



Sioux Lookout
First Nations
Health Authority

2019

SLFNHA Community Garden Implementation Guide



Prepared by: hme Enterprises

E: info@hmeenterprises.ca

1/1/2019

Table of Contents

List of Tables.....	iii
List of Figures	iii
Executive Summary.....	v
1.0 Why Should My Community Implement a Community Garden?.....	- 1 -
2.0 Community Gardens	- 2 -
2.1 Types of Community Gardens	- 2 -
2.1.1 Individual Plot Community Gardens.....	- 2 -
2.1.2 Shared Community Garden	- 3 -
2.1.3 Community Program led Garden.....	- 3 -
2.2 Community Garden Size and Layout	- 3 -
2.2.1 Small Community Garden: 6 – 12 Raised Beds.....	- 4 -
2.2.2 Medium Gardens: In Ground Market Garden or Raised Beds.....	- 4 -
2.2.3 Season Extension: Hoop House	- 5 -
3.0 Phase 1: Get Organized – Define the ‘Why’ & ‘How’ of Your Garden	- 6 -
3.1 Step #1: Organize a Community Meeting.....	- 6 -
3.2 Step #2: Form a Community Garden Planning Team	- 7 -
3.3 Step #3: Identify Your Resources.....	- 7 -
3.3.1 Labour Requirements/Human Resources.....	- 8 -
3.3.2 External Resources Required.....	- 9 -
3.4 Step #4: Engage a Knowledgeable Growing Planner (Optional).....	- 9 -
3.5 Step #5: Choose a Garden Site	- 10 -
3.5.1 Physical Requirements	- 10 -
3.6 Step #6: Determine what Supplies are Needed	- 13 -
3.6.1 Materials & Equipment Required.....	- 13 -
3.6.2 Soil Requirements and Composting	- 14 -
3.7 Step #7: Create a Budget.....	- 16 -
3.7.1 Small Community Gardens Sample Budget	- 17 -
3.7.2 Medium Community Gardens Sample Budget	- 19 -
3.7.3 Hoop House Extensions for Community Gardens Sample Budgets.....	- 20 -
3.7.4 Comparison of Growing Option Budgets.....	- 21 -
3.8 Step #8: Investigate Funding Options.....	- 22 -
4.0 Phase 2: Get Growing! – Building, Planting and Harvesting Your Garden	- 22 -

4.1	Step #1: Develop a Work Plan and a Communication Plan	- 22 -
4.2	Step #2: Prepare and Develop the Site.....	- 22 -
4.3	Step #3: Organize the Garden	- 25 -
4.4	Step #4: Training and Growing Orientation.....	- 26 -
4.5	Step # 5: Planting Your Garden.....	- 26 -
4.6	Step #6: Ongoing Support/Training.....	- 30 -
4.6.1	Ongoing Maintenance Required.....	- 31 -
4.6.2	Storing Garden Produce	- 31 -
4.6.3	Preparing and Serving Fresh Garden Produce.....	- 32 -
5.0	Community Garden Planning Schedule.....	- 32 -
6.0	Sources of Funding	- 35 -
6.1	Current Funding Available – Food Specific	- 35 -
6.2	Current Funding Available – Generic Funders	- 37 -
7.0	Training Resources.....	- 38 -
	References.....	- 61 -

List of Tables

Table 1:	Small and Medium Garden standard sizes for this guide	- 16 -
Table 2:	Small Garden/Raised Beds (based on 12, 4'x8' beds).....	- 17 -
Table 3:	Medium Gardens (based on 20 x 4'x8' beds)	- 19 -
Table 4:	Hoop House (based on three different sizes, capacity of hoop house).....	- 20 -
Table 5:	Summary of Garden Options Costs.....	- 21 -
Table 6:	Garden Production Projections	- 23 -
Table 7:	Crop Growing Guideline for Zone 2b, in Ontario based on The Farmer's Almanac.....	- 30 -
Table 8:	Sample Gantt Chart - Implementation Schedule	- 34 -
Table 9:	Funding Sources for Agricultural Activities.....	- 38 -

List of Figures

Figure 1:	Collective-Style Community Garden in Thunder Bay (Roots to Harvest)	- 3 -
Figure 2:	Raised Beds in a Small Community Garden.....	- 4 -
Figure 3:	Medium-sized In-Ground Community Garden with Drip-line Irrigation (Roots to Harvest)	- 5 -
Figure 4:	Small Hoop House	- 5 -
Figure 5:	Sample Sizes and plot arrangements for a Small Community Garden	- 16 -
Figure 6:	Sample Sizes and arrangements for a Medium Community Garden, showing raised beds and in ground versions.....	- 17 -
Figure 7:	Small to Medium Gardens with Hoop House (figurative sample, not to scale)	- 23 -
Figure 8:	Raised Garden Bed.....	- 24 -
Figure 9:	Small Hoop House Assembly, (Source: Modern Farmer)	- 25 -
Figure 10:	Large Hoop House (Source: Growers Supply).....	- 25 -
Figure 11:	Plant Hardiness Zones for FN communities served by SLFNHA.....	- 28 -

List of Appendices:

Appendix A: Sample Funding Application

Appendix B: Sample Budget

Appendix C: Cargo Rates for Shipping NorthStar Air

Appendix D: Work and Harvest Schedule

Appendix E: Maintenance Schedule

Appendix F: How to Build a Hoop House

Executive Summary

This guide provides an overview of how to start and plan a Community Garden. Different options are provided - including raised beds, small and large plots of land and hoop houses. This plan also discusses common challenges in creating a community garden, such as gathering community support, clearing a space to grow, and security. Instructions and tips are included in this document to help in planning a community garden, including:

- Organizing your Community Garden project
- Choosing a type of Community Garden
- Northern growing considerations
- Materials and tools required
- Labour required
- Overall budget
- Operating schedule

The overall goal of this plan is to provide community leaders and organizers with resources needed to start up a community garden within a single season.

For the three community gardens considered; small, medium and hoop house, budgets were created to outline the differences in equipment, materials, and

resources needed to make sure the project is a success. Sample budgets are given in section 3.7. Note that these costs are only an approximate estimate of materials and resources for starting a garden.

When starting a garden for the first time it can be expensive if local community members are not involved but there are many ways to save on materials, equipment and resources which are outlined in this guide.

Keep in mind, the garden layouts in this guide are only examples, you can always use what you learn in this plan to start your own small personal garden that may eventually become a larger garden if you decide to involve the community. You can also come up with your own sizes and layouts of gardens based on ideas from this guide.

There are many organizations, government agencies, and companies that are prepared to help communities plan, execute and operate their gardens. A listing of these resources is included in Section 7.0.

1.0 Why Should My Community Implement a Community Garden?

Food insecurity is a common challenge for northern and remote communities, especially in Northern Ontario, where one in three people are food insecure¹. Community Gardens are one type of local food development project which can directly improve food security. They have low purchase and operating costs, they are low-tech, and can be implemented with limited energy needs.

Gardening in northern communities has specific challenges which include extreme seasonal temperatures, low levels of daily sunlight and a short growing season. This can result in greater risk of crop destruction due to early frosts, late spring snowfalls and storms. This guide has been developed with these considerations in mind. Soil can be developed and improved through simple composting systems and irrigation challenges can be met through gravity-fed rainwater collection. Short gardening seasons can be extended through simple hoop house additions.

Starting a community garden will build local capacity and provide multiple learning opportunities in addition to producing fresh, local product. This guide will help you design a Community Garden project that fits your community's needs and capacity.

This guide is part of a series of Community-Led Food Security Program Guides developed by Sioux Lookout First Nations Health Authority to encourage communities to design run their own food production and education projects. Please contact your SLFNHA representative or contact our office at 54 Front St, Sioux Lookout, ON P8T 1B8 or call us at (807) 737-5189 for more information.

2.0 Community Gardens

Gardens are a natural first step in moving towards improved food security. By starting a Community Garden, families and individuals are able to grow fresh, healthy produce, increase the availability of nutritious foods, and work together to improve the communities they live in and there's also the opportunity to set an example for the next generation, showing them where their food comes from.

Community gardens give individuals access to grow fresh vegetables and fruits even if they don't have a lot of space, good soils, tools or gardening skills. Community gardening allows people to learn and share gardening skills and cut costs by sharing seeds and tools with other community members. Community gardens also help people experience a sense of community and learning traditional skills from community Elders. Food harvested can help lessen the high food costs in remote communities. The food produced by the gardens is used in individual kitchens or for the benefit of the larger community and is not intended to be sold profit.

You can use this guide to learn about gardening and start small with your own personal garden if that better suits your needs. You can always use this personal garden to teach others about gardening and eventually expand it into one of the larger types of community gardens.

2.1 Types of Community Gardens

Before starting a community garden project, it's important to think about what type of community garden is best suited for your community's needs. There are two kinds of community gardens that have been successful in communities across Canada: Individual Plot Community Gardens and Shared Community Gardens, but we also discuss a Community Program Led Garden in this section. The type chosen is up to the community to decide on, based on what they want the garden to achieve and how they would like to see the harvest distributed at the end of the growing season. And remember, you can start your own personal garden too using these ideas and decide if you want to expand it later to involve other community members outside your household. Your knowledge of gardening can also be passed on to other community members that are starting a community garden, if you wish to get involved.

2.1.1 Individual Plot Community Gardens

In an Individual Plot community garden, a shared gardening space contains individual gardens, each tended to by a different individual for their own use and on their own schedule. This style is good for where residents don't have their own green space and knowledge of gardening can be shared by those involved. An Individual Plot Community Garden often includes a shared tool shed and secure storage area and a secured fence/entrance that only participating gardeners have access to.

2.1.2 Shared Community Garden

In a shared Community garden, people work together in a shared large garden area with many plots. It relies on a small group of people to manage and maintain it throughout the season. The group decides together on what to plant and how the harvest should be distributed.

Ways to share the harvest include:

- individual participants get a share of the harvest based on the number of hours they worked in the garden
- the group donates some or all of the harvest to a community feast or food bank
- the group sells the goods produced at a community market or through a local food store



Figure 1: Collective-Style Community Garden in Thunder Bay (Roots to Harvest)

2.1.3 Community Program led Garden

Community Program led Gardening can be run by churches, neighborhood associations, non-profit organizations, community agencies, schools and teaching groups, such as the Aboriginal Diabetes Initiative (ADI). The ADI helps communities with community-led food security projects. This type of gardening can also be introduced into schools and can be used for providing snacks or meals to students, serving as a teaching tool, and creating physical activity for students. The crops could be used in the classrooms for cooking classes or donated to a pantry for breakfast or lunch programs. The garden can be shared between all students or each participant can be assigned their own space.

There are active community gardens in some of the communities that SLFNHA serves, including the following:

- Kitchenuhmaykoosib Inninuwug Community Garden;
- Fort Severn has a number of greenhouses;
- Wapekeka First Nation, greenhouse and school-based community gardening program; and,

Whichever type of Community Garden a community chooses, it can be changed and revised each season as the needs of the community grow or the participants in the project learn new skills.

2.2 Community Garden Size and Layout

This guide will include a few different sizes and layouts of gardens. Generally, these are described in this guide as:

- Small: raised garden beds;
- Medium: raised garden beds and/or in ground growing; and,
- Season Extension Option: Hoop house.

A small garden will be easier to build and require less people to operate than a medium garden. A medium-sized garden will produce more food and allow a greater variety of food and skills to be developed. Each community should select their garden design based on their skills, the support of the community, interest level, and the availability of community champions/knowledge keepers. It is important that your community can identify at least one community member with experience in growing food who will commit to participating in the project, or is at least willing to learn.

2.2.1 Small Community Garden: 6 – 12 Raised Beds

Before constructing any raised beds consider the location chosen. Vegetables, fruits and most flowering plants will need at least eight (8) hours of full sun each day.

In this guide, raised garden beds are generally recommended as you may not be able to find good soil in the boreal landscape of the far north, they can be built on top of whatever area the community chooses and are often easier to maintain than in-ground garden beds. Raised garden beds are assumed to be 4 x 8 ft in size. A raised bed for vegetables can be as simple as raking the soil into flat-topped mounds several inches higher than footpaths. Or, for deeper beds, you can box soil with lumber. You can also use harvested logs from the forest if easily accessible, or old untreated boards found in the area if available to save on costs.



Figure 2: Raised Beds in a Small Community Garden

Raised garden beds are assumed to be 4 x 8 ft in size. A raised bed for vegetables can be as simple as raking the soil into flat-topped mounds several inches higher than footpaths. Or, for deeper beds, you can box soil with lumber. You can also use harvested logs from the forest if easily accessible, or old untreated boards found in the area if available to save on costs.

Benefits of raised garden growing include:

1. Digging/roto-tilling the garden bed area is not needed
2. Ease of cultivation/harvesting, especially for those with limited mobility
3. Saves resources, water and nutrients, are applied only in the beds, not distributed over the entire garden area
4. By using peat-based and organically enriched soils and keeping the nutrients within a specified area, the pH of the soil can be kept in an ideal range for most plants.

2.2.2 Medium Gardens: In Ground Market Garden or Raised Beds

Medium-sized Community Gardens may be large in-ground gardens or many raised garden beds or a combination of both types of garden beds. Medium Gardens require a larger crew of participants to manage the crops, and harvest the produce at the end of the season. An experienced gardener or local expert is a very important part of creating the garden and developing a team of skilled participants.

Medium-sized gardens will also require additional storage space, security and irrigation/water needs. Crops will require water regularly during the hottest driest months of the year, so enough water must be available either through water storage or irrigation systems.



Figure 3 – Medium-sized In-Ground Community Garden with Drip-line Irrigation (Roots to Harvest)

2.2.3 Season Extension: Hoop House

If the community wants to grow long-season produce or produce that requires a warmer climate zone, a hoop house is a simple and low-cost way to create a warmer, moister growing environment through passive solar heating. Growing in a hoop house is a bit more complicated than in the field and requires additional management.

Hoop-houses are generally dome shaped and constructed of metal or plastic hoops covered with a single layer of 6mm, greenhouse-grade polyethylene film. Larger hoop houses may use a steel frame to provide sound structural support. A hoop house has no permanent heating system or electrical connections. You create venting by opening the curtains on the sides of the house.



Figure 4: Small Hoop House

Most houses range in width from 14 to 30ft, but can extend over 100ft in length. Compared with greenhouses, hoop houses are relatively inexpensive, ranging in price from \$1 to \$4 per ft². Hoop houses can be seasonal or permanent, depending on size and garden plans. Benefits of hoop house production include:

1. Protection against storms, and hail. Depending on the strength of the structure, hoop houses can provide protection against wind and rain that accompany heavy thunderstorms.
2. Damage caused by pests and animals can be reduced with careful management.

3. Less chance of leaf disease in hoop houses, because plants are sheltered from rainfall.
4. Longer growing season, as crops are not damaged by late snow or early frost.

Practically any crop can be grown in a hoop house. A few hoop house crops that are commonly grown for market include tomato, eggplant, pepper, summer squash, cucumber, specialty melons, strawberry, and raspberry.

3.0 Phase 1: Get Organized – Define the ‘Why’ & ‘How’ of Your Garden

The most important steps in creating a Community Garden happen before seeds are planted or garden beds are built; they are the community-led planning activities that help you choose what kind of Community Garden is best for your community and why. Some questions to ask are; What goals you want to achieve with the garden? discuss what gardens people remember in their community? Where were they located? and what is the community vision for gardening now? You will need to define the budget and funding sources for the project, and knowing who will manage and tend the garden. There are a large number of benefits community gardens provide to their community members, including:

- Provide fresh, healthy, low-cost food that can substitute for otherwise expensive food purchases
- Promote sustainable agriculture
- Reduce food transportation costs
- Increase physical activity through garden maintenance activities
- Improve dietary habits through education
- Reduce risk of obesity and obesity-related diseases
- Improve mental health and promote relaxation
- Create a social gathering place for the community and encourage the sharing of knowledge
- Allow participants to learn basic gardening skills, harvesting, and understanding of their food system

Remember you can always start smaller with a home-grown garden, and possibly skip some of the following steps but this guide can still help you with planning and growing your garden. Take the following steps to ensure your Community Garden is successful and sustainable:

3.1 Step #1: Organize a Community Meeting

A general community meeting should be the first step in planning a community garden because it will help you understand how much community support exists for the project and what type of community garden is most appropriate for the community’s needs. Key questions to ask at this meeting include:

- What type of garden is the community most interested in?
- What community garden benefits are most important to your community?
- What level of gardening expertise is present in the community?
- How many community members want to participate in the planning of the community garden?
- How many community members want to participate in building, planting, tending and harvesting the community garden?
- What vegetables, fruits, herb etc. does the community want to grow?
- How should the harvest be sold or distributed at the end of the year?

This community meeting should be both informative and interactive, with community members able to ask questions and provide input. Determine whether a garden is really needed and wanted, what kind it should be (vegetable, fruits, herbs, both, organic?). The community meeting should be open to all community members, and special effort should be made to include youth and Elders in the event.

3.2 Step #2: Form a Community Garden Planning Team

The next step is to create a planning team or working group of community members to complete the planning and organizing of activities for the Community Garden. This group should include people who feel dedicated to the creation of the garden and have the time to offer to it. Where possible, representatives from community service departments should be found to participate on this team (e.g. Health Department, Education Department). Key Tasks to complete will be:

- Creating a budget
- Preparing funding applications if needed
- Connecting with community organizations/programs
- Site Selection and Construction planning
- Garden participant selection
- Communicating plans to public
- Ensure that the Community Garden Planning Team has the support of the community's leadership. Ideally, at least one member of Chief and Council will participate and a Band Council Resolution will be passed to support the initiative and authorize the team to apply for funding to support it.

If you want to start smaller, such as an individual garden that is not shared by the community this step does not have to be as formal. It can be done by one or a couple people, maybe your family will get together and plan a home garden.

3.3 Step #3: Identify Your Resources

Once the Community Garden Planning Team is formed, it should use its first meeting to identify resources. At this meeting the following questions should be answered:

- What skills sets already exist in the community that can help in the garden's creation? (e.g. brainstorm a list of individuals with building, construction, project management, gardening and budgeting experience)
- What resources can we gather from within the community? (e.g. available building materials and tools, financial contributions, in-kind contributions)
- What sites would be suitable for the garden?
- How much work/labour can we expect from participants?
- How should participants be rewarded for their efforts? (e.g. crop share, wages, other ways)

Contact your community planner about possible sites, look within your community for people with experience in landscaping and gardening. For many communities, there are youth employment programs for students returning from high school or college that could be part of community garden workforce. This could be an opportunity to engage youth while also helping set up a growing operation/garden.

3.3.1 Labour Requirements/Human Resources

Site Preparation: Organize volunteer work crews to help clear the site by removing debris and other unwanted materials. You may need to organize a bulk garbage pick-up with your municipal collection, or a trip to the local dump to remove materials from the site. Ensure that you are not using a contaminated site.

Staff/Coordinators: Once you have established a garden, an important consideration is a plan of how your garden will be managed, or taken care of. A management plan will include guidelines for your garden's operations. These will provide structure for your day-to-day activities as well as directions on how to run the garden. Many successful gardens have management plans that encourage active involvement by their members.

Is there a staff person in the community who can take on this project as part of their current work/programs? Schools, daycares, employment and/or health staff can usually incorporate at least some components of community growing into their day to day activities, programs or curriculum. Incorporating this work into programs can increase engagement and learning for those members and will ensure that the gardens are taken care of. The more community members involved, the better, and it is recommended to have at least two community champions to help coordinate this project.

The community may choose to select a community garden coordinator to lead the process and to update the committee. The coordinator should have project management and leadership skills in order to make the garden a success. The coordinator can be a volunteer or paid staff depending on the group's available finances. The responsibilities of a coordinator could also be divided among several organizers focused on managing different areas.

Security: Neighbouring buildings with windows facing the garden, suitable entries and exits and fences can all help with safety and security. For a small garden, hiring staff to monitor the garden is not necessary. But for a larger plot of land or hoop house which may not be easily accessed at all hours, more lighting, fencing and even cameras could be set up to help monitor the garden.

Planting/Harvesting: Planting and harvesting will take Human Resources. The amount of people needed to plant and harvest will depend on the size of the garden.

Small Community Garden

- For a small garden, a few community members and volunteers could take turns with planting and harvesting. There should be no or very little cost involved as long as members are willing to help.

Medium Community Garden

- To keep costs down for a medium sized garden, ask all members to get involved. Try getting a school, or health team to volunteer as part of their healthy living programs.

Hoop House:

- A hoop house may require more frequent adjustments to ensure plants growing inside have the right level of heat and fresh air to keep plants healthy. This will add additional labour requirements to your garden on top of the work needing to be done in the garden.

3.3.2 External Resources Required

Planning, executing and operating a community garden successfully can be challenging. The project will need to consider energy, resources, training needs, travel and shipping costs, and ongoing operational requirements. Unless a community has existing resources to manage and maintain the garden, usually in the form of community members with experience in growing and gardening, outside help will be needed during the early years of operation. Some of your project's needs may be met through donations from partnering organizations, sponsorships from local businesses or other fundraising efforts. It is not uncommon for communities to engage with funders and hire consultants or professional growers in order to successfully implement their Community Garden project and help transition it to a fully community-managed operation.

Energy Costs:

Small and medium-sized community gardens will require little energy other than power needed to construct/prepare the garden site. Gardens that may be prone to theft or vandalism may wish to install security lights and/or an alarm system to discourage entry outside of operating hours. All of this can be handled by a small solar energy grid system if the garden does not have easy access to electricity. If a garden has access to water and installs taps on site, a generator or solar and battery system can run the taps on an as-needed basis.

Shipping costs

Shipping costs will differ depending on location. To see the average cost of shipping cargo by location see Appendix C. For example, to ship from Thunder Bay to Sachigo Lake is approx. \$1.33/lb and to ship to Fort Hope is approx. \$1.02/lb based on NorthStar Air estimates, (as of May 2019). Fly-in only communities should explore options (perhaps with a growing expert's help) for a composting system to create enriched soils to amend what materials they have on site before considering flying garden soils to the community.

3.4 Step #4: Engage a Knowledgeable Growing Planner (Optional)

It is always best to look for local resources and knowledge in your community before seeking professional assistance with your garden. Find out if others in your community have their own gardens and ask for their advice. Once you find out the knowledge available and how much support or interest there is for Community Gardening, you can decide if you need a Gardening or Food Growing Expert such as a farmer, gardener or agriculturalist to help you work out the details of your Community Garden operation. A detailed project plan, including operational requirements and materials list will be very important to securing funding. A list of professionals, organizations and local First Nations communities with knowledge and expertise in gardening are listed in Section 7.0 to help you get started if you do not have a local expert in your community. These organizations can help guide your community through the initial planning stages, choosing a site, as well as securing funding for your operation.

3.5 Step #5: Choose a Garden Site

The following factors should be considered when choosing a site for your garden:

3.5.1 Physical Requirements

Space/Land: Space/amount of land required will differ for each project based on the scale/size of garden to be implemented. It's important when deciding on the size of your garden and the site that it will be installed on, that you consider storage, seedling and rest areas. Land should be relatively flat and dry, with good sunlight access throughout the day.

Small Community Garden

A small community garden can be put in a community members yard or a communal area such as health centre, school or community centre. One raised bed is about 4' wide by 8' in length and is a great start for a new grower. For a small community garden, 6-12 (4'x8' beds) garden beds is sufficient to grow a good range and quantity of produce that can supplement a family's supply of vegetables for a whole year.

Medium Community Garden

For a medium garden, additional resources will be required. The amount of land will depend on the size you want to begin with. For this guide we use an average medium garden size to be 15-20 (4'x8' beds) or 2 (30'x100' in ground, no raised beds), where anywhere from 2000 to 6000sq ft. total area of land would be required. Ideally the area has full sun in the daytime, good drainage, high soil quality (lack of contamination, good proportions of sandy soil), access to water, and close in proximity to participants who will grow the food. Fencing will be required to prevent damage from animals or vandalism.

Hoop House:

A hoop house is used to extend the growing season of a garden. The hoop house will not require additional space. The materials needed and costs will depend on the size of Hoop House you choose to build.

Water/Irrigation: Each project will need access to water. This would ideally include a tap and hose, but could be increased with a water barrel (to capture rain water), or a water cistern/reservoir (see pricing below) to store water for gardeners to use throughout the season. Having a site with water access nearby is very important. Plan your garden to allow for easy access to water from all garden plots. Rain barrels can collect rainwater to be stored and used in the garden. You may more than likely need a water storage tank, if you have limited access to water. A small 100-gallon tank could cost less than \$200, while a 10,000-gallon tank could cost more than \$5,000. The amount of water and resources needed to supply water will differ for each level of garden. As long as water storage tanks are elevated slightly above the level of the gardens, gravity will provide enough pressure for water to flow through hoses connected to water barrels or cisterns/reservoirs.

Small Community Garden

For small vegetable gardens in the summer, about 1 inch of water over the surface area of the garden bed per week is recommended. That is equivalent to 0.623 gallons per sq. ft. using that rate, a 32 sq. ft. bed requires 20 gallons of water per week. (32 sq. ft. x 0.623 gallons per sq. ft. = 20 gallons per week). So, if the average small garden included 12 raised beds, you would need 240 gallons of water per week. Note: these numbers are average and do not include rainfall or drought conditions.

Medium Community Garden

For a medium sized garden, you will need to have a system that can handle delivering (and possibly storing) more water than a small garden. If a medium garden included 20 raised beds at 32sq ft. per bed than, (20 gallons per week x 20 beds = 400 gallons) 400 gallons per week or 57 gallons per day would be required to feed the garden. Again, this calculation is just an average and there are many environmental factors that will affect the amount of water needed in a garden.

Hoop House:

A Hoop House is used to extend the season of a garden and is placed over the garden bed. The requirements for water would be slightly less than that of a medium garden of the same size as the hoop house would hold in moisture. If the hoop house is used in colder months a winterized watering system may be required.

Soil: Determine the type of soil in your area. Find out if you can harvest nutrient rich soil from the forest or surrounding area to help save on costs. Depending on location and soil type in the area you may have to have soil shipped in, which can be costly (The cost of shipping it is extremely expensive (approx. \$150/hr per truckload or approx \$1.30/lb to fly in for remote communities). Soil depth for in-ground and raised beds should be a minimum of 6". Some vegetables require 12" to 18" of soil. Think about what you will be planting before building raised beds. If soil must be transferred to a site, test it for pH, nutrients, and contaminants. A simple soil test may only cost \$20.00. See section 3.6.2 for details on soil requirements and composting. The amount of soil needed for each size garden will differ. To find out how much soil you will need to fill your raised bed, you can use a soil calculator, such as this one: <https://www.gardeners.com/how-to/soil-calculator/7558.html>

Small Community Garden

For a 4'x8' raised bed with a 10" height, about 1 cubic yard of soil is needed, so for 10 beds 10 cubic yards of soil would be needed.

Medium Community Garden

Based on this calculation approximately for 20 4'x8' beds 20 cubic yards of soil will be needed.

Hoop House:

The same amount of soil for a medium garden and hoop house would be needed if hoop house placed over top of medium garden.

Sunlight/Shade/Wind: You will need at least six hours of direct sunlight per day for small and medium garden. Minimize shade and maximize protection from wind, with trees, shrubs, buildings and fences. Beans, peas and tomatoes for example can be damaged by strong winds. The amount of sun needed for small and medium sized gardens will be approximately the same but for hoop house it will be less, as the sun will be absorbed through the plastic. The amount and type of sunlight that your garden receives will also depend on the types of plants you grow. Direct sunlight from the East, South and West creates suitable conditions for sun-dependent crops. Otherwise, you will need to plan your planting with the solar needs of the plants and the available sunlight during the day in mind.

There are a variety of shade-tolerant plants, which are options if you have limited access to sunlight.

Shade-Tolerant Vegetables

- Chard
- Kale
- Lettuce
- Peas and beans
- Root vegetables
- Spinach

Sun-Tolerant Vegetables

- Tomatoes
- Cucumbers
- Peppers
- Peas
- Beans
- Corn and Squash

Hoop House:

For maximum passive or reflective warming in the cooler months, consider positioning your hoop house so the long side runs east/west. This may enable you to produce a crop in the coldest parts of the season rather than simply extending your season.

By positioning the hoop house in a north/south direction, you receive the air currents coming from a south or southwest direction that will help ventilate the hot air buildup within the hoop house on hot days. The north/south orientation also favours sun penetration during the summer months since the sun tracks from east to west, going directly over the hoop house for maximum light penetration.

Accessibility and Proximity: Plan out how people will access the garden. Think about where to have paths and how large they need to be, for example, if a wheelbarrow can fit on the path. Gardeners should be able to reach the site easily. Include paved or smooth walkways, wheelchair access to garden beds, handrails and ramps where needed, close proximity to garden users, (parking and loading/unloading areas). The paths can be made with gravel, woodchips, packed soil or similar material. Considering the needs of your Elders and those with mobility challenges will allow more people to participate in your garden chores and receive benefits from working in a community garden. Centrally located community gardens in open spaces are less likely to be vandalized by humans or wildlife. However, if security lights are installed, you may also need to consider the garden's proximity to residential houses with windows facing the site.

Small Community Garden

A small garden will not need a lot of effort or cost to create walkways or paths. Packed down soil around the garden beds or a few bags of wood chips or wood shavings will be enough.

Medium Community Garden

Medium Gardens will need more walking space than a small garden to ease access to your crops.

Depending on the size of the garden packed rows of dirt may be enough, or gravel may be needed if access needs to be made for wheelchairs.

Hoop House:

If your community garden is likely to be tended by individuals using mobility aids (wheelchairs, walkers, etc.), make sure that hoop house doorways are wide, have a low bottom doorway lip and pathways inside the hoop house are well-packed.

3.6 Step #6: Determine what Supplies are Needed

Establish the size, design, layout and crop selection for your Community Garden. Based on the specifications you set, you can then create a detailed list of supplies, materials and equipment needed to implement your Garden. Consider all aspects of the operation including storage, seedling growth areas and food storage requirements at harvest time. Gaps in the supply list may be filled by partner organizations, community-provided funding or funding from another organization. A detailed supplies list will be very important to building the project budget in Step #7.

3.6.1 Materials & Equipment Required

There are several tools and materials that can be shared for all levels of community gardens and can include the following items:

- **Shovels** – regular spades used for digging and moving soil in garden beds to dig or loosen ground, or to break up lumps in the soil
- **Hand Trowels** - can be used for moving a plant from one location to another, for weeding or for digging small holes for seeds.
- **Gardening gloves** (one set per person) - gardening gloves are essential to protect your hands from cuts and soil-borne diseases and bacterial infections
- **Irrigation** (depends on system requirements and needs) – depending on the site and the availability of water, this irrigation system may not be needed, however, for this report, a 1,000 litre water storage tank has been included that can be filled as needed and provides regular drip irrigation. **Wheelbarrow**- a wheelbarrow is used for transporting soil, plants or other items
- **Garden Shed** – a garden shed can be used to store gardening tools, watering cans and other garden items and is helpful with easy access to tools, which often translates into better garden maintenance. Another benefit is that you won't have to transport heavy tools and equipment to and from the site
- **Seeds and Transplants** - You can't have a garden without seeds or transplants (baby vegetable plants). Some veggies/fruit just don't like to be transplanted due to a delicate root system. Spinach, beets, carrots, and peas are examples of plants that like to start from seed. Things that are quick to germinate are great to start from seed, like radishes, beans, peas, beets, and turnips. Starting with baby plants can give you more control and predictable results in the garden. Transplants give you a huge jumpstart on the season because they will mature sooner and give you an earlier harvest.



Veggies to Direct Seed

- Beans
- Beets
- Carrots
- Peas
- Spinach
- Squash

Veggies to Transplant or Start in Trays

- Celery
- Collards
- Kale
- Broccoli
- Onion
- Peppers
- Tomatoes

- **Fencing** – Building a fence around your garden helps to keep out animals, like dogs, retains soil, and protects plants from the wind. It can also give tall plants a structural foundation. There are many options for borders in a garden – you can build a fence, build a trellis/lattice, plant bushes or create a chicken wire wall. The amount of fencing required for your garden will depend on the size and location.
- **Raised Beds** - (based on size of 8 feet by 4 feet) – The bed frame can be as simple as 2 x 4 boards on top of the ground. Untreated lumber can also be used. 3 pieces of 2”x10”x8’ wood, 1 piece cut in half into 2”x10”x4’ pieces will work for one 4ft by 8ft garden bed. Use materials you already have onsite. Old barn boards or boards from an old deck will work just fine, or logs found in the forest can work too. See 4.2 for more detail on how to build raised beds.
- **Hoop House Materials**- Prices for an easily built plastic enclosed hoop house fall well below the costs of other greenhouse structures. You can assemble the hoop house in just a couple of hours at a cost of approximately \$1 or less per square foot, or you can choose to have a larger hoop house that would cover more area but would cost more.

Before ordering any equipment for gardening you can look within the community to find out if items can be borrowed or donated. Someone in the area may have some building equipment and may be willing to mix up a patch of land. If you do have to order equipment though, it will be very important to do so as soon as possible (depending on funding agreements), and to explore all options to reduce shipping and transportation costs. Please note that equipment selected in this plan is based on standard garden equipment that is currently in use and may not suit the needs of each community.

3.6.2 Soil Requirements and Composting

Soil - First Determine the type of soil in your area. Can you harvest nutrient rich soil from the forest or surrounding area, to help save on costs? It is important to investigate the local area for forest soil, peat moss, leaves and compost to get the basic soil needs. You will need a Triple Mix Soil, which is a combination of topsoil, peat moss and compost. The best topsoil includes a loamy texture with a mixture of between 7 and 27% clay, 28 to 50% silt and fewer than 52% sand. Peat moss consists of dead fibrous material that forms when mosses and other living material decompose in peat bogs and is an important component of most gardens especially if starting from seeds.

If you don’t have or can’t find good soil in your area you may have to have soil shipped in, which can be costly. The cost of shipping can be up to (\$150/hr per truckload from a local hardware store or approx \$1.30/lb to ship by air - NorthStar Air, 2019). Depending on the level of complexity and current water delivery systems in the community, it is very important to be located near an electrical source and running water, or the community will need to have a water truck. Basic irrigation can be accomplished through gravity fed water storage tanks, filled daily or weekly.

Soil Amendments

- A pH of 6.5 will work for most home gardens, since most plants thrive in the 6.0 to 7.0 (slightly acidic to neutral) range. Some plants (blueberries) prefer more acidic soil, while a few (asparagus) do best in soil that is neutral to slightly alkaline.
- A simple soil testing kit can help you evaluate each potential site and make a plan for soil amendments as needed.
- The rate required to raise the soil pH to 6.5 is determined by using a soil test called the "Buffer pH" test. The soil test shows the amount of lime to apply per 1,000 square feet. Apply lime to soils with a pH below 5.5.
- Soils do not need to be tested every year. A good test every fifth year should be adequate unless a major soil amendment was added since the last test.

For more information on soil amendments there are many resources out there such as the Old Farmer's Almanac. Find out more here <https://www.almanac.com/topics/gardening/soil>

Compost Building Materials – Soil compost can be an annual cost or you can compost yourself. Making your own compost from food and organic waste is an eco-friendly option. Compost is made with material such as leaves, shredded twigs, and kitchen scraps from plants. Compost is an important component for gardens as it returns organic matter to the soil, which improves plant growth. An ideal place to do composting is in the enclosure at a northern or community store. The northern store has agreed in some communities to host a compost bin in their enclosed area. This keeps dogs out and allows the community members to dump their own food wastes for the community to use on gardens.

An outdoor composting pile or bin is an easy way to recycle food waste and create nutrient-rich fertilizer for your garden. Composting helps to keep biodegradable materials out of landfills. The key to successful composting is aeration, which means turning the compost over to provide more oxygen: it is the oxygen that speeds up the decomposition process and helps to reduce odors. Use a ratio of 1:1 mix green waste (nitrogen-rich leaves, kitchen scraps, garden weeds, coffee grinds, and lawn trimmings) with brown waste (dried leaves, wood chips, sawdust and shredded newspaper). If you find that your compost begins to smell or attract flies (which lay eggs that hatch into maggots), turn the pile for aeration and add more browns. The best time to dig compost into a garden is when preparing the bed for planting, in the spring and fall. For more thorough details on composting there are many online resources available. The FoodShare website offers an online presentation on composting, a downloadable Compost Breakdown manual and the Roots to Rooftops manual which talks about composting among many other topics on gardening. The Old Farmer's Almanac offers many articles on soil and composting, such as how to attract worms to your garden and soil pH levels for plants. Roots to Harvest in Thunder Bay is a very good resource and you can contact them directly for more information.

List of Resources discussed above:

FoodShare
 Get the Dirt on How to Make Dirt
<https://foodshare.net/program/compost/>

Kim McGibbon, Program Coordinator
 Roots to Harvest
 807-285-0189
kim@rootstoharvest.org

The Old Farmer’s Almanac
 Soil Articles
<https://www.almanac.com/topics/gardening/soil>

3.7 Step #7: Create a Budget

With a site selected, materials listed and type of garden chosen, a detailed budget for your Community Garden project can be built. The budget must include start-up costs and construction materials to develop the garden site, soil, seeds, tools, land costs (if any), wages and may include consulting/training/assistance fees. Travel costs and shipping fees also need to be included in the budget. See a full sample budget with costs in Appendix B.

For this Community Garden implementation guide, costs have been based on a standard size for small and medium gardens. (Shown in Table 4 and Figures 11 and 12). The costs for your garden will change based on the size of garden you choose to go with. These values are meant as an example only, to help you with planning and preparing your own budget. The arrangement, size, amount of beds, and size of hoop house needed will all vary based on your community resources and needs.

Table 1: Small and Medium Garden standard sizes for this guide

Garden	Size (sq. ft.) for beds	Total Size/Area (sq. ft.)	Comments
Small	12 x (4'x8' beds) = 384 sq. ft.	1,1792 sq. ft.	The total area offers room for walking space, picnic tables and water tank
Medium	20 x (4'x8' beds) = 640 sq. ft. + 2 x (30' x 100' in ground) = 6,000 sq. ft. Total: 6,640	2,816 sq. ft.	The total area offers room for walking space, picnic tables and water tank

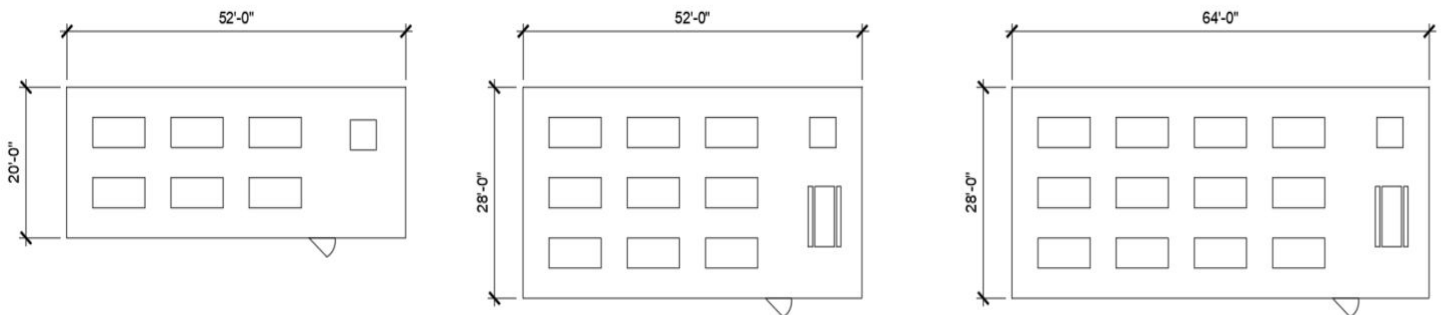


Figure 5: Sample Sizes and plot arrangements for a Small Community Garden

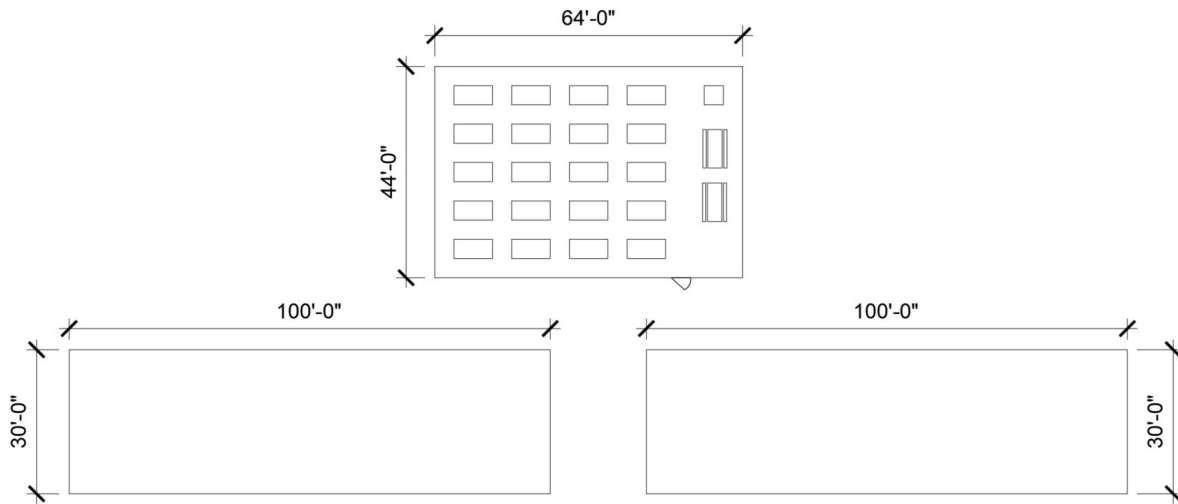


Figure 6: Sample Sizes and arrangements for a Medium Community Garden, showing raised beds and in ground versions

If you are implementing a small or medium-sized garden, it is not expected to operate as a for-profit operation and will rely heavily on community volunteers to plant, maintain and harvest any crops produced by the area. This budget and implementation guide have been designed specifically for communities that do not have any gardens.

Use the Sample Budget sheets (Tables 5, 6 and 7) to develop your garden’s budget and determine a priority list. A budget will help identify annual expenses and determine how much to charge for a plot.

It is important to note that many costs are not required if you use materials and resources you already have. You can use recycled materials for building, share tools and involve as many community members as possible to share the work.

3.7.1 Small Community Gardens Sample Budget

The budgets provided below (Tables 5,6 and 7) are examples of materials and resources needed for a Small, Medium and Hoop House extension for Community Gardens. Please refer to Section 3.6 for further details on the materials and equipment items included below. Please note that this budget is a sample only and in planning your community garden, it is important to modify your budget to your project and your community’s resources.

To create a custom budget for your project, see Appendix B for a sample budget with full cost estimates and a worksheet that you can use to fill in your requirements. Where possible, the budget sheet will automatically update to give you an estimated cost estimate for materials, transportation, shipping of materials, flights, human resources, etc.

Table 2: Small Garden/Raised Beds (based on 12, 4’x8’ beds)

	Description	Unit	Quantity
1. Materials and Equipment			
A	Raised Beds (based on 12 8’x4’ garden beds) Lumber, Screws, etc.	each	12
B	Soil - triple mix (4x8’ raised bed 10” height, 1 cubic yard of soil required)	cubic yard	12
C	Seeds - (approx 10 packages per garden bed)	pk	50
D	Garden Gloves – (1 set for each participant)	each	15
E	Watering Cans (one per 2 beds)	each	6
F	Hand trowel (one per 2 beds)	each	6
G	Spades (one per 6 beds)	each	2

H	trays for planting seeds indoors (approx. 3 trays per garden bed)	each	36
I	Wheelbarrow (1 per 10-12 beds)	each	1
J	Irrigation - 1000L tank plus \$150 to ship one tank	each	1
K	Fencing - (for a 30'x30' garden galvanized metal fencing and posts)	each	120
L	Garden Shed - (approx. price for a 10'x10' wood garden shed kit)	each	1
M	Picnic Table (1 for a small garden)	each	1
N	Compost Bin (2 for a small garden)	each	2
2. Community Resources			
2.1 Physical Requirements			
A	Space/Land (assume band owned land - no cost)	n/a	0
B	Water (assume water accessible/existing onsite)	n/a	0
C	Soil (assume soil available onsite)	n/a	0
D	Sunlight/Shade/Wind (assume good location available - cut trees to bring in sunlight or plant trees for shade)	n/a	0
E	Accessibility - wood chips for paths	cubic yard	1
2.2 Labour Requirements/Human Resources			
A	Site Preparation - if you need to hire workers	hr	80
B	Staff/Coordinators (one coordinator required)	hr	250
C	Security - outdoor lighting (2 lights for small garden sufficient)	each	2
D	Planting/Harvesting - if you need to hire workers	hr	50
3. External Resources			
A	Energy Costs (there should be few energy costs involved in small garden)	n/a	0
B	Consulting (would include initial visit /overview of how to start your garden)	hr	50
C	Training and Workshops (8 hrs is a good start for training but would increase based on needs)	hr	8
D	Flight Travel Costs (1 flight is just avg for a consultant or trainer to travel to your community)	flight	1
E	Shipping Costs - by truck	hr/ truckload	1
F	Shipping Costs - by air (See Appendix _ for cost based on location)	lb	100
4. Ongoing Operating Resources (Maintenance Costs)			
A	Soil Amendments - compost, manure, etc. (annual cost)	n/a	1
B	Fencing Maintenance (may be an annual cost)	n/a	1
C	Water (if you do not have water onsite to refill water tanks)	n/a	1
D	Seeds and Plants (annual cost)	n/a	1
E	Food for community garden meetings/gatherings (this cost will vary)	n/a	1
F	Fixing up and Buying new tools (may be an annual cost)	n/a	1
G	Compost (cost if you do not compost yourself)	cubic yard	10
H	Paperwork/printing or professional skills - accounting, advertising	na	1

I	Staff for watering/weeding/mulching - maintaining garden	hr	50
J	Storage Costs - Fridges/Freezers (this would be an initial/replacement cost)	n/a	1

3.7.2 Medium Community Gardens Sample Budget

Table 3: Medium Gardens (based on 20 x 4'x8' beds)

	Description	Unit	Quantity
1. Materials and Equipment			
A	Raised Beds (based on 20 8'x4' garden beds) Lumber, Screws	each	20
B	Soil - triple mix ((4x8' raised bed 10" height, 1 cubic yard of soil required)	cubic yard	20
C	Seeds – (approx.. 10 packages per garden bed)	pk	100
D	Garden Gloves – one set each participant	each	30
E	Watering Cans - (one per 2 beds)	each	10
F	Hand trowel (one per 2 beds)	each	10
G	Spades (one per 5 beds)	each	4
H	Wheelbarrow (1 per 10-12 beds)	each	2
I	Irrigation - 1000L tank plus \$150 to ship one tank	each	2
J	Tools	each	1
K	Fencing - (for a 60'x60' garden galvanized metal fencing and posts)	ft.	240
L	Garden Shed (approx price for a 12'x12' wood garden shed kit)	each	1
M	Picnic Table (2 for a medium garden)	each	2
N	Compost Bin (1 for every 5 raised beds)	each	4
2.0 Community Resources			
2.1 Physical Requirements			
A	Space/Land (assume band owned land - no cost)	n/a	0
B	Water (assume water accessible/existing onsite)	n/a	0
C	Soil (assume soil available onsite)	n/a	0
D	Sunlight/Shade/Wind (assume good location available - cut trees to bring in sunlight or plant trees for shade)	n/a	0
E	Accessibility - gravel for paths + shipping (local cost)	truck load	2
F	Accessibility - wood chips for paths	cubic yard	2
2.2 Labour Requirements/Human Resources			
A	Site Preparation - if you need to hire workers	hr	100
B	Staff/Coordinators (one coordinator required)	hr	300
C	Security - outdoor lighting (cost depends on type of lights)	light	5
D	Planting/Harvesting - if you need to hire workers	hr	100
3. External Resources			

E	Energy Costs (there should be few energy costs involved in small garden)	n/a	0
F	Consulting (would include initial visit /overview of how to start your garden)	hr	50
G	Training and Workshops (approx. 20 hours of training should be good start for gardeners)	hr	20
H	Flight Travel Costs (this number is avg for a consultant or trainer to travel to and from your community)	flight	5
I	Shipping Costs - by truck (for gravel or soil)	hr/truckload	1
J	Shipping Costs - by air (See Appendix _ for cost based on location)	lb	200
4. Ongoing Operating Resources (Maintenance Costs)			
A	Soil Amendments - compost, manure, etc. (annual cost)	n/a	1
B	Fencing Maintenance (may be an annual cost)	n/a	1
C	Water (if you do not have water onsite to refill water tanks)	n/a	1
D	Seeds and Plants (annual cost)	n/a	1
E	Food for community garden meetings/gatherings (this cost will vary)	n/a	1
F	Fixing up and Buying new tools (may be an annual cost)	n/a	1
G	Compost (cost if you do not compost yourself)	cubic yard	20
H	Paper work/printing or professional skills - accounting, advertising	na	1
I	Staff for watering/weeding/mulching - maintaining garden	hr	100
J	Storage Costs - Fridges/Freezers (this would be an initial/replacement cost)	n/a	1

3.7.3 Hoop House Extensions for Community Gardens Sample Budgets

Table 4: Hoop House (based on three different sizes, capacity of hoop house)

	Description	Unit	Quantity
1. Materials and Equipment for Small Hoop House (to cover one 4'x8' raised bed)			
A	1/2" x 10' 315 PSI SDR 13.5 PVC pipe	each	3
B	1/2" rigid straps	bag of 8	1
C	Common 0.375" x 2' rebar	each	4
D	Number 6 x 1 1/4" inch countersinking-head polymer-coated Phillips deck screws	box	2
E	10' x 100' x 2 millimeter clear construction Plastic film	roll	1
F	One set of spring clamps	set	1
G	Tools - hammer, tape measure	n/a	1
2. Materials and Equipment for Medium Hoop House (11' wide x 15' long x 8' high walk-in hoop house design)			
A	PVC pipe 20'x3/4" PVC schedule 40 plumbing pipe	each	6
B	Gray conduit 10'x1 1/4" schedule 80	each	12
C	Wood Stabilizers 1x6x8' pressure treated (cut to 1x3's)	each	6

D	Wood 2'x' stud (cut into 1x2's)	each	3
E	Wood 1x4x12' pressure treated	each	2
F	Wood 2x4x16' (cut into 2x2s)	each	1
G	Posts - 8' Steel "T" fence post	each	1
H	Rebar Anchors - 20'x½" (cut as needed – based on soil consistency)	each	1
I	Ties - 8" plastic zip ties – 100	100 pk	1
J	Screws - 1 ¼" x 5lb drywall screws	pk	1
K	Wire for Braces - 16 gauge galvanized utility wire – 25' roll	25' roll	1
L	Staples - 3/8" t-50 staples – 1250/pack	1000 pk	1
M	Plastic - 6 mm IRAD poly film 25'x35' sheet	sheet	1
N	Tools- hammer, tape measure	n/a	1
3. Materials and Equipment for Large Hoop House (20'W x 24'L 5.2 oz.)			
A	GrowSpan Series 500 Tall High Tunnel - 20'W x 72'L w/Drop-Down Sides	1.00	1.00
B	Shipping costs by air	weight lb	2410.00
3. Operating Costs			
A	New glazing every 2-3 years (incl. shipping)	Sq. Ft	2,260.00

3.7.4 Comparison of Growing Option Budgets

While each of the options considered have different requirements related to implementation, they also have different total costs. It is important for community leaders to review each cost category and make sure that the costs are correctly accounted for. An electronic version has been created as part of this project and can be accessed through SLFNHA personnel.

From the Tables above, the following cost summary table has been created:

Table 5 - Summary of Garden Options Costs

Garden	Small	Medium	Hoop house
Materials and Equipment	\$5,000	\$9,000	\$150
Community Resources	\$8,000	\$11,000	\$600
External Resources	\$6,000	\$9,000	\$8,000
Ongoing Operating Costs	\$3,000	\$6,000	\$700
Total:	\$22,000	\$35,500	\$10,450

As expected, Medium Gardens have the highest cost. As noted previously, a hoop house can be added to a small, medium or even large garden and the size of the hoop house will determine the overall cost. This Plan is intended to serve as a guide only, and each line item should be discussed by the community's growing group prior to purchasing.

3.8 Step #8: Investigate Funding Options

There are multiple funding agencies and organizations dedicated to improving food security and supporting food-growing projects that can support your Community Garden project. Grants and funds are usually found through a detailed application process and many have strict deadlines for submission (see section 6.0 on Funding). When meeting with either SLFNHA representatives or other 'growing' resources, ask about other communities' process and their success in securing funding. Note that most funding agencies will take a minimum of three months to return their review of your application, and until a contribution agreement is signed, no costs can be reimbursed.

4.0 Phase 2: Get Growing! – Building, Planting and Harvesting Your Garden

At this point, you should have defined your Community Garden goals, team members, type, site, budget and how the project will be supported financially. The construction and implementation of your Community Garden is now ready to get underway. A community-based Garden Coordinator should be in place to lead the project's management.

Even if you are waiting for funding you can start the process of your garden by planting seeds indoors to prepare for the growing season. All you need is soil, seeds, sun and water to get started on your garden. Just be careful of ordering equipment or materials until all funding sources have been confirmed (if applicable) and an approved project schedule is in place. Costs incurred outside of formal funding agreement specifications may not be eligible for reimbursement.

4.1 Step #1: Develop a Work Plan and a Communication Plan

Who is going to operate and maintain the garden? How many people will be required to care for the garden? Determine a work schedule and ensure that there are substitute workers available as needed (See Appendix D for a sample work schedule and harvest schedule). Organize work parties so that seeds and transplanting activities are completed on time (See section 4.5 Planting Your Garden for more information on planting and a sample planting schedule). An ongoing garden maintenance and work schedule must be kept throughout the season (See Appendix E for a maintenance schedule). It is very important to make sure that the garden is watered and weeded each week – losing a crop due to someone forgetting a visit is an action that will affect the entire growing group.

Good communication makes a strong community garden with active participation by all. You may want to create a sign-in/sign-out system at the site or an online check-in system so that each participant can log their time and activities at the garden and others can see what work has been completed or still needs to be done. Some ways to do this are: creating an email list; installing a rainproof bulletin board in the garden, having regular garden celebrations and creating an agenda for each garden meeting you have. You can start a private facebook group for those involved in your community garden to help keep everyone informed and up to date. Community gardens are all about creating and strengthening communities.

4.2 Step #2: Prepare and Develop the Site

In most cases, the land will need lots of preparation for planting. Organize volunteer work crews to clean it, gather materials, lay out the design and finalize plot arrangements. If the community has access to lumber or logs to make raised garden beds, these can be assembled and soil can be gathered and collected in the frames. Tool sheds and/or storage sheds will need to be constructed. Construct the hoop house if you are going to have one. Allow space for making compost and don't forget to make adequate pathways between plots. Water storage and irrigation systems should be put into place. In addition, fencing will need to be installed around the perimeter of the site to protect the gardens from intrusion.

It should be noted that the small gardens can be expanded into medium sized gardens, and both small gardens and medium gardens can have their season extended by covering with a hoop house structure. Therefore, the basic requirements for establishing a community garden have a similar methodology across all types, with the price and complexity increasing due to the scale.

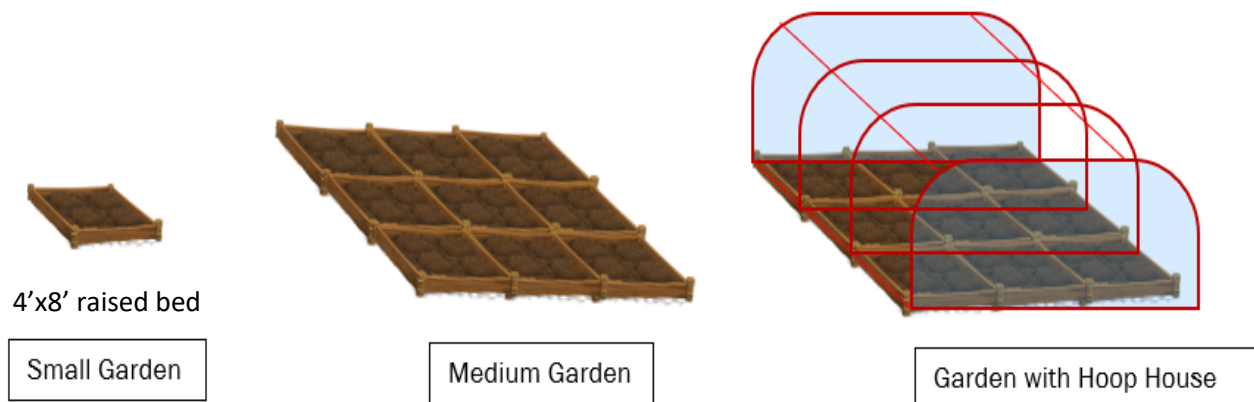


Figure 7 - Small to Medium Gardens with Hoop House (figurative sample, not to scale)

As shown by the figure above, the medium gardens are simply larger small gardens and the hoop house option is designed to work with small, medium or even large gardens. Using a rough standard of 0.45lbs per square foot of space¹, and based on an expected participation of 12 members and 12 beds during the first year, it is expected that the small garden will produce 173lbs of food, or approximately 78.5kg of fresh vegetables. This is extremely low and barely represents the average annual intake of an average Canadian (~40kg of vegetables per year). To provide a basis for future calculations the small and medium gardens will be categorized in the following table:

Table 6 - Garden Production Projections

Garden	Size (sq. ft.)	Projected Production, lbs. (kg)	No. of Adults Fed
Small	12 x (4'x8' beds) = 384 sq. ft.	173, (78.5)	2
Medium	20 x (4'x8' beds) = 640 sq. ft. + 2 x (30' x 100' in ground) = 6,000 sq. ft. Total: 6,640	2,988, (1,358.2)	35 - 38

While the production values for the small and medium gardens are insufficient to feed most of the SLFNHA communities throughout the year, they represent an important step forward. Fortunately, scaling up is relatively easy, provided there is plenty of space, water, sunlight and soil. These gardens may not be sufficient to feed an entire community but will help in lowering costs on shipping produce and increasing nutrition. The size of gardens outlined in Table 3 will be used in this Community Garden guide as a standard, but garden sizes and number of beds will change, based on the needs of a community. Always remember, community members can also start their own backyard gardens for personal use or in addition to the community gardens to further support food security in the community by producing more fresh and healthy produce.

Raised Beds - (based on size of 8 feet by 4 feet) – The bed frame can be as simple as 2 x 4 boards on top of the ground. A bed that's at least 6 inches high provides ease of access and gives roots plenty of room to grow. Untreated lumber isn't rot-resistant, but it's a good option for edibles. 3 pieces of 2"x10"x8' wood, 1 piece cut in half into 2"x10"x4' pieces will work for one 4ft by 8ft garden bed. Use materials you already have onsite. Old barn boards or boards from an old deck will work just fine, or logs found in the forest can work too For step-by-step instructions on how to build a raised bed follow this link:<https://www.lowes.com/projects/gardening-and-outdoor/how-to-build-a-raised-garden-bed/project>.



Figure 8: Raised Garden Bed, Source: <https://www.gardeners.com/how-to/raised-bed-basics/8565.html>

Hoop House Materials- Prices for an easily built plastic enclosed hoop house fall well below the costs of other greenhouse structures. You can assemble the hoop house in just a couple of hours at a cost of approximately \$1 or less per square foot, or you can choose to have a larger hoop house that would cover more area but would cost more.

For this guide we discuss three sizes of hoop houses, small, medium and large (industrial), in our budget. Choose the one that will best fit your community needs. For a small, simple Hoop House that can fit over one raised bed, the materials required include:

- ½" x 10' 315 PSI SDR 13.5 PVC pipe
- ½" rigid straps
- Common 0.375" x 2' rebar pins
- One box of #6 x 1.25" countersinking-head polymer-coated Phillips deck screws
- 10' x 100' x 2 millimeter clear construction Plastic film
- One set of spring clamps
- One hammer
- One steel tape measure

For Instructions on How to Build a Simple Hoop House See Appendix F.



Figure 9: Small Hoop House Assembly, (Source: Modern Farmer)



For a medium sized hoop house that can be built over 2 or more raised beds or over a plot of land. The materials required include:

- PVC pipe 20'x3/4" PVC schedule 40 plumbing pipe
- Gray conduit 10'x11/4" schedule 80
- Wood Stabilizers 1x6x8' pressure treated (cut to 1x3s)
- Wood 2'x' stud (cut into 1x2's)
- Wood 1x4x12' pressure treated
- Wood 2x4x16' (cut into 2x2s)
- Posts – 8' Steel "T" fence post
- Rebar Anchors - 20'x1/2" (cut as needed – based on soil consistency)
- Ties - 8" plastic zip ties – 100
- Screws - 1 1/4" x 5lb drywall screws
- Wire for Braces - 16 gauge galvanized utility wire - 25' roll
- Staples - 3/8" t-50 staples - 1250/pack
- Plastic - 6 mm IRAD poly film 25' x35' sheet
- Tools- hammer, tape measure



Figure 10: Large Hoop House (Source: Growers Supply)

If you require a larger hoop house that would cover an entire plot of land or many raised beds, we recommend a more industrial sized hoop house. For example, if you want to cover your entire medium garden that is approx 2,128 sq. ft., then you could purchase the GrowSpan Series 500 Tall High Tunnel – 20'ft x72', found here: <https://www.growersupply.com/farm/supplies/home>. See Appendix B Sample Budget for prices.

4.3 Step #3: Organize the Garden

Once the garden has been built and all essential equipment is in place, it is time to organize the garden, either by crops or by participant. Members must finalize the garden plan and label plots according to the grower or the crop, depending on the type of garden you choose. Signage and labels are very important at this stage, to ensure that materials and tools are

returned to their proper place and all participants understand the layout of the garden. Tools should be organized based on task (planting, weeding, watering, harvesting, etc.).

4.4 Step #4: Training and Growing Orientation

During the installation of the equipment, having a growing resource/expert in the community to assist with the installation as well as the initial planting and early growing stages of the Community Garden will ensure a smooth start to the garden. During this time, it is expected that the installation of equipment will be confirmed, any missing pieces will be ordered, and the physical components of the garden will be fully operational to allow for the start of community growing. If a grower comes to the community, it is expected that the grower will provide training on site and will also provide community members with resources so they can learn on their own time (YouTube videos, etc.). The grower should also make themselves available by video or phone call as needed to the Garden Coordinator(s).

Training is an essential and enjoyable part of starting a Community Garden. Offering training to participants allows them to build confidence, ask questions and avoid common mistakes in gardening. Training should be offered at the seed planting/transplanting stage, weeding/watering/maintenance stage, and harvesting/wintering over stages of garden care. Before hiring someone, you can look for people that can help bring together the resources needed to successfully start the garden, without any costs. Look for local expertise in your area for training. Ask around, there may be elders or other community members with gardening/food growing experience that are willing to participate in the project, and help train others. If you can't find any experienced gardeners, then an outside organization may be required to help start up your garden. Organizations that are a far distance from your community may still be able to provide valuable information via online communication tools. In any case, never be afraid to ask for support or sponsorship. Community Gardens are a valuable initiative and many potential partners will be willing to participate or support your efforts.

Examples of potential partners for a community garden include:

- Horticultural organizations that can provide valuable knowledge on growing vegetables and fruits.
- Local farms and other community gardens may be able to provide gardening advice as well as seedlings or transplants for the garden. Learn from the experiences of local groups that already have established gardens and offer pre-season garden education in partnership with local farms or gardens.
- Schools may have interested teachers or other faculty ready to get on board to connect the garden to curriculum and enhance student learning.
- Local businesses such as hardware stores and gardening stores may be able to donate items to the garden such as tools, materials, and seeds.
- Funding agencies can cover expenses for materials, programming, or staffing.
- Churches and local community groups can offer resources, guidance, donations, and networking opportunities. Consider which local community groups may be able to contribute a few hours of labour to help the garden get started.
- Local airlines may be willing sponsor some shipping costs for materials going to fly-in only communities.

If training or outside consulting is required, to help get your gardens started, they will include travel fees in their costs. Flight costs will differ for each community. Travel by vehicle may be required to pick up materials needed for gardening. Add points in training above

4.5 Step # 5: Planting Your Garden

Deciding what to grow in your garden can be very exciting but also requires a lot of planning. Choose the varieties of vegetables you're most likely to eat, but also what will grow the best in your area. Consider what type of produce is

most expensive when purchased or shipped from other areas. Experiment with different varieties to see what works best for your location. Take notes and learn from your experiences.

Knowing your hardiness zone will help you to determine which plants are likely to succeed in your garden. Below is a map of plant hardiness zones for all First Nations Communities served by SLFNHA. You can use this map to find out which hardiness zone you are in.

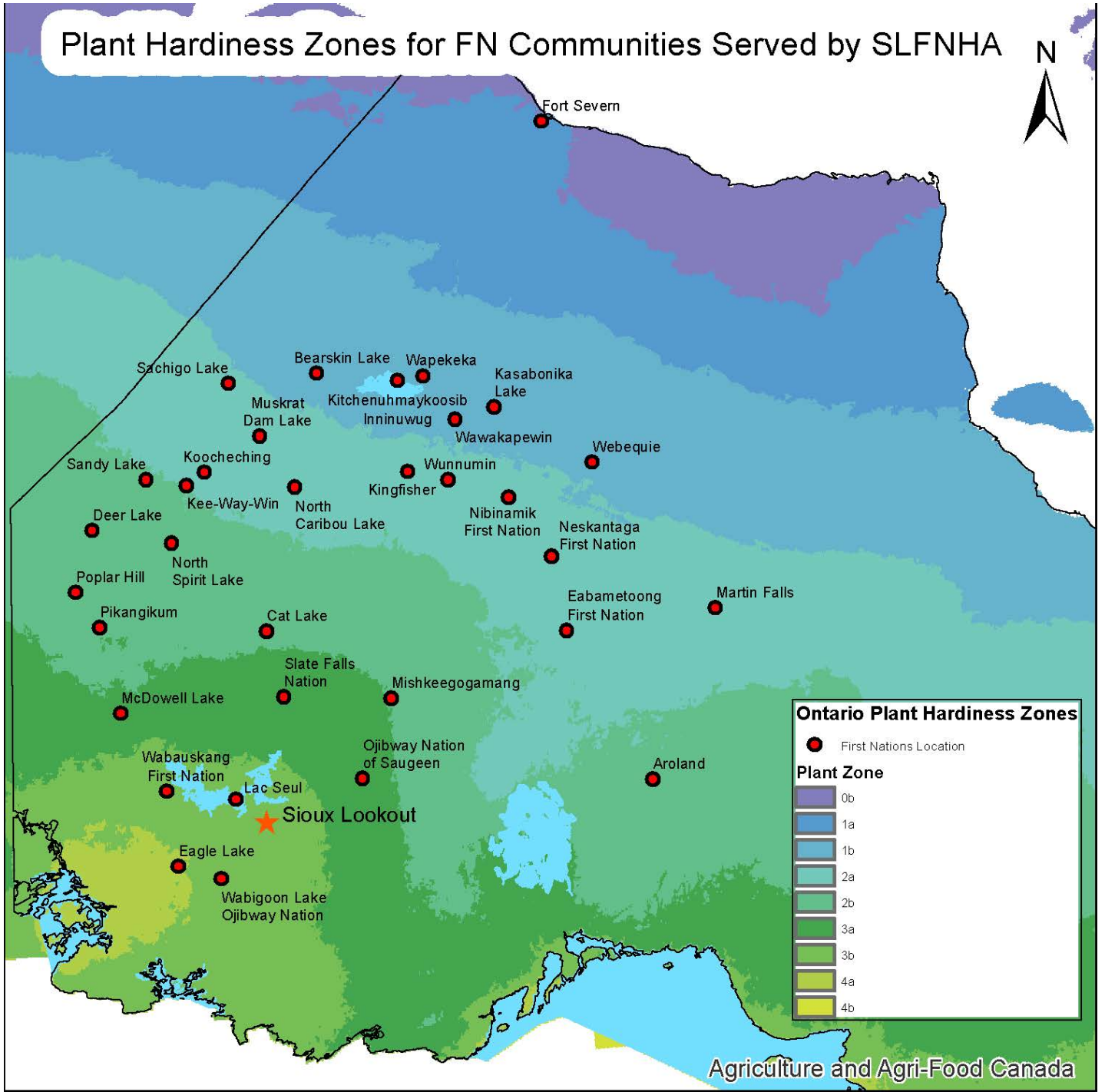


Figure 11: Plant Hardiness Zones for First Nations Communities served by SLFNHA

Once you find your zone you can use outside resources or local experience to find which fruits and vegetables will grow best in your hardiness zone. One great reference is mybackyard.ca which discusses northern hardy plants that thrive in zone 2b. Some of these plants are:

- Cucumbers
- Beets
- Zucchini
- Kale
- Spinach
- Peas
- Pumpkin
- Spaghetti Squash
- Roma Tomatoes



There are two different types of vegetables: Cool Season and Warm Season Crops. Often Cool Season crops are not affected by a light frost.

Here is a list of cool seasons crops not affected by frost:

- Asparagus**
- Broccoli**
- Cabbage**
- Collards**
- Kale**
- Onions**
- Peas**
- Radish**
- Rhubarb**
- Spinach**

Some warm season vegetables that are affected by frost are:

- Cantaloupe**
- Squash**
- Pumpkin**
- Tomatoes**
- Cucumbers**
- Peppers**

Warm Season crops can be planted when temperatures reach above 21 degrees Celsiusⁱⁱ. See Table 9 below for a sample crop growing guide for a community in Zone 2b. Note that Zone 2b is used as an example for this guide as many of the northern communities served by SLFNHA are located in this zone. Each community will have different requirements based on the zone you are located in.

Extending the growing season using Hoop houses, and covering plants with sheets during frost are all ways of extending the growing season. They allow the soil to warm up more quickly in the spring, allowing seeds from cold hardy species to be started a couple weeks early and protect plants from mild frosts. One of the main challenges of growing in a Northern climate is working within a short growing season (approximately 100 days or less). The following Crop Growing Guide, shown in Table 9 is based on the Old Farmer’s Almanac planting schedule for Sioux Lookout, 2019 and is to be used only as a guide. The growing season may vary slightly from this chart based on the location of your individual community. The Old Farmer’s Almanac online can give you an idea of when to sow seeds indoors, when to transplant seedlings and when to start seeds outdoors based on where you are located. Generally, food grows outdoors from June until September. There will be some work in May to prepare the soil/ground and in October to put the garden to bed. The planting and harvesting months are often the most labour intensive, but you need to plan ahead for maintenance throughout. This includes daily watering, weekly weeding, checking for pests, succession planting etc. For any community food project, having a dedicated team of people interested and actively involved in garden maintenance is important for success. Could summer employment opportunities for youth in your community include caring for gardens?

The following guide is based on The Farmer’s Almanac growing guideⁱⁱⁱ, planting by frost dates. A frost date is the average date of the first or last light freeze that occurs in fall or spring. Local weather and topography and the landscape, will cause considerable variations in these datesⁱⁱⁱ.

Table 7: Crop Growing Guideline for Zone 2b, in Ontario based on The Farmer’s Almanac

Crop	Sow seeds indoors	Transplant seedlings into the garden	Start Seeds Outdoors
Beans	N/A	N/A	Jun 8-29
Beets	N/A	N/A	May 18-Jun 8
Bell Peppers	Mar 23-Apr 6	Jun 15-Jul 6	N/A
Broccoli	Apr 20-May 4	May 11-Jun 1	N/A
Brussel Sprouts	Apr 20-May 2	May 4-25	N/A
Cabbage	Apr 6-20	May 4-18	N/A
Cantaloupes	May 4-11	Jun 15-Jul 6	N/A
Carrots	N/A	N/A	Apr 27-May 11
Cauliflower	Apr 20-May 4	May 4-18	N/A
Celery	Mar 23-Apr 6	Jun 8-22	N/A
Collards	Apr 20-May 4	May 4-25	N/A
Corn	N/A	N/A	Jun 1-Jun 15
Cucumbers	May 4-11	Jun 15-Jul 6	N/A
Lettuce	Apr 20-May 4	May 18-Jun 15	N/A
Onions	N/A	N/A	May 4-25
Peas	N/A	N/A	Apr 20-May 11
Potatoes	N/A	N/A	May 25-Jun 15
Pumpkins	May 4-18	Jun 13-Jul 4	N/A
Radishes	N/A	N/A	Apr 4-25
Spinach	N/A	N/A	Apr 18-May 9
Squash (Zucchini)	May 4-18	Jun 15-Jul 6	N/A
Sweet Potatoes	May 4-11	Jun 15-Jul 6	N/A
Tomatoes	Apr 6-20	Jun 8-29	N/A
Turnips	N/A	N/A	May 4-25

4.6 Step #6: Ongoing Support/Training

Once the garden has started, having regularly scheduled training sessions with the professional grower or expert is a great way to support lessons learned during training or the initial site visit. Depending on the funding levels secured and the cost of the training, it is recommended to continue until community growers have the confidence to conduct all aspects of the garden from start-up to harvesting. The expert grower will likely need to return to the community for follow-up training on harvesting, food storage, seed saving and planning next year’s garden. In addition, it is likely that there will be increased support for community growing after the first season, once community members have sampled the year’s crops. It can be helpful to repeat training the following year to ensure that lessons learned in the first year are remembered and transferred to the next group of growers for the next year.

5.0 Ongoing Operating Requirements

There will be costs involved in planting and maintaining a garden each year. Long term plans for storage of food must be in place. Freezers and refrigerators may be required as food production increases. As production increases discussions around sales of food can take place. Cooking and preserving workshops can be held with community members to ensure fruit and vegetables are available in the off seasons.

Most gardens do not require a lot of capital/investment once they have been started, since the main costs are produced by the creation of the garden. However, there are continuing maintenance fees and other costs that need to be accounted for. Annual costs range from approximately \$350- \$700, depending on how large the garden is and what the maintenance needs for that year were but most of these costs will occur at the beginning of the growing season. Each year seeds, transplants and soil amendments will be required (compost, manure, peat moss etc.).

The following is a list of some of the resources that most gardens experience on an annual basis to plant and maintain the garden. Consider what costs would be incurred in your community in order to maintain the following:

- Water (storage, hoses, costs to transport or maintenance for system)
- Fencing and plot maintenance - this is not necessarily annual if you invest in a good fence to begin with
- Seeds and plants for communal area
- Food for meetings/work parties- this cost is optional; you can have a potluck in which everyone contributes
- Fixing up or buying new tools- depends on how well tools are cared for
- Any paper-work that requires printing or professional skills (i.e.: accounting) this cost will vary
- Plants, seeds, bulbs, and flowers
- Seed trays and pots
- Repair costs
- Training costs

4.6.1 Ongoing Maintenance Required

Some of the maintenance tasks will include:

- Watering plants regularly in the evening to reduce evaporation and checking water tanks/barrels to make sure they are full
- Weeding regularly to ensure that water and nutrients go to your plants and not to weeds.
- Mulching to help conserve soil moisture and stunt weed growth. Mulches include leaves, wood chips, plastic covers, or other materials that cover the ground around plants.
- Applying fertilizer regularly (such as compost, kelp, manure, bone meal, blood meal, or packaged fertilizers).
- Pruning plants, such as tomatoes, as needed.
- Tying back and staking plants that require extra support.

4.6.2 Storing Garden Produce

Having suitable materials and space to store produce after it is harvested is an extremely important component of garden organization. At the end of the season, some produce can be stored for weeks and months after harvest so that you can enjoy produce from your Community Garden over the winter. Your community could plan for crops that are harvested in the fall for a feast, or crops that can be stored and used throughout the year (assuming there is storage) such as carrots, potatoes, onions etc. Produce from the garden should be stored as soon after being received as possible. If excess dirt

remains on the produce, you can shake, rub, or brush off with clean, dry paper towels. Never soak, hose/spray, or use wet towels/rags to clean excess dirt unless you will be eating those vegetables soon after cleaning them^{iv}.

Having storage to place produce in becomes increasingly important based on the size of your Garden and the quantity of produce that will need to be stored. Consider: what fridges or root cellars can the food stay in until it is used? Where can food be cleaned and washed before it is stored or prepared?

Here are some tips regarding produce storage:

- Store garden produce in separate containers.
- Label the container(s) with the date produce was harvested, and location produce came from
- Do not serve fresh produce until it has reached 40°F (4°C).
- Any fruits or vegetables that are stored at room temperature (such as tomatoes, potatoes, and onions) should be stored in a cool, dry, area.
- Leafy greens (for example, lettuce varieties, kale) should be refrigerated once harvested

Produce can also be preserved in several formats such as pickling, blanching and freezing, or canning.

4.6.3 Preparing and Serving Fresh Garden Produce

We usually eat fresh fruits and vegetables raw and therefore we cannot rely on heating to destroy pathogens on our produce. This is one reason why fresh produce is a big source of foodborne illness. Produce from community gardens should be handled and prepared following food safety procedures^v. You can take a Safe Food Handler course to learn these procedures. Environmental Health Officers at the First Nations and Inuit Health Branch can come to your community to teach you. The Northwestern Health Unit also offers Safe Food Handling courses in Kenora, Dryden, Fort Frances, Sioux Lookout, Red Lake, Atikokan and Ignace, and you can also find these courses online.

Depending on your Community Garden Model (see Section 2.1), produce may be used directly by participants or harvested collectively and used for community school or wellness programs. All participants in your Community Garden must be trained on safe harvesting and food handling techniques prior to harvesting any goods from the garden. Food that is not handled properly and results in someone getting sick will be liability for the Community Garden and that community itself.

5.0 Community Garden Planning Schedule

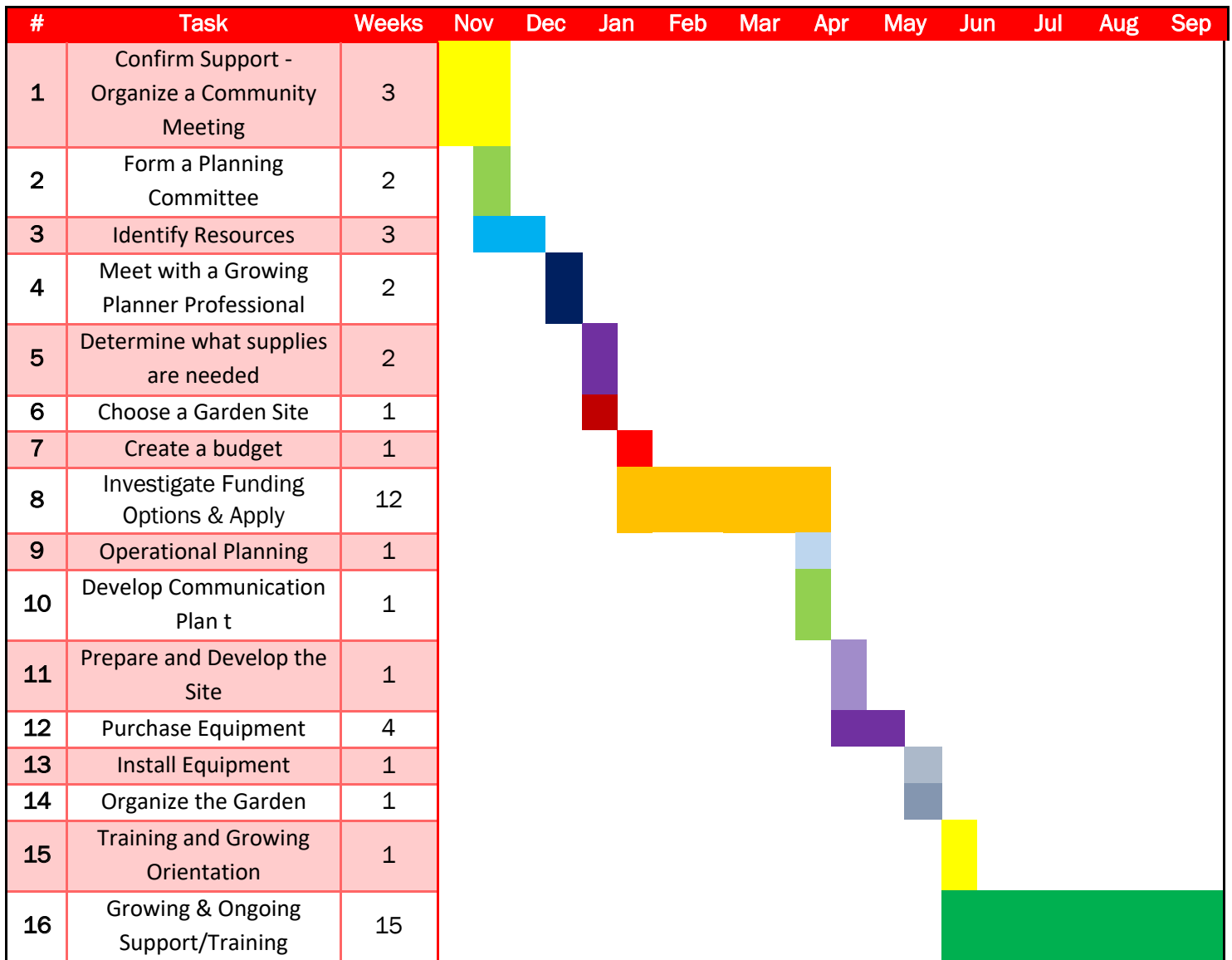
One of the main challenges of growing in a Northern climate is working within a short growing season (approximately 100 days or less). This presents unique challenges in planning and implementing a community garden, where project planning must also include securing funding, purchasing materials, undergoing training, installing the gardens, and doing this in time to ensure planting and harvesting fall within the seasonal timeframes imposed by mother nature. There will be some work in May to prepare the soil/ground and in October to put the garden to bed. The planting and harvesting months are often the most labour intensive, but you need to plan ahead for maintenance throughout. This includes daily watering, weekly weeding, checking for pests, succession planting etc. For any community food project, having a dedicated team of people interested and actively involved in garden maintenance is essential for success. Could summer employment opportunities for youth in your community include caring for gardens?

Outdoor gardening is a very time-sensitive activity. Your Community Garden's success will depend on planning all project activities well in advance in order to ensure planting occurs on time. Table 10. provides an outline of the timing required for all activities to be completed in Phase 1 and Phase 2 to ensure maximum use of the growing season in Year 1 of your Community Garden project. For projects that start later than this proposed timeline, there are still some

short-season and fall crops that might be successful. Plan carefully to ensure that crops and materials are not wasted due to a late planting, which may result in cold weather destroying the crop in the fall. Elders in the community should also be consulted about local weather patterns, frost risks and traditional planting schedules.

Based on the task list in Sections 3.0 and 4.0, the following Gantt chart illustrates the length of time required to implement the project, starting from an estimated start date of January 1st.

Table 8: Sample Gantt Chart - Implementation Schedule



It should be noted that one of the critical items on the Gantt chart is applying for and waiting for funding. It is recommended that funding is pursued as early as possible and consistently to ensure that current and future projects have the resources needed to succeed. Most funding deadlines occur between January and March annually.

6.0 Sources of Funding

Community gardens cost money to construct and maintain. The amount required varies dramatically across gardens according to their size, scale of activities and the skill base and volunteer time of their members. Whatever the nature of your garden, at some point you will need to consider how to raise the funds required to get it up and running and keep it thriving. This section offers some tips to assist you in successfully funding a garden.

Sioux Lookout First Nations Health Authority (SLFNHA) – Administration, Funding Application Support

Through their Approaches to Community Wellbeing (ACW), SLFNHA can offer logistical, administrative and for communities and projects within the SLFNHA service area. SLFNHA has developed this implementation guide as part of its ACW and will provide guidance and support to communities wishing to implement Community Gardens or other food security initiatives. The organization can serve as a coordinator for future community endeavors and will act to ensure that successes of one community are transferred and presented for other communities to replicate. SLFNHA will keep up to date lists of available funding, training programs and equipment suppliers/vendors. SLFNHA staff can also assist with funding application preparation.

Sioux Lookout First Nations Health Authority

Approaches to Community Wellbeing

T: (807) 737-5189

54 Front Street, 3rd floor

Sioux Lookout, Ontario

P8T 1B8

Office Hours: Monday - Friday from 8:30am to 4:30pm; closed from Noon to 1:00 p.m.

Website: <https://slfnha.com>

6.1 Current Funding Available – Food Specific

The following funding opportunities are just some examples of what is available. Some programs have closed for the year 2019, but more projects under these funders may become available next year. It is important to check back frequently for new or renewed funding programs. You can contact the following organizations for the most current available resources related to your project.

Jennifer Wall
Ministry of Agriculture, Food and Rural Affairs
Agriculture Development Advisor
(Kenora & Rainy River Districts)
Phone: (807)220-4290
Email: jennifer.wall@ontario.ca

Agriculture Information Contact Centre
Phone: 1-877-424-1300
Email: ag.info.omafra@ontario.ca

Che Curtis-September
Northern Development Advisor
Ministry of Energy, Northern Development and
Mines
Phone: 807-737-6692
Email: che.curtis-september@ontario.ca

Through the Agriculture and Agri-Food Canada (AAFC), the *Indigenous Agriculture and Food Systems Initiative* is a five-year, \$8.5 million initiative designed to support Indigenous communities and entrepreneurs who are ready to launch agriculture and food systems projects to participate in the agriculture and agri-food sector. The maximum contribution to a project will normally not exceed \$500,000 per project, per year or a maximum of \$2.5 million over five years. The initiative will provide funding for up to 90% of the project's total eligible costs^{vi}.

The eligible costs categories under the Initiative include:

- Administration;
- Salaries and Benefits;
- Capital Assets and costs related to the planning and design of infrastructure;
- Contracted Services;
- Travel; and,
- Other Direct Project Costs.

Source: [Indigenous Agriculture and Food Systems Initiative Program Guide](#)

The AAFC helps Canadian farmers and businesses produce the best possible food and agriculture products through the delivery of its programs and services which support innovation, sustainable farming, business development, managing risk, trade and market development^{vii}.

Source: [AAFC Programs & Services](#)

The *Canadian Agricultural Partnership (CAP)* is the new five-year commitment by Canada's federal, provincial and territorial governments that will support Canada's agri-food and agri-products sectors. Cost-share funding under the partnership is merit-based and project funding amounts are individually established based on project categories. This program covers over 40 different project categories^{viii}. Strategic initiatives will support projects in the following key areas, with research and innovation continuing to be a focus across all programming:

- Economic development in the agri-food and agri-products sectors;
- Environmental stewardship to enhance water quality and soil health; and,
- Protection and assurance to reinforce the foundation for public trust in the sector through improved assurance systems in food safety and plant and animal health.

Source: [Canadian Agricultural Partnership Program Information](#)

The Rural Agri-Innovation Network (RAIN) offers the *Sustainable New Agri-Food Products Productivity Program (SNAPP Program)* to support Northern Ontario agriculture and food producers, businesses, collaborations, communities and First Nations to create new products, extend the growing season, enhance productivity, and adopt clean technology to support improved environmental performance while fostering business growth. Up to \$5,000 for single applicants at 75% cost sharing, and up to \$15,000 for collaborations of 3 or more entities at 75% cost sharing^{ix}.

Eligible projects include:

1. Season Extension – Projects that will enable producers to extend their production season, or to extend the seasonal availability of their perishable products through storage;
2. New Products – Projects that enable agriculture or food producers to create primary or processed products that are new to the business;
3. Productivity Enhancement – Projects that utilize innovative technologies or processes to increase efficiencies in their operations; and,

4. Clean Tech in Agri-Food – Projects that adopt clean technology at the farm/business level and support improved environmental performance while fostering productivity, growth and competitiveness.

Source [SNAPP Program Information](#)

The Local Food Infrastructure Fund is a 5-year, \$50 million initiative ending March 31, 2024. The program aims to strengthen food systems and to facilitate access to safe and nutritious food for at-risk populations and is part of the Government of Canada's Food Policy. There are two streams to this fund; one is aimed at small community-based organizations and will allow them to improve their infrastructure and purchase equipment that is directly related to the accessibility of healthy, nutritious, and ideally, local foods within their community. The second is aimed at larger organizations, and will target groups of community, private, academic and other organizations to reduce food insecurity in a sustainable manner by strengthening or establishing a local food system.

Eligibility:

- community or charitable organizations
- Indigenous groups
- municipal and regional governments in areas where there are no not-for-profit organizations that provide food services

The first stream applications are due by November 1, 2019. The second stream projects are scheduled to launch in 2020, and application can be submitted early 2020.

Source: [Local Food Infrastructure Fund](#)

6.2 Current Funding Available – Generic Funders

The *Northern Community Capacity Building Program*, offered by NOHFC, helps Northern Communities develop the capacity to promote, attract, and support economic growth in existing and emerging priority economic sectors. Capacity building allows northern communities to respond to their economic opportunities and challenges according to their individual priorities, and to pursue regional collaboration to advance common goals in order to strengthen Northern Ontario's competitive advantages. For community-based projects, the amount of assistance will generally not exceed \$50,000. For regional, partnership-based projects, the amount of assistance will generally not exceed \$100,000^x.

Eligible projects may include:

- Sector-based research projects that align with the priority sectors and are supported by existing community and regional strategic plans or initiatives;
- Strategic planning;
- Infrastructure requirement studies; and,
- Capacity assessments.

Source: [Northern Community Capacity Building Program Information](#)

FedNor, targets its support to help communities create the conditions necessary for economic growth and development. This includes investments in projects such as strategic community and business planning, strengthening of communities' industrial and business assets, implementation of priority initiatives, as well as support for youth internships^{xi}.

Eligible projects may include:

- Strategic and business planning, sector or industry analysis, feasibility, marketing and engineering studies, recovery plans, workforce attraction and retention strategies, community investment readiness plans, inventories of community assets and community profiles;
- Strengthening communities’ economic foundations, including industrial and commercial assets and industrial/business parks, downtown revitalization, and waterfront development;
- Implementation of priority initiatives identified in economic development plans that demonstrate strong economic results; and,
- Youth internships to assist with projects related to community economic and business development.

Other activities related to community economic development necessary to further an economic goal in Northern Ontario might be considered on a case-by-case basis.

Source: [FedNor Community Economic Development](#)

Table 9: Funding Sources for Agricultural Activities

Eligibility		Agricultural Activity			
Funding Program	Flower Gardens	Agro-Forestry	Community Gardens	Seasonal Agriculture	Year-Round Greenhouse
IAFSI	X	X	X	X	X
SNAPP	X	X	X	X	X
NCCP	Non-capital projects only				
CAP	X	X	X	X	X
AAFC Programs	X	X	X	X	X
FedNor	X	X	X	X	X

Note: For FedNor, NOHFC and all other funding sources, direct and indirect pressure may need to be applied to political leaders and other government representatives to help them see the goals of the program and how they can line up with funding opportunities. In addition, depending on the source of funding, the needs of the community should be adaptable to meet the funding requirements. For example, community gardens can be used to encourage healthy food options and lower diabetes, but also can be a source of future economic development through the creation of a business. Where possible, example applications have been created in Appendix A, and should be used as a **guide only**.

7.0 Training Resources

Organizing and managing a Community Garden can be an excited and rewarding task. To reduce the administrative and planning burden on individual communities or community members, a list of resources is included here to assist communities with different stages of the implementation process. You may want to consider sending a candidate to participate in a course or bring trainers into your community to provide hands-on workshops, such as the ones described below:

Roots to Harvest – Practical, Theoretical & Educational Programs

Roots to Harvest is a not for profit organization located in Thunder Bay, dedicated to working with youth and using food as a tool to connect, mentor and provide direction in youths' lives. While Roots to Harvest is focused on its key target audience, the organization's team of skilled growers is open and available to working with First Nation

communities as a resource for planning, starting or operating a growing operation. These include raised bed building, garden start up, planting, care harvesting, and cooking and preserving food. In regards to grow towers, Roots to Harvest staff can assist with the initial building and planting and then provide on-going support regarding maintenance and harvesting. Roots specialty is in how to use garden spaces as programming tools to both get people excited about growing food but also around connecting with each other.

- Facilitation/Training fees - Roots to Harvest charges \$200 for a half day and \$400 for a full day. If travel to the community is required:
 - Flights \$1,000-\$1,200
 - Accommodation - \$100 a night (or no cost if community has free housing options)
 - Meals - \$40 a day

Roots to Harvest is a not for profit organization and it is important to note that each day they are working in a northern community, they need to cover the costs of their operation. The organization has several operating urban farms in Thunder Bay and can offer community members the ability to get work experience through training on their farms in Thunder Bay, or in the right situation can send Roots to Harvest team members up north.

Growing Our Futures – Training Program

Growing Our Futures is a practical, hands-on training program focused on providing Indigenous students interested with the knowledge on how to grow native plants for ecological restoration, landscaping and food production offered by Royal Roads University^{xii}. In this ten-week program, students will develop knowledge and skills in:

- Native plant identification.
- Native plant seed collection.
- Native plant propagation.
- Employment and entrepreneurial skills.
- Cultural knowledge of native plants (as provided by community knowledge keepers).

Growing Our Futures is designed to help students become job-ready, and is enhanced with cultural activities, support from Elders, and field visits to restoration sites and native plant nurseries. The program is delivered within host communities in order to reduce barriers to attendance and to ensure as much relevance as possible to community interests and opportunities.

Source: [Growing our Futures](#)

Farming for Food

Farming for Food is offered by Confederation College and is a program intended for people who want to start a farming business, would like to farm as a hobby, or become an exceptional community or backyard gardener. This program is 27-weeks long and delivered in Thunder Bay.

This program will include a detailed introduction to the basics of growing food through courses designed to teach students about soil science, plant biology, plant propagation, and harvest. Students will become familiar with the various planning

systems used in commercial farming operations—such as crop planning, strategies for weed removal, and pest management.

Horticulture – Food and Farming

Horticulture – Food and Farming is an Ontario College Diploma offered by Durham College, Whitby campus, where a guided field-to-fork philosophy prepares students to be leaders in the rapidly evolving food sector. Working in a one-of-a-kind environment, students learn to create the wholesome, locally produced, farm-fresh food in demand by today's consumers, and how you can contribute solutions to communities looking to feed cities in creative and sustainable ways. In addition, you will experience how agri-tourism brings urban residents to farming and will have an enhanced awareness of local food production^{xiii}.

The Food and Farming program focuses on:

- Plant propagation.
- Soil and plant nutrition.
- Fruit and vegetable production under field, greenhouse, garden and container conditions.
- Product development.
- Food processing including niche processing of local foods.
- Food and agriculture regulations.
- Disease and pest management.
- Business practices including product branding, entrepreneurship and marketing.

Source: [Horticulture – Food and Farming](#)

Since the writing of this Implementation plan, other resources may have become available. To ensure most current information, contact SLFNHA representatives listed in this document, or contact their main office at 54 Front St, Sioux Lookout, ON P8T 1B8 or call them at (807) 737-5189.

While food security issues in Northern Ontario have continued to be a serious concern for many First Nation communities, there are increasing resources available and through the support of organizations such as Sioux Lookout First Nations Health Authority, and to continue this momentum, more communities need to continue building their food security capacity, and let the government know that this is an issue for communities in Northern Ontario.

Appendices

Appendix A: Sample Funding Application

A sample funding application filled out by hme Enterprises that can be used you help you fill out your funding application.



FCC AgriSpirit Fund General Information

Funding available per project: \$5000 - \$25,000.

Total amount of funding to be allocated in 2019: \$1.5 million.

FCC carefully evaluates each funding request. Based on need, we will not be able to support all requests. [Application](#)

Process:

1. You can preview the questions by using the "Printable Form" link at the top right corner of the page. We recommend you print or save this copy and prepare your answers in advance of entering them here to avoid accidentally losing your work due to technical difficulties.
2. It will take approximately 40 minutes to complete the application.
3. All questions marked with an * are mandatory.
4. The application must be filled out in one sitting - the application will time out after 4 hours and you will have re-enter your information.
5. You must submit the form online; we will not accept any applications via email, mail or fax.
6. You will receive a pdf of your submission attached to your confirmation email.
7. You will receive an email regarding the outcome of your funding request no later than the end of August 2019.

Eligible for funding:

- charities registered with the Canada Revenue Agency
- municipal bodies (includes First Nations, Inuit and Métis communities)
- Non-profit organizations capable of partnering with one of the above entities. capital projects only

NOT eligible for funding:

- religious groups political
- groups individuals
- for-profit entities
- operating costs or debt reduction

For more information, check out our public webpages: FCC

- [AgriSpirit Fund](#)
- [FCC AgriSpirit Fund FAQs](#)
- [FCC AgriSpirit Fund successful past projects](#)

Deadline for applications is 11:59 p.m. (CST) March 29, 2019.

Thank you for your commitment to rural Canada. Press Next

to begin.

Designation

Select the answers which best represent your organization.

* Required Fields

* Name of your organization

* What is the purpose of your organization?

An Anishinaabe community that actively pursues opportunities to sustainably grow its economy.

* Select the option that best describes your organization:

- registered charity
- municipal body
- non-profit partnering with a municipal body
- non-profit partnering with a registered charity

Project overview

FCC seeks to provide funding for a variety of projects across the country. All selected projects will show that:

- it will provide a measurable benefit to the public
- the people who are eligible for benefits are either the public as a whole, a significant section of it, or a smaller section with specific unmet needs.

* Project Name

Community Gardens

* Please summarize your project in one sentence.

Community gardens vary widely in their structure, purpose and format but they provide collective opportunities for both recreational gardening and food production, fresh produce.

* Tell us more about your project and its current status.

The community intends to build a community garden, containing ten (10) 4' x 12' garden boxes, at three (3) sites in the community as identified in the Agricultural Gaps and Needs Analysis, conducted in 2019.

Community gardens provide access to fresh produce and plants as well as access to satisfying labor, neighbourhood improvement, sense of community and connection to the environment. Access to fresh produce from community gardens will improve the quality, quantity, and diversity of food available to the community. Most importantly, the fresh vegetables and fruit grown in community gardens.

Community gardens are an inexpensive, practical way to build gardening skills and agricultural capacity in the community. The community previously maintained a community garden and harvested wild rice unfortunately, when the community champion passed away, so too did the capacity to continue these operations. However, last year, a community garden was created near the Wellness Centre which has proven to be popular with residents and has encouraged participation across demographics.

The community is accessed via air transportation throughout the year, and by ice road during the winter months. The distance from large markets, combined with the hardships and added costs of transportation are a daily source of difficulty in the community, from purchasing household items to food. Having access to this produce encourages people to eat more home-cooked and less prepared foods.

The produce not only serves as a dietary supplement, but also as an important substitute for high priced, low quality, processed food. Produce may also be sold or used to offset food purchases from the grocery store, reducing family food budgets and encouraging self-reliance. In some cases, gardeners can create income opportunities for themselves from retail sales of produce. Over time and scale, this will lead to increased opportunities for economic development.

***What's the need or opportunity that exists for your project, and how will it enhance the quality of life for people who live in rural communities?**

Project details

Select your best answer for each section. A question you have already answered, for statistical reasons, could be asked again, for evaluation purposes.

* Required Fields

* Select the primary charitable purpose of your project.

- Providing public amenities by establishing and maintaining a multi-use recreational facility
- Providing public amenities by establishing and maintaining a public park, green space, sports field or playground
- Providing public amenities by establishing and maintaining a museum for the public.
- Relieving poverty by providing basic necessities of life, including food, clean water, clothing or shelter to those in need
- Addressing food insecurity issues
- Promoting health and safety
- Relieving conditions associated with the aged or with disability (accommodation, transportation, care, meals, etc.)
- Advancing education
- Advancing the public's appreciation of the arts (providing the means to exhibit, present or perform)
- Protecting and preserving significant heritage sites
- Promoting the welfare of animals
- Other

* How does your project support sustainability in your community?

- By reducing energy use at our current facility (LED light retrofit; insulation, door or window upgrades; energy-efficient heating and cooling equipment, etc)
- By installing renewable energy technologies (solar panels, geothermal loops, wind turbines)
- By reducing waste in our community (composting and recycling equipment)

- By reducing food loss and waste (gleaning bins, refrigerated storage) or promoting sustainable food and/or water practices (food towers for food banks, collecting surplus food and distributing it to those who need it)
- By incorporating environmentally responsible building practices and construction and demolition waste management on this new build. I will elaborate below.
- None of the above apply to my project.
- None of the above apply to my project, but it is directly related to sustainable development in a different way explained below.

Please explain the sustainable development aspect of your project.

It is not sustainable for the community to continue to purchase overpriced food that is flown-in. The vegetables and fruit produced by the community gardens not only serves as a dietary supplement, but also as an important substitute for high priced, low quality, processed food. Produce may also be sold or used to offset food purchases from the grocery store, reducing family food budgets and encouraging self-reliance. In some cases, gardeners can create income opportunities for themselves from retail sales of produce. Over time and scale, this will lead to increased agricultural capacity, and opportunities for economic development in the community.

*** A direct beneficiary is someone who uses or participates in the project. How many people will be direct beneficiaries of your project each year?**

500

Describe the direct beneficiaries and how they will benefit.

Every resident will have the opportunity to access fresh produce from the community gardens which will improve the quality, quantity, and diversity of food available to the community. Most importantly, the fresh vegetables and fruit grown in community gardens.

All ages can acquire and share knowledge related to gardening, cooking, nutrition and health. The aim of the gardens is to address food insecurity issues and to have programs that provide training in horticulture, business management, leadership development and market gardening.

*** How often will your project be used?**

- daily throughout the year (180+ days per year)
- daily in certain seasons (50-179 days per year)
- once or twice a month, or a few weeks (25-49 days per year) fewer than 25 days per year

*** How many rural communities will benefit from this project?**

communities = towns, villages, RMs, reserves

- 7 or more
- 5 to 6
- 3 to 4
- 1 to 2

List those benefiting communities here.

*What percentage of the population in those communities will benefit from the project? Omit the %.

100

*What is the name of the community where the project will be located and its population?

*How are community volunteers involved in your project?

Community members will be responsible for the construction and management of the community gardens. Community gardens foster a sense of community identity, ownership and stewardship. Community members, including students, have shown interest in gardening, and other community members do gardening with the Elders however, the program could be easily expanded to include other demographics. The main goal will be to expose community members to opportunities in food production and find community leaders and champions.

*Amount of funding requested from the FCC AgriSpirit Fund

CAD 25,000.00

*What is the total cost of the project?

25,000

*What is the total amount of funds received to date?

Write in numerals; no decimals or commas. Do not include the funds requested from FCC.

0

What is the the breakdown of funds received to date? (Grants, fundraising activities and private donations)

N/A

Indicate amounts and donors

*ADD the amount requested from the FCC Agrispirit Fund to the total funding received to date (cited in your previous answer). What percentage of total funding does this sum represent? Omit the %.

100

*Please supply a breakdown of anticipated expenditures specifically related to the funds requested from the FCC AgriSpirit Fund.

(How will the FCC funding be used?)

Lumber - \$3,000
Tools & Hardware - \$1,500 Portable Water Storage - \$2,500 Irrigation Systems - \$1,500 Shipping - \$5,000
(Charter Cargo Plane or Ice Road Truck)
Training - \$3,750 Training in Thunder Bay - \$3,750 Growing Towers - \$4,000

Not all eligible projects will be selected for funding and not all selected projects will be offered full funding. Funding is often approved for smaller portions of larger projects.

* If FCC cannot offer the full amount you have requested, will you accept partial funding?

- Yes, we will still go ahead with the project, seeking other funding for completion.
- Yes, we might have to downsize the project or extend deadlines, but it will still happen and even partial funding will help.
- No, this is the only avenue of funding available at this time and full funding is the only way it will happen.

About FCC

If your project is selected for funding, you must agree to affix or erect permanent signage recognizing the contribution of FCC. This can be in scale with the donation amount relative to other donors.

* In addition to the permanent signage, if FCC chooses to support your project, how will you promote our involvement?

* How did you hear about the FCC AgriSpirit Fund?

- Media release/press conference
- Recognition in promotional materials (newsletter, website, print ads)
- Announcement at grand opening or event
- Social media
- Naming rights

* How did you hear about the FCC AgriSpirit Fund?

- Postcard/handout
- FCC employee
- another charity or non-profit
- a previous FCC AgriSpirit Fund recipient other word of mouth
- newspaper or print ad
- Radio
- FCC Website
- email
- Social media (Facebook, Twitter, etc.)
- We have applied in past years
- other

Contact information

Mouse over titles to view definitions.

If you are partnering with a registered charity or municipal body, these fields will reflect some of the information that you entered for them. Please modify as necessary.

*First Name	<input type="text"/>
*Last Name Country	<input type="text"/>
*Street address or P.O. Box	<input type="text" value="Canada"/>
*City/Town	<input type="text"/>
*Province/Territory	<input type="text" value="Ontario"/>
*Postal Code	<input type="text"/>
*Email	<input type="text"/>
*Confirm Email Phone	<input type="text"/>
Website	<input type="text"/>
	<input type="text"/>

If applicable, please supply the social media accounts for your organization.

Terms and conditions

Your application will be disqualified if:

- your organization/project has received support from the FCC AgriSpirit Fund in the past four years (2015-2018)
- your project will be complete or cited expenses incurred before funding is announced (before the end of August).
- your project will not be completed within two years of receiving funding (December 2021) your project adversely impacts the environment

*When do you anticipate your project will be completed?

31/08/2020

Date must be AFTER August 31, 2019 and BEFORE December 31, 2021.

*What obstacle or challenges (if any) may interfere with the completion of the project?

Logistics of being a fly-in community only accessible via airplane or iceroad during the winter

In applying for this funding, you imply consent to receive FCC emails for a period of two years according to Canada's Anti-Spam Legislation (CASL). In order to continue with this application, you must give your express consent by responding to the question below.

Do you consent to receive electronic messages from FCC about the FCC AgriSpirit Fund?

Yes

Your Comments

This is your chance to provide additional information about your organization or your project that you believe should be considered during the evaluation of your request. If you had trouble entering phone numbers, please enter them here.

We do not accept any additional documents.

We are currently in a state of emergency. The challenges facing our community are numerous due to the location, funding levels and size. The distance from large markets, and the added costs of transportation is a daily source of difficulty in the community, from purchasing household items to food.

Review and Submit

Thank you! That's all the questions we have for now.

Before you submit, please take time to review or print a copy of your application your application. Use the Previous button to go back and make any edits.

Appendix B: Sample Budget

A fillable budget calculator has been created for each level of garden (small, medium and additional hoop house). When you are ready to fill in your budget please contact your SLFNHA representative to gain access to this Excel file.

Note: The calculator is designed to update the Materials and Equipment costs only, based on the amount of raised beds and the number of community gardeners that will be included in your garden. Other resources in the budget will need to be customized to your community.

The following is a sample budget for small and medium gardens and a hoop house extension based on the sizes listed in Sections 5 and 6. Many material costs were estimated using the Home Hardware in Sioux Lookout to try and keep costs as local as possible, but other outside resources were also used. This sample budget is fairly accurate as of May 2019, but should only be used as estimates as costs will change with time and by location. It is recommended that you investigate costs when creating your budgets.

Small Gardens/Raised Beds (based on 12, 4'x8' beds)

Description		Projected Cost	Unit	Quantity	Total
1. Materials and Equipment					
A	Raised Beds (based on 12 8'x4' garden beds) Lumber, Screws, etc.	\$100.00	each	12	\$1,200.00
B	Soil - triple mix (4x8' raised bed 10" height, 1 cubic yard of soil required)	\$4.00	cubic yard	12	\$48.00
C	Seeds - (approx 10 packages per garden bed)	\$2.50	pk	50	\$125.00
D	Garden Gloves – (1 set for each participant)	\$8.00	each	15	\$120.00
E	Watering Cans (one per 2 beds)	\$15.00	each	6	\$90.00
F	Hand trowel (one per 2 beds)	\$10.00	each	6	\$60.00
G	Spades (one per 6 beds)	\$30.00	each	2	\$60.00
H	trays for planting seeds indoors (approx.. 3 trays per garden bed)	\$1.82	each	36	\$65.52
I	Wheelbarrow (1 per 10-12 beds)	\$200.00	each	1	\$200.00
J	Irrigation - 1000L tank plus \$150 to ship one tank	\$613.00	each	1	\$613.00
K	Fencing - (for a 30'x30' garden galvanized metal fencing and posts)	\$1,070.00	each	120	\$1,070.00
L	Garden Shed - (approx.. price for a 10'x10' wood garden shed kit)	\$1,000.00	each	1	\$1,000.00
M	Picnic Table (1 for a small garden)	\$100.00	each	1	\$100.00
N	Compost Bin (2 for a small garden)	\$100.00	each	2	\$200.00
				Subtotal	\$4,951.52
2. Community Resources					
2.1 Physical Requirements					

A	Space/Land (assume band owned land - no cost)	\$0	n/a	0	\$0
B	Water (assume water accessible/existing onsite)	\$0	n/a	0	\$0
C	Soil (assume soil available onsite)	\$0	n/a	0	\$0
D	Sunlight/Shade/Wind (assume good location available - cut trees to bring in sunlight or plant trees for shade)	\$0	n/a	0	\$0
E	Accessibility - wood chips for paths	\$179	cubic yard	1	\$179.00
2.2 Labour Requirements/Human Resources					
A	Site Preparation - if you need to hire workers	\$20	hr	80	\$1,600
B	Staff/Coordinators (one coordinator required)	\$20	hr	250	\$5,000.00
C	Security - outdoor lighting (2 lights for small garden sufficient)	\$100.00	each	2	\$200.00
D	Planting/Harvesting - if you need to hire workers	\$22.00	hr	50	\$1,100.00
Subtotal					\$8,079
3. External Resources					
A	Energy Costs (there should be few energy costs involved in small garden)	\$0.00	n/a	0	\$0
B	Consulting (would include initial visit /overview of how to start your garden)	\$100	hr	50	\$5,000.00
C	Training and Workshops (8 hrs is a good start for training but would increase based on needs)	\$50	hr	8	\$400.00
D	Flight Travel Costs (1 flight is just avg for a consultant or trainer to travel to your community)	\$500.00	flight	1	\$500
E	Shipping Costs - by truck	\$150	hr/ truckload	1	\$150.00
F	Shipping Costs - by air (See Appendix _ for cost based on location)	\$1.30	lb	100	\$130.00
Subtotal					\$6,180.00
4. Ongoing Operating Resources (Maintenance Costs)					
A	Soil Amendments - compost, manure, etc. (annual cost)	\$200	n/a	1	\$200.00
B	Fencing Maintenance (may be an annual cost)	\$50.00	n/a	1	\$50
C	Water (if you do not have water onsite to refill water tanks)	\$150.00	n/a	1	\$150.00
D	Seeds and Plants (annual cost)	\$125	n/a	1	\$125.00
E	Food for community garden meetings/gatherings (this cost will vary)	\$100	n/a	1	\$100
F	Fixing up and Buying new tools (may be an annual cost)	\$100.00	n/a	1	\$100.00
G	Compost (cost if you do not compost yourself)	\$8	cubic yard	10	\$80.00
H	Paperwork/printing or professional skills - accounting, advertising	\$50.00	na	1	\$50.00
I	Staff for watering/weeding/mulching - maintaining garden	\$20	hr	50	\$1,000.00
J	Storage Costs - Fridges/Freezers (this would be an initial/replacement cost)	\$1,000	n/a	1	\$1,000.00

Subtotal	\$2,855.00
Total	\$22,065.52

Medium Gardens (based on 20, 4'x8' beds)

Description		Projected Cost	Unit	Quantity	Total
1. Materials and Equipment					
A	Raised Beds (based on 20 8'x4' garden beds) Lumber, Screws	\$100.00	each	20	\$2,000.00
B	Soil - triple mix ((4x8' raised bed 10" height, 1 cubic yard of soil required)	\$4	cubic yard	20	\$80.00
C	Seeds – (approx.. 10 packages per garden bed)	\$2.50	pk	100	\$250.00
D	Garden Gloves – one set each participant	\$8.00	each	30	\$240.00
E	Watering Cans - (one per 2 beds)	\$15.00	each	10	\$150.00
F	Hand trowel (one per 2 beds)	\$10	each	10	\$100
G	Spades (one per 5 beds)	\$30	each	4	\$120
H	Wheelbarrow (1 per 10-12 beds)	\$200	each	2	\$400.00
I	Irrigation - 1000L tank plus \$150 to ship one tank	\$763	each	2	\$1,526
J	Tools	\$100	each	1	\$100.00
K	Fencing - (for a 60'x60' garden galvanized metal fencing and posts)	\$8.92	ft.	240	\$2,141
L	Garden Shed (approx price for a 12'x12' wood garden shed kit)	\$1,500	each	1	\$1,500.00
M	Picnic Table (2 for a medium garden)	\$100	each	2	\$200.00
N	Compost Bin (1 for every 5 raised beds)	\$100.00	each	4	\$400.00
SubTotal					\$9,206.80
2.0 Community Resources					
2.1 Physical Requirements					
A	Space/Land (assume band owned land - no cost)	\$0	n/a	0	\$0
B	Water (assume water accessible/existing onsite)	\$0	n/a	0	\$0
C	Soil (assume soil available onsite)	\$0	n/a	0	\$0
D	Sunlight/Shade/Wind (assume good location available - cut trees to bring in sunlight or plant trees for shade)	\$0	n/a	0	\$0
E	Accessibility - gravel for paths + shipping (local cost)	\$150	truck load	2	\$300
F	Accessibility - wood chips for paths	\$179	cubic yard	2	\$358.00
2.2 Labour Requirements/Human Resources					
A	Site Preparation - if you need to hire workers	\$20	hr	100	\$2,000

B	Staff/Coordinators (one coordinator required)	\$20	hr	300	\$6,000.00
C	Security - outdoor lighting (cost depends on type of lights)	\$100.00	light	5	\$500.00
D	Planting/Harvesting - if you need to hire workers	\$22.00	hr	100	\$2,200.00
Sub-Total					\$11,358.00
3. External Resources					
E	Energy Costs (there should be few energy costs involved in small garden)	\$0.00	n/a	0	\$0
F	Consulting (would include initial visit /overview of how to start your garden)	\$100	hr	50	\$5,000.00
G	Training and Workshops (approx.. 20 hours of training should be good start for gardeners)	\$50	hr	20	\$1,000.00
H	Flight Travel Costs (this number is avg for a consultant or trainer to travel to and from your community)	\$500.00	flight	5	\$2,500
I	Shipping Costs - by truck (for gravel or soil)	\$150	hr/truck load	1	\$150.00
J	Shipping Costs - by air (See Appendix _ for cost based on location)	\$1.30	lb	200	\$260.00
Subtotal					\$8,910.00
4. Ongoing Operating Resources (Maintenance Costs)					
A	Soil Amendments - compost, manure, etc. (annual cost)	\$400	n/a	1	\$400.00
B	Fencing Maintenance (may be an annual cost)	\$100.00	n/a	1	\$100
C	Water (if you do not have water onsite to refill water tanks)	\$150.00	n/a	1	\$150.00
D	Seeds and Plants (annual cost)	\$250	n/a	1	\$250.00
E	Food for community garden meetings/gatherings (this cost will vary)	\$500	n/a	1	\$500
F	Fixing up and Buying new tools (may be an annual cost)	\$200.00	n/a	1	\$200.00
G	Compost (cost if you do not compost yourself)	\$8	cubic yard	20	\$160.00
H	Paper work/printing or professional skills - accounting, advertising	\$100.00	na	1	\$100.00
I	Staff for watering/weeding/mulching - maintaining garden	\$20	hr	100	\$2,000.00
J	Storage Costs - Fridges/Freezers (this would be an initial/replacement cost)	\$2,000	n/a	1	\$2,000.00
Subtotal					\$5,860.00
Total					\$35,334.80

Hoop House (based on three different sizes, capacities of hoop house)

	Description	Projected Cost	Unit	Quantity	Total
1. Materials and Equipment for Small Hoop House (to cover one 4'x8' raised bed)					
A	1/2" x 10' 315 PSI SDR 13.5 PVC pipe	\$8.98	each	3	\$26.94

B	1/2" rigid straps	\$1.97	bag of 8	1	\$1.97
C	Common 0.375" x 2' rebar	\$2.25	each	4	\$9.00
D	Number 6 x 1 1/4" inch countersinking-head polymer-coated Phillips deck screws	\$4.98	box	2	\$9.96
E	10' x 100' x 2 millimeter clear construction Plastic film	\$20.97	roll	1	\$20.97
F	One set of spring clamps	\$21.99	set	1	\$21.99
G	Tools - hammer, tape measure	\$50.00	n/a	1	\$50.00
Subtotal					\$140.83
2. Materials and Equipment for Medium Hoop House (11' wide x 15' long x 8' high walk-in hoop house design)					
A	PVC pipe 20'x3/4" PVC schedule 40 plumbing pipe	\$10.98	each	6	\$65.88
B	Gray conduit 10'x1 1/4" schedule 80	\$12.97	each	12	\$155.64
C	Wood Stabilizers 1x6x8' pressure treated (cut to 1x3's)	\$8.97	each	6	\$53.82
D	Wood 2'x' stud (cut into 1x2's)	\$2.65	each	3	\$7.95
E	Wood 1x4x12' pressure treated	\$8.77	each	2	\$17.54
F	Wood 2x4x16' (cut into 2x2s)	\$7.06	each	1	\$7.06
G	Posts - 8' Steel "T" fence post	\$5.77	each	1	\$5.77
H	Rebar Anchors - 20'x1/2" (cut as needed – based on soil consistency)	\$7.10	each	1	\$7.10
I	Ties - 8" plastic zip ties – 100	\$5.98	100 pk	1	\$5.98
J	Screws - 1 1/4" x 5lb drywall screws	\$21.97	pk	1	\$21.97
K	Wire for Braces - 16 gauge galvanized utility wire – 25' roll	\$6.47	25' roll	1	\$6.47
L	Staples - 3/8" t-50 staples – 1250/pack	\$11.98	1000 pk	1	\$11.98
M	Plastic - 6 mm IRAD poly film 25'x35' sheet	\$150.00	sheet	1	\$150.00
N	Tools- hammer, tape measure	\$50.00	n/a	1	\$50.00
Subtotal					\$567.16
3. Materials and Equipment for Large Hoop House (20'W x 24'L 5.2 oz.)					
A	GrowSpan Series 500 Tall High Tunnel - 20'W x 72'L w/Drop-Down Sides	\$5,695.00	1.00	1.00	\$5,695.00
B	Shipping costs by air	\$1.30	weight lb	2410.00	\$3,133.00
Subtotal:					\$8,828.00
3. Operating Costs					
A	New glazing every 2-3 years (incl. shipping)	\$0.30	Sq. Ft	2,260.00	\$678.00
Subtotal:					\$678.00
Total:					\$10,213.99

Appendix C: Cargo Rates by Community

Shipping rates based NorthStar Air estimates on weight and location for various communities, May 2019.



Cargo Rates

Thunder Bay Rates

- Sachigo Lake: \$1.33 / lbs.
- Bearskin Lake: \$1.33 / lbs.
- Sandy Lake: \$1.10 / lbs.
- Deer Lake: \$1.33 / lbs.
- Poplar Hill: \$1.33 / lbs.
- North Spirit Lake: \$1.33 / lbs.
- Round Lake (North Caribou): \$1.33 / lbs.
- Big Trout Lake (KI): \$1.33 / lbs.
- Wapekeka: \$1.33 / lbs.
- Fort Hope (Eabametoong): \$1.02 / lbs.
- Lansdowne House (Neskantaga): \$1.33 / lbs.
- Webequie: \$1.33 / lbs.
- Martin Falls (Ogoki Post): \$1.02 / lbs.
- Kasabonika: \$1.32 / lbs.
- Muskrat Dam: \$1.33 / lbs.
- Keewaywin: \$1.10 / lbs.
- Cat Lake: \$1.33 / lbs.

Pickle Lake Rates

- Bearskin Lake: \$1.00 / lbs.
- Round Lake (North Caribou Lake): \$.61 / lbs.
- Lansdowne House (Neskantaga): \$.57 / lbs.
- Webequie: \$.80 / lbs.
- Cat Lake: \$.35 / lbs.
- Kasabonika: \$.91 / lbs.
- Fort Hope (Eabametoong): \$.54 / lbs.
- Big Trout Lake (KI): \$.97 / lbs.

Red Lake Rates

- Sachigo: \$1.04 / lbs.
- Sandy Lake: \$.72 / lbs.
- Deer Lake: \$.61 / lbs.
- Poplar Hill: \$.40 / lbs.
- Pikangikum: \$.42 / lbs.
- Keewaywin: \$.72 / lbs.
- Round Lake (North Caribou Lake): \$.91 / lbs.
- Wunnumin: \$.59 / lbs.

Please note: These rates are subject to change

Appendix D: Work and Harvest Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Watering 	✓	✓					
Planting 							
Weeding 		✓					
Observing and Harvesting 							
Maintenance and Cleaning Area 							

Harvest Chart

What is the date today?	What did you harvest today?	How much does it weigh?	Comments

<http://www.antiochne.edu/cgc/> 187

Appendix E: Sample Maintenance Schedule

This Sample Maintenance Schedule is adapted from Summer in the Garden A Resource for working with Volunteers to Maintain your School Garden. <https://www.slideshare.net/pd81xz/xwc137>

Sample of Maintenance Schedule, keep in mind this is just a sample with some ideas, your schedule of tasks will be custom to your garden.

Month	Task	Position	Completed
September	Harvest for eating and distribution	Volunteer	✓
	Turn over the garden and plan for fall	Volunteer	✓
	Check on or set up your hoop house	Garden Coordinator	✓
	Check your compost and turn it over	Compost Crew	✓
October	Clear beds and plant cover crops		
	Wrap up hoses and hang in shed		
	Tidy up and store irrigation hoses for the winter		
	Plant bulbs like garlic and onions		
	Prune back Plants		
November	If you have a hoop house you may still need to plant more bulbs		
	Turn over soil		
December	Observe garden		
	Make sure tools stay clean and dry and out of the snow		
Jan/Feb/Mar	There will not be much activity, just check on garden and sheds		
April	Check on irrigation, make sure there are no frozen lines or hoses		

May	Start Planting, Plant beans in late may depending on weather		
	Start seed indoors		
	Observe bulbs in the ground		
	Check all of equipment and tools to make sure everything is in good working condition		
June	Maintain beds		
	Weed Often		
	Irrigate/water when needed		
	Check on compost and add to it		
July	Maintain Garden, weed, harvest, water, plant to fill in gaps		
	Check on compost and turn over		
	Plant seeds indoors or in hoop house for fall crops like onions and greens		
August	Maintain Garden, weed, harvest, water, plant to fill in gaps		
	Manage hoop house if you are using one, start seeds for fall		
	Check on compost		

Appendix F: Instructions for Building a Hoop House

Note: The following steps are based on a simple design for a hoop house over one raised bed found on the Modern Farmer's website.

Modern Farmer. How to Build a Hoop House. <https://modernfarmer.com/2015/01/build-hoop-house/>.

You can modify this to the needs of the community

Step 1

Decide on an area of level ground and measure a 4' x 8' bed that is secure to the ground.

Step 2 Hammer small rebar into the ground on both sides to secure the pipe. If using a garden bed, screw a clamp on each side of the front of the bed, then fit the PVC pipe through the opening of the clamp, then tighten. Do this procedure three or four times along each side of the bed.

Step 3 Once the hoops are in place, plant your crops for the upcoming season. To keep them from freezing, cover the entire area with the plastic.

Step 4 Use spring clamps to secure the plastic cover for the hoop area from front to back and side to side. Make sure the plastic covers the entire hoop area.

For more detailed instructions on how to build this style of hoop house, follow this link:

<https://modernfarmer.com/2015/01/build-hoop-house/>



References

- ⁱ Crop Yields. <http://sustainable-farming.rutgers.edu/wp-content/uploads/2017/12/urbanfringe-v07n01.pdf>, <http://www.omafra.gov.on.ca/english/stats/hort/ctypotato.htm>
- ⁱⁱ Northeast Nursery. 2019. <https://www.northeastnursery.com/blogs/the-complete-list-of-cool-season-warm-season-crops>
- ⁱⁱⁱ The Old Farmer's Almanac. 2019. <https://www.almanac.com/gardening/planting-calendar/ON/Sioux%20Lookout>
- ^{iv} Food Banks Canada. Community Gardens Toolkit. <https://www.foodbanksCanada.ca/getmedia/c92619d7-d911-48eb-bf09-ecfd74042bc5/Community-Gardens-Toolkit-EN.pdf.aspx>
- ^{vi} Indigenous Agriculture and Food Systems Initiative Guide. 2018. <http://www.agr.gc.ca/eng/programs-and-services/indigenous-agriculture-and-food-systems-initiative/guide/?id=1544123669824>
- ^{vii} Agriculture and Agri-Food Canada. Programs and Services. 2019. Accessed. Online. <http://www.agr.gc.ca/eng/programs-and-services/?id=1362151577626>
- ^{viii} Ministry of Agriculture, Food and Rural Affairs. Canadian Agricultural Partnership. 2019. <http://www.omafra.gov.on.ca/english/cap/index.htm>
- ^{ix} Rural Agri-innovation Network. SNAPP Sustainable New Agri-Food Products and Productivity Program. 2019. <http://rainalgoma.ca/snapp/>
- ^x Northern Community Capacity Building Program. 2019. <https://nohfc.ca/en/pages/programs/northern-community-capacity-building-program>
- ^{xi} Government of Canada. Community Economic Development. FedNor. 2018. <https://fednor.gc.ca/eic/site/fednor-fednor.nsf/eng/fn03440.html>
- ^{xii} Growing Our Futures. Royal Roads University. <https://secure.royalroads.ca/cscourses/growing-our-futures>
- ^{xiii} Horticulture Food and Farming. Durham College. 2019. <https://durhamcollege.ca/programs/food-and-farming>