

Current and Future Opportunities for Agricultural Development in Northeast Ontario: A Regional Development Perspective



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NeCN Agriculture Study: Report 1 of 2

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Executive Summary

Cochrane District in Northeastern Ontario has a long history of agriculture which continues to have an important presence in the area. However, this sector faces several obstacles, such as aging farm operators with limited succession planning. Therefore, action must be taken in order to ensure the sustainability of current farming operations as well as take advantage of the vast agricultural opportunities present in the area. With this in mind, this study undertook to identify the strengths, weaknesses, opportunities, and threats inherent for agriculture in this part of Cochrane District as well as present strategic actions which could be undertaken in order to expand agriculture in the area.

In order to achieve this goal, several research methods were utilized, such as reviewing existing literature and data along with interviews undertaken in the region. Through this work it was identified that the southern part of Cochrane District has soil classifications and climate appropriate for several agricultural products and that obstacles tend to lie in socio-economic factors rather than agroclimatic considerations. While the climate of the area is not ideal for all crops and farming practices utilized in southern Ontario, it was identified that the right selection of crop varieties and adapted farming practices improved the feasibility of a range of products with satisfactory yields.

The final intention of this research was the creation of a range of strategic actions which may be undertaken in order to expand agriculture in the area. These actions were created based on interview findings, NeCN Agriculture Steering Committee feedback, and other research. The listing of actions include such ideas as increasing sales of local products; promotion of products and opportunities outside of the area; increased funding for infrastructure; expansion and better use of local capacity; more consideration and recognition from higher levels of government; facilitate linkages between stakeholders and potential markets; and explore unconventional agricultural opportunities. These 23 actions provide, in some detail, ideas that may be pursued in order to create a vibrant agricultural community in this area of Cochrane District with a range of scales and agricultural models.

The following comprises the first of two reports that make up this study. Report 1 presents background on the NeCN catchment area as well as the results of the fieldwork presented in the form of a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis. The Appendices of Report 1 also presents a range of technical information relating to the area. Report 2 contains the Actions which have been developed which may help expand agriculture in the area with specific Implementation Strategies being presented in the Report 2 Appendix.

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Introduction

Agriculture has a long history in Cochrane District based upon the favourable soils of the Northern Clay Belt. However, since a peak in the mid-1900's this industry has experienced a decline with an economic shift towards other resource-based industries such as forestry and mining. Today, agriculture in the area is comparably limited and existing operations are threatened by an aging farmer population and limited uptake in the new generations. It is in the interest of municipalities and the community as a whole for agriculture to be revitalized in order to re-introduce diversification into a local economy dependent on industries subject to *boom-bust cycles*, along with the other community benefits that agriculture would provide.

With this in mind, the Northeast Community Network (NeCN) in Southern Cochrane District has partnered with Professor Wayne Caldwell of the School of Environmental Design and Rural Development at the University of Guelph to conduct a study on the opportunities for expanding agriculture within this region. This research will evaluate the current state of agriculture in the area including a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis relating to the expansion of agriculture. This will be followed by action strategies for municipalities to consider undertaking in order to expand agriculture in their area. The overall goal of the study is to work with municipalities to identify *actionable* strategies with tangible elements which they may institute in the short and long term in order to achieve this goal.

Why Agriculture?

The rationale behind pursuing an expansion of agriculture in this region is somewhat complex and deeply rooted in culture and history. While the primary motivator is certainly economic development and the use of an underutilized resource in agricultural land for diversification of the local economy, there are additional motivators. Indeed, the fieldwork identified several additional interests or concerns that help to explain this community's interest in pursuing agriculture, particularly agriculture which produces food products.

One key issue that arose through the fieldwork is that of food security as a lens for justifying the pursuit of agricultural expansion. Indeed, due to the remoteness of the NeCN communities there are questions about food self sufficiency, especially in light of future concerns relating to peak oil or climate change.

Another key element which is less tangible, but clearly came through during the fieldwork is the historical roots of agriculture in the area and the cultural value of this industry. While less so today, agriculture was once a major sector in the NeCN catchment area and many respondents had long held ties to their operations, having been passed down through

generations. There was a clear sentiment that past generations had come to the area as pioneers and established farms on difficult terrain and that this history should be preserved.

It was also perceived that while the term was never used, people in the area valued farmland as part of their *cultural landscape* and not just as an underutilized resource. Interviewees often spoke positively of the Timiskaming District landscape and reminisced of a time when a vibrant agricultural community existed in the NeCN catchment area. There was frequent mention of *tag alders* reclaiming abandoned land with a sentiment that went deeper than a lost economic opportunity to potentially losing an element of their culture and history.

An additional intangible element is that of societal factors relating to agriculture. Even those outside the agricultural community with whom we spoke often indicated an inherent value of agriculture in the area for societal reasons. For instance, farmers create strong, tight knit communities in rural areas with strong, and literal, ties to the land. However, there was a clear disappointment present during the fieldwork that this sector was gradually disappearing. This sentiment was particularly true in the agriculture community with one dairy farmer in particular mentioning that for social reasons he felt a decreasing interest in farming as more operations move out of the area.

Therefore, while the value of agriculture is most often framed in economic terms it is important to recognize that this sector has additional importance to the community which is more difficult to quantify, though every bit as important.

Purpose and Methodology

Study Purpose

The communities situated within Cochrane District in Northeast Ontario are economically reliant on mining and forestry. These industries face a number of challenges associated with what is often referred to as “boom and bust cycles”. As a result, the communities within Cochrane District would greatly benefit from diversification of their local economy, with one option being agricultural expansion.

While agriculture is not a significant economic contributor at present, the existence of favourable soil classifications and adequate crop heat units suggest that expansion of this sector would be feasible. Increasing agricultural land prices in Southern Ontario and forecasts associated with climate change point to the potential for enhanced agricultural opportunities in the fertile lands of Northeast Ontario.

Therefore, this study will utilize a variety of methods to evaluate the current state of agriculture in the Southern portion of Cochrane District while at the same time identifying strengths, weaknesses, opportunities, and threats relating to the expansion of this sector within the region. The primary goal of the report is to build from this foundation to provide actions and corresponding implementation strategies which the member communities of the Northeast Community Network (NeCN) may consider adopting in pursuit of their goals.

Objectives

The objectives of the study can be broken down into 6 segments as follows:

1. To evaluate the opportunities for agricultural development in Northeast Ontario from a Regional Development perspective.
2. To work with the existing agricultural community to identify opportunities and challenges regarding the role of agriculture in regional economic development.
3. To work with local municipalities and regional development organizations to profile and promote agricultural development as a regional development tool.
4. To develop a case study approach of the Northeast Community Network as a means to identify broader regional opportunities.

5. To evaluate the potential for an expanded agricultural sector resulting from predicted climate change scenarios.
6. Identification of strategic directions that achieve the goal of agricultural development.

The results of these objectives can be found in one of two reports. The first report is entitled *Current and Future Opportunities for Agricultural Development in Northeastern Ontario: A Regional Development Perspective* which contains objectives 1, 2, 3, and 5. The second report is entitled *Strategic Directions for Agricultural Development in Northeastern Ontario* which contains objectives 4 and 6.

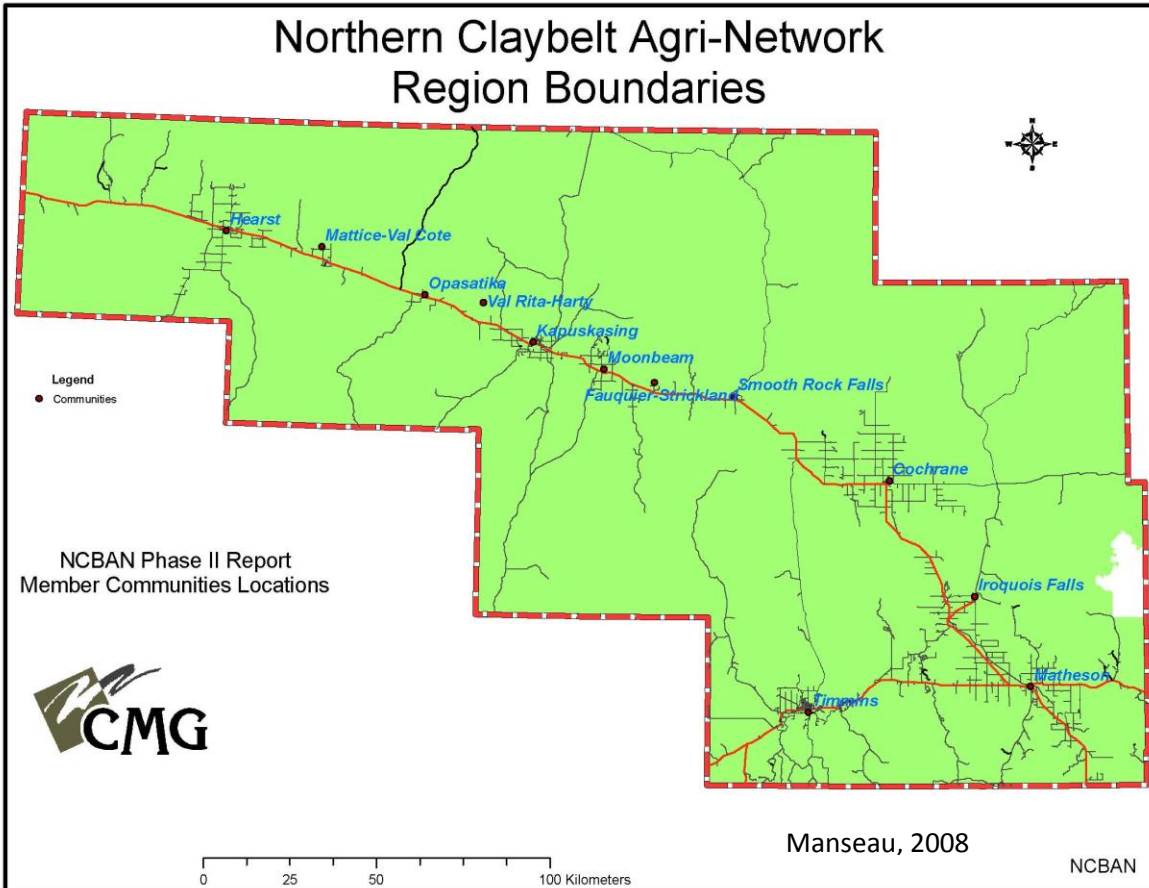
Methodology

The methodology for this project has been undertaken in several phases. First, secondary research and literature was reviewed to avoid duplication as well as obtain technical and statistical information pertaining to the area. Next, in-person interviews were undertaken in the NeCN catchment area with various stakeholders related to the agricultural sector of the region. Furthermore, strategic action ideas were developed by the researchers in cooperation with the NeCN Agriculture Study Steering Committee which were used to develop individual implementation strategies.

Study Area

The study area for this report encompasses the boundaries of 12 municipalities and 2 First Nation communities in the South of Cochrane District. While not formally recognized as a political jurisdiction, this area is referred to as the Northeast Community Network (NeCN) catchment area. A map representing the area of study can be found in Figure 1.

Figure 1



It is important to note that because this study area is not a recognized jurisdiction, it is sometimes difficult to find data pertaining exclusively to it; particularly when referring to Statistics Canada information. In these cases data was consolidated based on the Census Subdivision level to create a single NeCN catchment area dataset.

In other cases this was not possible and the closest level of measurement was found at the Cochrane District level. For instance, the Census of Agriculture divides Cochrane District into only two lower units; Timmins and the rest. Therefore, in discussions of agriculture it is generally at the Cochrane District level. Nevertheless, as most (if not all) of Cochrane District's agricultural land falls within the NeCN catchment area as well as most of the District's population it can be considered an accurate proxy.

Review of Existing Research and Data

Throughout the NeCN Agriculture Study existing research and data was utilized to avoid duplication of effort as well as obtain pre-existing data. While several reports were reviewed, two research projects in particular were utilized as good information sources for which the

NeCN Agriculture Study would build off of. First, the *Cochrane District Agricultural Economic Impact Study* prepared by Harry Cummings and Associates in 2009 was used as a source of information specifically pertaining to the agricultural situation of Cochrane District. Another source, generally referred to as the *NCBAN Study*, was prepared by Commerce Management Group for the Northern Claybelt Agri Network and was completed in 2009. This study was used primarily for its thorough look at soil information as well as the available farm land base along with a significant amount of GIS information pertaining specifically to the NeCN Catchment Area.

Along with a review of existing research reports, existing data sources were also utilized for demographic and technical information. For instance, socio-economic and agricultural data was obtained from Statistics Canada in the form of Census of Population and Census of Agriculture findings. As well, soil information was obtained from the Canada Land Inventory and climate information was obtained from the Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA).

Fieldwork

Primary research was undertaken within the NeCN Catchment Area over the period of May 10 – June 17, 2011. This was predominantly undertaken in the form of semi-structured interviews with stakeholders associated with the agriculture sector in the region; a specific breakdown of interviewees is presented in Table 1. The interviews were semi-structured in nature where interviewees were guided towards answering a list of prepared questions however were also encouraged to present their own relevant experiences or ideas outside the interview questions. This allowed for the flexibility to avoid questions irrelevant for an individual's operation, as well as expand ideas, issues, or opportunities not previously considered in the drafting of the interview questions. In essence, the interview questions evolved as the situation of agriculture in the NeCN area became clearer.

The list of interview contacts began as a list prepared by members of the NeCN Agriculture Study Steering Committee and included contacts from across the area. An attempt was made to speak with each stakeholder included on the list however in some cases individuals could not be contacted or declined to participate. In addition to this base list interview participants were asked to recommend any additional contacts that should be included in the study as a form of *snowball sampling*. This process did result in some new contacts being added to the original list. In addition to the interviews, there was also opportunity to visit two key research institutions and speak with employees or researchers at the Kapuskasing Beef Research Farm and the New Liskeard Agriculture Research Station (NLARS). Furthermore, there was an opportunity to attend and participate in a consultation

session on the topic of forestry, agriculture, and food for Timmins' strategic planning process on June 14, 2011.

Table 1	
Interview participant category	Number of participants
Agricultural producers	27
Farming operations visited	21
Agricultural suppliers	1
Agricultural processors	1
Food stores/Farmers' Markets	5
NLARS Researchers	2
Kapuskasing Beef Research Farm Employees	2
Community Futures representatives	4
Economic Development Corporation reps	6
Other municipal employees	1
Representatives of Municipal government	4
NGO/not for profits	5
OMAFRA Representatives	2
Others involved in agriculture or food	1

Continued Steering Committee Feedback

From the outset of the study it was identified that the NeCN Agriculture Steering Committee should play a continuing role in providing feedback and guidance for the project. To date, the Steering Committee has had one face-to-face meeting where the group was provided the opportunity to comment on the project's directions and deliverables as well as some of the early findings of the SWOT analysis. Also within this session, the Steering Committee was asked to provide a list of 3-5 potential actions that they felt would contribute to agricultural development in the NeCN area.

These action ideas were then compiled, summarized, and added to an existing list of strategic actions arising from the fieldwork. In follow up to this exercise, the Steering Committee was asked to provide feedback by prioritizing 5 actions that they felt were of key importance and 5 which they felt were of lesser importance for agriculture in the NeCN catchment area. The results of this exercise were then used in a meeting with other members of the *Prospering with a Stable or Declining Population* research team to develop implementation strategies for each action, and with particular emphasis paid to those deemed most valuable by the Steering Committee.

Agriculture in Cochrane District

Cochrane District¹ has a long history of agriculture production which played a key role in the initial settling and development of the area. However, as of today agriculture has declined significantly in overall production and economic significance for the area with many formerly productive operations being abandoned. Indeed, the level of improved (cleared) farmland in the area peaked in 1951 with 50,400 hectares at which time it steadily declined to only 14,421 hectares in 2006 (Manseau, 2008).

The reason for this steep decline in agriculture is difficult to pinpoint. The fieldwork for this study identified several observations from respondents, including an increase in competition from international markets or a cultural and economic shift in the region away from agriculture towards more profitable ventures in mining and forestry. Regardless of the reason for the decline, it would seem that it has not been the result of incompatible soil or climate conditions thereby suggesting that agriculture could return under the right socio-economic conditions.

This section will present the current state of the agriculture sector within Cochrane District. It will conclude with a preliminary look at the opportunities that exist within the area for a revitalisation of the agricultural sector, particularly in regard to available land and viable crops. A summary of the data can be found in Appendix 3.

Economic Value of Agriculture

In economic terms we can state that while the value of agriculture in Cochrane District is low when compared to areas in Southern Ontario, it does have a significant contribution to the economy of this area. During the last Census of Agriculture it was found that in 2005 farmers in Cochrane District reported total gross farm receipts of \$11,195,641 and a total farm capital of \$86,321,292 (StatCan, 2011). According to figures from the Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA) for 2009 the main contributors to farm cash receipts are dairy with approximately \$2 million; cattle and calves with \$940 thousand; and floriculture, nursery and sod with approximately \$600 thousand (OMAFRA, 2010). Thus, as mentioned, the contribution of agriculture within Cochrane District relative to other areas of the province is quite limited but nevertheless presents an important contribution to the local economy.

¹ In the case of agriculture, data cannot be extracted below the county/district level. Therefore, we must use information pertaining to Cochrane District overall. Nevertheless, since most (if not all) agriculture in Cochrane District occurs within the NeCN catchment area it can be considered an accurate proxy measure.

Farmland Coverage and Crop/Livestock Production

In 2006 Cochrane District reported 30,447 hectares of farmland from 184 farms of which 11,508 hectares were used for crops (OMAFRA, 2010). Overall, the major farm production in the District include: hay/fodder production, beef production, dairy production, and a range of other animal production activities including horses, sheep, goats, bison, and deer/elk (Cummings, 2009).

As of the 2006 Census of Agriculture the main crop was found to be hay with 10,167 hectares followed by barley (551 ha); oats (395 ha); and mixed grains (158 ha) (OMAFRA, 2010). Estimates² from OMAFRA for 2010 provide a similar breakdown, but smaller coverage, with hay being the main crop with 18,500 acres harvested followed by mixed grains (900 acres); barley (800 acres); and oats (700 acres) (OMAFRA, 2011a).

In addition to the coverage of field crops it is important to look at yield information. Generally, numbers from OMAFRA indicate that yields in the area are significantly lower than in other areas of the province. For instance, in 2010 barley in Cochrane District was estimated to have a yield of 43 bushels per acre whereas in the province overall the yield was 65.6 bushels per acre (OMAFRA, 2011b). Similarly, hay was estimated to have a yield of 1.3 tons per acre in Cochrane District compared to 2.7 tons per acre at the provincial level (OMAFRA, 2011c).

However, a reduction in yields when compared to the province overall is not uniform for crops in Cochrane District. Indeed, estimates from 2010 indicate that oats actually had a higher yield at 72 bushels per acre when compared to the provincial yield of 70 bushels per acre (OMAFRA, 2011h). Similarly, mixed grains had a higher yield in Cochrane District with 75 bushels per acre compared to 70 bushels per acre in the province overall (OMAFRA, 2011e).

In terms of livestock numbers, the 2006 Census of Agriculture found that Cochrane District contained 6,069 total cattle and calves (OMAFRA, 2010). An update from OMAFRA for 2010 estimates² that Cochrane District contains 300 dairy cows and 2,300 beef cows (OMAFRA, 2011f). As for dairy production, in 2010 Cochrane District had 5 milk producers shipping 2,598 kilolitres of milk representing a decrease from 2006 where 7 milk producers shipped 3,026 kilolitres (OMAFRA, 2011d, 2011g). Other livestock present in the Census numbers include poultry with 1,515 total hens and chickens and 129 total turkeys as well as 234 total sheep and lambs (OMAFRA, 2010).



It is worthwhile to note that the fieldwork undertaken within Cochrane District identified additional information on agriculture not captured within the data from the Census of Agriculture or OMAFRA. Indeed, there were a variety of products not identified by these sources that were being produced by farmers in the area. For instance, a few operations were producing vegetables for local consumption either through the local farmers markets, a food box/community supported agriculture model, or for sale in local food retailers. Additionally, there were some field crops not captured within this data such as wheat and canola which interviews found to be viable products.

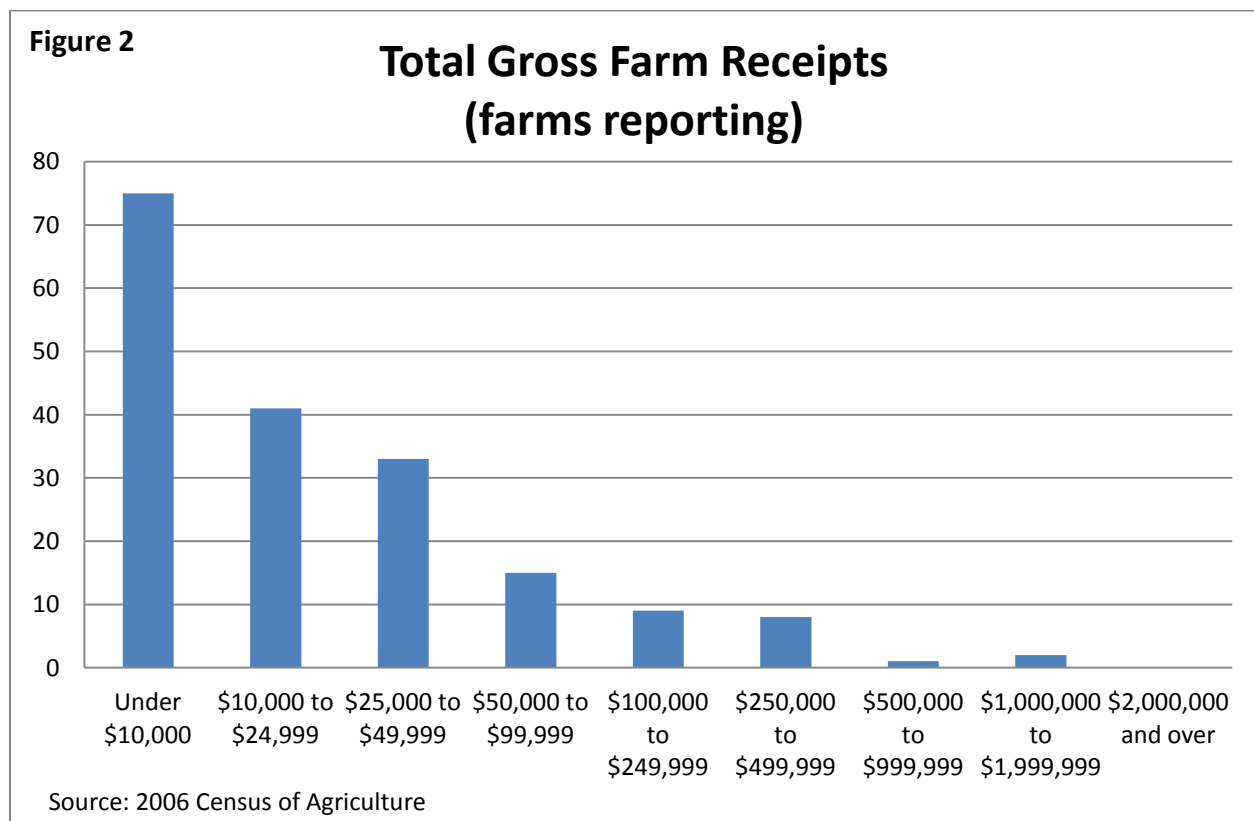
Farms and Farm Operators

As of the 2006 Census of Agriculture, Cochrane District contains 184 farms with an average size of 165 hectares, considerably larger than Ontario overall where the average farm size is 94 hectares (StatCan, 2011). The distribution of farm sizes was further broken down as: 41 farms reporting under 53 hectares; 76 farms between 53 and 161 hectares; and 67 farms over 162 hectares (OMAFRA, 2010). Further still, there is considerable variation in farm size across the District where farms in the Timmins area tend to be smaller (e.g. less than 200 acres). Farms in Timmins have also become progressively smaller in size over the last 10 years while farms in other parts of the District have become progressively larger (Cummings, 2009).

² OMAFRA provides the following warning when using these estimates: “Please note that the figures above are estimates primarily derived from a probability survey conducted by Statistics Canada, in conjunction with other administrative data sources. The probability survey is designed to produce accurate field crop area and yield information for the province as a whole. However, the accuracy of county and district estimates may suffer, particularly when the level of farming activity in a given area is relatively small. Thus, a measure of caution is advised when using sub-provincial estimates.”

When observing the finances of the farming operations in Cochrane District we find that their profitability is limited. Indeed, as Figure 2 indicates, the majority of farms reporting in 2006 had total gross farm receipts under \$10,000 (OMAFRA, 2010). This helps to explain why such a large proportion of farmers in Cochrane District work off farm having risen from 39 per cent in 1995 to 56 per cent in 2005 (Cummings, 2009).

In regards to farm capital value it is found that a significant proportion of farms (as of 2006) had relatively low value with 50 (27%) reporting under \$200,000 (OMAFRA, 2010). This data corresponds with findings from the fieldwork which identified several explanatory factors, including a low value of land and limited on-farm infrastructure such as barns or machinery. Nevertheless, the majority of farms (83 or 45%) still reported a capital value in the range of \$200,000 to \$499,999 and several indicated values in the upper cohorts with 41 farms reporting in the range of \$500,000 to \$999,999 and 10 farms reporting over \$1,000,000 (OMAFRA, 2010).



When observing the characteristics of Cochrane District’s 270 farm operators it is found that this demographic has a high average age at 55.1 years (StatCan, 2011). This figure is even higher than the provincial average of 52.6 years. However, more concerning than the age of farm operators is the limited succession planning and few younger people taking interest in farming identified in the fieldwork. Indeed, several interviewees nearing retirement identified that they had no plan for their operations once they could no longer farm. In many cases aging

farmers had no interested children to pass the farm on to and no intention (or little expectation) of selling the operation. This suggests that as farmers age in Cochrane District, many operations will be left unutilized once their current operators retire.

An additional point important for consideration but not captured within the previous data is the wide range of agricultural models currently being used within Cochrane District. Indeed, results from the fieldwork identified several categories that most operations could fit into. This may be summarized in the following table:

	Small scale				Large Scale
Local Market	Vegetable production for CSA/Farmers Market	Vegetable production for food retailers (greenhouses)	Livestock production for sale at farm gate/farmers market	Livestock production for sale at food retailers	
Export Market			Livestock production for export (i.e. cow/calf)		Cash cropping

Agricultural Opportunities in the NeCN Catchment Area

While in its current form agriculture is quite limited in Cochrane District there is significant opportunity for its expansion. Some key opportunities include the availability of farmland, the production of different crop varieties, and the shift to different agricultural models.

In terms of available farmland, it is difficult to accurately say how much agriculturally viable land is available in the area. However, the NCBAN study (2008) identified three measures that can help provide an idea of the vast acreage available for use specifically within the NeCN catchment area:

- 1) Quantifying the study area’s agricultural lands employing the MPAC data sets reveals a total farm base of 50,755 hectares. Assuming the introduction of vacant land and single residences holding an acreage value in excess of 30 acres, the total farm potential within

the study area can be estimated at 384,880 hectares for a total potential private lands farm base of 435,635 or 1,076,018 acres (Manseau, 2008).

- 2) Qualifying the soil class of study area's farm base, employing the CLI soil classification polygons, reveal that 53.26% of the land base falls under Class 3 and 17.51% falls under class 4. Assuming the introduction of vacant lands and single residences holding an acreage value in excess of 30 acres, an estimated 308,658 hectares of class 3 soil and an estimated 204,785 hectares of class 4 soils could be added to the current farm lands (Manseau, 2008).
- 3) Quantifying the study area's agricultural lands employing the Census data sets reveal a total lands in crop and improved pasture volume of 14,421 hectares. Assuming the reintroduction of historical improved farmlands from its peak in 1951 (50,400 hectares), the study area's current level farmland can be increased by 35,979 hectares (Manseau, 2008).

Regardless of the method utilized to calculate the available land base, it is clear that there is considerable opportunity to expand agricultural production within the region.

Another opportunity exists within viable products not captured within the data from the Census of Agriculture or OMAFRA. Indeed, the fieldwork identified a range of vegetables which were found to be viable under the right farming practices. Further, field crops such as canola were found to be growing quite well in the area with acceptable yields. This list will be expanded elsewhere in this report.

An additional key opportunity which exists in the region is the use of alternative agriculture models. For instance, there may be an opportunity for more local production and sales through farmers markets or a Community Support Agriculture (CSA) approach. At the same time, there may be opportunities for large scale cash crop production through partnerships with major producers from other areas who can supply the necessary inputs and expertise. Once again, these opportunities will be expanded upon elsewhere in the report.

SWOT Analysis

A Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis is a method of evaluation based on the achievement of a desired outcome. In the case of the NeCN Agriculture Study the desired outcome can be described broadly as the expansion of the agricultural sector within the NeCN catchment area. Therefore, the SWOT analysis works to identify the strengths, weaknesses, opportunities, and threats relating to the achievement of this goal.

The following SWOT analysis was created based predominantly on the findings from the interview process undertaken within the region. It also contains some observations from researchers as well as input from the NeCN Agriculture Study Steering Committee. It should be noted that some elements could be identified as fitting within more than one category, for instance in some cases a weaknesses might even be a strength (or vice-versa) depending on one's viewpoint or how it is addressed.

Strengths

Low cost of land/lower taxes

When compared to Southern Ontario the cost of land in the NeCN catchment area is much lower. Interviews indicated a range of approximately \$100 - \$500 per acre for agriculturally viable land in the NeCN catchment area. This is compared to Southern Ontario where the cost of land is more in the range of \$7000 - \$10,000 per acre. As well, interviews indicated that the cost of municipal taxes were also considerably less in the area when compared to other parts of the province.

Plenty of privately owned or cleared land unutilized



Even from straight observation, it is clear that there is a considerable amount of land that was once cleared for agricultural use that has since been left vacant. The previously completed NCBAN study found that in 2008 the total potential private lands farm base was 435,635 hectares of which only 14,421 hectares were in use. As well, it was found that historically 50,400 hectares were in use in 1951 leaving a significant amount of land once cleared and not currently in use.

Certain products do grow well

- Livestock: cattle, sheep, goats, bison, elk, horses
- Crops: oats, barley, hay, wheat, canola
- Vegetables: cabbage, cauliflower, potatoes, carrots, turnips, other roots, and more
- Fruits: Strawberries, raspberries, blueberries
- Certain ornamental species
- Biomass products (willows, poplars, grasses)

Throughout the interviews a wide range of crops were found to be quite viable in the NeCN catchment area from an environmental perspective. Whereas crops popular in Southern Ontario such as corn and soybeans are currently not viable in the area's climate, other crops such as oats have actually been found by area farmers to have better production and higher nutrient content.

Presence of ambitious/entrepreneurial people

Throughout the interview process numerous ambitious, entrepreneurial, and creative people were met. These individuals were involved in several interesting and useful projects such as: unique branding, niche market production, fostering and providing local markets, among many others. These individuals will prove useful in the ongoing development of agriculture in the region. Particularly as the unique circumstances of the NeCN catchment area will require new and creative solutions.



Good soil quality

The soils in the NeCN area have been found to be of good quality. Interviews indicated that farmers were generally impressed with the soil quality and found it to not be a problem in most cases. As well, even with climate considered, CLI classifications identify large areas of class 3 and 4 soils which are viable for agricultural production.

Weaknesses

Distance to market

Interviews with producers almost uniformly found that the distance to large markets was a major obstacle to profitability. Particularly when attempting an agriculture model based upon

exports to markets in the south, such as cash crops or cow-calf operations, the long distances are a considerable obstacle. With a rising cost of fuel the added cost of transportation reduces the margins of producers and thereby provides a competitive disadvantage for area producers. This is further compounded by the need of most producers to ship their outputs to the New Liskeard area or even further in some cases.

Limited infrastructure, suppliers, product handling, and other services

The NeCN catchment area has limited agriculture infrastructure and product handling such as the lack of a grain elevator and rail depot as well as limited storage for grains or vegetables. The area also has a limited number of agricultural product suppliers and it was indicated by almost every producer interviewed that they must obtain all feed; seed; fertilizer; chemicals; machinery and parts; and other associated products from southern suppliers. This represents an added cost and significant inconvenience to area farmers.

It also represents a weakness from an economic development perspective as resources are leaked out of the area into Timiskaming District with limited opportunity to capture the corresponding benefits of increased agriculture production in the area. As it stands now it does not appear that these services will return through market devices, nevertheless it is possible that they would arise on their own following an increase in farming in the area.

There are also limitations in the area in terms of access to other agricultural services such as veterinarians. However, at the moment this was not considered to be a major obstacle due to the generally high cost of utilizing veterinary services and the low value of livestock. It was also frequently indicated that veterinarian services did exist in some form for most livestock farmers and that the concern was more about the ability to attract new veterinarians with impending retirements.

Limited on-farm infrastructure

There appears to be limited on-farm infrastructure in the NeCN catchment area such as housing for livestock and machinery for cash cropping. Indeed, it was frequently indicated that housing was especially necessary for wintering livestock in the area due to the climate and prevalence of grass fed herds. Farmers often cited that they did not winter their cattle specifically due to their lack of housing facilities. Although it should be noted that at least one farmer was successfully wintering cattle outdoors however it required grain finishing to reach slaughter weight.

Another weakness was found to be limited machinery at the scale required for cash crop production. It was often stated that farmers in the area utilized small or outdated machinery due to the high cost of replacement. It was also mentioned that farmers in the area did not make full use of their potential acreage due to the relatively small size of their machinery, the limited windows available for planting/harvesting, and their limited time due to off farm employment.

Short growing season, frequent risk of frosts

The NeCN catchment area suffers from a shortened growing season due to the comparably unfavourable climate of the area. The limited Crop Heat Units of the area are also coupled with a frequent risk of frosts whereas the area only has an average of 100 frost free days in the growing season. As well, farmers indicated that it was not uncommon to have late frosts in the spring and early frosts in the fall or even experiencing a frost each month of the summer in some years.

This produces some limitations on crop choices with crops popular in the south, such as corn and soybeans, being unsuitable. In some cases it can also reduce the yields of some crops that are viable for the area. However, it should be noted that while some yields are lower than in the south in other cases they have been found to be quite comparable. As well, the cooler climate can be beneficial for some crops, such as oats or grasses. Further still, it was indicated that with some crops, such as vegetables, frost hardy varieties do exist and are quite viable along with mitigating actions that can be taken such as row covers or cold frames.

Limited extension, outreach, and knowledge transfer services

A common weakness mentioned through the interview process was the lack of extension, outreach, and knowledge transfer services. The Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA) do not have a representative based in Cochrane District and the unit responsible is based fairly far in New Liskeard; this represents a huge geographic area which is under their responsibility.

As well, several farmers mentioned their lack of access, or unfamiliarity, with computers and the internet thereby reducing their ability to expand their knowledge using that medium. It was further indicated that while research institutions exist in both New Liskeard and Kapuskasing their mandate and resources limited their ability to perform outreach or knowledge transfer services to the surrounding community.

Limited drainage

Almost without exception, interviewees in the NeCN catchment area mentioned the necessity for drainage infrastructure for the success of agriculture in the area. Tiling was stated to extend the growing season by allowing farmers to plant earlier and harvest later, which is significant when considering the already constricting growing season that the climate allows. As well, it was perceived by area farmers that drainage would get the cold water out of the fields earlier in the spring allowing for a suitable seeding temperature to be reached earlier.

However, few farmers actually had any tiling installed on their acreage. The main reason for this appeared to be the high cost of installation alongside difficulties with obtaining grants or loans for the project. It was also indicated that, like so many suppliers and services, the nearest tile drainage installers are in the New Liskeard area. It was further stated by NeCN catchment area farmers that it has been difficult to get these businesses to come to the area without large and expensive projects. This makes it particularly difficult for smaller operations or those wishing to gradually tile their acreage.

Limited access to farm financing

A common issue faced by farmers in the NeCN catchment area was found to be difficulty obtaining loans and financing. This presents an important limitation for expanding operations as well as necessary investments required for upkeep and improvements (e.g. housing facilities, tiling, and machinery). It was indicated that banking institutions within the NeCN catchment area were lacking agricultural specialists making it difficult to obtain financial support within the special conditions of agriculture. Another consideration is the lack of a Farm Credit Canada office in the area along with a perceived disinterest from this organization in working with farmers in the NeCN catchment area.

One possible reason for the difficulty in obtaining loans and financing faced by NeCN area farmers may be the lack of equity that these operations hold. For instance, due to much higher land prices in Southern Ontario the inherent value of farming operations may provide adequate collateral whereas the very low land prices in the NeCN catchment area will not. Nevertheless, it should be noted that farmers across the province are experiencing similar difficulties with obtaining financing apparently as a result of a shift of focus to cash-flow from banking institutions.

Limited farming culture

While a difficult concept to provide evidence on, a common issue raised by interviewees is the lack of a farming culture in the NeCN catchment area. Indeed, it is commonly perceived that those external to the area do not see its agricultural potential and rather see it as a community based on mining and forestry. Similarly, the dominant culture of the area would seem to

reinforce this expectation where local residents see their own communities as based on mining and forestry with little expectations from agriculture.

This presents a few implications for agriculture in the area. For one, it appears to limit the knowledge base of farming in the area and provide a barrier for attracting new farmers from the community. It also presents limitations in succession planning where few farmers in the area expected their operation to be passed on to their children when they retired and it was often stated that farming 'skipped generations' in the region.

Some available agricultural land is inaccessible

While it is difficult to say how much, it would appear that it is relevant to consider that some viable land in the NeCN catchment area may not be accessible for agricultural use. This may be due to physical reasons such as lacking road access or only being accessible through clay roads that are seasonably unusable. At the same time there is a less tangible consideration that may exist based upon convenience and personal preference. For instance, while farmland exists for kilometres outside community centres they may not be within the preferred range of commuting for services (i.e. health, education), entertainment, employment, groceries and other supplies; especially in the long winters that the area faces. This range from a community centre will vary greatly from person to person and is therefore impossible to estimate at this point. Nevertheless, it is an important consideration that in some cases people may be unwilling to utilize perfectly viable agricultural land for completely non-agricultural reasons.

Opportunities

Climate change

While difficult to predict, there is an expectation that climate change will bring opportunities for the NeCN catchment area in the form of improved climate conditions. Indeed, several projections indicate that while much of the earth will lose agricultural productivity, Northeast Ontario will gain. This is largely based on an increased growing season resulting from warming temperatures.

While difficult to attribute to climate change, it was widely recognized through the interview process that recent years have seen warming temperatures in the NeCN catchment area. This included a particularly positive growing season in 2010 and much milder winters in recent years. Whether or not these can be expected to continue or were merely weather anomalies remains to be seen.

Popularity of niche markets

Across Ontario (and beyond) there appears to be increasing popularity for niche markets such as grass-fed, organic, or locally produced food. This provides several opportunities for agriculture in the NeCN catchment area. For instance, due to the increased cost of acquiring pesticides and fertilizers, organic production may be an opportunity to avoid these increased costs. As well, organic fertilizers located nearby, such as the Spanish River Carbonatite mine near Sudbury, may offer opportunities to utilize this local resource for niche market production.



Another increasingly popular niche market is the local food movement. This may provide opportunities for the NeCN catchment area in fostering farmer's markets and producers focused on selling locally. Particularly due to the long distances to market and the high cost of transportation this may be a good method of overcoming these inherent barriers. As well, existing operations have demonstrated that a market does exist for local production and by using specific varieties and farming practices many products are quite viable.

A further opportunity may exist in the niche market of grass-fed livestock products. Due to the high cost of grain and the area's ability to produce quality hay and pastures an opportunity would exist to utilize the area's advantage for grass-fed beef production. There is already at least one group in the area currently working towards this goal with some apparent success. However, there are still questions from some farmers as to whether there is an adequate market for grass-fed beef, particularly due to the different taste of the meat, resulting from a lack of marbling. As well, it is generally found that in order to finish grass-fed animals housing facilities are required, which are often lacking in the area.

Cooperatives for inputs and outputs

There is an opportunity for producers in the NeCN catchment area to band together to overcome the obstacles that they face. For instance, the obstacles to obtaining supplies and equipment may warrant a cooperative effort from area farmers. In a few instances this was already being undertaken on a small scale where a larger operator would pick up supplies for smaller operators on trips to New Liskeard. As well, in at least one case farmers were

cooperating to obtain and share machinery that they could not otherwise afford on their own. With more coordination these ideas could be expanded.

Another opportunity may exist for farmers to cooperate on selling their outputs. This may be in the form of cooperating on distribution and transportation to ensure efficiency and share costs. It may also be in the form of cooperating on a storefront or other outlet to sell their production directly to consumers. This may be an opportunity to overcome the difficulties associated with small farmers selling their products to retailers.

Land/infrastructure improvements

Throughout the interview process it was frequently indicated that land and infrastructure improvements were essential to the success of agriculture in the area. This may include tile drainage, livestock housing facilities, available abattoirs, grain elevators, a rail depot, road access, kilns/dryers, among other agriculturally associated infrastructure. There are different ways that these opportunities could be supported, including funding, encouraging, or even coordinating their establishment.

Advancements in agriculture science

Agricultural science is consistently advancing with new varieties being developed which are more suitable for the conditions of the NeCN catchment area. One farmer in particular reminisced about a time when corn was considered unviable for the Waterloo area whereas today corn is being produced in the New Liskeard area. Similarly, new varieties of canola have been developed which are quite viable in the conditions of the NeCN catchment area. Therefore, it can be expected that as agricultural science advances new varieties and techniques will continuously improve the agriculture productivity of the NeCN catchment area.

Marketing

There are two key means by which marketing would be an opportunity for agricultural expansion in the NeCN catchment area. First, marketing the advantages and opportunities to external audiences, such as Southern Ontario, would be very useful. For instance, it would seem that many in the South are entirely unaware of the potential of Northern Ontario for agricultural production and have numerous presuppositions which are inaccurate and could be dispelled through some form of a marketing campaign. This could be coupled with an attraction campaign intending to bring new farmers to the area.

Another opportunity for marketing would be directed internally. This would improve the knowledge and expectations of NeCN catchment area residents in regard to agriculture in their

area. More specifically however, it could be used to promote the consumption of local products.

Improvements in technology and farming practices

Agricultural technology and farming practices are consistently being developed to improve yields and productivity. While purely speculative at this stage, we may expect that agriculture in the NeCN catchment area will become increasingly viable as new technologies and farming practices are adopted by area farmers. It should be noted that this opportunity rests on the assumption that farmers in the area are made aware of advancements which may be an opportunity for NeCN support.

Greenhouses

There may be an opportunity for greenhouse production to overcome the drawbacks related to climate and seasonal availability. During the interview process it was found that the current viability of greenhouses may be limited, especially in light of high energy costs, competition with cheap imports, and availability of markets. A particular opportunity may be available for making use of waste heat generated by natural gas pipeline booster stations or CoGen plants located in the area. It was identified that a greenhouse was once connected to a booster station in the Ramore area but has since been closed.



Opportunity for organic production or those requiring isolation

An interesting prospect for agriculture in the NeCN catchment area is the fact that most land has not had chemical fertilizers or pesticides applied for quite some time, if ever before. This may be considered a strength by those looking for soil for organic production. Another possible strength, although perhaps not widely applicable, is the opportunity for avoiding cross pollination or other contaminations which may be useful for those attempting to produce specific crop varieties or conduct crop research in relative isolation.

Agricultural production not for human consumption

An opportunity may exist in the area for agricultural production that is not intended for human consumption. Opportunities may exist for biomass production for use in CoGen plants located within the area or nearby. Similarly, there may be an opportunity for an ethanol or methanol distillery for industrial purposes. Further still, opportunities may exist to utilize agricultural products for the manufacture of chemicals for industrial or pharmaceutical use. Assuming these

pursuits would be viable in the area, this would overcome some inherent issues such as the long distances to major markets and corresponding spoilage.

Another opportunity for non-food based agricultural activities is recreation and agri-tourism. For instance, the interview process identified that the NeCN catchment area had a significant number of horses. While often overlooked in discussions of agriculture, horses do provide a source of economic development through recreational purposes as well as consuming local inputs of hay and grain.

Make use of Northern specific products

An opportunity may exist to make use of products which benefit from Northern conditions, or are located exclusively in the area. For instance, fruits such as wild blueberries may provide an opportunity to make use of a product unique to the area through cultivation or foraging. Further, a market may exist for other non-timber forest products such as herbs, seeds, medicinal plants, game animals, mushrooms, or other berries.

Access to Northern markets

It is often assumed that export markets are only available south of the NeCN catchment area, however another market may exist in shipping northwards. It was identified in the interview process that northern communities and remote First Nations groups were often underserved in terms of fresh/affordable produce and meat. The NeCN catchment area would actually have a comparative advantage in supplying these groups due to their proximity and existing infrastructure, such as the Polar Bear Express allowing products to be shipped to communities along the James Bay coast.

Threats

Aging farmers, limited succession planning

A major issue identified throughout the interview process was the age of farmers in the area and the limited succession planning they often had. Farmers across Ontario are recognized as an aging group with the 2006 Census of Agriculture indicating that they are generally older in the NeCN catchment area; which was reaffirmed through the interview process. More concerning was the finding that many farm operators did not expect to pass their operation on to children or other family and had no plan for the operation following their retirement thereby creating questions for the future of existing farms in the area.

Competition for labour

A common issue for the agriculture industry in the NeCN catchment area is the competition for labour with other, often higher paying, industries such as mining and forestry. This creates issues for producers and processors who stated that they often had trouble finding labour for their operations. It also creates an obstacle for attracting new farmers from the area as the long hours and comparably lower wage can be difficult to justify against occupations with high wages, stable working hours, pensions, time off, and benefits. While this is an issue for farming anywhere, it seems to be particularly prevalent in the NeCN catchment area, possibly due to the limited farming culture of the region.



Value of commodities

The relatively low value of commodities is an issue for farming across Ontario, and beyond. For instance, while beef is on the rise at the moment farmers still indicated that the value was too low to be profitable, particularly considering the consistent rise of input costs. Similarly, while commodity prices are also fairly high right now there is question about their sustainability. This is a particular risk for farmers in the NeCN catchment area who have fewer options for crops when compared to others in the province. For instance, while canola is quite profitable right now if it were to drop farmers could not switch to other valuable products such as corn or soybeans as they could in the South.

Nonetheless, there is an alternative that the value of commodities may also be an opportunity. As mentioned, agricultural commodity prices are on the rise and due to factors such as population growth, climate change, and competition with biofuels for agricultural lands we may actually be entering a phase of permanently high commodity prices.

Wildlife

One issue somewhat unique to agriculture in the NeCN catchment area is threats from wildlife. Indeed, many farm operators identified that they have had trouble from wolves attacking livestock. Similar problems were reported regarding bears and Sandhill Cranes destroying crop fields. While not a major issue, it is certainly one that must be considered as it does pose a threat to profits and yields for farmers in the region.



Perceived indifference from other levels of government

A common perception held by interview participants was that the federal and provincial governments were indifferent to, or even opposed, the expansion of agriculture in the North. This can present threats in two key ways. For one, when attempting to work with other levels of government to expand this sector it may be difficult to establish a good working relationship. As well, assuming that this perception is accurate, it may prove difficult to obtain much needed support from the federal or provincial governments.

Perception of a limited market for local production

Many producers in the area identified their scepticism regarding an adequate demand for local products in the NeCN catchment area. Nevertheless, those that geared their operations towards local markets appeared to be quite successful. In fact, one operator mentioned his initial scepticism and abrupt change of heart following the great success he had selling beef locally. This common scepticism could pose a threat to efforts attempting to expand local production/consumption in the area.

Future energy supplies

A significant threat may be posed by the rising cost of energy and the realities of a future with limited fossil fuel availability. The most profound implications for this threat are based on increased transportation costs or difficulty importing supplies and exporting production. Another aspect is a potential shift in the agricultural sector where large scale production becomes less viable. In fact, it was even mentioned that perhaps the current model of agriculture production in the NeCN catchment area, where there are mostly small scale producers, may actually be the future of agriculture in all of Ontario. While this threat is speculative at the moment, it is certainly worth noting in considering the direction for agriculture in the region.

Shifts in political priorities

While impossible to predict and surely an issue for agriculture anywhere it is important to consider that shifts in political priorities can have profound consequences for agriculture. For instance, changes in political parties or priorities can impact funding provided to agricultural operations or program availability. As well, a significant threat may be seen in the future of biomass which is currently largely reliant on a political priority of shifting away from fossil fuels, particularly coal power, which could change with a new government.

Conclusion

In its current state the NeCN catchment area presents only a shadow of its former vibrancy and future potential. Indeed, the limitations imposed on agriculture in this area are often not inherent but rather the result of changing circumstances. For instance, the climate and soil conditions do not impose as much of a limitation as one might expect, and instead most weaknesses and threats are human generated and thereby subject to change.

In general the inherent opportunities for agriculture in the NeCN catchment area are widely recognized by those with knowledge of the region. Indeed, the recent *Growth Plan for Northern Ontario* considers agriculture and food as an area of focus for future growth in the region. This plan provides recognition of a range of agricultural directions for the North as well as needs that must be addressed for it to be successful.

When observing the overall state of agriculture in the NeCN catchment area it is clear that while significant challenges do exist the area holds numerous strengths and opportunities for agriculture. This is made clear in the preceding SWOT analysis which indicates considerable opportunity for the agriculture of this area if the necessary conditions and support can be met. Therefore, the NeCN can help overcome some of these obstacles and reinforce existing strengths and opportunities.

With this in mind, the focus of Report 2: *Strategic Directions for*

Agricultural Development in Northeastern Ontario will be on creating actions that may support the goal of expanded agriculture in the region along with implementation strategies that will help make these actions happen in the short and long term.

Growth Plan for Northern Ontario – 2011

2.3.3 Agriculture, Aquaculture and Food Processing

1. Efforts by the Province, industry and, where appropriate, other partners, to grow and diversify the agriculture, aquaculture and food processing sector should include:

- a) undertaking and disseminating research focused on northern climatic and environmental conditions
- b) identify opportunities for developing the bioeconomy within this sector, including innovative uses of agriculture/food processing, biomass, and collaboration among producers, processors, the forest industry, biorefineries and the biopharmaceutical industry
- c) identify land improvement and environmental sustainability needs
- d) expanding production in the North to contribute to a sustainable local food source for Northern Ontario residents
- e) exploring opportunities for complementary economic activities on agricultural land, as appropriate
- f) supporting buy-local initiatives that increase consumer awareness of Ontario-produced foods and encourage Ontarians to buy locally, including Northern Ontario products
- g) marketing and branding that showcases environmental stewardship, innovation and food safety
- h) supporting development of production, processing and distribution systems.

https://www.placestogrow.ca/index.php?option=com_content&task=view&id=53&Itemid=65

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