CANADA/NWT AGRICULTURE POLICY FRAMEWORK AGREEMENT

SMALL SCALE FOODS/ COMMUNITY GARDEN INITIATIVE

August 2008

Agriculture and Agri-Food Canada
Agriculture et Agroalimentaire Canada

Northwest Territories Industry, Tourism and Investment

Northwest Territories

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2007 Report

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1. Background

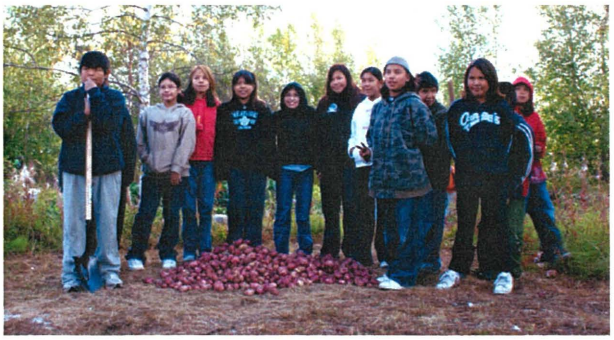
Production of foodstuffs to supply community needs has a long and varied history in the NWT. Early settlers quickly established small agri-foods operations to meet accustomed dietary needs. Both the Hudson Bay Company and early catholic missions contributed significant expertise in determining suitable varieties for local production and introducing production methodologies to local residents. Various forms of agricultural production have been undertaken as far north as Inuvik, where currently a greenhouse-based community garden continues to produce.

As transportation systems became more reliable local production of foodstuffs gradually declined. Elders in communities proudly refer to early days when they worked on mission gardens and helped raise beef and dairy cattle, however the present day generation has little or no knowledge of methodologies for production. Also, as is the case in much of the country, current dietary trends have resulted in an increased consumption of processed and frozen foods in portion controlled forms. These foods tend to have a longer shelf life than fresh produce and have displaced local production. The result being that stores in smaller communities tend to bring in very limited quantities of fresh produce, with high transportation costs factored into the price, which in turn leads to less consumption of such foods.

Through a survey conducted by the Department of Industry Tourism and Investment, it was determined that the majority of communities in the NWT would be interested in re-establishing local food production systems. Most communities expressed a desire to have access to fresh, locally grown product, however they lacked expertise in establishing systems to supply such product.

In conjunction with the Canada/NWT Agriculture Policy Framework Agreement a project was initiated which would assist with the establishment of community-based small scale foods operations aimed at developing gardens in communities. The project is aimed at identifying, clearing and breaking identified sites in each community, as well as providing seeds and small tools for planting and maintaining.

The first year of the program saw six communities taking part: Fort Resolution, Fort Simpson, Jean Marie River, Kakisa, Nahanni Butte, and Tulita, with numerous other communities expressing interest in taking part in future years. The second year of the program saw the number of communities taking part increase to eight, with four new gardens established and the discontinuation of two gardens from the pervious years. The four new gardens developed were in Enterprise, Gameti, Wha Ti, and Trout Lake. Of the four communities continuing from the previous year, all had their garden sites expanded in size.



All sites that have been planted to date have achieved fair to excellent yields. Common production has been from beets, broccoli, brussel sprouts, cabbage, carrots, cauliflower, peas, potatoes, tomatoes and turnips. The distribution of garden produce was left to local community organizers and was typically distributed among the volunteers that helped with the harvest. Given that many of the sites were new, or had been newly expanded, there were of course weed problems. This will diminish over time, as is already evident in the expanded gardens in that there are noticeably more weeds in the newly expanded areas than in the old areas. As well, the addition of an educational component dealing with weed identification in subsequent years will help community members more easily identify weeds in order to remove them. Fertilizer inputs were provided and further soil testing will be conducted to determine optimum input requirements. Assistance was provided on a regular basis in weeding and planting.

The following table identifies each community involved or interested in the project to date and the extent of the initiative undertaken, as well as planned future development. Detailed descriptions of activities in each community with an established garden follow.

Community	**Type of Project** ***Type of Access***	**Project involvement to date**	**Future Directions**
Deline	Community Garden *Fly in*	Consultations are underway	Development of project next season
Enterprise	Community Garden *Road access*	New Site developed and planted in 2007	Presentations and instructions sessions to be held over winter
Fort Good Hope	Community Garden *Fly in/boat*	Assisted with private gardens development in 2007	Consultation is underway
Fort Liard	Community Garden *Road access*	Consultation completed	Community has interest, but is unsure as to whether to proceed
Fort Providence	Community Garden *Road access*	Interest expressed, meetings held, and site identified	Community is continuing to solicit support among members before initiating project. Community is interested in a community greenhouse however given the very fertile soils the garden is being recommended.
Fort Resolution	Community Garden *Road access*	New Site developed and planted in 2006 and expanded in 2007	Presentations and instruction sessions to be held over winter
Fort Simpson	Community Garden *Road access*	Initial site developed and planted in 2006, but temporarily suspended in 2007	Presentations and instruction sessions to be held over winter to increase awareness and support for further garden development. Community has expressed interest in a community greenhouse.
Fort Smith	Community Garden *Road access*	Established, providing assistance with composting	Investigating accelerated composting methodologies
Gameti	Community Garden *Fly in*	New site developed and planted in 2007	Interested in expanding site and adding a starter greenhouse

Community	Type of Project *Type of Access*	Project involvement to date	Future Directions
Hay River	Community Garden *Road access*	Site identified and cleared	Garden to be run by the Hay River Beautification Committee and we will work with them to expand activities and increase involvement
Jean Marie River	Community Garden *Road access*	Initial site developed and planted in 2006, expanded in 2007	Presentations and instruction sessions to be held over winter
Kakisa	Community Garden *Road access*	Former site developed and planted in 2006, expanded in 2007	Presentations and assistance in use and storage of vegetables to take place over winter
Lutselk'e	Community Garden *Fly in/boat*	Interest expressed, consultations finished	Community group has committed to developing project in the summer of 2008.
Nahanni Butte	Community Garden *Fly in/boat*	Initial site developed and planted in 2006, however bison destroyed the garden. Temporarily suspended project in 2007, while a new site could be identified.	Site equipment will be shipped in during the winter, development to proceed next season
Norman Wells	Community Garden *Fly in/boat*	Sites developed independent of project	Support provided
Trout Lake	Community Garden *Fly in*	A previously used site was re-developed and planted in 2007	Presentations and instruction sessions to be held over winter
Tulita	Community Garden *Fly in/boat*	Initial site developed and planted 2006, as well as in 2007	Presentations and instruction sessions to be held over winter
Wha Ti	Community Garden/ Composting *Fly in*	Site identified and developed in 2006, initial planting took place in 2007	Presentations and instruction sessions to be held over winter
Wrigley	Community Garden *Road access*	Interest expressed and two potential sites identified	Development to proceed next season

Note: All communities identified as fly-in are accessible via winter ice roads for the period December to March.

2. Community Gardens

Enterprise

Demographics and Logistics

Enterprise is located 38km southwest of Hay River on Highway 1 and has a population of approximately 70 people. Following the breaking of the ground and planting in the spring, the community was very self-sufficient and follow up visits were typically only for observation and to record progress, no help with weeding or harvesting was needed. Numerous visits occurred over the course of the summer, taking place approximately every two weeks.

Project Development To Present

Ground for the new garden site was broken on May 28th. The site used had previously been a grassy area, with no shrubs or trees present. The site was tilled in such a way as to divide it into four sections, leaving grass paths between each. Planting occurred the same day and included: Norland and russet potatoes, stringless green beans, tender green beans, sugar peas, pod peas, carrots, turnips, beets, dill, radish, broccoli, cabbage, brussel sprouts, and tomatoes. A few of the tomatoes were lost to a late frost and there was a pest problem with the bedding plants, but this was cared for with an organic herbicide supplied by the community members. The community has some very dedicated and knowledgeable people caring for the garden and they organized weekly weeding get-togethers. As the site was new and fairly large, keeping the weeds under control was a challenge. The community used a small roto-tiller to till between plant rows to cut down on hand weeding, so that is was only necessary to weed around individual plants. The harvest was very plentiful and a late fall till was done on the site in October in prep for the following year.

Soil temperature readings indicated that when the air temperature was 25 °C there was a mean surface soil temperature of 19.4 °C.

Future Directions

Given the dedication of the community members this year, the Enterprise community garden will continue to be planted in future years and further supplies, such as a starter green house and fencing, will be provided. The community has also requested that workshops be given in the spring in conjunction with planting to increase local awareness and knowledge about gardening in order to further increase community involvement. As well, workshops dealing with storage and preservation of produce have been requested, especially given the large size of this garden.

Project Equipment

On Site or supplied through the program:

- Water tank
- Hand tools
- Small rotor-tiller
- Seeder

Required:

- Greenhouse
- Fertilizer

Fort Resolution

Demographics and Logistics

Fort Resolution has a population of 505 people and is located 156 km east of Hay River on the shore of Great Slave Lake. Seven trips were done over the course of the summer, occurring approximately every second week following planting to assist with weeding and general maintenance.

Project Development To Present

The garden site was established in the spring of 2006 and substantially expanded in the spring of 2007. For the 2007 season, the majority of the planting happened on May 29th, the same day as the expansions of the site, and included: pod peas, sugar peas, beans, carrots, turnips, radishes, and beets, as well as one row of potatoes. Additional planting was done on June 4th and included cabbages, brussel sprouts, broccoli, cauliflower, tomatoes, and three additional rows of potatoes (Norland and Russet). The garden was very large and this posed a challenge for weed control throughout the summer. Over growth by weeds was a problem in all recently expanded areas of the garden. Areas of the garden that had been worked last year did not have the same problem, demonstrating the importance of weeding now to reduce weeds in later years.

As the garden location was next to where an old saw mill once stood, soil tests were conducted in 2007 to check for any contamination. Fortunately, results indicated that the soil was safe for agricultural practices in accordance with the Canadian Environmental Quality Guidelines. As well, soil temperature readings done on July 18th, indicated that with an air temperature of 28.6°C there was a mean surface soil temperature of 24.5 °C.

Future Directions

It is necessary to work with the band office to increase community involvement. The garden site is close to the lake and is not visible from any road thus some community members were not aware of its presence. Discussions are underway to increase community involvement. Signage has been placed to identify the site. The more people there are involved the more regularly the garden is likely to get watered and weeded, both of which will have a significant impact on the yield of the garden.

Project Equipment:

On site:

- Water pump
- Fire hose
- Fence
- Seeder
- Some hand tools

Required: Hand tools, Fertilizer

Gameti

Demographics and Logistics

Gameti has a population of approximately 300 people and is situated 298 km northwest of Yellowknife by winter road, however it is only accessible in the summer by air. Three trips were made over the course of the season, to help with breaking ground at the new garden site in the spring and to provide help with maintenance and the harvest.

Project Development To Present

Initial ground breaking was done on June 11, 2007 using a mid tine roto-tiller. Planting was done the following day and included dill, carrots, radish, beets, sugar snap peas, beans, brussel sprouts, cabbage, cauliflower, and broccoli, turnips and potatoes. As well, the primary contact, Larry Hastie, provided several strawberry plants and raspberry shrubs that were planted in small plots adjacent to the main garden plot. Weeds, especially fireweed, were a problem, but were managed. Local students helped with both the harvest on September 5th, as well as planting some supplied shrubs: red currents, black currents, and gooseberries. A rear tine roto-tiller was provided late in September, and community members did a fall till of the garden site and various other expansion and private locations in town, in prep for next year.

Future Directions

Perimeter fencing and fine mesh netting is required next year to reduce the damage caused by lemmings. The community has also expressed interested in setting up a greenhouse or cold frames in order to extend the growing season and encourage growing tomatoes. Equipment for these projects is to be shipped in during the winter, along with fencing and hose (to replace the fire hose that is currently in use) when the winter road is available.

Project Equipment

On site:

- Hand tools
- Fire hose (temporary)
- Water pump
- Roto-tiller

To be delivered

- Hose Greenhouse, fencing and Seeder, fertilizer to be delivered on winter road, 07/08

Jean Marie River

Demographics and Logistics

Jean Marie River is a small community with a population of 71 people located approximately 330 km west of Hay River. Four trips were made over the course of the season, one in the spring to help with initial tilling and planting of the garden site and as well as three trips to assist with maintenance

Project Development To Present

The garden site established in 2006 was expanded on May 31st, 2007. Planted in the previously established area of the site were tomatoes, broccoli, brussel sprouts, cabbage, and cauliflower, dill, radish, beets, carrots, turnips, and Norland potatoes. Beans and peas were planted in the expanded section of the garden. Upon visiting in late July, the soil in the expanded area was very dry and hard and both the bean and pea plants were small and had few flowers. The remainder of the garden, having a richer soil with a higher organic content was doing very well, especially the cabbages, broccoli and tomatoes. Mean soil temp was 19.2 °C when air temp was 25.0 °C.

Future Directions

Given the relatively small size of this community garden it is worth improving the soil in the recently expanded area for upcoming years in order to increase overall garden productivity. Establishing a compost and providing education on composting methods would be beneficial both for the community garden and for local gardens. Education about gardening in general is also a necessity, as in most other small communities. Topics such as how to establish a garden, maintenance requirements and vegetable characteristics have been helpful in increasing the productivity of the community garden, as well as encouraging individuals to establish private gardens.

In terms of required garden infrastructure, there is a particular need for a fence by the next season, as lose dogs have posed a problem in the past.

Project Equipment

On site:

- Water pump
- Hoses

Required:

- Hand tools
- Fence, delivery winter 2007/08

Kakisa

Demographics and Logistics

Kakisa has a population of approximately 50 people and is located 130 km west of Hay River. Four trips were done over the course of the summer, occurring approximately once a month.

Project Development To Present

The garden site used in 2007 was the same as the pervious year, however on May 28th it was expanded, doubling its size. Planting occurred the same day and was aided by students from the local school. The vegetables planted included tomatoes, cauliflower, broccoli, brussel sprouts, cabbage, beets, beans, potatoes, peas, turnips and carrots. As well, the community provided seeds for a pumpkin patch and sunflowers, which were planted at the same time. The newly expanded portion of the garden was understandably very weedy during the 2007 season. As well, the soil in this new section is very hard and prone to drying faster than the older section. Temperature readings of soil done on August 1st indicated that when there was an air temperature of 26.3 °C, there was a mean temperature of 24.4 °C in open areas and 19.0 °C in shaded areas.

Future Directions

Due to the low organic nature of the soil, enhancements such as compost or additions from other areas will be undertaken. There were also problems with unknown pests, possibly shrews, eating the broccoli. As such, in addition to a general garden fence, smaller mesh fencing will be placed around individual plants to help control plant loss.

Project Equipment

On site:

- Water pump
- Hoses and sprinklers
- 1 Long handled cultivator

Required:

- Fencing, with small mesh
- Small hand tools

Trout Lake

Demographics and Logistics

Trout Lake has a population of approximately 80 people and is located 401 km south west of Hay River by air and winter road, however it is accessible in the summer by air only. Three trips into the community occurred throughout the season, with one occurring in the spring to help with breaking and seeding, the second to assist with expansion and the third to assist with garden maintenance.

Project Development To Present

Interest had been initially expressed in 2006 and a site was selected, that of the old community garden site developed during the 1980's. In 2007, we flew in on June 6th to help with planning, tilling and planting. Half of the site was used to plant dill, cabbage, broccoli, brussel sprouts, cauliflower, turnips, beets, carrots, radish, peas, beans, and potatoes. The remaining half of the garden site was summer fallowed, in preparation for next year. All but the bedding plants, potatoes and some radishes were lost when the garden was re-tilled by mistake a few days after planting. Additional seeds were sent out and planted by the community members. A return trip on July 26th assisted with weeding and fallowing the rest of the garden site. The radishes were ready for harvesting while we were there; most were huge and had just gone to seed, but were still very good. The community was encouraged to harvest plants as they became ready. Advice and assistance was offered about prep work to be done on the site this season to make starting next summer easier and more plentiful.

Future Directions

Tout Lake community members demonstrated a keen interest in the garden and there was strong community involvement in the garden. The Trout Lake garden is over half an acre in size, located on fluvial soils. There is potential to not only produce food for the community, but also to start marketing products elsewhere when in full production. There is a root cellar on site however its safety is suspect. Consideration is being given to building a wood frame, highly insulated structure for storage.

Project Equipment

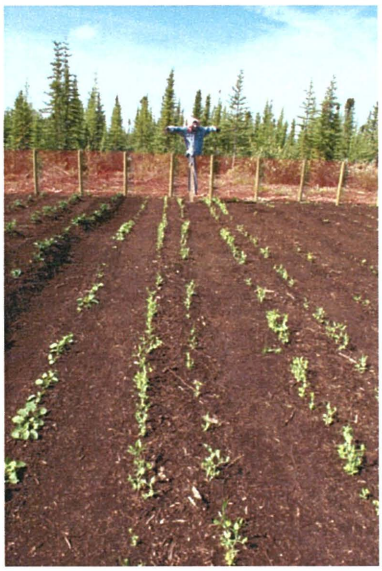
On site:

- Rotor-tillers
- Hand tools
- Root cellar
- Water pump and hoses

Required:

- New fence

Wha Ti



Demographics and Logistics:

Wha Ti has a population of approximately 520 people and is located 207 km North west of Yellowknife by winter road. The community is accessible by air or road between February and March, however it is only accessible in the summer by air. Two trips were made over the course of the season to help with planting and maintenance.

Project Development To Present

The community cleared a section of forest in the fall of 2006 to make way for their garden. The ground was tilled on June 8th, 2007, with lots of roots needing to be pulled put. Planting was done the following day and included dill, Norland potatoes, radish, turnips, sugar peas, stringless green beans, beets, carrots, cauliflower, broccoli, cabbage, and brussel sprouts. The community designated an individual to be responsible for garden care and maintenance and when visited on July 11th, the garden was immaculate with virtually no weeds, a good fence was up and even a scarecrow was present.

Community members demonstrated a keen interest in having a garden and many took part in the final harvest on August 29th. The harvest was organized and advertised by the community government, with a community feast occurring in conjunction with the event. There was a very good turn out and the harvested vegetables were distributed between the individuals that were present.

Future Directions

Wha Ti is planning on encouraging small individual family plots in 2008 in conjunction with the single large communal garden with interested families being responsible for care and maintenance of their own plot. They have requested the assistance of the SSFP in the spring for setting up the plots, but will likely be very self sufficient following set-up.

Project Equipment

On site:

- Water pump
- Hosing
- Fence
- Hand tools
- Roto-tiller

Need:

- Seeder
- Fertilizer

Tulita

Demographics and Logistics

Tulita is located on the eastern shore of the Mackenzie River, approximately 800 km northwest of Hay River. It is accessible by a winter road and in the summer by air or water. Equipment was brought into the community in the winter of 2006/07 via winter road. The community was very self-sufficient when is came to building their community garden. Supplies, such as seeds and seed potatoes, were provided via boat in mid June, and some assistance with prepping and planting. A second visit in late July provided fresh bedding plants and some shrubs as well as providing assistance in the season activities and harvest. A small greenhouse brought in the previous winter was used for warm crops and is planned to be used as a starter house for the summer of 2008.

Project Development To Present

Community operated quite independently owing largely to members who had a interest and some experience in gardening. Given the transient nature of communities continued assistance will be provided to ensure continuity and continued involvement.

Future Directions

Assistance will continue to be provided to the community through spring and mid-season visits. Workshops are to be delivered in the winter of 2008 via winter road access. Fall storage and preserve workshops will be provided in conjunction with other community initiatives.

Project Equipment

On Site:

- Rotor-tiller
- Small tools
- Seeder
- Greenhouse

Required:

- Seeds for next season

Fort Simpson

Demographics and Logistics

Fort Simpson has a population of approximately 1200 people and is located 429 km west northwest of Hay River. The community is accessible via all-weather road with the exception of periods when the ferry is non-operational due to break-up and freeze-up.

Project Development To Present

The community was started in 2006 and saw high productivity, unfortunately the local contact was not available to coordinate the garden in the community and consequently no garden was planted in 2007. the community is interested in continuing and new contact is being identified for the spring of 2008.

Future Directions

Workshops are to be conducted during the late winter, early spring of 2008. This will involve presenting to school groups. Teachers have expressed interest in this approach.

Project Equipment

On Site:

- Road access thus rolling equipment, fertilizer and seed is brought in for development on a yearly basis. Site development is facilitated though use of the project tractor/tiller.
- Small tool will be provided

Nahanni Butte

Demographics and Logistics

Nahanni Butte has a population of 125 people and is located 561 km west of Hay River on the west bank of the Liard River on the South Nahanni River. The community is accessible by winter road, however it is accessible in the summer by boat or air only. The community is in the range of a free roaming bison herd and has continuous problem with destruction by the animals.

Project Development To Present

A community garden was established and planted in Nahanni Butte in the summer of 2006. The garden was located on the opposite side of the Nahanni River from the community. Soils in the area are ideal however despite rail fencing, problems were encountered with bison entering the site and destroying planting. . A new location was selected within the community in the spring of 2007, however it was decided that before any planting was done at the new site it would be necessary to set up an electric fence capable of stopping bison from destroying the garden.

Future Directions

Fence posts and fencing materials, including electrical fencing equipment will be delivered via winter road in the winter of 2007/08. The identified site will be developed in the summer of 2008 complete with fencing which is expected to deter the bison.

Project Equipment

On Site:

- Tiller
- Small tools

Required:

- New tiller, fencing, fertilizer, small tools will be delivered via winter road.

3. Future Directions:

An end of season survey was concluded to examine the impact of the program on each community. All communities that provided feedback indicated that community members enjoyed having the garden and liked having fresh produce. This survey was also beneficial in determining what aspects of the garden needed to be improved on for the subsequent years. For example, all communities felt that there was sufficient contact with the program coordinators, but felt that more education would be beneficial prior to planting in the spring. Additionally, the survey looked at vegetable preference and performance, so that next year the varieties plants in each community can be altered for local climate, community preference, and the level of community involvement (the maintenance of some vegetables being more time consuming than others).

All communities involved in the project have expressed interest in increasing the gardening knowledge base in their community by having spring and fall workshops on topics such as basic gardening and the storage and preparation of produce. There are also requests from communities to have workshops on subjects such as family nutritional needs and composting.

Communities located off the road system will have equipment, such as a roto tiller, small tools, small seeder, a water pump, hose and fittings, as well as fencing materials brought in over the winter when there is temporary road access. In addition, small greenhouses will be provided in various communities that have shown interest in starting seedlings for transplant or extending the season so that plants such as tomatoes can be grown.

Next season it is expected that the number of communities involved in the project will continue to increase. Particular attention will be given to Wrigley, Deline, Nahanni Butte, and Lutselk'e, all of which expressed strong interest in starting this past summer, but were unable to due to time or equipment constraints.

4. Expected Outcomes:

Each site is expected to have a planted area of a minimum of ¼ acre with some areas expected up to 1 acre. The Small Scale Foods Initiative will continue to provide seeds and bedding plants to the projects as well as technical assistance. Workshops will be provided to each community on storage and use of produce. Additional communities have expressed interest in becoming involved in the project and will be encouraged to come on stream if requirements are met.

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