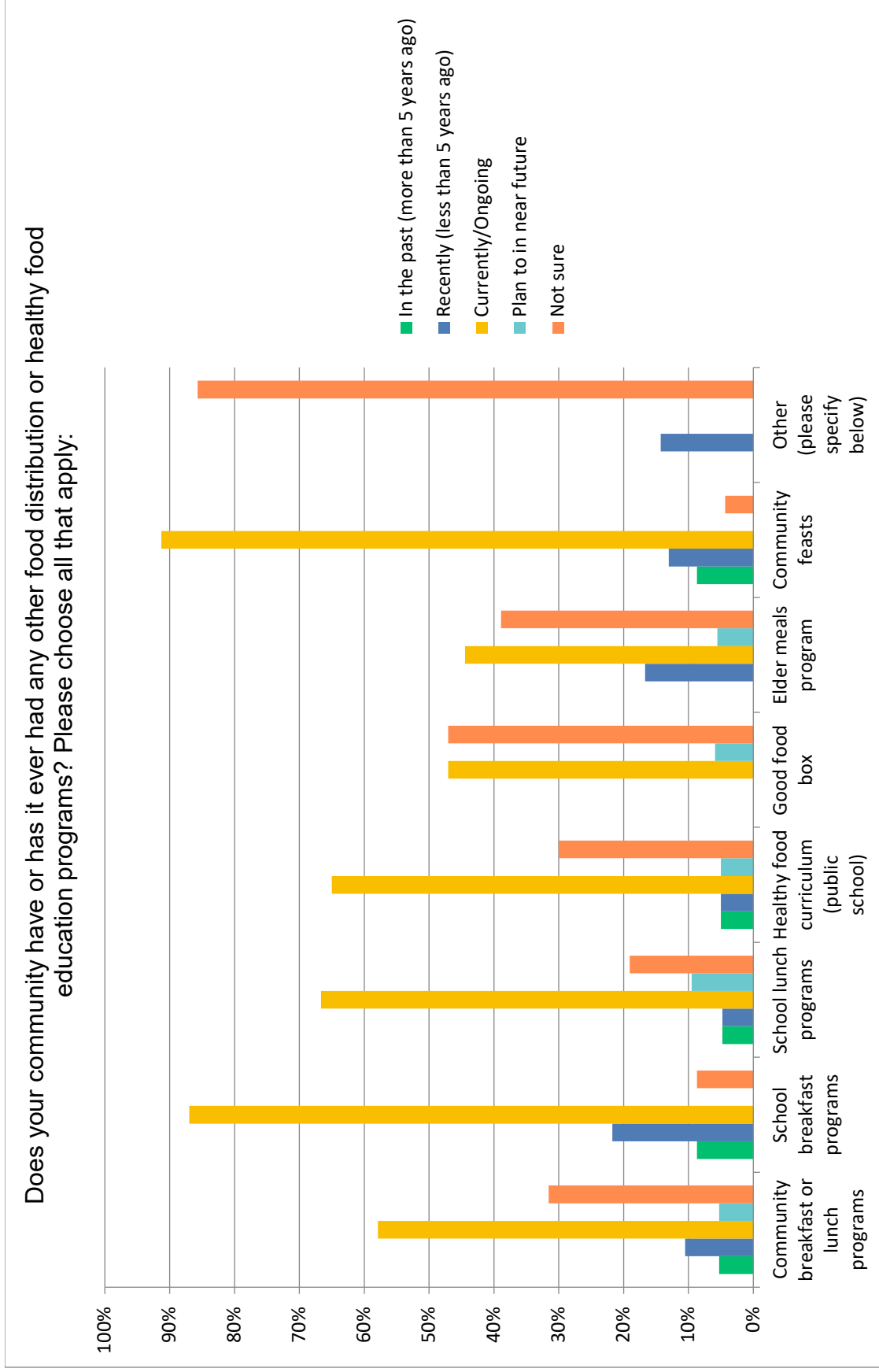


Figure 7. The percentage of communities that have had any food distribution or healthy food education programs in the past, present, currently and plan to in the near future.

Communities that have ever held or organized programs that integrated the management of trees, crops and/or livestock (Agro-Forestry)

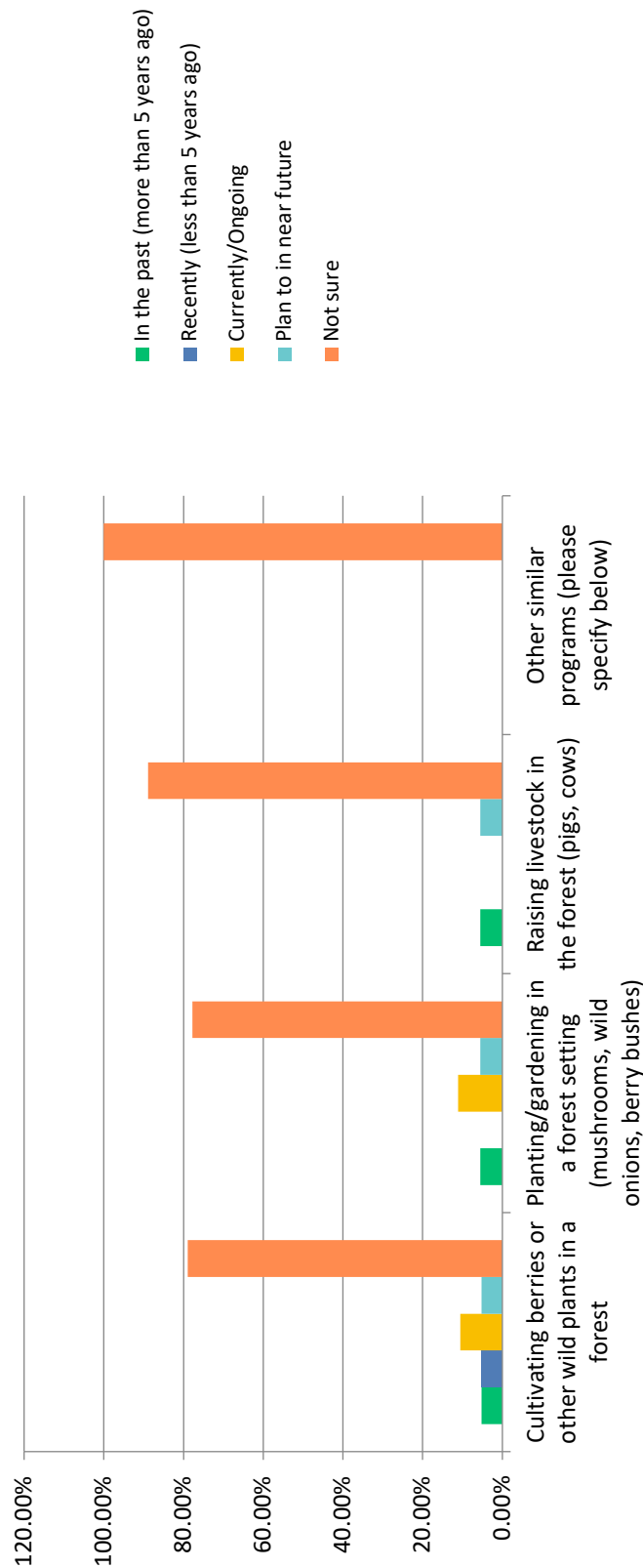


Figure 8. The percentage of communities that have held or organized programs that integrated the management of trees, and/or livestock (agro-forestry) in the past, present, currently and plan to in the near future.

A summary table was created based on the literature review of past and current programs offered by the provincial and federal government/organizations in Northern Ontario and Manitoba as well as offered by SLFNHA and other regional bodies. The programs included any community-led food program efforts, whether community gardens, greenhouses, livestock and hunting. To access your community information from this summary table, please contact the Preventing Chronic Disease Nutritionist at Approaches to Community Wellbeing at (807)737-5189.

The current and future data was also combined to show a snapshot for the next 3 years (see Table 5.). This table shows that communities that have current food initiative programs and programs planned for the future may have higher food security as planning for the future generally indicates capacity in the present.

Table 5. Community Survey Questions with current and future programs combined

Community Name	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Total
C2	X	X	X		X	X	X	6
C11	X	X	X		X	X		5
C4	X	X	X		X	X		5
C23		X	X	X		X	X	5
C7	X	X	X		X	X		5
C5	X	X		X	X	X		5
C20	X	X			X	X		4
C12	X	X			X	X		4
C6			X	X	X	X		4
C15		X			X	X	X	4
C14	X	X			X	X		4
C16	X	X			X	X		4
C9	X		X		X	X		4
C19	X	X			X	X		4
C3	X				X	X		3
C10	X				X	X		3
C13	X				X	X		3
C8	X				X	X		3
C1		X			X	X		3
C18	X					X		2
C17					X	X		2
C21	X				X			2
C22	X					X		2
C24								0

6.0 Key Findings

One of the key issues that northern communities face is the lack of knowledge regarding available programs, including funding, training or other types of support offered by various levels of government which has led to gaps in the services and food programs available in each community.

Trends found in the data show that a higher percentage of communities use traditional wild food or traditional medicine gathering programs like hunting and fishing and only a handful of communities have organized any outdoor or indoor food growing programs. Some examples are the Kitchenuhmaykoosib Inninuwug Community Garden and Fort Severn which has a number of greenhouses and Wapekeka First Nation which has a greenhouse and school-based community gardening program.

Many other communities showed interest in having more growing programs in place but stressed the need for training on how to build/maintain a greenhouse/garden and/or grow healthy food. Others emphasized the lack of funding in place for these programs.

A message from a woman from Fort Hope was that “A couple of homes in the community have made their own little back yard gardens which are successful for growing their own potatoes but we need training and materials/supplies provided to families that are interested in growing their own vegetables in their yards.”

She also said her son works at the community garden in Fort Hope and he says "It was hard work tending to a garden that big, it was certainly worth it. He commented that “It brings me great joy and a feeling of satisfaction and appreciation when I see that the community members grateful for eating fresh vegetables that our grounds had to offer.”

Only 3 communities, Eagle Lake, Lac Seul and Ojibway Nation of Saugeen responded that they do currently use hydroponics or aquaponics for growing plants and one other community said they would like to in the future. A few communities, Wabigoon Lake being one of them, has highlighted the need for Elder meal programs.

Many of the community organizations do have food retail operations, food distribution programs and healthy food education programs, like school nutrition programs in place but there are communities that lack these programs. For example, Eagle Lake First Nation holds a number of community and school feasts including the annual Christmas Concert and Feast, the Community Thanksgiving Feast, Elder's Tea, Spring Feast/Potluck and Cultural Camp. Kasabonika Lake First Nation has undertaken *Back to Our Roots*, an economic and food security project that aims to revitalize traditional food harvesting to subsidize income and provide food to community members living in poverty

Similarly, Pikangikum First Nation is receiving funding for a project to help evaluate their Indigenous food security initiative. The *Kahminoshkahkemakahkiin miijiman imaa tahshiikewiinik* initiative aims to have a positive impact on the community by improving nutrition and economic opportunities.

Additionally, the Eenchokay Birchstick School in Pikangikum First Nation has two cafeterias & a full commercial kitchen and vocational training classrooms among other educational spaces.

Very few communities organize livestock raising programs or have integrated programs in agro-forestry, but many do raise chickens for eggs or hatch eggs in classrooms for learning.

7.0 Recommendations

Food insecurity is a complex issue that requires personalized, but holistic approaches [20]. From this project it was concluded that Canadian governments and non-governmental stakeholders have made some improvements in addressing food insecurity in Northern Communities through a variety of programs, though these programs might not always work to improve food security in all communities and not all communities have access to these programs. Local engagement is crucial to encourage the necessary life skills and knowledge, such as food storage, preparation, as well as transfer the program's ownership to communities.

The timeframe given to collect responses was limited and if given more time for calls a larger sample size of data may have provided more accurate results. Further data gathering to collect survey results from the remaining 9 communities would be helpful in giving better overall baseline of food security in the communities served by SLFNHA. Focus on which programs are in place is key. If survey data was not collected in person/over the phone, it was difficult to know the actual program that was in place, and assumptions may have been made.

7.1 Increase access to traditional food

Northern communities face many challenges in meeting their food needs with respect to traditional harvesting and trapping activities, including population increases, climate change, decline in animal populations, hunting quotas and/ or restrictions, and the rising cost of hunting equipment and transportation. Recently, participation in harvesting activities and the consumption of food have also declined in Indigenous communities [23].

Activities such as hunting, fishing, foraging and trapping can make significant contributions to Indigenous communities. Unfortunately, many do not have the means to participate fully in these activities. The increased cost of hunting and fishing, along with low income, limits the ability of many hunters to go out on the land and harvest food. The harvesting of food in these communities is usually done by a handful of community members who then share their harvest during community feasts.

Current and future generations of hunters could help provide northern communities with sufficient food if stakeholders partner to create a system that allows them to do so. For example, stakeholders could pool resources to provide hunting equipment to communities or allow hunters to rent equipment at a cost. Hunter and Trappers Organizations (HTO's) in communities can help to regulate harvesting practices and manage economic development. The Government of Canada has helped communities in places like Nunavut to support the development of training material dedicated to HTOs. By providing this funding, the Government of Canada is giving these organizations the materials and training needed for new opportunities [24].

7.2 Promote nutrition education, training and teaching traditional skills

Education programs on nutrition, traditional skills, food processing and preparation are essential components of improving food security and the overall health of communities. These educational opportunities are needed to improve food security among communities [25].

Several community focused programs exist in the communities surveyed such as recipe sharing, student and adult cooking classes, food preparation classes, wild food gathering and hunting/fishing as part of daily life practices. These programs and skills could be expanded to all communities.

School-led programs also contribute to food literacy, which is defined as the understanding of the impact of your food choices on your health, the environment, and the economy. Food literacy can include food and nutrition knowledge, skills, and self- confidence. Based on results from the surveys many of the schools now include

nutrition education in their curriculum. Existing programs, such as the ones offered by most communities served by SLFNHA often include gardening lessons and/or food preparation courses to ensure students understand the process. Wabigoon Lake public school is one of the schools that holds wild food gathering field trips and hunting/fishing field trips every year that last two weeks, according to our surveys. Wabigoon Lake public school has also brought eggs to classrooms to hatch and raise chicks as a learning experience.

Overall, training and resources were lacking in most communities – many emphasized the need for training on how to grow food whether it be indoor or outdoor gardens. Communities can look for resources within the community to help each other learn and build on local success. An example would be contacting the schools to see if they already have a garden or nutrition program in place that you can learn from.

7.3 Improve transportation and infrastructure

Transportation of nutritious food to northern locations remains a significant challenge. Many remote communities lack affordable and reliable infrastructure to deliver and distribute products to residents.

While some northern communities have seasonal lake or road access, others may only be accessible by air. Some communities rely heavily on ice roads for transporting food, putting the residents further at risk of food insecurity. When there are large deliveries of basic products, like milk and vegetables, stocks can sell out almost immediately.

One important message from a community member emphasized the need for better transportation of food. He stated that “Stores gain more profit and bring more stuff over the winter road but it does not lower the cost of food and the cost of food increases due to the price of gas.” He emphasized the need for community members to have their license. “One thing I have been pushing for in my community is that every driver has a driver license and insurance on their vehicle.”

Northern and remote communities also lack the infrastructure – such as warehouses, paved runways and larger airports – to improve and expand air operations.

A strong network of transportation infrastructure in these communities is necessary in order to ensure that northern communities have access to quality nutritious food at affordable prices. The establishment of such a network will require the involvement of all levels of government.

Communities can increase food security by offering cooking classes community feasts, elder teachings on traditional foods, canning, preserving and/or pickling classes, recipe sharing and communal traditional food preparation.

8.0 Closing Remarks

One of the key issues that the communities served by SLFNHA face is the lack of knowledge regarding available programs, such as funding, training or other types of support offered by various levels of government., this has led to a disparity in the services and food programs available in each community, depending on the level of expertise and experience of the leadership in the community.

There are unique food security considerations for remote and First Nation peoples related to the harvesting, sharing and consumption of traditional foods, which impact the four pillars of food security: access, availability, supply and utilization. Thus, food security conceptualizations, policies, and programs for Indigenous people must consider both the market food system and traditional food system.

This report provides an overview of food programs and initiatives in the region as well as a list of available funding and support programs offered through regional, provincial or federal government organizations. Different food programs offered and trends in data were highlighted, with the goal of sharing knowledge of food programming between member SLFNHA communities and the region in general.

It is important to gain more information on the factors that relate to determinants of food choice and food access. There are very few comprehensive studies documenting the determinants of healthy eating in communities and therefore, there are many gaps in knowledge [24].

This study does provide a review of some methods used in First Nations community surveys to date, but additional case studies are needed to more thoroughly analyze and evaluate the survey methods used. Common themes and effective practices were highlighted, but without more case studies it is difficult to confirm whether the common themes identified here are indeed widespread and effective. Further work could be done to assess the need for emergency food supply, school breakfast, lunch and snack programs along with weekend food programs to prevent food insecurity for children.

Food sovereignty with traditional foods should be further identified in communities to restore and enhance access to traditional Indigenous foods as they are linked to the historic rights to the hunting, fishing and gathering grounds in their respective traditional lands [25].

By establishing their own projects under their own leadership, communities can determine what should be grown, cooked, taught, and shared. These decisions will lead to greater food security.

References

- [1] Daschner et al. 2016. Household Food Insecurity in Canada, 2014. PROOF Food insecurity and Policy Research. <https://onlinelibrary.wiley.com/doi/full/10.1111/cch.12182>
- [2] Paquet, M. 2016. 4 Diseases Impacting Health on First Nations in Canada. <https://aetonix.com/2016/12/22/4-diseases-impacting-health-first-nations-canada/>
- [3] Household Food Insecurity in Canada. 2016. Online. Accessed. March 26, 2019. <https://proof.utoronto.ca/food-insecurity/>
- [4] Kuhnlein, H.V. and H.M. Chan. Environmental and Contaminants in Traditional Food Systems of Northern Indigenous Peoples. Annu Rev. Nutr. 2000. 20:595-626.
- [5] First Nations Food, Nutrition and Environment Study. 2019. <http://www.fnfnes.ca/>
- [6] Assembly of First Nations. Background Paper: Overview of Environmental Issues Facing First Nations: Context for Participation in Nuclear Fuel Waste Management Issues. Ottawa, Ontario, 2005.
- [7] Ledrou & Gervais, 2005. Food Reports. Health Reports, Vol. 16, No. 3, May 2005 Statistics Canada, Catalogue 82-003 and Martin D. et al 2016. Food Secure Canada. Paying for Nutrition. A report on Food Costing in the North.
- [8] Canadian Broadcasting Corporation, "Nutrition North food subsidy program: What went wrong," 22December 2014. [Online]. Available: <http://www.cbc.ca/news/canada/north/nutrition-north-food-subsidy-program-what-went-wrong-1.2880756>. [Accessed 7 April 2016].
- [9] The Toronto Star, "Northern food-subsidy program open to abuse, auditor warns," 25 November 2014. [Online]. Available: http://www.thestar.com/news/canada/2014/11/25/northern_foodsubsidy_program_open_to_abuse_auditor_warns.html. [Accessed 7 April 2016].
- [10] Ontario. 2017. Building Ontario's First Food Security Strategy. Discussion Paper. 2017 <https://www.ontario.ca/page/building-ontarios-first-food-security-strategy>
- [11] Traditional Foods: Are they Safe for First Nations Consumption? Assembly of First Nations Environmental Stewardship Unit March 2007
- [12] Benefits of a Traditional Diet. Anishnawbe Mushkiki. Community Health and Wellness. 2019. <https://mushkiki.com/benefits-of-a-traditional-diet/>
- [13] The NAN Advocate, 2012.
- [14] Stolz, W., Levkoe, C.Z. and Nelson, C. 2017. Blueberry Foraging as a Social Economy in Northern Ontario: A Case Study of Aroland First Nation, Arthur Shupe Wild Foods, Nipigon Blueberry Blast Festival, and the Algoma Highlands Wild Blueberry Farm and Winery. Centre for Sustainable Food Systems, Wilfrid Laurier University.

- [15] Innovative Greenhouses in Fort Severn. Nishnawbe Aski Nation. 2017
<https://kiitigaanaskihub.ca/2017/12/innovative-greenhouses-in-fort-severn-first-nation/>
- [16] First Nations Agriculture Needs Assessment. Prepared by BC Ministry of Agriculture First Nations AgricultureTeam.https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/farm-management/farm-business-management/first-nations-agriculture/first_nations_agriculture_needs_assessment.pdf
- [17a] Regional Distribution Centre Northern Logistics. First Nations-Municipal Community Economic Development Initiative
- [17] Community Garden Project. Eabametoong First Nation.2019
<http://www.eabametoong.firstnation.ca/community/groups-and-projects/community-garden-project/>
- [18] Eabametoong farm wins provincial award. CBC News. 2018.
<https://www.cbc.ca/news/canada/thunder-bay/eabametoong-farm-wins-award-1.4542250>
- [19] Giving voice to food insecurity in a remote indigenous community in subarctic Ontario, Canada: traditional ways, ways to cope, ways forward. 2013.
<https://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-13-427>
- [20] Keewaytinook Okimakanak Board of Education. KOBÉ 2017 Annual Report. Moving Education Forward.
- [21] Ontario Working to Reduce Poverty in the North Province Partnering with First Nations to Increase Food Access and Employment Opportunities. 2017.
<https://news.ontario.ca/prs/en/2017/12/ontario-working-to-reduce-poverty-in-the-north.html>
- [22] Statistics Canada. (2010). Survey Methods and Practices. Retrieved from
http://publications.gc.ca/collections/collection_2010/statcan/12-587-X/12-587-x2003001-eng.pdf
- [23] Check J., Schutt R. K. Survey research. In: J. Check, R. K. Schutt., editors. Research methods in education. Thousand Oaks, CA: Sage Publications; 2012. pp. 159–185.
- [24] Improving governance with Nunavut’s Hunters and Trappers Organizations. 2019
<https://www.canada.ca/en/northern-economic-development/news/2019/02/improving-governance-with-nunavuts-hunters-and-trappers-organizations.html>
- [25] Kelley, K., Clark, B., Brown, V., & Sitzia, J. (2003). Good practice in the conduct and reporting of survey research. *International Journal for Quality in Health Care*, 15(3), 261–266. <http://doi.org/10.1093/intqhc/mzg031>
- [26] Food Secure Canada. Indigenous Food Insecurity.
https://foodsecurecanada.org/sites/foodsecurecanada.org/files/DP1_Indigenous_Food_Sovereignty.pdf