

Economic Impact Study of the Agriculture Sector in Temiskaming

April 2004

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Temiskaming Federation of Agriculture

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Harry Cummings and Associates

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Temiskaming Agricultural Economic Impact Study

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Temiskaming Cattlemen's Association
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Executive Summary

As a region, northeastern Ontario is best known for its natural resources in forestry and mining. However, the role of agriculture in the economy in some areas of the region is significant and growing in importance. In Temiskaming District agriculture has become an economic driver. Indeed, it has become the agricultural heartland of northern Ontario.

The purpose of this report is to provide a profile of agriculture in Temiskaming District and to document the economic and non-economic benefits that are derived from the agricultural sector. The report was prepared in response to the terms of reference as put forward by the Temiskaming Federation of Agriculture. The study was guided by a multi-stakeholder steering committee which consisted of representatives from the agricultural sector, local business leaders, local government officials, education and research officials, economic development officials, health officials, the Ontario Ministry of Agriculture and Food, Fed Nor and Industry Canada.

This study grows out of the need to clearly document and define the role of agriculture in the local economy in order to protect agriculture and plan for the future. The report includes a description of the physical and human resources in the region, the recent nature of agricultural production and the direct, indirect and induced economic impacts of agriculture on the local economy.

Population and Population Change

Temiskaming District is a sparsely populated area. Having a total land area of 13,280 square kilometres and a population of 34,422 (2001), the population density for the District is approximately 2.5 residents per sq. km. compared to the provincial average 12.5 residents per sq. km. Between 1996 and 2001 the population of Temiskaming District declined by 11% from 38,807. This represents the highest rate of population loss among all the northern Ontario Districts.

The majority of the Temiskaming population lives in the urban centres of Kirkland Lake, New Liskeard, Haileybury, Englehart and Cobalt. Close to 60% of the population in the District lives in urban areas and 40% lives in rural areas. The population in Temiskaming is more rural based than other parts of northern Ontario and the urban/rural split for the District has remained largely unchanged since 1996.

Agricultural Conditions

Climate conditions coupled with soil conditions play a significant role in determining the type of agricultural activity in Temiskaming District. The southern part of Temiskaming District features a micro-climate influenced by Lake Temiskaming. As a result, the climate in the area of the 'Little Clay Belt' is temperate which allows for a wide variety of crops to be grown including alfalfa, corn, canola, barley, spring wheat and even soybeans.

Temiskaming agriculture has been strongly advanced through the efforts of local farm leaders and organized commodity groups to share production and farm management information. Out of these groupings, the support infrastructure for agriculture has become well established in the form of farm supply and service businesses and cooperative marketing ventures.

Agriculture in the District has also been greatly aided by the research work of the 'experimental farm', the New Liskeard College of Agricultural Technology - now the New Liskeard Agricultural Research Station (NLARS). Research programs at NLARS focus on adapted crop species such as spring wheat, barley, oats and canola, and perennial forages such as alfalfa, clovers and grasses. NLARS also features a horticultural unit which focuses on berry crop and vegetable cultivars for northern Ontario. With respect to livestock research, some of the main research interests at NLARS include alternative cow-calf production systems, breeding programs, and pasture management systems.

Farms and Farmland

In 2001, Temiskaming District reported 532 farms, down from 589 farms in 1996.¹ This represents a 9.7% decline across the District which is consistent with the rate of loss experienced across northern Ontario. During the same period the province as a whole experienced a higher rate of farm loss at 11.5%. In 2001, 20% of all farms in northern Ontario were located in Temiskaming District.

The average farm size in Temiskaming District is slightly larger than the average farm size for northern Ontario and almost twice as large as the provincial average. In 2001, the average farm size in the District was 404 acres compared to 384 acres for northern Ontario and 226 acres for the province. While farm numbers have been consistently shrinking over the past few census periods, farm consolidation has resulted in larger farms. The average farm size in the District has increased by 15.4% or 54 acres since 1991. The trend toward larger farms and the rate of change is consistent with provincial patterns.

Temiskaming District reported a total of 214,835 acres of farmland (i.e. land being farmed) in 2001. This represents 6.5% of the total land area of the District. Temiskaming had just over 21% of the total farmland area in northern Ontario in 2001. Between 1991 and 2001, the area of land being farmed in the District increased by 12% from 191,528 acres to 214,835 acres. While this represents a significant positive trend in the area of land being farmed, the total farmland base remains several thousand acres below the figure reported in 1981 when the District reported 227,855 acres of farmland.

¹ Statistics Canada defines a census farm as an agricultural operation that produces at least one of the following products intended for sale: crops (field crops, tree fruits or nuts, berries or grapes, vegetables or seed); livestock (cattle, pigs, sheep, horses, exotic animals, etc.); poultry (hens, chickens, turkeys, exotic birds, etc.); animal products (milk or cream, eggs, wool, fur, meat); or other agricultural products (greenhouse or nursery products, Christmas trees, mushrooms, sod, honey, maple syrup products).

The steady increase in the total farmland area in Temiskaming over the past fifteen years stands in contrast to the ongoing decline in farmland at the provincial level. Temiskaming also appears to be outperforming other parts of northern Ontario which have experienced an overall decline in the total area of farmland since 1991.

Agricultural Production

The largest single use of farmland in Temiskaming District is crop production. In 2001, 55% or 118,00 acres of the total farmland base was used for crop production. This represents 31% of the total cropland area reported in northern Ontario in 2001. Temiskaming has a larger percentage of its farmland base in crop production compared to other parts of northern Ontario. Between 1996 and 2001, the area of farmland reported in crop production in the District increased by 11% or 11,671 acres.

Temiskaming District features a variety of different farm types. Beef farms are the most common type of farm in the District accounting for 43% of all farms in 2001. Field crop farms represent the next largest percentage of farms at 20% followed by dairy farms at 17%. Temiskaming District is specialized in beef and dairy production relative to other parts of the province. Approximately, 61% of all farms in the District are primarily involved in livestock production. This compares to the provincial average of 45%.

Temiskaming is the number one milk producing District in northern Ontario. In 2002, Temiskaming reported a total of 38.7 million litres in milk shipments to milk processing plants, which represents 41% of the total production for northern Ontario and 1.5% of the total provincial production. Between 1998 and 2002, the total volume of milk shipments from Temiskaming dairy farms increased by 7.6%.

Temiskaming is also a leading area for field crop production in northern Ontario. Over 50% of the total acreage of production for many northern Ontario crops is located in Temiskaming. In 2001, the District reported 55% of the total northern Ontario acreage in soybeans, 58% of the acreage in dry field beans, 60% of the acreage in barley, 63% of the acreage in buckwheat, 85% of the acreage in spring wheat, and 88% of the total northern Ontario acreage in canola.

The largest grain crops grown in the District in terms of total acreage are barley (22,260 acres) and spring wheat (10,432 acres). Close to 3,000 acres of soybeans and 6,000 acres of canola were grown in the District in 2001. Alfalfa and other tame hay crops were reported on a total of 64,700 acres.

Farm Receipts and Operating Expenses

Temiskaming District farms reported \$44.2 million in total gross farm receipts in 2000 compared to \$36.4 million in 1995. Temiskaming's total farm receipts for 2000 represent 27% of the northern Ontario total and 0.5% of the provincial total. Since 1985 Temiskaming District has consistently accounted for 0.5% of the total provincial farm

receipts. During the same period, Temiskaming's percentage of total northern Ontario farm receipts has increased from 23% to 27%. Growth in dairy and crop production during the 1990's have contributed to this trend.

Approximately 22% of the farms (118) in Temiskaming District reported total gross farm receipts of \$100,000 or more in 2000. Close to 25% of the farms (125) in Temiskaming reported total gross farm receipts between \$10,000 and \$24,999 and 39% of the farms (155) reported total receipts under \$10,000. The number of farms reporting less than \$10,000 in total gross farm receipts declined by 76 farms or 33% between 1995 and 2000 while the number of farms reporting more than \$100,000 in total receipts increased by 14 farms or 13.5%. This trend is consistent with the provincial trend where smaller farms are being consolidated into larger farms.

Total average receipts per acre of farmland for Temiskaming are higher than the northern Ontario average but lower than the provincial average. Farm receipts in Temiskaming averaged \$206 per acre in 2000, compared to \$160 per acre for all of northern Ontario and \$675 for Ontario.

Total farm operating expenses in Temiskaming District amounted to \$37.7 million in 2000. This represents 26% of the total farm operating expenses reported for northern Ontario. Operating expenses per farm in Temiskaming District are on average, higher than the northern Ontario average but substantially lower than the Ontario average. Farms in Temiskaming had an average of \$70,852 in expenditures in 2000, compared to \$54,664 per farm in northern Ontario and \$131,082 in Ontario.

Approximately 29% of total operating expenses in Temiskaming District are tied to livestock and poultry related expenses including feed purchases, livestock and poultry purchases, and veterinary services. This is comparable to the provincial profile where livestock related expenses account for 30% of total farm operating expenses. Equipment and building repairs represent the next largest single expense category in the District at 11% of total operating expenses followed by wages and salaries at 10% of total expenses.

The total net farm revenue in Temiskaming amounted to \$6.5 million in 2000 or 36% of the total for northern Ontario. The total net farm revenue per acre of farmland amounted to \$30/acre which is 66% higher than the northern Ontario average. Some townships in Temiskaming reported net revenues/acre in excess of \$80/acre which is on par with the provincial average.

The value added component is substantial. Value added is the difference between a good's final value and the value of the other items that went into producing it. Each step in the value added chain uses capital and labour to create employment. Consequently, the more 'value' that is added to a product before final sale or export, the more benefits provided to the local economy. The total value added component for agriculture in Temiskaming District amounted to \$19.5 million in 2000. This translates into 44 cents of value added per dollar of gross farm receipts. The average value added component per

farm associated with Temiskaming farms is almost \$10,000 higher than the northern Ontario average. The concentration of dairy farms in Temiskaming is an important factor in the higher total value added estimate.

In 2000, Temiskaming District reported \$241.7 million in total farm capital, which represents 23% of the northern Ontario total. The average farm capital value for farms in Temiskaming was \$50,000 higher than the northern Ontario average. The concentration of livestock in certain parts of the District is a major factor influencing the high average farm capital values as the cost of modern livestock facilities can easily exceed half a million dollars.

Economic Impact

The total economic impact of agriculture in Temiskaming District was measured through an accounting of the total sales and employment of agriculture and agriculture-related businesses located in the District. This work involved a review of the primary data from Statistics Canada's 2001 Population Census of Canada and 2001 Agriculture Census. The census data was used to study the direct economic impacts of agriculture on the local economy as described above.

A survey of agri-related businesses was used to measure the indirect impacts by collecting sales and employment data from businesses that sell products to, or buy products from farmers. The survey represents a substantial body of new data on the local economy and was completed in the Summer/Fall 2003. A representative sample of 89 businesses was surveyed from an inventory of 175 agri-related businesses in the District to achieve a 95% level of confidence

The induced economic and employment impacts (employment related to household spending) of the agriculture sector were also studied using secondary data derived from the Statistics Canada census data.

In terms of dollars, agriculture makes a substantial contribution to the local economy. Direct farm sales (receipts) amount to \$44.2 million while indirect sales associated with Agri-related businesses amount to \$100.9 million. In total, approximately \$145 million in agriculture and agri-related sales are generated in Temiskaming District. The sales expenditure multiplier estimated from the total agri-related sales activity in Temiskaming is 3.3. In short, this calculation can be used to estimate that for every dollar generated by direct agricultural sales, an additional \$2.3 in sales related to agriculture is produced in the wider economy.

Agriculturally related activities make an important contribution to both the assessment base and municipal tax base of most of the municipalities studied. While playing a less significant role in the area's more urban municipalities, it contributes significantly to the well being of the rural municipalities studied and would pose a major challenge if allowed to decline.

In terms of employment, agriculture directly supports 745 jobs in Temiskaming District including farm managers and farm employees. As a stand-alone sector, agriculture accounts for 4.7% of all jobs in Temiskaming compared to a much lower provincial average of 1.8%. In some townships such as Kerns, Casey, Brethour, Armstrong, and Evanturel agriculture accounts for more than 15% of all jobs.

The agriculture sector supports an additional 526 jobs through its linkages with agri-related businesses in retail, wholesale, construction, transportation, manufacturing, and other sectors. A further 890 induced jobs are supported by employees in agriculture and agri-related businesses. In total, local farm operations and the businesses they buy from and sell to and the service sectors that support farmers and farm businesses, are estimated to support a total of 2,161 jobs. This combined employment figure represents approximately 14% of the total jobs in the District. In recent years, the economic contribution of agriculture has taken on even greater significance in light of ongoing declines in other sectors. Employment in the mining sector for example has declined by over 55% in the last ten years and jobs in agriculture now outnumber jobs the mining sector

When we take the total employment figure and divide it by the total number of direct agriculture jobs, we get a multiplier of 2.9. This calculation allows us to estimate that for every job in the agriculture sector, an additional 1.9 jobs are supported in the wider economy.

Non-Economic Benefits

Agriculture serves a multifunctional role in Temiskaming in terms of the economic, social, cultural and environmental benefits that are derived from agricultural-related activities. In many communities there is growing public recognition of the "intangible" benefits of agriculture. Societal benefits are derived from a range of rural amenities including food security, open spaces and scenic beauty.

The agricultural landscape is a major contributor to the character and cultural ambience of Temiskaming District. Farm families in Temiskaming support a significant foundation for the local quality of life by supporting rural communities, organizations and events that are vital to the region. They also serve as responsible caretakers for a substantial part of the regional land base and promote a rural character that makes the region a desirable area for residents, tourists and employers.

Farmers recognize that the long-term prosperity of the agriculture sector is linked to its ability to co-exist sustainably with the natural environment. Farmers in Temiskaming use a variety of practices that benefit the environment by conserving valuable soil resources, protecting watersheds, improving wildlife habitat and ensuring bio-diversity. These benefits are important in contributing to the well being of society and the health of the environment.

Challenges and Opportunities in the Northern Agricultural Heartland

Despite the successes experienced by the agriculture sector, farming remains a highly stressful occupation for many farmers who have to cope with a variety of factors beyond their control including weather, fluctuating market prices and inadequate returns. In addition to changes experienced within Temiskaming the agriculture sector is also impacted by changes occurring elsewhere in the province, country and the world. Evidence of this can be seen in the effects of the world-wide embargo that was placed on Canadian beef as the result of a single case of bovine spongiform encephalopathy (BSE or mad cow disease) in Alberta. Although regional figures are unavailable, Ontario's 21,000 beef producers were estimated to be losing about \$4 million per week during the height of the BSE crisis.

While the challenges facing agriculture are considerable, farmers and agri-related businesses see opportunities for growth in Temiskaming District. The region offers many advantages to local farmers who are interested in expanding their existing operation and to farmers in other parts of Ontario or overseas who are interested in relocating or establishing a farm operation. The advantages include lower land prices, an expanding farmland base, fewer urban pressures and potential urban/rural conflicts, and a supportive agri-related businesses base. A coordinated education and marketing campaign that emphasizes agricultural business opportunities in the region could help to address the issue of youth out-migration and attract new business entrepreneurs to the area.

This study has demonstrated that agriculture in Temiskaming District produces significant economic, social and environmental benefits for local communities. For agriculture to continue to thrive and maintain its economic viability, decision makers will need to make a strategic commitment to the long-term success of agriculture. Protection of the northern Ontario agricultural heartland should have high priority in developing land policies and supporting programs. The maintenance of a productive and sustainable agriculture sector is essential in sustaining the quality of life enjoyed by all residents in the region.

Acknowledgements

As mining and forestry slowly declines in the region, Agriculture is being more recognized as a stabilizing factor for the many small towns in Temiskaming. The many Agri-businesses in the area create much employment, and service an ever widening area, north to Timmins, Cochrane, and east into Quebec. This has allowed a service industry to develop in Temiskaming Shores, which draws customers from all over North Eastern Ontario.

Temiskaming's reputation for growing top quality forages and small grains is well established and in a quest to improve, producers have diversified into specialty crops such as mustard, white beans, soybeans, corn, and canola. Although Temiskaming is known as the Dairy capital of northern Ontario, beef production remains strong with sheep and pork gaining in numbers as well. Thanks to funding from the Northern Ontario Heritage Fund many expansions within these four commodities have been completed each year. As stated in the report, beef farms are the most common farm operation and are ideally suited to the land base, with untold acres of additional land available to be developed. It is the intention of the committee to use data contained in this report to encourage immigration to this sparsely populated region.

The Temiskaming Federation of Agriculture wishes to thank its many participants and sponsors who contributed to this report. This includes the many Agri-business people who took time out of their busy schedules to complete the surveys needed. As well as the steering committee members, who pulled together lists and data to get the study started.

Many thanks to Renee Cousineau, the Agricultural Event Coordinator for the NEOSCIA, Darlene Bowen, Member Service Representative for the OFA and Carman Kidd, the Ag Impact Study committee chair.

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The consultant firm engaged was that of Harry Cummings and Associates. We thank them for the preparation of an excellent report. Choosing their firm allows us to compare our region with many other regions, since HCA has completed their studies using the same methodology. A lot of extra work was required to attain special breakdowns from 2001 census data. As well, we asked them to include import and export data from our neighbours from North Western Quebec, which was a twist from most southern Ontario reports.

It is with great pride that we present this report, proof that agriculture is not only important to Temiskaming, but is a vital part of the economic fabric of this district.

The Economic Impact Steering Committee of the Temiskaming Federation of Agriculture.
March 2004

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1.0 Introduction

As a region, Northeastern Ontario is best known for its natural resources in forestry and mining. However, the role of agriculture in certain parts of the region such as Temiskaming District is growing in importance. The purpose of this report is to provide a profile of agriculture in Temiskaming District and to document the economic and non-economic benefits that are derived from the agricultural sector. The report was prepared in response to the terms of reference put forward by the Temiskaming Federation of Agriculture. This study grows out of the need to clearly document and define the role of agriculture in the local economy in order to protect agriculture and plan for the future.

The first chapter of the report provides background information on the importance of this type of research and highlights the collaborative approach used in completing the study.

Chapter 2 of the report provides information on the land base resources in the study area including agricultural soils. It also features information on the local climate and growing conditions and profiles some of the recent agri-related research and development activities in the area.

Chapter 3 of the report presents a profile of population and employment indicators in Temiskaming District. This includes general background information on the population such as population changes experienced in the region as compared to northern Ontario, and Ontario. This Chapter also examines the employment associated with the different industry groups using the North American Industrial Classification System.

Chapter 4 provides a detailed picture of the agriculture sector in Temiskaming District including a trend analysis of production activities between 1991 and 2001. Data was drawn from the Agricultural Census, to describe farmland, land use, number of farms, farm size, farm type, farm receipts, farm operating expenses, and other characteristics of the agricultural sector. Comparisons are made between the Temiskaming sector and the sector profile for northern Ontario, Ontario, and Regional County Municipality (RCM) of Témiscamingue (Quebec).

Chapter 5 examines the direct, indirect and induced impacts of agriculture on the Temiskaming economy. This chapter includes an analysis of sales and employment data collected from 89 agri-related businesses in the study area representing ten different industry groups including retail, wholesale, construction, and manufacturing.

Chapter 6 explores the contribution that agriculture makes to the local tax base and Chapter 7 examines the non-economic benefits associated with the agriculture sector including social, cultural and environmental. Chapter 8 presents the study conclusions.

1.1 Background to the Study Methodology

The study focuses on the dollars and jobs created by agriculture. The methodology relies mainly on an input-output like analysis as a tool for assessing the impact of agriculture. This approach depicts the economy as a series of sectors that buy and sell goods to each other until they reach the point of consumption. The purchases of products by sectors from other sectors are the inputs; the sales to other sectors by a sector are the outputs.

The research presented in the report relies on data from the Population Census, Agricultural Census, surveys of Agricultural-related businesses located in the Study Area and information from local citizens knowledgeable of the area.

1.2 Background to the Research Report

From a demographic perspective, the composition of the rural population has become predominantly non-farm based. By 1981, the farm-based population in rural Ontario accounted for only 18% of the total rural population compared to 55% in 1931 (Dasgupta, 1988, pp.26-30). The rural economy has also undergone considerable structural change as a consequence of global economic restructuring. Restructuring of the economy came about as other regions of the world developed competitive manufacturing sectors that challenged many of the manufacturing industries that were the heart of Canada's industrial economy (steel, automobiles, farm machinery, consumer electronics, etc.). In an effort to become more competitive, Canadian firms responded by reducing the size of their domestic workforce, adopting more automation and shifting production operations offshore.

At the same time the manufacturing sector was adjusting to global restructuring, agriculture experienced problems of reorganization and restructuring in response to overproduction, a declining market for unprocessed agricultural goods, and new competition in the world market (Goe and Kenney, 1991, p140-141).

Although rural economies continue to have a strong resource base, the percentage of jobs directly employed in agriculture production has been declining in Canada since the turn of the century (Keddie, 1999, pp.11-18). The job movement out of agriculture and other resource sectors has been accompanied by growth in service sector employment. In rural Ontario, the service sector now exceeds the goods producing sector as the principal employer (Bollman and Biggs, 1992, pp.21-28; Keddie, 1999, pp.30-31).

These changes have led some analysts to question the importance of agriculture as an engine of economic growth. Indeed, analysts and policymakers are increasingly looking to other economic activities such as tourism to spur economic growth in rural areas.

However, it is important emphasize that the decline in agricultural employment does not reflect the overall productivity of the sector. Between 1996 and 2001, total farm receipts in Ontario rose from \$7,778 million to \$9,115 million. During the same period total farm

receipts in northern Ontario increased from \$151.7 million to \$162.1 million or 6.8% (Statistics Canada, 1996, 2001). The volume of agricultural production has also increased. This implies an increase in the productivity of farm workers and more capital-intensive farm operations. With fewer people working on farms, the linkages to industries and sectors supporting agriculture become all the more important.

1.3 Introduction to the Temiskaming District Study and other Agricultural Economic Impact Studies

In recent years, a number of research initiatives have been undertaken in different regions of Ontario to assess the total direct, indirect and induced impact of agriculture on the local economy. The research findings indicate that agriculture has extensive industry linkages and is responsible for generating a significant number of jobs in the local economy beyond the primary production stage.

The research strategy originated in Huron County through the work completed by Harry Cummings and colleagues for the Huron County Federation of Agriculture and the Huron County Planning Department (1998). Since that initial research project, studies have been completed by Cummings and colleagues for the following counties in Ontario:

- Prescott, Russell, Stormont, Dundas and Glengarry (1999)
- Simcoe (1999)
- Lambton (1999)
- Perth (2000)
- Elgin, Middlesex, and Oxford (2000)
- Frontenac, Lennox and Addington, Leeds and Grenville (2000)
- City of Ottawa (2000)
- Lanark and Renfrew (2000)
- Waterloo (2003)

In the northern Ontario context, Cummings and colleagues completed agri-economic studies for:

- Blue Sky Region² (2001)³, and
- Algoma and Manitoulin Districts (2002)⁴

In each of the studies, the Federations of Agriculture linked with colleagues in planning offices, economic development offices, school boards, government agencies, and other stakeholder/interest groups to form project steering committees to help guide the research.

² The Blue Sky Region includes Nipissing District, Parry Sound District, East Sudbury District, and the City of Greater Sudbury

³ The Blue Sky Region report was updated in 2004 using 2001 Census data.

⁴ The Algoma and Manitoulin report was updated in 2004 using 2001 Census data.

A similar approach was adopted for this research project which used input from a multi-stakeholder steering committee to guide the implementation of the study.

The Temiskaming Agricultural Economic Impact Study Steering Committee consisted of representatives from:

- Temiskaming Federation of Agriculture
- Ontario Federation of Agriculture
- Temiskaming Agricultural Development Association
- FedNor
- Ontario Ministry of Agriculture and Food
- Agri-Related Businesses
- Tri-Town Chamber of Commerce
- New Liskeard Research Station
- Northern College
- South Temiskaming Community Futures Development Corporation
- Temiskaming/Cochrane Economic Development Team
- Board of Education
- Temiskaming Health Unit
- Mayor of Armstrong
- Temiskaming Municipal Association
- Temiskaming Sheep Association
- Temiskaming Milk Producers
- Temiskaming Pork Producers
- Temiskaming Cattlemen's Association
- Temiskaming Soil and Crops Association

Funding for the study was provided through FedNor and Industry Canada, the South Temiskaming Community Futures Development Corporation, the Temiskaming Agricultural Development Association, and the Temiskaming Federation of Agriculture.

2.0 Land Base Resources

2.1 Introduction

This chapter of the report provides an overview of the land base resources in Temiskaming District including a profile of agricultural resources in the study area including soil types, climate zones and crop heat units. It includes a profile of ongoing research activities at the New Liskeard Agricultural Research Station (NLARS) and efforts by farmers and agricultural interest groups to improve land base resources through projects funded by the Northern Ontario Heritage Fund Corporation (NOHFC).

2.2 The Study Area

Temiskaming District is located in the northeast corner of the province of Ontario. It is bordered by Nipissing District in the south, Sudbury District in the south west, and Cochrane District in the north. The eastern boundary is Lake Temiskaming and the province of Quebec (Map 2.1). Temiskaming District consists of 26 organized municipalities and a number of townships without municipal government. New Liskeard represents the major urban centre in the District.⁵ A number of smaller towns are located throughout the study area including Haileybury, Cobalt, Dymond, Earleton, and Belle Vallee.

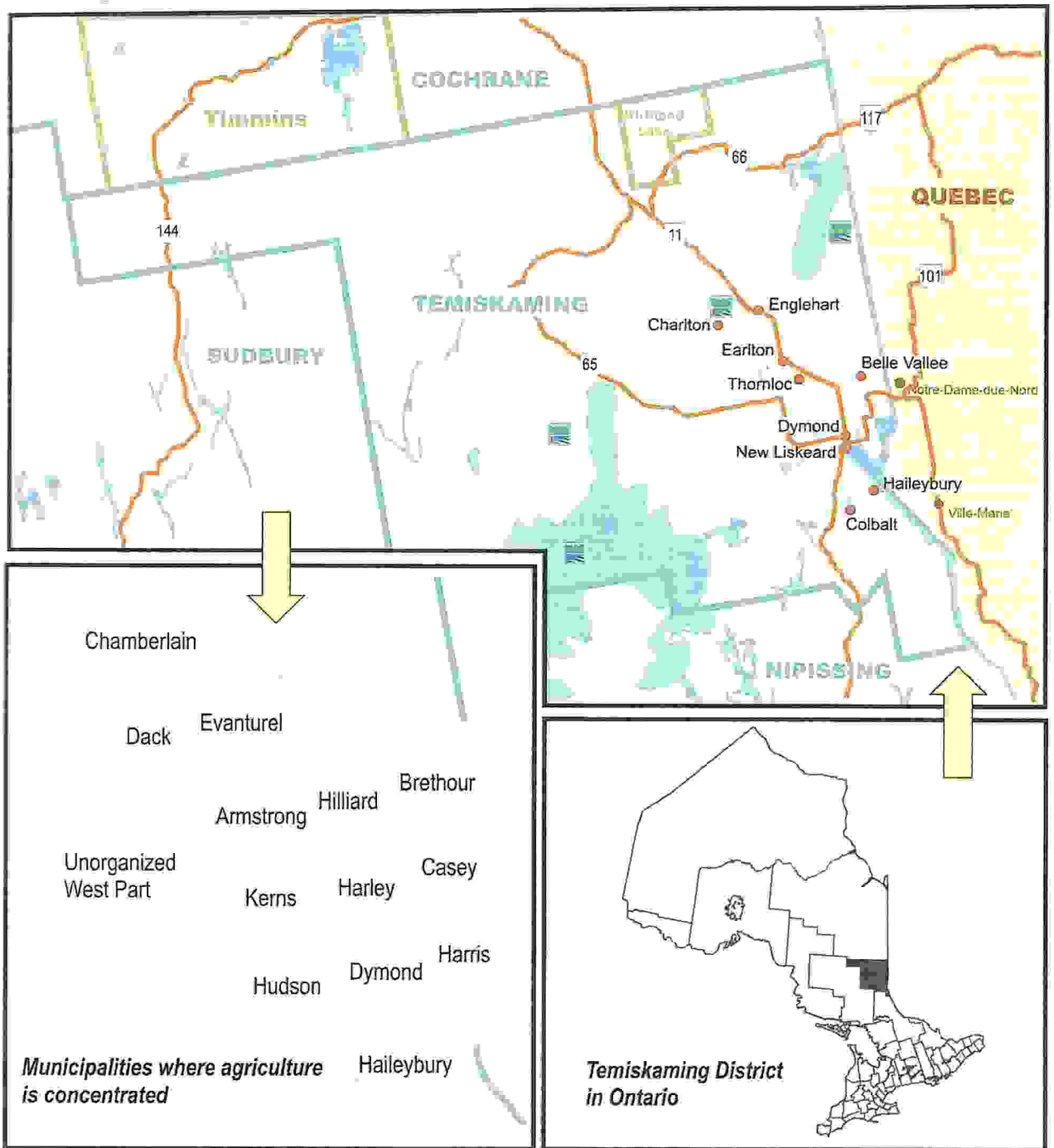
The study area features a 'clay belt' in the southern section of the District where most of the farming activity is concentrated. Agricultural activity in Temiskaming District is largely located in the following townships:

- Haileybury
- Harris
- Dymond
- Hudson
- Kerns
- Harley
- Casey
- Brethour
- Hilliard
- Armstrong
- Dack
- Evanturel
- Chamberlain

There is also agricultural activity in the Unorganized West Part of the District. This is largely restricted to the unorganized townships that surround the townships noted above and includes: South Lorrain and Lorrain (south of Haileybury), Firstbrook (west of Haileybury), Henwood, Cane, Beauchamp, Robillard, Savard (northwest of New Liskeard), and Marter and Ingram (north of New Liskeard).

⁵ The Town of New Liskeard, the Town of Haileybury, and Dymond Township were amalgamated effective January 1, 2004. The new name for the restructured municipality is the City of Temiskaming Shores. For the purpose of this study, the analysis and presentation of data for the three municipalities has not been aggregated.

Map 2.1 Temiskaming District and Municipalities where Agricultural Production is Concentrated



Source: Harry Cummings and Associates, 2003

Major highways in the study area include the Trans Canada Highway 11, Highway 65 and Highway 66. The region is also accessible by railway and air transport. South Temiskaming is within a day's drive of at least seven U.S. border crossings. From the New Liskeard area it is approximately 1.5 hours from North Bay, 2.5 hours from Sudbury and 6 hours from Ottawa, Toronto and Sault Ste. Marie.

2.3 Geographic Profile and Agricultural Soils

The topography of the northern part of the District is characterized by the Canadian Shield which underlies much of the area. The area features bedrock outcropping, large areas of poorly drained, swampy conditions and substantial accumulations of glacial-fluvial deposits. Economic activity in the northern part of the District is largely focused on mining and forestry related activities.

The topography of the southern part of the District is very different from the northern region in that it features geological formation known as the 'Little Claybelt'. What is now Lake Temiskaming was once part of a much larger lake (Lake Ojibway-Barlow) that formed at the end of the last ice-age. Thick deposits of lacustrine material were deposited by the prehistoric glacial lake water and the bottom of the ancient lake now supports much of the agricultural activity occurring in the region.

Soils in the Little Clay Belt are of varying capability. While there is no Canada Land Inventory (CLI) Class 1 soil in the region, there are significant portions of Classes 2 to 4. Class 2 is the highest capability class for soils in the region. Many of the Class 2 soils within the study area would be considered Class 1 soils if located in Southern Ontario. However, the shorter growing season limits the types of crops that can be grown in the region.

Classes 2 and 3 are considered suitable for sustained production of common field crops if specified management practices are observed. Class 4 is physically marginal for sustained arable agriculture. While the soil areas in Classes 2 to 4 are suited for cultivated crops, they are also suited for permanent pasture. Organic soils are also present in Temiskaming District and are found in many locations throughout the region.

Summary descriptions of soil classes 2 to 4 are as follows (Environment Canada, 1980):

Class 2: *Moderate limitations that restrict the range of crops or require moderate conservation practices.* The soils are deep and hold moisture well. The limitations are moderate and the soils can be managed and cropped with little difficulty. Under good management they are moderately high to high in productivity for a fairly wide range of crops.

Class 3: *Moderately severe limitations that restrict the range of crops or require special conservation practices.* The limitations are more severe than Class 2 soils. They affect one or more of the following practices: timing and ease of tillage; planting and harvesting; choice of

crops; and methods of conservation. Under good management they are fair to moderately high in productivity for a fair range of crops.

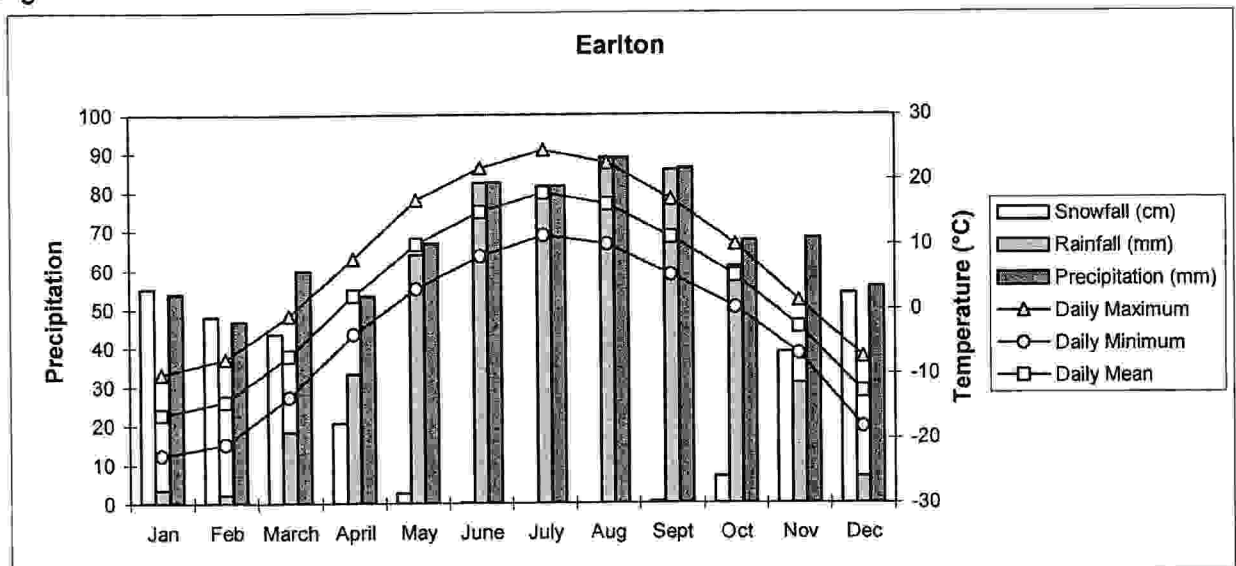
Class 4: *Severe limitations that restrict the range of crops or require special conservation practices, or both.* The limitations seriously affect one or more of the following practices: timing and ease of tillage; planting and harvesting; choice of crops; and methods of conservation. The soils are low to fair in productivity for a fair range of crops but may have high productivity for a specially adapted crop.

2.4 Climate and Crop Heat Units

Climate conditions coupled with soil conditions play a significant role in determining the type of agricultural activity in Temiskaming District. The southern part of Temiskaming District features a micro-climate influenced by Lake Temiskaming. As a result, the climate in the area of the Little Clay Belt is temperate which allows for a wide variety of crops to be grown including alfalfa, corn, canola, barley, spring wheat and even soybeans.

The average mean daily air temperature as reported at the Earlton weather station first exceeds 10°C in the spring on May 16 and in the fall drops below 15°C on August 25 and 12°C on September 11 (Agriculture and Agri-Food Canada, Yearly CHU Statistics). The southern part of the District experiences a similar amount of sunshine (96%) as Toronto. The annual mean precipitation, as reported at the Earlton weather station, approaches 815mm of which 270cm falls as snow. Average precipitation for the Earlton weather station between May 1 and September 30 is 409mm (Figure 2.1).

Figure 2.1 Climate Normals for Earlton



Source: Environment Canada

Crop Heat Units (CHU) can fluctuate from year to year depending on weather patterns and some areas within the study area can experience higher CHU zones.

The CHU system was developed in the 1960's and is used to recommend corn hybrids and soybean varieties which are best suited for production in specific CHU zones in various regions of Canada. There is a wide selection of hybrids and varieties for most crops. Most of the warm-season crops have a wide range of maturities. The CHU ratings are based on the total accumulated CHUs for the frost-free growing season in each area of the province.

Daily CHU are calculated from daily minimum and maximum air temperatures drawn from separate calculations taken during the day and night. The daytime relationship uses 10°C (50°F) as the base temperature and 30°C (86°F) as the optimum, because warm-season crops do not develop when daytime temperatures fall below 10°C and they develop fastest at about 30 degrees. The nighttime relationship uses 4.4°C (40°F) as the base temperature and does not specify an optimum temperature because nighttime temperatures very seldom exceed 25°C in Ontario. Daily CHU are calculated by using the average of the two daily values.

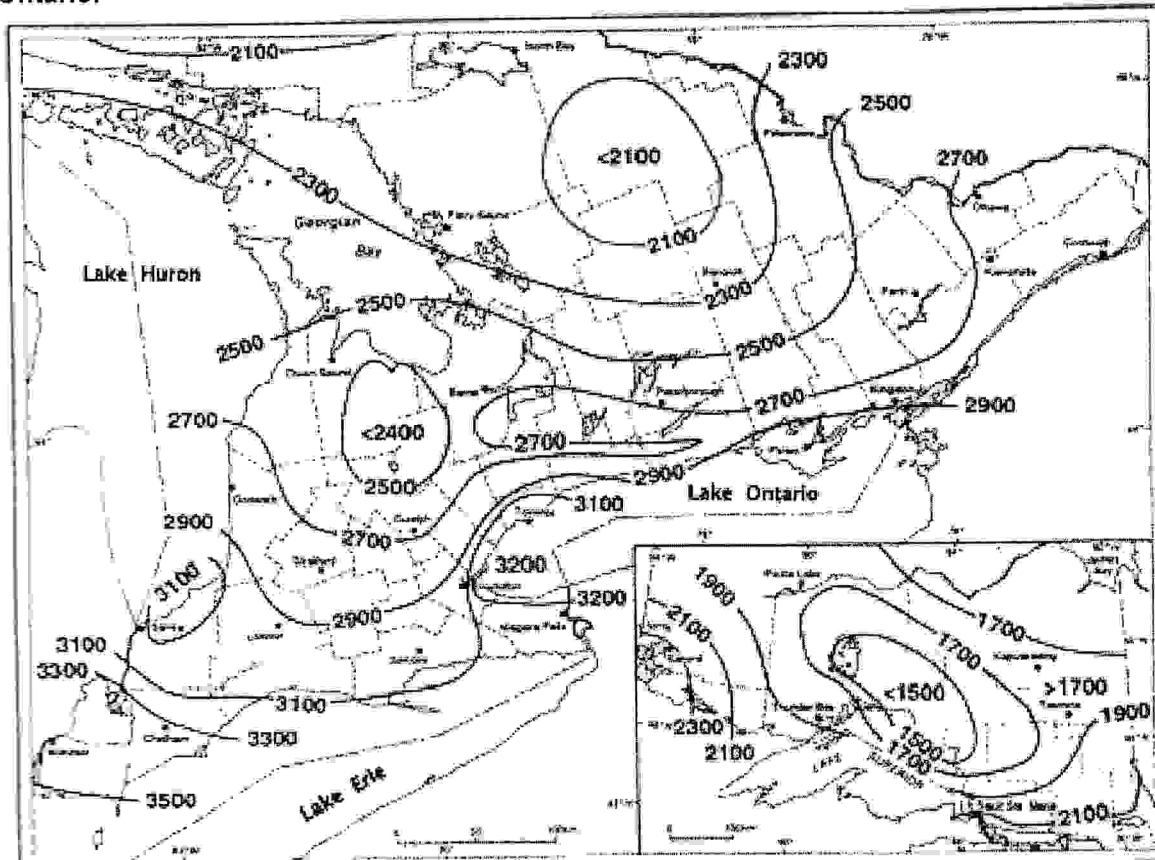
Latitude, elevation and distance to the Great Lakes all affect daily temperatures and have a marked influence on the accumulated CHU across Ontario. The change between CHU isolines is gradual. However, the slope and soil type at a site also influence temperature. For example, south-facing slopes receive more heat than north-facing slopes, and sandy soils warm up faster than loam or clay soils. Microclimates also influence specific land situations. This makes it impossible to estimate the CHU rating closer than 50 heat units for any location.

The accumulated CHU available for crops such as corn and soybeans across Ontario are shown in Figure 2.2. The study area is shown in the insert of Figure 2.2 in the lower right corner. This map illustrates that average CHU from the earliest planting to a season ending date based on historical data. CHU rating range from approximately 1700-1900 CHU in the northwestern part of the District to 1900-2100 in the southeast. Statistics from Agriculture and Agri-Food Canada provide dates and accumulated heat units for both silage and grain corn at different probability levels (Agriculture and Agri-Food Canada, Yearly CHU Statistics). In Earlton there is a 90% probability (9 yrs in 10) that starting dates are on or before June 11 (seeding is estimated to be later than this date 1 yr in 10). Season ending dates for grain corn occur after September 7 in 95% of the years and are always on or before September 11 because this is the date of occurrence of an average temperature of 12°C in that area. On average, there are 1934 heat units available for grain corn at Earlton. However, 5% of the time (1 yr in 20), CHU will be less than 1616; also, 5% of the time CHU will exceed 2238 (95% probability level).

The Canada Country Study, Climate Impacts and Adaptations predicts that climate change is likely to increase opportunities for the development of new crop types and new agricultural areas (1997). However, fluctuations in climate conditions may result in

inconsistent yields from year to year in northern Ontario (Better Farming, June/July, 2000).

Figure 2.2 Average Accumulated Crop Heat Units (CHU) Available for Warm-Season Crops in Ontario.



Source: Agriculture and Agri-Food Canada. http://res2.agr.ca/ecorc/clim3/resu-ana_e.htm

2.5 Research and Development

Temiskaming agriculture has been strongly advanced through the efforts of local farm leaders and organized commodity groups to share production and farm management information. Out of these groupings, the support infrastructure for agriculture has become well established in the form of farm supply and service businesses and cooperative marketing ventures (Personal communication with Carmen Kidd, Chair Temiskaming Agricultural Development Association. July 2003).

Agriculture in Temiskaming has been greatly aided by the research work of the 'experimental farm', the New Liskeard College of Agricultural Technology, now the New Liskeard Agricultural Research Station (NLARS). Research programs at NLARS focus on adapted crop species such as spring wheat, barley, oats and canola, and perennial forages such as alfalfa, clovers and grasses. NLARS also features a horticultural unit which focuses on berry crop and vegetable cultivar evaluation. Other studies at the

horticulture unit involve the development of techniques to improve the production and/or economic viability of horticultural crops in northern Ontario.

The Seed Potato Upgrading Distribution (SPUD) unit at NLARS consists of a tissue culture laboratory, greenhouses and cold storage facilities. It produces 'nuclear' potato plantlets and minitubers for Ontario seed potato producers.

NLARS also features beef and sheep research units. Some of the main research interests at these units include alternative cow-calf production systems, breeding programs, and pasture management systems.

In conjunction with the research efforts noted above, farm operators in Temiskaming District have been proactive in taking steps to improve their land base resources. The District has made use of government funding provided through the Northern Ontario Heritage Fund Corporation (NOHFC). Projects funded through NOHFC have supported the growth of the Northern Ontario cash crop industry by reducing soil acidity and increasing the amount of land available for production. These projects provide opportunities for crop diversification and creating spin-off effects for existing businesses in the agriculture sector (OMAFRA, February 1999). In addition to supporting land improvement projects, NOHFC also supports the development of other agricultural infrastructure such as production and processing facilities and research initiatives.

In 1998, Temiskaming farm leaders formed the "Temiskaming Agricultural Development Association" (TADA) to administer local projects that were eligible for funding under NOHFC agriculture program guidelines.

Since 1997, twenty-three agriculture projects in the study area were approved for funding from NOHFC under its 1997 and 2001 agriculture programs. The total NOHFC contribution amounted to \$6,915,936 and is allocated among several activities including land improvement (4), production facility expansion (16) and research (3). Total project costs were estimated at \$36,783,549. NOHFC provides a forgivable performance loan to land improvement and production facility expansion projects and a conditional contribution to research projects.

Under both the 1997 and 2001 NOHFC agriculture programs, farm operations were eligible for a forgivable performance loan to a maximum of \$50,000 for their combined land improvement and/or production facility expansion projects (Mary Ellen Norry Car, Ministry of Northern Development and Mines, October 2003). NOHFC's contribution by project is shown below:

1. Land Improvement

Under the 1997 program, NOHFC provided funding at 50% of eligible expenses for tile projects and 30% of eligible expenses for lime projects. Funding in the amount of \$907,603 was approved for two land improvement projects that had an estimated total cost of \$1,906,396. Acres tiled totaled 3,915.

Under the 2001 program, NOHFC provided funding at 40% of eligible expenses for the installation of tile only. TADA was approved for funding in the amount of \$847,025 to assist with the installation of tile in 4,377 acres of poorly drained land. Total project costs were estimated at \$2,143,265.

2. Production Facility Expansion

NOHFC provided funding at 50% of eligible expenses for production facility expansion projects approved under its 1997 agriculture program guidelines. Eight production facility expansions undertaken in the area and were approved for funding in the amount of \$2,224,761. Total project costs were estimated at \$10,308,756. Projects included:

- Beef (2) – NOHFC contribution \$511,363;
- Crop Storage (2) – NOHFC contribution \$244,650;
- Dairy (2) – NOHFC contribution \$1,310,243;
- Pork (1) – NOHFC contribution \$116,005; and
- Sheep (1) – NOHFC contribution \$42,500;

Under the 2001 agriculture program eight additional production facility expansion projects were approved for funding at 40% of eligible expenses. The total NOHFC contribution was \$2,801,133, with total costs estimated at \$22,088,710. Projects approved for funding included:

- Beef – NOHFC contribution \$293,153;
- Beef/Crop Storage – NOHFC contribution \$147,500;
- Bison – NOHFC contribution \$106,774;
- Dairy – NOHFC contribution \$368,200;
- Grain – NOHFC contribution \$193,020;
- Pork – NOHFC contribution \$250,000;
- Sheep/Goat – NOHFC contribution \$367,181; and
- Supply Managed (Dairy and Egg) – NOHFC Contribution \$1,075,305.

3. Research

Agricultural research projects were eligible for funding of up to 75% of eligible expenses to a maximum of \$500,000 under both the 1997 and 2001 NOHFC programs.

The Ontario Berry Growers Association in partnership with the New Liskeard Agricultural Research was approved for funding in the amount of \$105,414 to undertake research associated with two berry projects. Total project costs were estimated at \$296,422. The projects included the development of winter hardy strawberries (1997 Program – NOHFC contribution \$22,000) and a plant propagation and berry virus research (2001 Program - \$83,414).

The Temiskaming Grain Growers Association was approved for funding in the amount of \$30,000 to investigate the feasibility of establishing an oat and barley malt processing facility in Temiskaming. The total project cost was estimated at \$40,000.

FedNor has also been active in supporting the local agricultural industry by providing economic development funding. In 2002, FedNor provided \$12,050 in funding to assist TADA in hosting the 36th Annual Northeastern Ontario Agricultural Conference and Trade Show in April 2002.

In recent months, a number of groups have examined the role of agriculture in the wider economy as part of the planning and development process. A brief overview of the Smart Growth initiative for northeastern Ontario and the Strategic Plan for the Tri Town Area is presented below.

2.6 Smart Growth in Northeastern Ontario

In May 2003, the Northeastern Ontario Smart Growth Panel released its final report as commissioned by the Ministry of Municipal Affairs and Housing. The government appointed panel was given a mandate to develop recommendations for bringing increased prosperity and growth to northeastern Ontario while preserving its quality of life and natural splendour (Ontario Smart Growth – Northeastern Ontario, 2003. p.4). The panel included local leaders from industry, tourism, business, education, the municipal sector and First Nations communities. The report emphasizes that the region has a wealth of untapped potential for future generations and that growth will come both from building on the traditional strengths of the region as well as exploring new areas of economic potential (p.7).

The report identifies agriculture as one of the major resource sectors in northeastern Ontario contributing \$134 million a year in total farm product sales with well established dairy and beef industries and significant growth opportunities in a number of areas, including crop production and value-added production (p.46). Overall, it's estimated that the combined sectors of agricultural production, food processing and distribution, food retail and food service employ 37,000 people in northern Ontario (p.19).

The report calls for continued government support at all levels for agricultural research and development leading to value-added opportunities as well as support for infrastructure development projects similar to those supported by NOHFC as described above. The report also encourages the establishment of public/private sector partnerships to promote existing opportunities for increasing agricultural production in northeastern Ontario. One option presented in the report suggests developing marketing campaigns to attract new farmers from other parts of Canada as well as internationally (p.19).

The report also points to exploring/promoting agri-related opportunities associated with rural tourism. Tourism represents the fourth largest sector in the northeastern Ontario economy accounting for over 20,000 direct and 17,000 indirect and induced jobs (p.46). Over 25% of all businesses in the northeast are tourism-related, and it's estimated that visitor expenditures in the region reached \$1.3 billion in 2000 (p.46). Opportunities identified by the panel include establishing a permanent display of technological

developments in northern agriculture at tourism facilities such as Science North, and developing local 'tour' brochures highlighting agriculture/rural sites of interest (p.19).

2.7 Strategic Plan for the Tri Town Area

In June 2003, the Tri Town Strategic Economic Development Unit (SEDU) released its Strategic Plan for the Tri-Town Area. The community economic development planning project covered the towns of New Liskeard, Cobalt and Haileybury along with the township of Dymond. The geographic area covered by the planning project also includes the surrounding area from Latchford north to Englehart, and from Elk Lake to the Quebec border. The strategic direction of the Tri Town Area planning initiative is summed up in the vision statement:

A progressive, dynamic region developed responsibly utilizing our unique strengths and values (Strategic Plan for the Tri town Area June 5, 2003. p.4).

The Strategic Plan identifies four major goals for the Agricultural sector:

- Improved funding for agriculture overall
- Encourage expanded local and regional processing and marketing
- Establish ongoing mechanisms for development planning, linking the agriculture sector with broader economic development efforts
- Increasing the number of farmers in the region, and increasing agricultural land through clearing of appropriate areas (June 5, 2003. p.5)

The Strategic Plan identifies a number of priority projects related to agriculture. Given the strength of the local agricultural sector, the area is viewed as being well positioned to take advantage of various bio-tech opportunities. As well, there are several potential alternative energy projects that could be researched in partnership with the local agricultural sector including the use of anaerobic digestors to transform manure into electricity and using waste wood pellets and straw to generate electricity (June5, 2003. p.17).

The Strategic Plan also identifies tourism as a priority projects and notes that South Temiskaming has excellent tourism potential in terms of heritage and cultural tourism.

Although not specifically identified in the Tri Town Area Strategic Plan or the Smart Growth report, there are a number of agri-tourism / agri-entertainment / agri-education growth opportunities that could be explored including:

- Pick your own produce operations (strawberries, pumpkins, indigenous maize, Christmas trees, etc.)
- Road-side stands
- Farm tours and informative narratives on agri-topics (soil and woodlot conservation, bees and pollination, etc.)
- Farm stay vacation establishments
- Bed and Breakfast operations
- Farmers' markets

- Riding stables, equestrian competitions and trade shows – ‘Equifair’
- Agricultural fairs / exhibitions / demonstrations
- Corn mazes, hay/sleigh rides, skating parties, etc.
- Rural Heritage sites

Agricultural fairs and farmers’ markets are profiled in greater detail in the following section.

2.8 Agricultural Fairs and Farmers’ Markets

The natural environment serves as a key element in the local tourism industry. Temiskaming District features numerous parks and outdoor recreational facilities where visitors can customize activities to their taste. Included in the mix of year round vacationing activities are camping, hiking, hunting, fishing, canoeing, boating, skiing and snowmobiling.

Agri-tourism activities are increasingly contributing to the tourism sector. Farms in the District play an important role in support of agri-tourism events such as fall fairs. These events often showcase the local agricultural sector and feature livestock displays and judging, horse shows, and other events that have wide appeal. Table 2.1 presents a list of agricultural fairs in Temiskaming District.

Table 2.1 Agricultural Fairs in Temiskaming District

Fair	Dates (2004)
Englehart	September 9-11
Charlton	August 27-28
New Liskeard	September 16-18

Source: Ontario Association of Agricultural Societies. www.ontariofairs.com/oaas/fairs/

The population of northeastern Ontario increases substantially during summer months as seasonal residents return to the region. This provides a market for small fruit and vegetable growers at roadside stands and Farmers’ Markets located throughout the area. Farmers’ Markets represent a rural tourism activity that is growing in popularity across the province. Farmers’ Markets feature fresh local produce, baked goods and in some cases arts and crafts. The New Liskeard Farmers Market is located at Riverside Place and has been in operation since 1998. The Market features approximately 15 vendors and operates on Saturdays between June and October.

Recent research has shown that these markets can generate significant economic benefits for the local economy. Beyond the income that Farmers’ Markets provide local growers, they also produce spill over benefits for local businesses as market customers stop to make additional purchases. Multipliers associated with special events like agricultural fall fairs, suggest that for every dollar spent in the market, another two dollars ripple through the wider economy (Cummings et al., May 1999, p.72).

3.0 Socio-Economic Profile of Temiskaming District

3.1 Introduction

This section of the report provides a socio-economic profile of Temiskaming District. Data for the profile has been drawn from Statistics Canada's Population Census, which is conducted at five-year intervals, with the most recent available census data from 2001. The census organizes data at a number of levels: Canada, Province/Territory, Census Divisions (e.g. Counties, Regional Municipalities and Districts) and Census Subdivisions (e.g. Townships, Towns and Villages). Due to confidentiality constraints, the data for some Census Subdivisions are consolidated. Data for Temiskaming District are compared to data for northern Ontario as a whole and the Province of Ontario in order to provide a detailed insight into the relative importance of the District's contribution to these economies.

3.2 Population and Population Change

Temiskaming District is a sparsely populated area. Having a total land area of 13,280 square kilometers and a population of 34,422 (2001), the population density for the District is approximately 2.5 residents per square kilometer.⁶ Between 1996 and 2001 the population of Temiskaming District declined by 11% from 38,807. This represents the highest rate of population loss among all the northern Ontario Districts. During the same period northern Ontario's population as a whole declined by 5% (Statistics Canada 1996, 2001).

An important factor behind the decline in population in northeastern Ontario over the years is the reduction in workforces required by resource industries due to the increased use of technology. For example, Inco and Falconbridge operations in Sudbury currently employ about one-third of the work force they had in the early 1970's (Ontario Smart Growth – Northeastern Ontario, 2003. p.45). Another important characteristic of the northeastern population is that it is ageing faster than the provincial or national average. This trend is largely associated with the growing out-migration of youth and young families to southern Ontario, and a lack of in-migration of young people (Ontario Smart Growth – Northeastern Ontario, 2003. p.45).

The 2001 Population Census reveals that the majority of the Temiskaming population lives in the urban centres of Kirkland Lake (8,616 residents), New Liskeard (4,906), Haileybury (4,543), Englehart (1,595) and Cobalt (1,229). Close to 60% of the population in the District lives in urban areas and 40% lives in rural areas.⁷ The urban/rural split for Temiskaming District has remained largely unchanged since 1996. The population in Temiskaming is more rural based than other parts of northern Ontario.

⁶ The population density for Ontario is 12.5 residents per sq. km. (Statistics Canada, 2001).

⁷ As defined by Statistics Canada, Urban Areas have minimum population concentrations of 1,000 and a population density of at least 400 per sq. km. All territory outside urban areas is considered rural. Rural Areas are defined as sparsely populated lands lying outside urban areas. Rural population includes all population living in the rural fringes of census metropolitan areas (CMAs) and census agglomerations (CAs), as well as population living in rural areas outside CMAs and CAs.

In 2001, 29% of the northern Ontario population lived in rural areas and 71% lived in urban areas (Statistics Canada 1996, 2001).

3.3 Economic Profile of the Study Area

The North American Industry Classification System (NAICS) is an industry classification system developed by the Statistical agencies of Canada, Mexico and the United States. The classification system was created against the background of the North American Free Trade Agreement and was designed to provide common definitions of the industrial structure of the three countries and a common statistical framework to facilitate analysis of the three economies. The NAICS classification system replaces the Standard Industrial Classification system which was used by Statistics Canada prior to the 2001 Census.

NAICS organizes Canadian industries into distinguishable categories, or classifications. As the greatest level of aggregation in published census data, these industries are divided into 20 separate categories, and are presented in Table 3.1.

In 2001, retail trade was the largest employment sector in Temiskaming District with 1,960 jobs or 12.5% of the total jobs in the District (Table 3.1). The other top ranking sectors in Temiskaming include health care and social assistance services with 1,795 jobs (11.4%), manufacturing with 1,405 jobs (8.9%), educational services with 1,295 jobs (8.2%) and construction with 1,180 jobs (7.5%). Agriculture employed a total of 745 people or 4.7% of the total jobs in Temiskaming District.

The top ranking sectors at the provincial level in terms of jobs are manufacturing (16.4% of the total jobs), retail trade (11.2%), health care and social assistance services (8.9%), professional, scientific and technical services (7.2%), accommodation and food services (6.3%), and educational services (6.2%). At the provincial level agriculture accounts for 1.8% of the total jobs in Ontario.

Overall employment in Temiskaming District declined by 2,255 jobs, or 12.5% from 17,990 jobs in 1991 to 15,735 jobs in 2001 (Table 3.2). Since 1991 Temiskaming District has lost approximately 170 jobs in the agriculture sector which represents a 18.6% decline. During the same period, the number of jobs in agriculture at the provincial level declined by 21% (Statistics Canada, 1991, 2001).

However, a number of other sectors in Temiskaming District have experienced greater rates of job loss than agriculture. Between 1991 and 2001 the number of jobs in the mining sector declined by 755 or 58% while the number of jobs in the forestry and logging sector declined by 140 or 37%. The retail sector also experienced a substantial reduction of jobs during this period with a loss of 430 jobs which represents an 18% decline (Table 3.2).

Table 3.1 Employment by NAICS Industrial Sector for Temiskaming District and Ontario, 2001.

NAICS Industrial Sector ^a	Ontario		Temiskaming District	
	Total number employed	Percentage of total jobs	Total number employed	Percentage of total jobs
All industries	5,992,765	100%	15,735	100%
Agriculture	110,475	1.8%	745	4.7%
Forestry, fishing and hunting	13,200	0.2%	240	1.5%
Mining and oil and gas extraction	21,110	0.4%	550	3.5%
Utilities	46,230	0.8%	175	1.1%
Construction	332,255	5.5%	1,180	7.5%
Manufacturing	984,330	16.4%	1,405	8.9%
Wholesale trade	278,865	4.7%	430	2.7%
Retail trade	671,865	11.2%	1,960	12.5%
Transportation and warehousing	280,150	4.7%	1,120	7.1%
Information and cultural industries	171,750	2.9%	420	2.7%
Finance and insurance	292,555	4.9%	330	2.1%
Real estate and rental and leasing	108,890	1.8%	180	1.1%
Professional, scientific & tech services	429,095	7.2%	500	3.2%
Management of companies	7,895	0.1%	10	0.1%
Administrative and support services ^b	257,025	4.3%	405	2.6%
Educational services	371,200	6.2%	1,290	8.2%
Health care and social assistance	531,795	8.9%	1,795	11.4%
Arts, entertainment and recreation	121,950	2.0%	215	1.4%
Accommodation and food services	380,060	6.3%	1,105	7.0%
Other services (except public admin)	273,125	4.6%	765	4.9%
Public administration	308,955	5.2%	900	5.7%

^a The North American Industry Classification System (NAICS) is an industry classification system developed by the Statistical agencies of Canada, Mexico and the United States. The NAICS classification system replaces the Standard Industrial Classification system which was used by Statistics Canada prior to the 2001 Census. The NAICS classification consists of a systematic and comprehensive arrangement of industries structured into 20 sectors (as shown in Table 3.1), 99 sub-sectors and 300 industry groups. Agriculture is normally combined with Forestry, fishing and hunting as a single sector but has been disaggregated for the purpose of this study. The industry classification refers to the general nature of the business carried out in the establishment where the person worked. If the person did not have a job during the week (Sunday to Saturday) prior to enumeration (May 15, 2001), the data relate to the job of longest duration since January 1, 2000. Persons with two or more jobs were required to report the information for the job at which they worked the most hours.

^b Includes waste management and remediation services.

Source: Statistics Canada, 2001.

Table 3.2 Employment by Select Industrial Sectors for Temiskaming District, 1991 - 2001. ^a

Industrial Sector	1991 ^b		1996 ^c		2001 ^d		Change 1991 to 2001	
	Total number employed	% of total jobs	Total number employed	% of total jobs	Total number employed	% of total jobs	Total change in number of jobs	% change in jobs
All industries	17,990	100%	17,040	100%	15,735	100%	-2,255	-12.5%
Agriculture	915	5.1%	795	4.7%	745	4.7%	-170	-18.6%
Forestry and logging	380	2.1%	485	2.8%	240	1.5%	-140	-36.8%
Mining and oil and gas extraction	1,305	7.3%	945	5.5%	550	3.5%	-755	-57.9%
Manufacturing	1,435	8.0%	1,325	7.8%	1,405	8.9%	-30	-2.1%
Construction	1,330	7.4%	1,095	6.4%	1,180	7.5%	-150	-11.3%
Transportation and warehousing	1,005	5.6%	1,105	6.5%	1,120	7.1%	115	11.4%
Retail trade	2,390	13.3%	2,435	14.3%	1,960	12.5%	-430	-18.0%
Educational services	1,500	8.3%	1,345	7.9%	1,290	8.2%	-210	-14.0%
Health care and social assistance	1,970	11.0%	1,860	10.9%	1,795	11.4%	-175	-8.9%

^a While NAICS and SIC industry sectors are not directly comparable, selected sectors have been presented to illustrate general trends.

^b Standard Industrial Classification (SIC) system

^c Standard Industrial Classification (SIC) system

^d North American Industry Classification System (NAICS)

Source: Statistics Canada, 1991, 1996, 2001.

Focusing on the towns and townships where agriculture is concentrated in Temiskaming District, agriculture accounts for 729 jobs or 7.4% of the total jobs in 2001 (Table 3.3). The retail sector represents that largest employment sector in this study area with approximately 13% of the total jobs followed by health care and social assistance (10.8%), manufacturing (9.6%) and transportation and warehousing (8.4%).

Armstrong Township reported the largest number of agriculture jobs at 100 followed by Evanturel with 75 jobs, Brethour with 65 jobs, and Kerns with 50 jobs. Temiskaming Unorganized West Part reported 170 agriculture jobs in 2001 (Table 3.3).

It is important to emphasize that the decline in agriculture employment does not reflect trends in farm productivity. Farm productivity has increased substantially in the District and is profiled in Section 4 of this report.

Table 3.3 Employment by NAICS Industrial Sector for Select Townships and Towns in Temiskaming District that Feature Agricultural Activity, 2001.

NAICS Industrial Sector	Total number employed	% of total jobs	Total number employed by township or town													Temiskaming UWP	
			Haileybury	Dy-mond	New Liskeard	Hudson	Kerns	Harley	Casey	Brethour	Hilliard	Armstrong	Dack	Evanturel	Engelhart		Chamberlain
All industries	9,760	100%	2,030	675	2,370	310	195	330	195	75	120	620	235	295	685	215	1,410
Agriculture	720	7.4%	15	35	40	35	50	25	35	65	10	100	30	75	20	15	170
Forestry, fishing and hunting	160	1.6%	5	0	0	0	10	0	0	0	0	25	10	10	15	5	80
Mining and oil and gas extraction	125	1.3%	60	0	30	0	0	0	0	0	0	0	0	0	0	0	35
Utilities	95	1.0%	10	10	60	0	0	0	0	0	0	0	0	0	0	0	15
Construction	765	7.8%	220	20	125	15	15	30	25	0	15	45	45	15	25	15	155
Manufacturing	940	9.6%	185	85	200	20	0	15	35	0	30	95	25	0	115	15	120
Wholesale trade	225	2.3%	25	10	55	10	10	15	0	0	10	50	0	10	0	10	20
Retail trade	1,285	13.2%	305	95	455	45	15	40	20	0	30	55	20	30	75	25	75
Transportation and warehousing	815	8.4%	105	70	140	25	15	60	10	0	15	10	55	20	80	45	140
Information and cultural industries	280	2.9%	55	30	95	0	0	10	0	0	15	10	0	0	10	0	55
Finance and insurance	180	1.8%	55	10	60	10	0	0	0	0	0	0	0	10	10	10	15
Real estate and rental and leasing	70	0.7%	0	0	15	0	0	10	10	0	0	0	0	10	0	0	25
Professional, scientific & tech services	310	3.2%	50	25	80	0	10	10	15	0	0	0	0	20	10	10	80
Management of companies	0	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administrative and support services	305	3.1%	60	25	80	10	10	0	0	0	10	20	10	0	15	10	55
Educational services	785	8.0%	200	70	250	35	20	20	15	0	0	70	10	10	50	0	35
Health care and social assistance	1,055	10.8%	275	70	240	30	30	25	15	0	0	40	35	70	80	30	115
Arts, entertainment and recreation	145	1.5%	25	20	55	0	0	10	10	0	0	0	0	0	0	0	25
Accommodation and food services	570	5.8%	95	55	170	20	10	35	0	0	0	20	0	15	50	0	100
Other services (except public admin)	480	4.9%	125	35	150	0	15	25	0	0	0	35	0	0	50	10	35
Public administration	475	4.9%	165	20	85	30	10	10	0	0	0	10	10	0	65	0	70

Source: Statistics Canada, 2001.

4.0 Profile of Agriculture Sector in Temiskaming District

4.1 Introduction

This section presents a profile of the Agriculture Sector in Temiskaming District. Data for the analysis were drawn from the Census of Agriculture, which is conducted every five years. The census organizes data at a number of levels: Canada, Province/Territory, Census Division (County, Regional Municipality, District), and Census Consolidated Subdivisions (townships, towns, etc.).

Agricultural activity in Temiskaming District is largely located in the following townships:

- Haileybury
- Harris
- Dymond
- Hudson
- Kerns
- Harley
- Casey
- Brethour
- Hilliard
- Armstrong
- Dack
- Ewanturel
- Chamberlain

There is also agricultural activity in the Unorganized West Part of the District. This is largely restricted to the unorganized townships that surround the townships noted above and includes: South Lorrain and Lorrain (south of Haileybury), Firstbrook (west of Haileybury), Henwood, Cane, Beauchamp, Robillard, Savard (northwest of New Liskeard), and Marter and Ingram (north of New Liskeard).

An analysis of the trends and changes in farmland area and farm size, farm types, farm productivity, farm receipts, and net revenues as well as farm capital is provided for the census years 1991, 1996 and 2001.

Data for Temiskaming District are further compared to data at the Regional (i.e. Northern Ontario Agricultural Region) and Provincial levels to provide further insight into the relative importance of Temiskaming's contribution to these economies.⁸

⁸ The Northern Ontario Agricultural Region includes the following Districts: Nipissing, Sudbury, Manitoulin, Temiskaming, Cochrane, Greater Sudbury Division, Algoma, Thunder Bay, Rainy River and Kenora.

4.2 Number of Farms and Farmland Area

In 2001, Temiskaming District reported 532 farms, down from 589 farms in 1996 (Table 4.1).⁹ This represents a 9.7% decline across the District which is consistent with the rate of loss experienced across northern Ontario. During the same period the province as a whole experienced a higher rate of farm loss at 11.5% (Table 1.2). In 2001, 20% of all farms in northern Ontario were located in Temiskaming District.

Table 4.1 Number of Farms in Temiskaming District, Northern Ontario, and Ontario, 1981-2001

	1981	1986	1991	1996	2001
Ontario	82,448	72,713	68,633	67,520	59,728
Northern Ontario	3,715	3,152	2,908	2,915	2,635
Temiskaming District	663	571	547	589	532
Percentage of Northern Ontario Farms in Temiskaming	17.8%	18.1%	18.8%	20.2%	20.2%

Source: Statistics Canada, 1981, 1986, 1991, 1996, 2001.

At the individual Township level, Kerns reported the most farms in 2001 at 51, followed by Hilliard, Dymond, Armstrong, Dack and Harley which all had between 30 and 40 farms (Table 4.2). A number of Townships reported between 20 and 30 farms including Brethour, Ewantural, Chamberlain, Harris and Haileybury. A further 129 farms were reported in the Unorganized West Part of Temiskaming District in 2001.

Most of the individual townships reported a decline in farm numbers between 1996 and 2001. The rate of decline was highest in Haileybury where 31% or 9 farms were lost between 1996 and 2001. In terms of absolute numbers, Armstrong lost the most farms at 12 followed by Haileybury and Kerns (8 farms). The Unorganized West Part also lost a total of 12 farms during the same period.

Several Townships actually reported increases in farm numbers between 1996 and 2001 including Brethour (6 additional farms in 2001), Hilliard (5), Dack (2) and Chamberlain (1).

In the previous census period, 1991 to 1996, almost all of the Townships in the District experienced increases in farm numbers. Part of the increase is explained by changes made by Statistics Canada in 1996 when it expanded the definition of a census farm to include commercial poultry hatcheries and operations that produced only Christmas trees.

⁹ Statistics Canada defines a census farm as an agricultural operation that produces at least one of the following products intended for sale: crops (field crops, tree fruits or nuts, berries or grapes, vegetables or seed); livestock (cattle, pigs, sheep, horses, exotic animals, etc.); poultry (hens, chickens, turkeys, exotic birds, etc.); animal products (milk or cream, eggs, wool, fur, meat); or other agricultural products (greenhouse or nursery products, Christmas trees, mushrooms, sod, honey, maple syrup products).

Table 4.2 Change in the Number of Farms in Temiskaming District and Townships, Northern Ontario and Ontario, 1991-2001

	1991	1996	Change 1991-1996		2001	Change 1996-2001	
			# farms	% change		# farms	% change
Ontario	68,633	67,520	-1,113	-1.6%	59,728	-7,792	-11.5%
Northern Ontario	2,908	2,915	7	0.2%	2,635	-280	-9.6%
Temiskaming District	547	589	42	7.7%	532	-57	-9.7%
Haileybury	24	29	5	20.8%	20	-9	-31.0%
Harris	19	26	7	36.8%	23	-3	-11.5%
Dymond	36	38	2	5.6%	35	-3	-7.9%
Hudson	33	37	4	12.1%	32	-5	-13.5%
Kerns	61	59	-2	-3.3%	51	-8	-13.6%
Harley	34	39	5	14.7%	32	-7	-17.9%
Casey	30	33	3	10.0%	26	-7	-21.2%
Brethour	20	21	1	5.0%	27	6	28.6%
Hilliard	32	32	0	0.0%	37	5	15.6%
Armstrong	43	46	3	7.0%	34	-12	-26.1%
Dack	31	32	1	3.2%	34	2	6.3%
Evanturel	32	32	0	0.0%	27	-5	-15.6%
Chamberlain	19	24	5	26.3%	25	1	4.2%
UO, West Part	133	141	8	6.0%	129	-12	-8.5%

Source: Statistics Canada, 1991, 1996, 2001.

Temiskaming District reported a total of 214,835 acres of land being farmed in 2001 (Table 4.3).¹⁰ This represents 6.5% of the total land area of the District.¹¹ Temiskaming had just over 21% of the total land area being farmed in northern Ontario in 2001. Between 1991 and 2001, the area of land being farmed in the District increased by 12% from 191,528 acres to 214,835 acres. While this represents a significant positive trend in the area of land being farmed, the total farmland base remains several thousand acres below the figure reported in 1981 when the District reported 227,855 acres of land being farmed.

Table 4.3 Area of Land Being Farmed in Temiskaming District, Northern Ontario, and Ontario, 1981-2001 (acres)

	1981	1986	1991	1996	2001
Ontario	14,923,280	13,953,009	13,470,653	13,879,565	13,507,357
Northern Ontario	1,216,981	1,094,347	1,017,293	1,025,190	1,012,026
Temiskaming District	227,855	203,675	191,528	210,033	214,835
Percentage of Northern Ontario Farmland in Temiskaming	18.7%	18.6%	18.8%	20.5%	21.2%

Source: Statistics Canada, 1981, 1986, 1991, 1996, 2001.

The steady increase in the land area being farmed in Temiskaming over the past fifteen years stands in contrast to the ongoing decline in land area farmed at the provincial

¹⁰ Statistics Canada associates the following land uses with farmland: land in crops, land in pasture, land occupied by farm buildings and yards, land used for other farm-related activities such as farm woodlots.

¹¹ The total land area of Temiskaming District is 13,280 sq. km. or 3,281,488 acres. (Statistics Canada, 2001).

level. Temiskaming also appears to be outperforming other parts of northern Ontario which have experienced an overall decline in the amount of land area farmed since 1991 (Table 4.4).

At the individual Township level, Armstrong reported the largest area of land being farmed at 22,512 acres followed by Kerns at 20,289 acres (Table 4.1). A number of townships reported less than 10,000 acres of total land area being farmed including Chamberlain (8,624 acres), Harris (5,284 acres) and Haileybury (4,373 acres). A total of 49,861 acres of land were reported as being farmed in the Unorganized West Part which represents 23% of the total area of land being farmed in Temiskaming.

The largest rate of increase in land area being farmed occurred in Harley where the amount of farmland reported increased by 49% between 1996 and 2001. This was also the largest increase in absolute terms at 4,375 acres (Table 4.4). Other townships that experienced a significant increase in land area being farmed during this period include Brethour (39.6% or 3,936 acres) and Hudson (32.1% or 3,054 acres).

Several Townships reported a decline in land area being farmed between 1996 and 2001 including Harris (3,251 fewer acres in 2001), Hilliard (-1,855 acres), Kerns (-1,443 acres) and Evanturel (-1,365 acres).

Table 4.4 Change in the Area of Land Being Farmed in Temiskaming District and Townships, Northern Ontario and Ontario, 1991-2001 (acres)

	1991 (acres)	1996 (acres)	Change 1991-1996		2001 (acres)	Change 1996-2001	
			# acres	% change		# acres	% change
Ontario	13,470,653	13,879,565	408,912	3.0%	13,507,357	-372,208	-2.7%
Northern Ontario	1,017,293	1,025,190	7,897	0.8%	1,012,026	-13,164	-1.3%
Temiskaming District	191,528	210,033	18,505	9.7%	214,835	4,802	2.3%
Haileybury	N/A	3,941	-	-	4,373	432	11.0%
Harris	6,204	8,535	2,331	37.6%	5,284	-3,251	-38.1%
Dymond ^a	18,815	13,949	-	-	13,782	-167	-1.2%
Hudson	7,480	9,501	2,021	27.0%	12,555	3,054	32.1%
Kerns	20,079	21,732	1,653	8.2%	20,289	-1,443	-6.6%
Harley	9,002	8,957	-45	-0.5%	13,332	4,375	48.8%
Casey	13,158	13,765	607	4.6%	12,791	-974	-7.1%
Brethour	10,443	9,948	-495	-4.7%	13,884	3,936	39.6%
Hilliard	12,676	13,523	847	6.7%	11,668	-1,855	-13.7%
Armstrong	19,776	21,826	2,050	10.4%	22,512	686	3.1%
Dack ^a	18,422	14,092	-	-	15,211	1,119	7.9%
Evanturel	9,474	12,034	2,560	27.0%	10,669	-1,365	-11.3%
Chamberlain	N/A	8,039	-	-	8,624	585	7.3%
UO, West Part	45,999	50,191	4,192	9.1%	49,861	-330	-0.7%

N/A denotes that too few farms have reported data in the Census Consolidated Subdivision to ensure confidentiality.

^a Due to confidentiality constraints, data for census consolidated subdivisions (CCSs) with very few farms were combined with data from adjacent areas. In 1991, data for Haileybury was combined with Dymond and data for Chamberlain was combined with Dack.

Source: Statistics Canada, 1991, 1996, 2001.

Farms in Temiskaming District are slightly larger than the average farm size for northern Ontario and almost twice as large as the provincial average. In 2001, the average farm size in the District was 404 acres compared to 384 acres for northern Ontario and 226 acres for the province (Table 4.5). While farm numbers have been consistently shrinking over the past few census periods, farm consolidation has resulted in larger farms. The average farm size in the District has increased by 15.4% or 54 acres since 1991. The trend toward larger farms and the rate of change is consistent with provincial patterns.

Within the District there is considerable variation in average farm size. On average, farms in Armstrong are the largest at 662 acres followed by Brethour at 514 acres and Casey at 492 acres. Haileybury has the smallest average farm size at 219 acres.

Table 4.5 Average Farm Size in Temiskaming District and Townships, Northern Ontario and Ontario, 1991-2001 (acres)

	1991			1996			2001		
	Total farms	Total acres	Average farm size	Total farms	Total acres	Average farm size	Total farms	Total acres	Average farm size
Ontario	68,633	13,470,653	196	67,520	13,879,565	206	59,728	13,507,357	226
Northern Ontario	2,908	1,017,293	350	2,915	1,025,190	352	2,635	1,012,026	384
Temiskaming District	547	191,528	350	589	210,033	357	532	214,835	404
Haileybury	24	N/A	-	29	3,941	136	20	4,373	219
Harris	19	6,204	327	26	8,535	328	23	5,284	230
Dymond ^a	36	18,815	523	38	13,949	367	35	13,782	394
Hudson	33	7,480	227	37	9,501	257	32	12,555	392
Kerns	61	20,079	329	59	21,732	368	51	20,289	398
Harley	34	9,002	265	39	8,957	230	32	13,332	417
Casey	30	13,158	439	33	13,765	417	26	12,791	492
Brethour	20	10,443	522	21	9,948	474	27	13,884	514
Hilliard	32	12,676	396	32	13,523	423	37	11,668	315
Armstrong	43	19,776	460	46	21,826	474	34	22,512	662
Dack ^a	31	18,422	594	32	14,092	440	34	15,211	447
Evanturel	32	9,474	296	32	12,034	376	27	10,669	395
Chamberlain	19	N/A	-	24	8,039	335	25	8,624	345
UO, West Part	133	45,999	346	141	50,191	356	129	49,861	387

N/A denotes that too few farms have reported data in the Census Consolidated Subdivision to ensure confidentiality.

^a Due to confidentiality constraints, data for census consolidated subdivisions (CCSs) with very few farms were combined with data from adjacent areas. In 1991, data for Haileybury was combined with Dymond and data for Chamberlain was combined with Dack.

Source: Statistics Canada, 1991, 1996, 2001.

The majority of farms in Temiskaming District (58.8%) are larger than 240 acres (Table 4.6). Farms with between 240 and 759 acres account for 46.2% of all farms in the District while farms with 760 or more acres account for 12.6% of all farms. Small farms with under 70 acres account for only 6% of all farms in the District while farms with between 70 and 239 acres make up 35.1% of all farms.

Table 4.6 Farms Classified by Farm Size Category for Temiskaming District and Townships, Northern Ontario and Ontario, 2001

	Total number of farms	Under 10 acres	10 to 69 acres	70 to 129 acres	130 to 179 acres	180 to 239 acres	240 to 399 acres	400 to 559 acres	560 to 759 acres	760 to 1,119 acres	1,120 acres and over
Ontario	59,728	2,860	12,516	14,262	6,531	6,192	8,556	3,936	2,173	1,548	1,154
Northern Ontario	2,635	91	226	337	393	188	500	361	205	211	123
Temiskaming District	532	8	24	56	97	34	114	84	48	49	18
Haileybury	20	2	1	7	2	0	5	1	1	1	0
Harris	23	0	3	2	5	4	7	1	1	0	0
Dymond	35	1	3	9	7	0	4	4	3	3	1
Hudson	32	0	1	5	6	3	4	12	0	0	1
Kerns	51	0	0	2	11	0	17	12	3	5	1
Harley	32	1	1	6	7	1	7	4	2	2	1
Casey	26	1	1	1	3	1	7	3	3	4	2
Brethour	27	0	0	0	9	2	3	3	5	3	2
Hilliard	37	2	3	4	6	1	10	6	3	2	0
Armstrong	34	0	2	1	3	1	5	10	3	6	3
Dack	34	0	0	0	8	4	7	3	7	4	1
Evanturel	27	1	0	2	2	2	7	7	4	2	0
Chamberlain	25	0	1	2	4	5	4	3	4	2	0
UO, West Part	129	0	8	15	24	10	27	15	9	15	6

Source: Statistics Canada, 2001.

Approximately 22% or 47,295 acres of the total farmland area in Temiskaming District is leased or rented (Table 4.7). This is lower than the provincial average of 30.6% and the northern Ontario average of 23.7%. Between 1996 and 2001 the total area of farmland reported as rented in the District increased by 21.6% or 8,418 acres. During the same period, the rate of farmland rented increased by only 10.7% across northern Ontario and 0.5% across Ontario.

Within the District only two townships reported higher percentages of rented farmland than the provincial average. Almost 50% of the total farmland in Harley was reported as rented in 2001 and 31.5% of the farmland in Hudson was reported as rented.

Table 4.7 Land Tenure in Temiskaming District and Townships, Northern Ontario and Ontario, 1996-2001 (acres)

	1996				2001			
	Area owned	% owned	Area rented	% rented	Area owned	% owned	Area rented	% rented
Ontario	9,764,607	70.4%	4,114,958	29.6%	9,373,178	69.4%	4,134,179	30.6%
Northern Ontario	808,816	78.9%	216,374	21.1%	772,384	76.3%	239,642	23.7%
Temiskaming District	171,156	81.5%	38,877	18.5%	167,540	78.0%	47,295	22.0%
Haileybury	3,497	88.7%	444	11.3%	3,253	74.4%	1,120	25.6%
Harris	5,153	60.4%	3,382	39.6%	4,282	81.0%	1,002	19.0%
Dymond	11,753	84.3%	2,196	15.7%	10,508	76.2%	3,274	23.8%
Hudson	7,939	83.6%	1,562	16.4%	8,600	68.5%	3,955	31.5%
Kerns	17,606	81.0%	4,126	19.0%	16,084	79.3%	4,205	20.7%
Harley	7,643	85.3%	1,314	14.7%	6,715	50.4%	6,617	49.6%
Casey	12,038	87.5%	1,727	12.5%	11,232	87.8%	1,559	12.2%
Brethour	9,068	91.2%	880	8.8%	9,864	71.0%	4,020	29.0%
Hilliard	9,245	68.4%	4,278	31.6%	9,766	83.7%	1,902	16.3%
Armstrong	19,554	89.6%	2,272	10.4%	17,661	78.5%	4,851	21.5%
Dack	11,277	80.0%	2,815	20.0%	12,726	83.7%	2,485	16.3%
Evanturel	8,718	72.4%	3,316	27.6%	7,676	71.9%	2,993	28.1%
Chamberlain	6,799	84.6%	1,240	15.4%	6,944	80.5%	1,680	19.5%
UO, West Part	40,866	81.4%	9,325	18.6%	42,229	84.7%	7,632	15.3%

Source: Statistics Canada, 1996, 2001.

4.3 Farmland Use

The largest single use of farmland in Temiskaming District is crop production. In 2001, 55% or 118,092 acres of the total farmland base was used for crop production (Figure 4.1 and Table 4.8). This represents 31.3% of the total cropland area reported in northern Ontario in 2001 (Table 4.9). Temiskaming has a larger percentage of its farmland base in crop production compared to northern Ontario as a whole but a smaller percentage compared to the province (Figure 4.2). The Townships of Armstrong, Casey and Kerns as well as the Unorganized West Part all reported more than 10,000 acres of farmland in crop production in 2001.

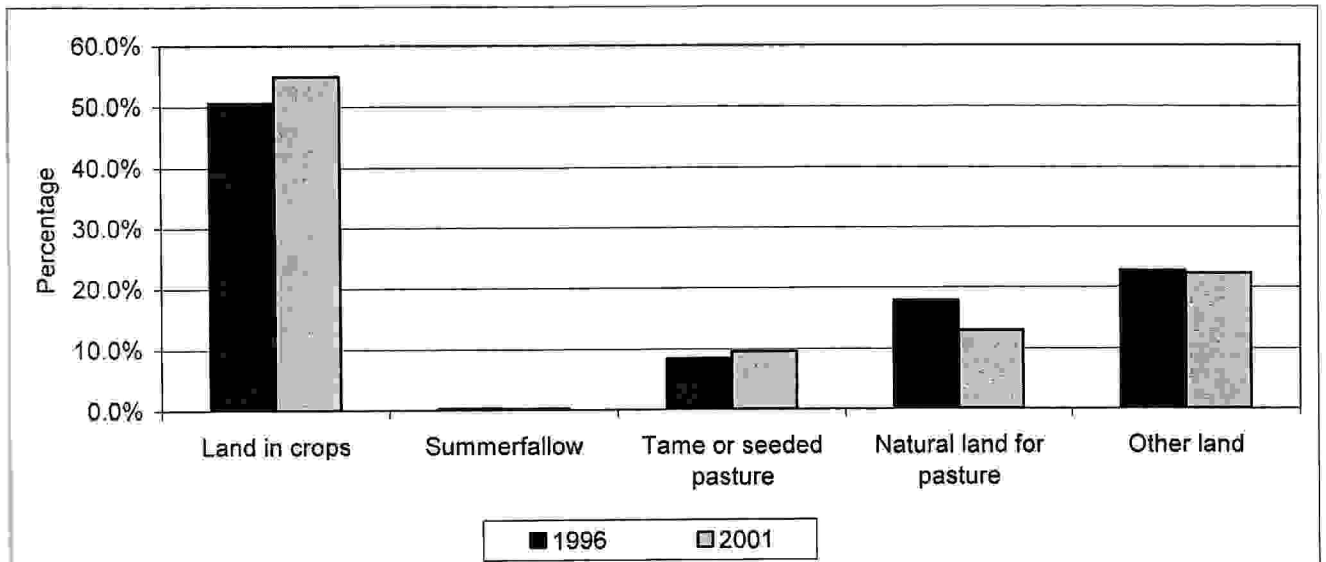
Between 1996 and 2001, the area of cropland in the District increased by 11% or 11,671 acres. The largest increase was reported in Harley where the area of cropland more than doubled from 4,384 acres in 1996 to 9,202 acres in 2001. Other substantial increases in cropland area were reported in Armstrong, Hudson, Brethour, and Dack. During the same period, several townships reported declines in cropland area including Harris, Dymond and Hilliard (Table 4.10).

After crop production, 'other land use' was reported as the next largest land use at 22.3% or 47,922 acres.¹² Close to 13% (27,714 acres) of the farmland base was

¹² This includes land used for Christmas tree production, farm woodlots, land occupied by farm buildings/yards etc. (Statistics Canada, 2001).

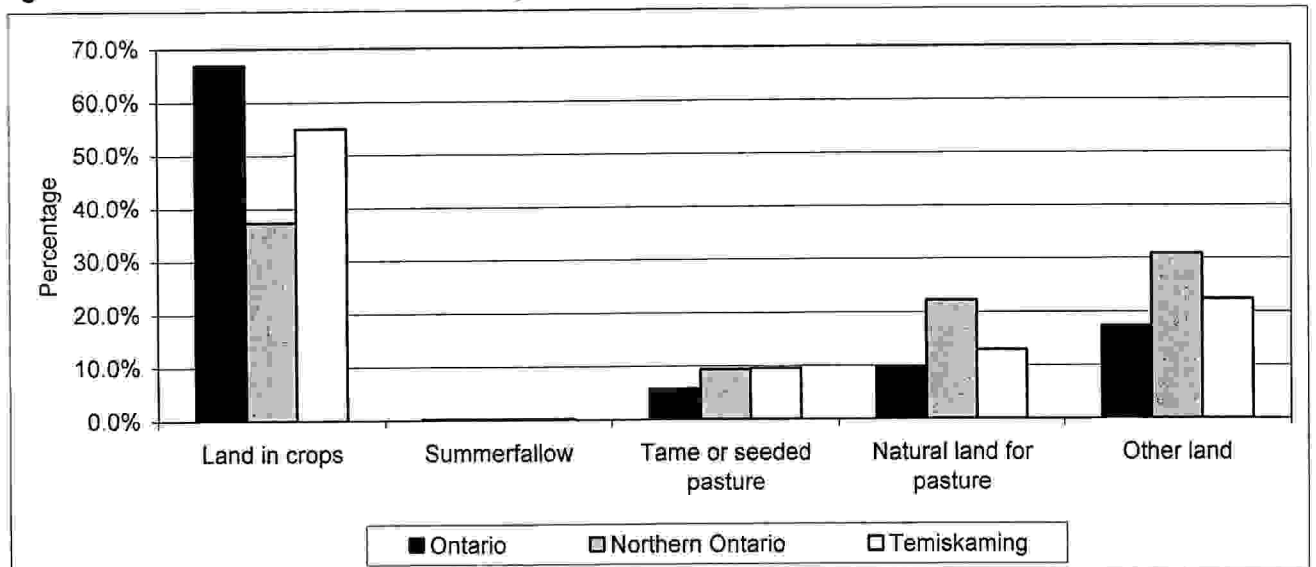
reported as natural land for pasture and 9.6% (17,660 acres) was reported as tame or seeded pasture. Less than 1% (499 acres) of the farmland base was reported as summerfallow in 2001. Between 1996 and 2001, the area of tame or seeded pasture increased by 16.3% or 2,878 acres while the area of natural land for pasture declined by 26% or 9,805 acres (Table 4.8).

Figure 4.1 Farmland Use in Temiskaming District, 1996-2001



Source: Statistics Canada, 2001.

Figure 4.2 Farmland Use in Temiskaming District, Northern Ontario and Ontario, 2001



Source: Statistics Canada, 2001.

Table 4.8 Farmland Use in Temiskaming District and Townships, Northern Ontario and Ontario, 1996-2001 (acres)

	Total farmland area	Land in crops	Summer-fallow	Tame or seeded pasture	Natural land for pasture	All other land (including Christmas tree area)
2001						
Ontario	13,507,357	9,035,915	35,175	773,650	1,314,335	2,348,282
Northern Ontario	1,012,026	377,687	2,513	94,481	225,179	312,166
Temiskaming District	214,835	118,092	499	20,538	27,714	47,992
Haileybury	4,373	1,548	0	311	1,247	1,267
Harris	5,284	3,080	N/A	352	987	N/A
Dymond	13,782	6,471	0	1,068	3,146	3,097
Hudson	12,555	5,473	0	2,159	2,106	2,817
Kerns	20,289	12,870	70	2,291	1,737	3,321
Harley	13,332	9,202	N/A	734	1,366	N/A
Casey	12,791	10,026	N/A	761	370	N/A
Brethour	13,884	6,423	0	2,522	1,908	3,031
Hilliard	11,668	6,823	133	875	1,581	2,256
Armstrong	22,512	18,999	0	698	501	2,314
Dack	15,211	6,438	N/A	1,302	3,329	N/A
Evanturel	10,669	7,168	0	833	565	2,103
Chamberlain	8,624	3,864	N/A	573	1,132	N/A
UO, West Part	49,861	19,707	176	6,059	7,739	16,180
1996						
Ontario	13,879,565	8,759,707	48,492	860,786	1,641,692	2,568,888
Northern Ontario	1,025,190	350,511	3,920	90,526	251,066	329,167
Temiskaming District	210,033	106,421	551	17,660	37,519	47,882
Haileybury	3,941	1,464	N/A	366	598	N/A
Harris	8,535	4,534	N/A	448	2,467	N/A
Dymond	13,949	7,562	N/A	2,247	2,049	N/A
Hudson	9,501	4,321	N/A	1,352	1,735	N/A
Kerns	21,732	12,512	N/A	1,979	2,810	N/A
Harley	8,957	4,384	0	552	1,521	2,500
Casey	13,765	9,248	N/A	1,056	1,746	N/A
Brethour	9,948	4,120	0	422	3,081	2,325
Hilliard	13,523	8,175	N/A	796	1,459	N/A
Armstrong	21,826	15,371	0	1,886	2,100	2,469
Dack	14,092	4,714	0	1,183	3,781	4,414
Evanturel	12,034	7,149	N/A	1,113	2,015	N/A
Chamberlain	8,039	2,869	36	580	2,006	2,548
UO, West Part	50,191	19,998	272	3,680	10,151	16,090

N/A denotes that too few farms have reported data in the Census Consolidated Subdivision to ensure confidentiality.

Source: Statistics Canada, 1996, 2001

Table 4.9 Area of Cropland in Temiskaming District, Northern Ontario, and Ontario, 1981-2001 (acres)

	1981	1986	1991	1996	2001
Ontario	8,976,664	8,544,820	8,430,414	8,759,707	9,035,915
Northern Ontario	402,462	363,510	335,342	350,511	377,687
Temiskaming District	115,635	103,574	94,210	106,421	118,092
Percentage of Northern Ontario Cropland in Temiskaming	28.7%	28.5%	28.1%	30.4%	31.3%

Source: Statistics Canada, 1981, 1986, 1991, 1996, 2001.

Table 4.10 Change in Area of Cropland in Temiskaming District and Townships, Northern Ontario and Ontario, 1991-2001 (acres)

	1991	1996	Change 1991-1996		2001	Change 1996-2001	
			# acres	% change		# acres	% change
Ontario	8,430,414	8,759,707	329,293	3.9%	9,035,915	276,208	3.2%
Northern Ontario	335,342	350,511	15,169	4.5%	377,687	27,176	7.8%
Temiskaming District	106,421	106,421	0	0.0%	118,092	11,671	11.0%
Haileybury	N/A	1,464	-	-	1,548	84	5.7%
Harris	3,350	4,534	1,184	35.3%	3,080	-1,454	-32.1%
Dymond ^a	9,946	7,562	-	-	6,471	-1,091	-14.4%
Hudson	3,300	4,321	1,021	30.9%	5,473	1,152	26.7%
Kerns	11,619	12,512	893	7.7%	12,870	358	2.9%
Harley	4,542	4,384	-158	-3.5%	9,202	4,818	109.9%
Casey	9,141	9,248	107	1.2%	10,026	778	8.4%
Brethour	4,162	4,120	-42	-1.0%	6,423	2,303	55.9%
Hilliard	5,849	8,175	2,326	39.8%	6,823	-1,352	-16.5%
Armstrong	13,575	15,371	1,796	13.2%	18,999	3,628	23.6%
Dack ^a	6,588	4,714	-	-	6,438	1,724	36.6%
Evanturel	4,752	7,149	2,397	50.4%	7,168	19	0.3%
Chamberlain	N/A	2,869	-	-	3,864	995	34.7%
UO, West Part	17,386	19,998	2,612	15.0%	19,707	-291	-1.5%

N/A denotes that too few farms have reported data in the Census Consolidated Subdivision to ensure confidentiality.

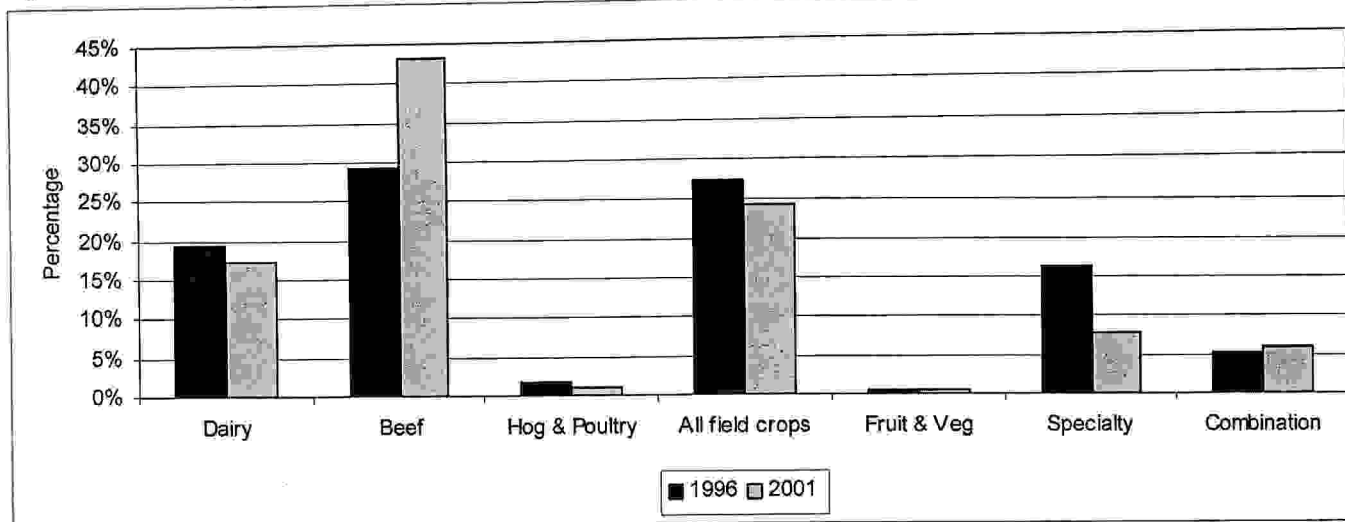
^a Due to confidentiality constraints, data for census consolidated subdivisions (CCSs) with very few farms were combined with data from adjacent areas. In 1991, data for Haileybury was combined with Dymond and data for Chamberlain was combined with Dack.

Source: Statistics Canada, 1991, 1996, 2001.

4.4 Farm Types

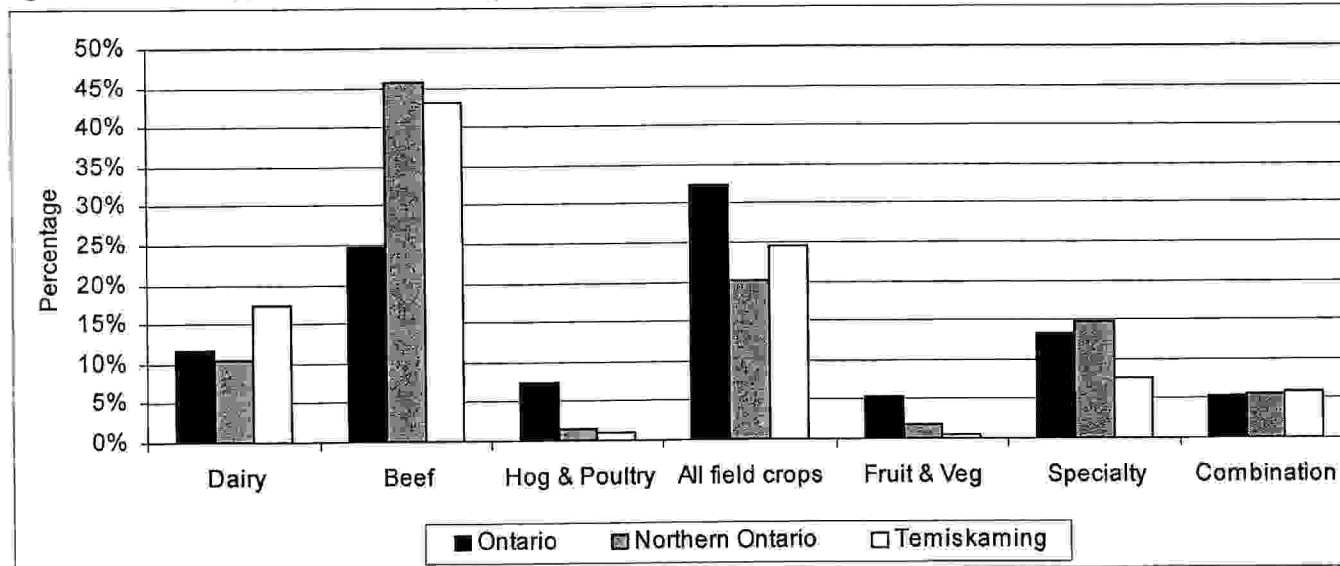
Temiskaming District features a variety of different farm types. Beef farms are the most common type of farms in the District accounting for 43% of all farms in 2001. Field crop farms represent the next largest percentage of farms at 20% followed by dairy farms at 17%. Approximately, 61% of all farms in the District are primarily involved in livestock production. This compares to the provincial average of 45% (Figure 4.3).

Figure 4.3 Farm Types in Temiskaming District, 1996-2001¹³



Source: Statistics Canada, 1996, 2001.

Figure 4.4 Farm Types in Temiskaming District, Northern Ontario and Ontario, 2001



Source: Statistics Canada, 2001.

¹³ Farm typing is a procedure that classifies each census farm according to the predominant type of production. This is done by estimating the potential receipts from the inventories of crops and livestock reported on the questionnaire and determining the product or group of products that make up the majority of the estimated receipts. For example, a census farm with total potential receipts of 60% from hogs, 20% from beef cattle and 20% from wheat, would be classified as a hog farm. Farm type is based on farms reporting total gross farm receipts of \$2,500 or more. Specialty farms includes greenhouse flower and plant production, bulbs, shrubs, trees, sod, ornamentals, mushroom houses, honey production, maple syrup production, deer, mink, etc.

Table 4.11 Number of Farms by Farm Type for Temiskaming District and Townships, Northern Ontario and Ontario, 1996 and 2001.

	Total farms ^a	Dairy	Beef	Hog	Poultry and egg	Wheat	Grain and oilseed except wheat	Field crop except grain and oilseed	Fruit	Veg.	Specialty	Combination farms
2001												
Ontario	55,092	6,414	13,669	2,454	1,609	395	12,863	4,531	1,733	1,233	7,301	2,890
Northern Ontario	2,279	239	1,040	16	16	11	61	388	23	19	337	129
Temiskaming District	479	83	207	4	1	7	41	69	2	0	37	28
Haileybury	17	0	8	0	0	0	0	3	1	0	4	1
Harris	19	2	10	0	0	0	2	3	0	0	1	1
Dymond	34	8	14	0	0	0	3	2	0	0	6	1
Hudson	26	3	16	0	0	1	0	5	0	0	0	1
Kerns	51	9	21	0	0	2	11	1	0	0	1	6
Harley	30	2	15	0	0	0	3	7	0	0	2	1
Casey	25	7	4	0	1	0	4	4	0	0	0	5
Brethour	24	2	8	0	0	0	4	6	0	0	4	0
Hilliard	34	6	13	1	0	0	1	5	1	0	4	3
Armstrong	33	24	2	0	0	0	3	2	0	0	1	1
Dack	30	3	16	1	0	0	2	7	0	0	0	1
Evanturel	23	8	8	0	0	1	3	1	0	0	1	1
Chamberlain	22	2	11	0	0	1	0	5	0	0	2	1
UO, West Part	111	7	61	2	0	2	5	18	0	0	11	4
1996												
Ontario	59,887	8,320	14,172	2,677	1,686	466	12,250	4,965	2,016	1,428	8,547	3,361
Northern Ontario	2,379	362	828	15	22	3	56	454	23	28	459	129
Temiskaming District	502	98	147	5	4	3	38	97	1	1	82	20
Haileybury	18	1	3	0	0	0	1	4	1	0	7	1
Harris	22	1	7	0	0	0	2	6	0	0	5	1
Dymond	33	7	5	0	0	2	0	3	0	0	14	1
Hudson	27	4	9	0	0	0	0	9	0	0	3	1
Kerns	51	10	13	1	0	0	11	5	0	0	6	1
Harley	36	2	14	0	1	0	4	9	0	0	5	1
Casey	31	11	6	0	1	0	5	3	0	0	4	1
Brethour	20	4	6	0	0	0	2	6	0	0	2	1
Hilliard	28	7	10	1	0	0	3	3	0	0	2	1
Armstrong	46	27	8	0	0	0	2	4	0	0	5	1
Dack	27	3	11	1	0	0	0	5	0	0	5	1
Evanturel	28	9	7	1	0	1	2	4	0	0	4	1
Chamberlain	19	3	8	0	0	0	0	2	0	0	4	1
UO, West Part	116	9	40	1	2	0	6	34	0	1	16	4

^a Farms reporting total gross farm receipts of \$2,500 or more.

Source: Statistics Canada, 1996, 2001

Between 1996 and 2001, the number of Dairy farms in Temiskaming District declined from 98 farms to 83 farms, which represents a decrease of 15% (Table 4.11). During the same period the province as a whole experienced a 23% decline in dairy farms. Most of the Townships experienced a loss of one or more dairy farms during this period.

The number of Beef farms in the District increased from 147 farms in 1996 to 207 farms in 2001. All of the Townships with the exception of Armstrong and Casey reported an increase in Beef farms during this period. The largest increase occurred in the Unorganized West Part where the number of Beef farms increased from 40 farms in 1996 to 61 farms in 2001 (Table 4.11).

In 2001, the District reported 4 Hog farms, down from 5 farms in 1996 (Table 4.11). The number of Poultry farms in the District declined from 4 farms in 1996 to 1 farm in 2001.

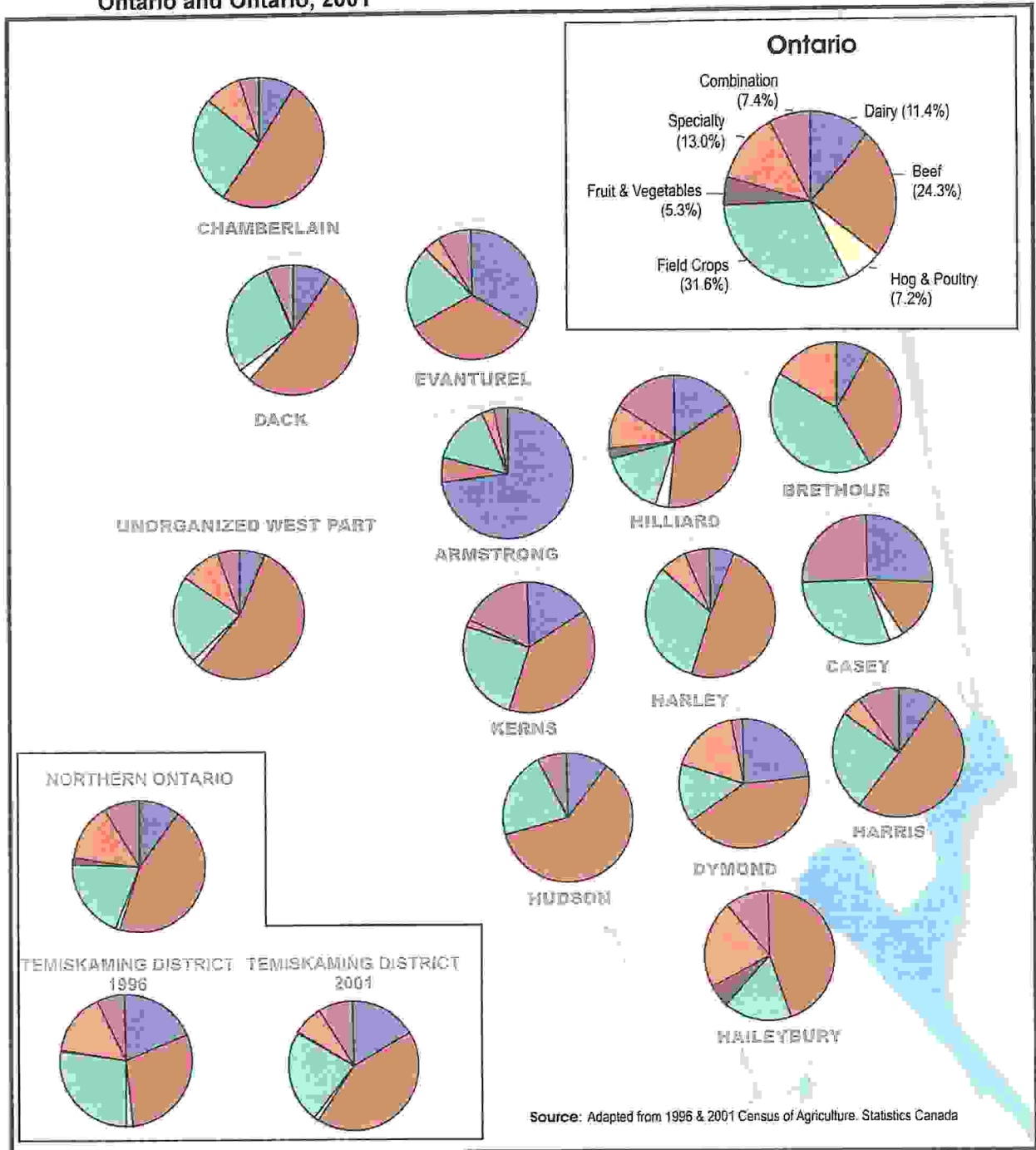
Field Crop type farms (i.e. wheat, grain and oilseed) in Temiskaming District declined from 138 farms in 1996 to 121 farms in 2001. The decline was largely restricted to field crops other than wheat and oilseed crops (Table 4.11).

The District reported two Fruit farms in 2001 and no Vegetable farms (Table 4.11). It is important to recognize that the total number farms producing fruit and vegetables in Temiskaming District is larger than the figures presented here. Statistics Canada categorizes farm types based on the product or group of products that make up the majority of the estimated total farm receipts. The farm type figures do not reflect those farms that are producing a limited amount of vegetables and fruit. A more detailed overview of vegetable and fruit production in Temiskaming District is presented in Section 4.7 and 4.8 of this report.

There was a notable decline in Miscellaneous Specialty farms in the District from 82 farms in 1996 down to 37 farms in 2001 (Table 4.11). This is consistent with the provincial trend which saw significant growth in this sector between 1991-96 (16.9%) and a subsequent decline back to 1991 levels by 2001. A wide range of production activities are associated with this sector including greenhouse flower and plant production, bulbs, shrubs, trees, sod, ornamentals, mushroom houses, honey production, maple syrup production, deer, mink, etc.

Map 4.1 provides a graphic overview of the different farm types at the Township level with comparisons to Temiskaming District as a whole, northern Ontario and the province of Ontario.

Map 4.1 Farm Types in Temiskaming District and Townships with Comparisons to Northern Ontario and Ontario, 2001



The pie charts illustrate the proportion of different farm types in each of the relevant townships. The farm type categories are identified in the Ontario profile. The Northern Ontario profile includes the following Districts: Nipissing, Sudbury, Manitoulin, Temiskaming, Cochrane, Greater Sudbury Division, Algoma, Thunder Bay, Rainy River and Kenora. Temiskaming District as a whole is profiled for 1996 and 2001.

In 2001, the Census of Agriculture began to collect data on organic farming activity. In order to achieve organic status, a farm must follow strict organic practices. All producers selling organic foods must maintain a record of production and handling.

Canada recently adopted a national code of practice that defines and regulates the use of the terms "organic", "organically grown", "organically raised", "certified organic" and other variations. Independent, organic certification agencies verify growing, processing, packaging, transportation, warehousing and retailing procedures. While these standards aren't regulated by any government department, the Food and Drug Act requires labels to be true and factual.

A total of 9 farms in Temiskaming District reported producing certified organic products in 2001 (Table 4.12). These farms are located in a number of different townships including Haileybury, Hudson, Kerns, Casey, Hilliard, Ewanturel, and Chamberlain. Field crops represent the most common type of certified organic product being produced in the District.

Table 4.12 Number of Farms Producing Certified Organic Products, Temiskaming District and Townships, Northern Ontario and Ontario, 2001

	Total farms producing certified organic products	Fruits, vegetables or greenhouse products	Field crops (grains, oilseeds, etc.)	Animals or animal products (meat, milk, eggs, etc.)	Other (maple syrup, herbs, etc.)
Ontario	405	120	308	120	38
Northern Ontario	15	2	11	0	3
Temiskaming District	9	1	8	0	0
Haileybury	1	0	1	0	0
Harris	0	0	0	0	0
Dymond	0	0	0	0	0
Hudson	1	0	1	0	0
Kerns	1	0	1	0	0
Harley	0	0	0	0	0
Casey	1	0	1	0	0
Brethour	0	0	0	0	0
Hilliard	2	1	1	0	0
Armstrong	0	0	0	0	0
Dack	0	0	0	0	0
Ewanturel	1	0	1	0	0
Chamberlain	2	0	2	0	0
UO, West Part	0	0	0	0	0

Source: Statistics Canada, 2001.

A further assessment of farm type specialization in Temiskaming District can be obtained using the Location Quotient. Economic analysts have found the Location Quotient (LQ) to be a useful tool in determining which sectors of the economy are more specialized than others (Bendavid-Val, 1991, p.73). The term 'specialized' in this instance refers to the relative size or presence of an industrial activity. The LQ is essentially a ratio of ratios. In assessing farm type specialization, the regional share of a particular farm sector or type is compared to the provincial share in the sector. The LQ can be used to gauge the relative specialization of a region in various farm sectors such as dairy, beef and field crops. Using the Temiskaming dairy sector as an example, the LQ formula for 2001 appears as follows:

$$LQ = \frac{\text{number of dairy farms in the District}}{\text{total number of farms in the District}} \div \frac{\text{number of dairy farms in the province}}{\text{total number of farms in the province}}$$

$$LQ = (83 / 479) \div (6,416 / 55,092) = 1.5$$

For the purpose of interpreting the LQ, it has a base value of one. An LQ of one suggests that the region and the province are specialized to an equal degree in the chosen industry sector. If the LQ is greater than one, it indicates that the region has a higher degree of specialization in the industry sector than the province. An LQ of less than one indicates that the industry sector is less specialized in the region than it is for the province.

Using the farm type data from Table 4.11, the 2001 LQ for the dairy sector indicates that Temiskaming District is specialized in dairy production. The LQ's for the other farm sectors are presented in Table 4.13. The LQ data suggests that Temiskaming District is also more specialized in beef production. Based on the 2001 LQ data, Temiskaming District is less specialized in hog, poultry, field crop, fruit, vegetable and specialty type farms.

Based on comparisons with 1996 data, Temiskaming District is becoming increasingly specialized in dairy and beef production.

Table 4.13 Location Quotient for Farm Types for Temiskaming District, 1996 and 2001

Year	Dairy	Beef	Hog	Poultry	All Field Crops	Fruit	Veg.	Specialty	Combination
2001	1.5	1.7	0.2	0.1	0.8	0.1	0.0	0.6	1.1
1996	1.4	1.2	0.2	0.3	0.9	0.1	0.1	1.1	0.9

Source: Adapted from Statistics Canada, 1996, 2001.

4.5 Livestock and Animal Products

In 2001, Temiskaming District reported a total of 30,451 cattle and calves, which represents 26% of the total cattle and calves reported in northern Ontario (Table 4.14). Temiskaming District also reported 26% of the total pigs, 27% of the total turkeys, 34% of the total goats and 37% of the total sheep and lambs reported in northern Ontario. Over 41% of the total bee colonies in northern Ontario are found in Temiskaming District.

Temiskaming is the number one milk producing District in northern Ontario. In 2001, the District reported 40% of the total dairy cows in northern Ontario which represents 1.4% of the provincial total. In 2002, Temiskaming reported a total of 38.7 million litres of milk shipments to milk processing plants, which represents 41% of the total production for northern Ontario and 1.5% of the total provincial production (Dairy Farmers of Ontario, 2002). Between 1998 and 2002, the total volume of milk shipments from Temiskaming dairy farms increased by 7.6% (Figure 4.5).

Table 4.14 Inventory of Selected Farm Related Animals including Livestock, Poultry, Bee Colonies, etc., Temiskaming District, Northern Ontario and Ontario, 2001

	Ontario	Northern Ontario	Temiskaming	Temiskaming as a % of Ontario	Temiskaming as a % of Northern Ontario
Total cattle and calves	2,140,731	117,374	30,451	1.4%	25.9%
Total dairy cows	363,544	14,605	5,865	1.6%	40.2%
Total sheep and lambs	337,625	16,260	5,983	1.8%	36.8%
Total pigs	3,457,346	9,034	2,378	0.1%	26.3%
Total turkeys	3,402,697	2,152	580	0.02%	27.0%
Total hens and chicks	43,624,696	154,138	17,130	0.04%	11.1%
Total broilers, roasters and Cornish	27,931,322	14,791	1,757	0.01%	11.9%
Total goats	62,310	3,180	1,085	1.7%	34.1%
Total horses	83,337	3,470	527	0.6%	15.2%
Total deer ^a	14,464	1,590	170	1.2%	10.7%
Total bison	3,755	1,875	240	6.4%	12.8%
Total bee colonies	56,740	1,809	753	1.3%	41.6%

Source: Statistics Canada, 2001.

Details on the number of livestock at the individual township level are provided in Table 4.15.

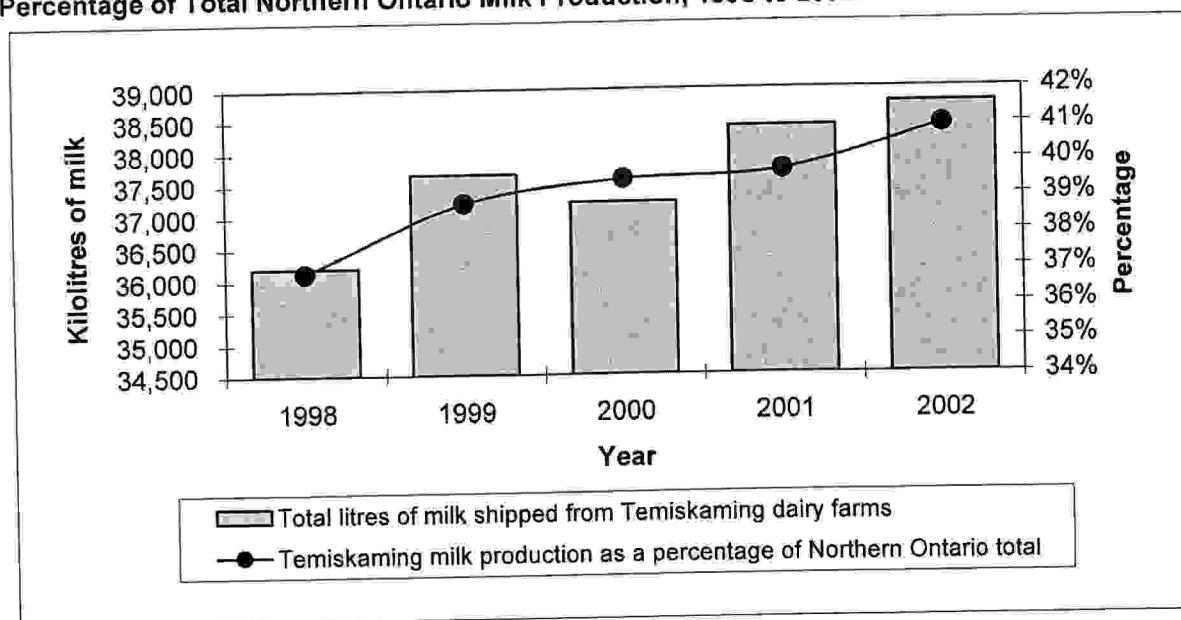
Table 4.15 Inventory of Selected Farm Related Animals including Livestock, Poultry, Bee Colonies, etc., Temiskaming District and Townships, 2001

	Total cattle and calves	Total dairy cows	Total sheep and lambs	Total pigs	Total hens and chickens	Total broilers, roasters and Cornish	Total turkeys	Total goats	Total deer (excluding wild deer)	Total horses and ponies	Total colonies of bees
Temiskaming District	30,451	5,865	5,983	2,378	17,130	1,757	580	1,085	170	527	753
Haileybury	493	0	N/A	0	48	0	0	N/A	0	73	0
Harris	1,088	N/A	0	N/A	N/A	0	0	N/A	0	58	0
Dymond	2,825	623	1,214	N/A	N/A	0	N/A	118	N/A	52	0
Hudson	2,058	220	N/A	0	N/A	N/A	N/A	0	0	20	0
Kerns	3,136	490	931	N/A	946	N/A	N/A	N/A	0	26	N/A
Harley	1,033	N/A	N/A	0	195	N/A	N/A	N/A	0	12	N/A
Casey	1,771	643	N/A	0	N/A	N/A	N/A	N/A	0	25	0
Brethour	1,584	N/A	1,452	0	N/A	0	0	N/A	0	N/A	0
Hilliard	1,929	436	214	N/A	380	N/A	N/A	N/A	0	29	N/A
Armstrong	3,911	1,918	N/A	N/A	N/A	N/A	0	N/A	N/A	N/A	N/A
Dack	1,995	134	N/A	283	446	N/A	N/A	10	0	23	0
Evanturel	1,614	406	N/A	0	0	0	0	N/A	0	50	0
Chamberlain	1,010	N/A	N/A	N/A	352	206	N/A	N/A	0	41	0
UO, West Part	6,004	577	786	379	1,076	195	50	456	N/A	101	0

N/A denotes that too few farms have reported data in the Census Consolidated Subdivision to ensure confidentiality.

Source: Statistics Canada, 2001.

Figure 4.5 Total Volume of Milk Shipments from Temiskaming District Dairy Farms and Percentage of Total Northern Ontario Milk Production, 1998 to 2002.



Source: Dairy Farmers of Ontario, 2002.

4.6 Field Crops

Temiskaming District produces a variety of grain and oilseed crops including barley, wheat, oats, corn, canola and soybeans. The largest grain crops grown in the District in terms of total acreage are barley and spring wheat. In 2001, Temiskaming reported a total of 22,260 acres of barley and 10,432 acres of spring wheat (Table 4.16). Close to 3,000 acres of soybeans and 6,000 acres of canola were also grown in the District in 2001. Alfalfa and other tame hay crops were reported on a total of 64,700 acres.

As shown in Table 4.16, Temiskaming is a leading area for field crop production in northern Ontario. Over 50% of the total acreage of production for many northern Ontario crops is located in Temiskaming. In 2001, the District reported 55% of the total northern Ontario acreage in soybeans, 58% of the acreage in dry field beans, 60% of the acreage in barley, 63% of the acreage in buckwheat, 85% of the acreage in spring wheat, and 88% of the total northern Ontario acreage in canola.

At the provincial level, Temiskaming reported 16% of the total acreage in canola, 13% of the total acreage in buckwheat, 13% of the acreage in forage seed for seed, 8% of the acreage in spring wheat, and 7% of the total provincial acreage in barley.

Table 4.16 Total Reported Acreage of Selected Field Crops for Temiskaming, Northern Ontario and Ontario, 2001

	Ontario	Northern Ontario	Temiskaming	Temiskaming as a % of Ontario	Temiskaming as a % of Northern Ontario
Spring wheat	125,477	12,338	10,432	8.3%	84.6%
Oats	101,670	15,140	5,710	5.6%	37.7%
Barley	308,728	37,059	22,260	7.2%	60.1%
Buckwheat	5,941	1,224	772	13.0%	63.1%
Mixed grains	218,265	9,174	2,988	1.4%	32.6%
Corn for grain	2,003,025	880	415	0.02%	47.2%
Corn for silage	319,364	3,317	1,346	0.4%	40.6%
Alfalfa and alfalfa mixtures	1,610,809	104,712	29,834	1.9%	28.5%
All other tame hay and fodder crops	893,217	177,029	34,940	3.9%	19.7%
Canola	36,439	6,654	5,872	16.1%	88.2%
Soybeans	2,248,466	2,238	1,222	0.1%	54.6%
Dry field peas	3,127	167	97	3.1%	58.1%
Dry field beans	121,821	216	89	0.1%	41.2%
Forage seed for seed	9,088	1,620	1,171	12.9%	72.3%
Potatoes	43,396	1,747	264	0.6%	15.1%

Source: Statistics Canada, 2001.

4.7 Fruit, Berry and Vegetable Production

The total area of fruit and berry production in Temiskaming District amounted to 28 acres in 2001 (Table 4.17).

Table 4.17 Number of Farms and Acreage of Selected Fruit and Berry Production, 2001

	Ontario		Northern Ontario		Temiskaming District	
	Number of farms	Total acres in production	Number of farms	Total acres in production	Number of farms	Total acres in production
Total producing area of fruits and berries	3,238	57,217	82	309	6	28
Strawberries	829	4,104	43	202	2	N/A
Raspberries	683	1,147	39	54	4	6
Blueberries	158	604	6	21	1	N/A

N/A denotes that too few farms have reported data in the Census Consolidated Subdivision to ensure confidentiality.

Source: Statistics Canada, 2001

Temiskaming farmers produce a variety of vegetable crops. The total area of field grown vegetables in the District amounted to 57 acres in 2001 (Table 4.18). Sweet Corn accounted for the majority of the total acreage at 35 acres. Additional details on vegetable production in Temiskaming District are provided in Table 4.18.

Table 4.18 Number of Farms and Acreage of Selected Vegetable Production, 2001

	Ontario		Northern Ontario		Temiskaming District	
	Number of farms	Total acres in production	Number of farms	Total acres in production	Number of farms	Total acres in production
Total vegetables	3,938	170,147	126	494	7	57
Sweet corn	1,503	49,019	67	196	5	35
Tomatoes	1,286	21,201	40	16	3	1
Cucumbers	930	8,374	45	26	2	N/A
Green peas	723	23,308	40	24	1	N/A
Green or wax beans	760	13,035	55	27	3	2
Cauliflower	359	3,195	16	7	1	N/A
Carrots	554	8,872	46	28	3	12
Beets	509	861	41	15	2	N/A
Dry onions	574	6,624	19	4	1	N/A
Lettuces	343	1,033	15	4	2	N/A
Squash, pumpkins, zucchini	1,238	7,765	45	31	3	2
Asparagus	309	2,255	4	N/A	1	N/A

N/A denotes that too few farms have reported data in the Census Consolidated Subdivision to ensure confidentiality.

Source: Statistics Canada, 2001

4.8 Nursery Production, Maple Syrup and other Forest Products

In 2001, 3 farms in Temiskaming District were involved in nursery production¹⁴ covering a total area of 10 acres. One farm in the District reported growing Christmas trees and four farms are involved in producing maple syrup (Table 4.19). Farm woodlots represent an important source of income for many farmers in the District. In 2001, total sales of forest products from Temiskaming farms amounted to over \$263,000 (Table 4.20). Between 1996 and 2001 the number of farms reporting revenue from forest sales increased from 21 farms to 37 farms or 76%.

Table 4.19 Number of Farms and Production Area Associated with Nursery Products, Christmas Tree Production and Taps on Trees for Maple Syrup Production, 2001

	Nursery products		Christmas tree production		Taps on maple trees	
	Farms reporting	Acres	Farms reporting	Acres	Farms reporting	# of taps
Ontario	1,443	25,488	918	21,766	2,588	1,304,995
Northern Ontario	57	406	42	967	96	94,564
Temiskaming District	3	10	1	N/A	4	997
Haileybury	1	N/A	1	N/A	0	0
Harris	0	0	0	0	1	N/A
Dymond	1	N/A	0	0	0	0
Hudson	0	0	0	0	0	0
Kerns	0	0	0	0	0	0
Harley	0	0	0	0	0	0
Casey	0	0	0	0	0	0
Brethour	0	0	0	0	0	0
Hilliard	0	0	0	0	1	N/A
Armstrong	0	0	0	0	1	N/A
Dack	0	0	0	0	0	0
Evanturel	0	0	0	0	0	0
Chamberlain	0	0	0	0	0	0
UO, West Part	1	N/A	0	0	1	N/A

N/A denotes that too few farms have reported data in the Census Consolidated Subdivision to ensure confidentiality.

Source: Statistics Canada, 2001

Table 4.20 Sales of Forest Products from Farms in Temiskaming, Northern Ontario and Ontario, 1995-2000

	1995		2000	
	Number of farms	Total Receipts	Number of farms	Total Receipts
Ontario	3,343	\$19,717,541	2,903	\$20,587,058
Northern Ontario	284	\$2,122,968	272	\$2,127,631
Temiskaming District	21	\$186,782	37	\$263,705

Source: Statistics Canada, 1996, 2001

¹⁴ Nursery production includes establishments primarily engaged in growing nursery products, nursery stock, shrubbery, bulbs, fruit stock, vines, ornamentals, etc., in open fields.

4.9 Farm Productivity: Total Farm Receipts, Farm Operating Expenses and Net Revenue

Temiskaming District reported \$44.2 million in total gross farm receipts in 2000 compared to \$36.4 million in 1995 (Table 4.21). Temiskaming's total farm receipts for 2000 represent 27% of the northern Ontario total and 0.5% of the provincial total. Since 1985 Temiskaming District has consistently accounted for 0.5% of the total provincial farm receipts. During the same period, Temiskaming's percentage of total northern Ontario farm receipts has increased from 23% to 27%. Growth in dairy and crop production during the 1990's have likely contributed to this trend.

Within Temiskaming District, Armstrong township reported the largest percentage of total gross farm receipts at \$10.7 million (24%) followed by Kerns at \$4.4 million (10%) and Casey at \$4.2 million (9.5%). The Unorganized West Part accounted for \$5.7 million or 13% of the total farm receipts in 2000 (Table 4.22).

Several factors account for Armstrong having the highest total farm receipts. In 2001, Armstrong township reported 19,000 acres of cropland and 30% of the total dairy farms in Temiskaming. In Canada, dairy farms operate under a supply management system and they typically generate higher and more stable farm incomes compared to other farm types.¹⁵

Table 4.21 Total Gross Farm Receipts for Temiskaming District, Northern Ontario and Ontario, 1985-2000^a

	1985	1990	1995	2000
Ontario	\$5,511,666,761	\$6,671,452,382	\$7,778,476,483	\$9,115,454,790
Northern Ontario	\$112,651,008	\$138,602,178	\$151,786,040	\$162,099,250
Temiskaming District	\$25,533,096	\$30,622,966	\$36,399,900	\$44,163,495
Temiskaming Farm Receipts as a % of Ontario	0.5%	0.5%	0.5%	0.5%
Temiskaming Farm Receipts as a % of Northern Ontario	22.7%	22.1%	24.0%	27.2%

^a Farm receipts excluding forest products sold.

Source: Statistics Canada, 1986, 1991, 1996, 2001.

¹⁵ Supply management is a system used by certain agricultural commodity groups to ensure a stable supply of products. The system also promotes stable farm incomes. The producers control the amount of product they produce, and pay a fee (a levy) on all their production to fund the administration and marketing expenses of their provincial commodity boards and national agency. Milk, poultry and egg production all use supply management controls to regulate domestic production (National Farm Products Council, May 2003).

Table 4.22 Total Gross Farm Receipts for Temiskaming District and Townships, 1990-2000 ^a

	1990			1995			2000		
	# of farms	Total farm receipts	% of total District receipts	# of farms	Total farm receipts	% of total District receipts	# of farms	Total farm receipts	% of total District receipts
Temiskaming District	547	\$30,622,966	100%	589	\$36,399,900	100%	532	\$44,163,495	100%
Haileybury	24	N/A	-	29	\$393,413	1.1%	20	\$292,133	0.7%
Harris	21	\$765,558	2.5%	26	\$689,528	1.9%	23	\$1,050,497	2.4%
Dymond ^b	60	\$3,102,112	10.1%	38	\$3,870,303	10.6%	35	\$3,734,300	8.5%
Hudson	33	\$1,211,700	4.0%	37	\$1,574,474	4.3%	32	\$1,811,708	4.1%
Kerns	61	\$3,441,694	11.2%	59	\$3,840,079	10.5%	51	\$4,371,985	9.9%
Harley	34	\$1,127,199	3.7%	39	\$897,254	2.5%	32	\$2,084,795	4.7%
Casey	30	\$3,105,751	10.1%	33	\$3,777,248	10.4%	26	\$4,210,569	9.5%
Brethour	20	\$1,060,557	3.5%	21	\$859,770	2.4%	27	\$1,340,334	3.0%
Hilliard	32	\$2,083,385	6.8%	32	\$2,771,779	7.6%	37	\$2,620,780	5.9%
Armstrong	43	\$6,475,766	21.1%	46	\$8,159,017	22.4%	34	\$10,683,159	24.2%
Dack ^b	50	\$2,152,570	7.0%	32	\$889,343	2.4%	34	\$1,543,987	3.5%
Evanturel	32	\$1,469,600	4.8%	32	\$2,824,055	7.8%	27	\$2,936,927	6.7%
Chamberlain	19	N/A	-	24	\$1,028,622	2.8%	25	\$1,778,392	4.0%
UO, West Part	133	\$4,627,074	15.1%	141	\$4,825,015	13.3%	129	\$5,703,929	12.9%

N/A denotes that too few farms have reported data in the Census Consolidated Subdivision to ensure confidentiality.

^a Farm receipts excluding forest products sold.

^b Due to confidentiality constraints, data for census consolidated subdivisions (CCSs) with very few farms were combined with data from adjacent areas. In 1991, data for Haileybury was combined with Dymond and data for Chamberlain was combined with Dack.

Source: Statistics Canada, 1991, 1996, 2001

Average gross farm receipts per acre of farmland for 1990 to 2000 are presented in Table 4.23. Total average receipts per acre of farmland for Temiskaming are higher than the northern Ontario average but lower than the provincial average. Farm receipts in Temiskaming averaged \$206 per acre in 2000, compared to \$160 per acre for all of northern Ontario and \$675 for Ontario. Within the District, farms in Armstrong township had the highest average sales per acre of farmland at \$475 followed by Casey township at \$329, Evanturel township at \$275 and Dymond township at \$271. Additional details of farm receipts at the township level are presented in Table 4.24 and Map 4.2.

Table 4.23 Average Farm Receipts per Farm and per Acre of Farmland in Temiskaming District, Northern Ontario and Ontario, 1990-2000

	Total farms	Total farm receipts	Average receipts per farm	Total farmland area (acres)	Average receipts per acre
2000					
Ontario	59,728	\$9,115,454,790	\$152,616	13,507,357	\$675
Northern Ontario	2,635	\$162,099,250	\$61,518	1,012,026	\$160
Temiskaming District	532	\$44,163,495	\$83,014	214,835	\$206
1995					
Ontario	67,520	\$7,778,476,483	\$115,203	13,879,565	\$560
Northern Ontario	2,915	\$151,786,040	\$52,071	1,025,190	\$148
Temiskaming District	589	\$36,399,900	\$61,799	210,033	\$173
1990					
Ontario	68,633	\$6,671,452,382	\$97,205	13,470,653	\$495
Northern Ontario	2,908	\$138,602,178	\$47,662	1,017,293	\$136
Temiskaming District	547	\$30,622,966	\$55,983	191,528	\$160

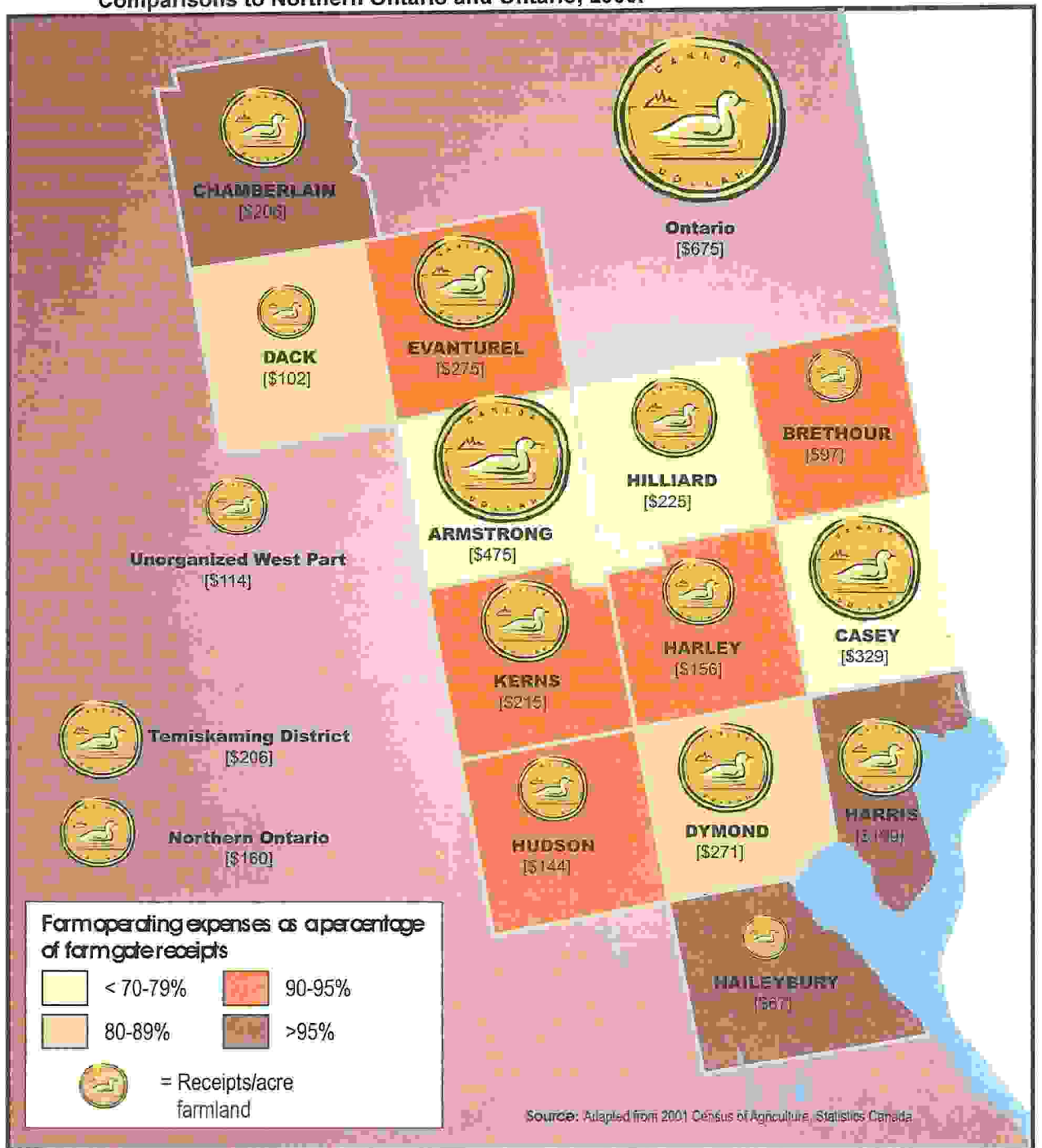
Source: Statistics Canada, 1990, 1996, 2001

Table 4.24 Average Farm Receipts per Farm and per Acre of Farmland in Temiskaming District and Townships, 2000

	Total farms	Total farm receipts	Average receipts per farm	Total farmland area (acres)	Average receipts per acre
Temiskaming District	532	\$44,163,495	\$83,014	214,835	\$206
Haileybury	20	\$292,133	\$14,607	4,373	\$67
Harris	23	\$1,050,497	\$45,674	5,284	\$199
Dymond	35	\$3,734,300	\$106,694	13,782	\$271
Hudson	32	\$1,811,708	\$56,616	12,555	\$144
Kerns	51	\$4,371,985	\$85,725	20,289	\$215
Harley	32	\$2,084,795	\$65,150	13,332	\$156
Casey	26	\$4,210,569	\$161,945	12,791	\$329
Brethour	27	\$1,340,334	\$49,642	13,884	\$97
Hilliard	37	\$2,620,780	\$70,832	11,668	\$225
Armstrong	34	\$10,683,159	\$314,211	22,512	\$475
Dack	34	\$1,543,987	\$45,411	15,211	\$102
Evanturel	27	\$2,936,927	\$108,775	10,669	\$275
Chamberlain	25	\$1,778,392	\$71,136	8,624	\$206
UO, West Part	129	\$5,703,929	\$44,217	49,861	\$114

Source: Statistics Canada, 2001

Map 4.2 Gross Farm Receipts per acre of Farmland and Farm Operating Expenses as a Percentage of Total Gross Farm Receipts in Temiskaming District and Townships with Comparisons to Northern Ontario and Ontario, 2000.

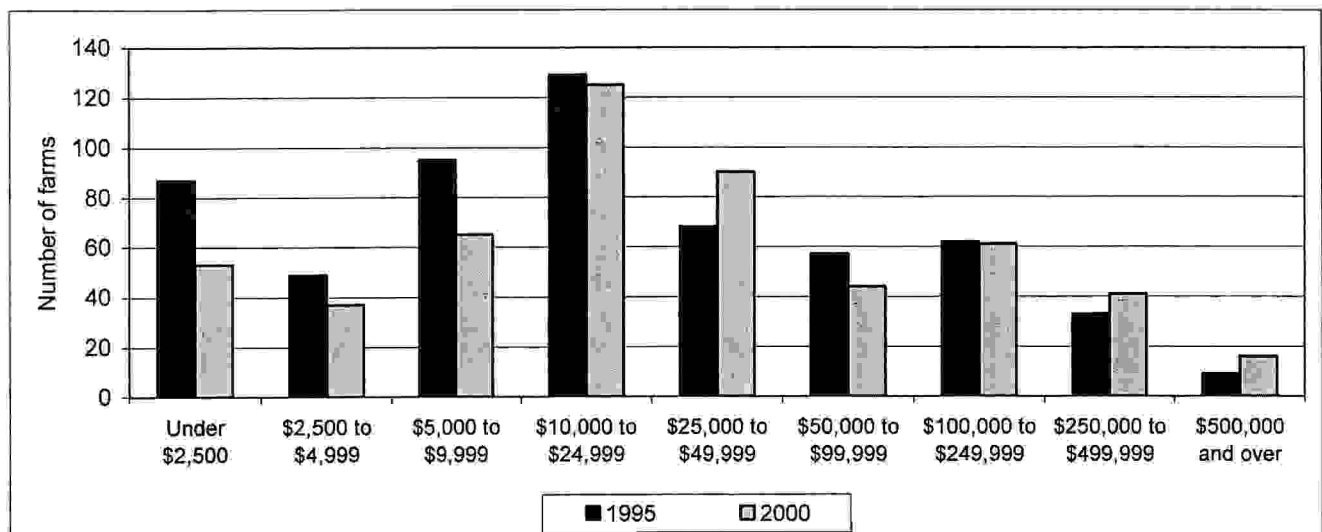


Dollar coins are used to illustrate the relative difference in average gross farm receipts generated per acre of farmland at the township level. The actual average value is presented beneath the name of each township. The overall average for Temiskaming District, Northern Ontario and Ontario are also presented for comparison. Each township is colour-coded to represent the level of average farm profitability at the township level i.e. total farm operating expenses as a percentage of total farm gate receipts.

Average gross farm receipts per farm for 1990 to 2000 are presented in Table 4.23. Total receipts per farm in Temiskaming District are, on average, higher than other parts of northern Ontario but lower than the provincial average. Farms in Temiskaming averaged \$83,000 in gross farm gate sales in 2000, compared to \$61,500 per farm in northern Ontario and \$152,600 per farm in Ontario. Within the District, farms in Armstrong township had the highest average total sales per farm at \$314,200 followed by Casey township at \$161,900, Evanturel township at \$108,800 and Dymond township at \$106,700 (Table 4.24). The remaining townships in Temiskaming District all reported less than \$100,000 per farm in total farm receipts.

Approximately 22% of the farms (118) in Temiskaming District reported total gross farm receipts of \$100,000 or more in 2000. Close to 25% of the farms (125) in Temiskaming reported total gross farm receipts between \$10,000 and \$24,999 and 39% of the farms (155) reported total receipts under \$10,000 (Figure 4.6). The number of farms reporting less than \$10,000 in total gross farm receipts declined by 76 farms or 33% between 1995 and 2000 while the number of farms reporting more than \$100,000 in total receipts increased by 14 farms or 13.5%. This trend is consistent with the provincial trend where smaller farms are being consolidated into larger farms.

Figure 4.6 Distribution of Farms in Temiskaming District by Total Gross Receipts Category, 1995-2000



Source: Statistics Canada, 1996, 2001

Total farm operating expenses in Temiskaming District amounted to \$37.7 million in 2000 (Table 4.25). This represents 26% of the total farm operating expenses reported for northern Ontario. At the township level, farms in Armstrong reported \$7.8 million in total operating expenses or 20% of the total operating expenses for the District (Table 4.26). The high level of operating expenses in Armstrong is likely associated with the prevalence of crop and dairy farming in the area.

Table 4.25 Total Farm Operating Expenses for Temiskaming District, Northern Ontario and Ontario, 1985-2000

	1985	1990	1995	2000
Ontario	\$4,711,942,124	\$5,462,588,275	\$6,545,516,325	\$7,829,246,574
Northern Ontario	\$101,084,005	\$116,211,580	\$133,749,010	\$144,039,757
Temiskaming District	\$23,549,672	\$26,416,081	\$36,399,900	\$37,693,440
Temiskaming Farm Receipts as a % of Ontario	0.5%	0.5%	0.6%	0.5%
Temiskaming Farm Receipts as a % of Northern Ontario	23.3%	22.7%	27.2%	26.2%

Source: Statistics Canada, 1986, 1991, 1996, 2001.

Table 4.26 Total Farm Operating Expenses for Temiskaming District and Townships, 1990-2000

	1990			1995			2000		
	# of farms	Total farm expenses	% of total District expenses	# of farms	Total farm expenses	% of total District expenses	# of farms	Total farm expenses	% of total District expenses
Temiskaming District	547	\$26,416,081	100%	589	\$31,488,609	100%	532	\$37,693,440	100%
Haileybury	24	N/A	-	29	\$439,862	1.4%	20	\$476,385	1.3%
Harris	21	\$586,658	2.2%	26	\$801,577	2.5%	23	\$1,006,484	2.7%
Dymond ^a	60	\$2,731,390	10.3%	38	\$3,817,902	12.1%	35	\$3,302,853	8.8%
Hudson	33	\$956,067	3.6%	37	\$1,324,507	4.2%	32	\$1,632,480	4.3%
Kerns	61	\$2,896,599	11.0%	59	\$3,450,856	11.0%	51	\$3,977,537	10.6%
Harley	34	\$1,227,477	4.6%	39	\$985,002	3.1%	32	\$1,982,310	5.3%
Casey	30	\$2,574,328	9.7%	33	\$2,987,663	9.5%	26	\$3,133,659	8.3%
Brethour	20	\$1,011,250	3.8%	21	\$872,515	2.8%	27	\$1,247,696	3.3%
Hilliard	32	\$1,682,250	6.4%	32	\$1,982,207	6.3%	37	\$2,021,687	5.4%
Armstrong	43	\$4,953,807	18.8%	46	\$5,841,410	18.6%	34	\$7,804,238	20.7%
Dack ^a	50	\$1,971,259	7.5%	32	\$872,523	2.8%	34	\$1,453,628	3.9%
Evanturel	32	\$1,343,278	5.1%	32	\$2,126,658	6.8%	27	\$2,369,999	6.3%
Chamberlain	19	N/A	-	24	\$1,238,831	3.9%	25	\$1,764,145	4.7%
UO, West Part	133	\$4,481,718	17.0%	141	\$4,747,096	15.1%	129	\$5,520,339	14.6%

N/A denotes that too few farms have reported data in the Census Consolidated Subdivision to ensure confidentiality.

^a Due to confidentiality constraints, data for census consolidated subdivisions (CCSs) with very few farms were combined with data from adjacent areas. In 1991, data for Haileybury was combined with Dymond and data for Chamberlain was combined with Dack.

Source: Statistics Canada, 1991, 1996, 2001

In examining the distribution of farm operating expenses by expense category we find that 29% of total operating expenses (\$10.9 million) in Temiskaming District are tied to livestock and poultry related expenses including feed purchases, livestock and poultry purchases, and veterinary services (Table 4.27). This is comparable to the provincial profile where livestock related expenses account for 30% of total farm operating expenses (Figure 4.8). Equipment and building repairs represent the next largest single expense category in the District at \$4.1 million (11% of total operating expenses) followed by wages and salaries at \$3.8 million (10%). As shown in Figure 4.7, livestock expenses experienced the greatest total increase between 1995 and 2000 with an increase of \$3 million.

Table 4.27 Farm Operating Expenses by Expense Category for Temiskaming District, Northern Ontario and Ontario, 2000 (\$'000)

	Total crop expenses ^a	Total livestock expenses ^b	Total wages and salaries ^c	All fuel expenses (diesel, gasoline, oil, wood, natural gas, etc.)	Equipment and building repairs and maintenance	Electricity, telephone and all other tele-comm. services	Farm interest expenses	Other expenses ^d
Ontario	\$1,001,112	\$2,489,182	\$1,118,177	\$417,469	\$563,816	\$224,100	\$523,219	\$1,584,407
Northern Ontario	\$12,691	\$37,935	\$21,179	\$12,131	\$15,820	\$6,472	\$11,645	\$28,810
Temiskaming District	\$3,637	\$10,953	\$3,839	\$3,008	\$4,096	\$1,708	\$3,664	\$7,558

^a Crop expenses includes fertilizer and lime, seed and plant purchases, herbicides, pesticides, etc.

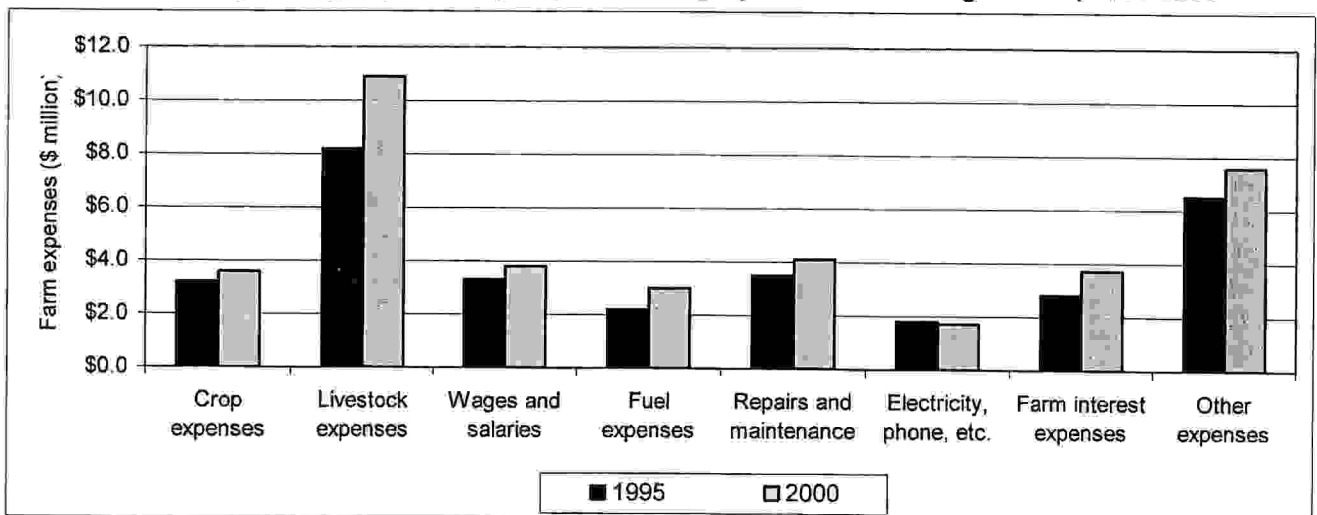
^b Livestock expenses includes feed purchases (including feed purchases from other farmers), livestock and poultry purchases, veterinary services, etc.

^c Wages includes wages and salaries paid to family members

^d Other expenses includes rental and leasing of farm machinery, equipment and vehicles; rental and leasing of land and buildings; custom work and contract work; and other expenses. It excludes depreciation and capital cost allowance.

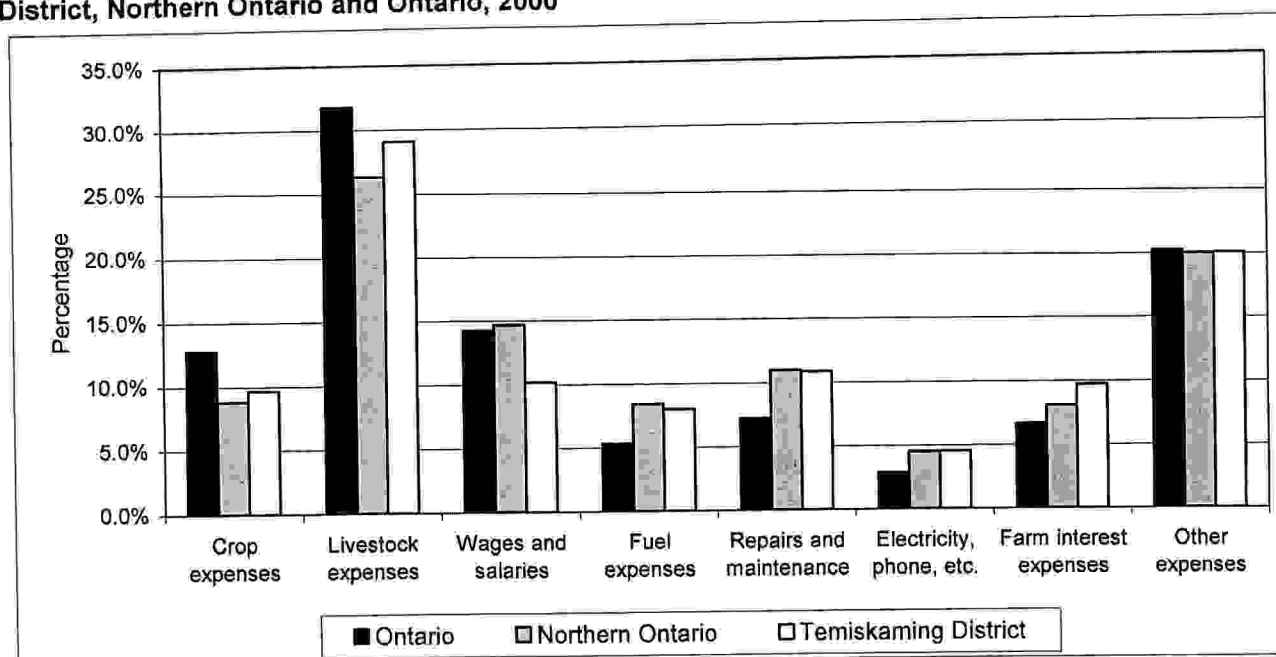
Source: Statistics Canada, 2001

Figure 4.7 Farm Operating Expenses by Expense Category for Temiskaming District, 1995-2000



Source: Statistics Canada, 1996, 2001

Figure 4.8 Distribution of Total Expenses by Farm Operating Expense Category for Temiskaming District, Northern Ontario and Ontario, 2000



Source: Statistics Canada, 2001

Operating expenses per farm in Temiskaming District are on average, higher than the northern Ontario average but substantially lower than the Ontario average. Farms in Temiskaming had an average of \$70,852 in expenditures in 2000, compared to \$54,664 per farm in northern Ontario and \$131,082 in Ontario (Table 4.28). At the township level average expenses per farm ranged from \$229,500 in Armstrong to \$23,800 in Haileybury (Table 4.29).

Table 4.28 Average Farm Operating Expenses per Farm and per Acre of Farmland in Temiskaming District, Northern Ontario and Ontario, 1990-2000

	Total farms	Total farm expenses	Average expenses per farm	Total farmland area (acres)	Average expenses per acre
2000					
Ontario	59,728	\$7,829,246,574	\$131,082	13,507,357	\$580
Northern Ontario	2,635	\$144,039,757	\$54,664	1,012,026	\$142
Temiskaming District	532	\$37,693,440	\$70,852	214,835	\$175
1995					
Ontario	67,520	\$6,545,516,325	\$96,942	13,879,565	\$472
Northern Ontario	2,915	\$133,749,010	\$45,883	1,025,190	\$130
Temiskaming District	589	\$31,488,609	\$53,461	210,033	\$150
1990					
Ontario	68,633	\$5,462,588,275	\$79,591	13,470,653	\$406
Northern Ontario	2,908	\$116,211,580	\$39,963	1,017,293	\$114
Temiskaming District	547	\$26,416,081	\$48,293	191,528	\$138

Source: Statistics Canada, 1991, 1996, 2001.

Table 4.29 Average Farm Operating Expenses per Farm and per Acre of Farmland in Temiskaming District and Townships, 2000

	Total farms	Total farm expenses	Average expenses per farm	Total farmland area (acres)	Average expenses per acre
Temiskaming District	532	\$37,693,440	\$70,852	214,835	\$175
Haileybury	20	\$476,385	\$23,819	4,373	\$109
Harris	23	\$1,006,484	\$43,760	5,284	\$190
Dymond	35	\$3,302,853	\$94,367	13,782	\$240
Hudson	32	\$1,632,480	\$51,015	12,555	\$130
Kerns	51	\$3,977,537	\$77,991	20,289	\$196
Harley	32	\$1,982,310	\$61,947	13,332	\$149
Casey	26	\$3,133,659	\$120,525	12,791	\$245
Brethour	27	\$1,247,696	\$46,211	13,884	\$90
Hilliard	37	\$2,021,687	\$54,640	11,668	\$173
Armstrong	34	\$7,804,238	\$229,536	22,512	\$347
Dack	34	\$1,453,628	\$42,754	15,211	\$96
Evanturel	27	\$2,369,999	\$87,778	10,669	\$222
Chamberlain	25	\$1,764,145	\$70,566	8,624	\$205
UO, West Part	129	\$5,520,339	\$42,793	49,861	\$111

Source: Statistics Canada, 2001.

In 2000, total net farm revenue in Temiskaming amounted to \$6.5 million or 36% of the total net farm revenue reported in northern Ontario. The average net revenue per farm in Temiskaming was \$12,162 in 2000 - almost twice as high as the average for northern Ontario (Table 4.30). At the township level, Armstrong reported a total of \$2.8 million in net farm revenue or 44.5% of the total net revenue for the District. Casey township reported the next highest level of total net revenue at just over \$1 million. In 2000, all of the townships reported positive total net farm revenues with the exception of Haileybury which reported a negative total net revenue of \$184,252 (Table 4.30). In contrast, 5 townships including Haileybury, Harris, Harley, Brethour and Chamberlain reported negative total net revenues in 1995.

Table 4.30 Total Net Farm Revenue and Net Revenue per Farm and per Acre of Farmland in Ontario, Northern Ontario and Temiskaming District and Townships, 1995 and 2000

	Total gross farm receipts	Total farm operating expenses	Total net farm revenue	Net revenue per farm	Net revenue per acre of farmland
2000					
Ontario	\$9,115,454,790	\$7,829,246,574	\$1,286,208,216	\$21,534	\$95
Northern Ontario	\$162,099,250	\$144,039,757	\$18,059,493	\$6,854	\$18
Temiskaming District	\$44,163,495	\$37,693,440	\$6,470,055	\$12,162	\$30
Haileybury	\$292,133	\$476,385	-\$184,252	-\$9,213	-\$42
Harris	\$1,050,497	\$1,006,484	\$44,013	\$1,914	\$8
Dymond	\$3,734,300	\$3,302,853	\$431,447	\$12,327	\$31
Hudson	\$1,811,708	\$1,632,480	\$179,228	\$5,601	\$14
Kerns	\$4,371,985	\$3,977,537	\$394,448	\$7,734	\$19
Harley	\$2,084,795	\$1,982,310	\$102,485	\$3,203	\$8
Casey	\$4,210,569	\$3,133,659	\$1,076,910	\$41,420	\$84
Brethour	\$1,340,334	\$1,247,696	\$92,638	\$3,431	\$7
Hilliard	\$2,620,780	\$2,021,687	\$599,093	\$16,192	\$51
Armstrong	\$10,683,159	\$7,804,238	\$2,878,921	\$84,674	\$128
Dack	\$1,543,987	\$1,453,628	\$90,359	\$2,658	\$6
Evanturel	\$2,936,927	\$2,369,999	\$566,928	\$20,997	\$53
Chamberlain	\$1,778,392	\$1,764,145	\$14,247	\$570	\$2
UO, West Part	\$5,703,929	\$5,520,339	\$183,590	\$1,423	\$4
1995					
Ontario	\$7,778,476,483	\$6,545,516,325	\$1,232,960,158	\$18,261	\$89
Northern Ontario	\$151,786,040	\$133,749,010	\$18,037,030	\$6,188	\$18
Temiskaming District	\$36,399,900	\$31,488,609	\$4,911,291	\$8,338	\$23
Haileybury	\$393,413	\$439,862	-\$46,449	-\$1,602	-\$12
Harris	\$689,528	\$801,577	-\$112,049	-\$4,310	-\$13
Dymond	\$3,870,303	\$3,817,902	\$52,401	\$1,379	\$4
Hudson	\$1,574,474	\$1,324,507	\$249,967	\$6,756	\$26
Kerns	\$3,840,079	\$3,450,856	\$389,223	\$6,597	\$18
Harley	\$897,254	\$985,002	-\$87,748	-\$2,250	-\$10
Casey	\$3,777,248	\$2,987,663	\$789,585	\$23,927	\$57
Brethour	\$859,770	\$872,515	-\$12,745	-\$607	-\$1
Hilliard	\$2,771,779	\$1,982,207	\$789,572	\$24,674	\$58
Armstrong	\$8,159,017	\$5,841,410	\$2,317,607	\$50,383	\$106
Dack	\$889,343	\$872,523	\$16,820	\$526	\$1
Evanturel	\$2,824,055	\$2,126,658	\$697,397	\$21,794	\$58
Chamberlain	\$1,028,622	\$1,238,831	-\$210,209	-\$8,759	-\$26
UO, West Part	\$4,825,015	\$4,747,096	\$77,919	\$553	\$2

Source: Statistics Canada, 1996, 2001.

4.10 Value Added

Value added is the unique business contribution to value for the sector being reviewed. It is the net of value added counted previously for components that are inputs to the sector.

One way to calculate value added in agriculture is to take the gross farm receipts and subtract operating expenses (except wages, interest, rent and property taxes) (Wolfe, Statistics Canada 1999). Total gross margin (the profit) is also included in value added. Total gross margin is the gross farm receipts minus operating expenses. These last items are not subtracted because they represent the value of labour and capital added to the original "inputs" into the commodity.

Each step in the value-added chain uses capital and labour to create employment. Consequently, the more "value" that is added to a product before final sale or export, the better it is for the economy, provided, of course, that demand is there. Adding value to a product is often translated into job creation and is viewed as essential to a flourishing economy.

Farming in Temiskaming District produces a variety of goods such as grains, livestock, and dairy products. Because labour and other agricultural and non-agricultural goods such as seed, forage, fertilizer and technology are required to produce these goods, farming makes a considerable contribution to the District's total value added.

As shown in Table 4.31, the total value added component for agriculture in Temiskaming District amounted to \$19.5 million in 2000. This translates into 44 cents of value added per dollar of gross farm receipts. The average value added component per farm associated with Temiskaming farms is almost \$10,000 higher than the northern Ontario average.

Table 4.31 Value Added Agriculture in Temiskaming District and Townships, Northern Ontario and Ontario, 2000

	Total farms	Total farm receipts	Total farm operating expenses ^a	Total agriculture value added ^b	Value added per farm
Ontario	59,728	\$9,115,454,790	\$5,027,773,660	\$4,087,681,130	\$68,438
Northern Ontario	2,635	\$162,099,250	\$88,232,725	\$73,866,525	\$28,033
Temiskaming District	532	\$44,163,495	\$24,654,238	\$19,509,257	\$36,672
Haileybury	20	\$292,133	N/A	N/A	N/A
Harris	23	\$1,050,497	N/A	N/A	N/A
Dymond	35	\$3,734,300	\$2,232,045	\$1,502,255	\$42,922
Hudson	32	\$1,811,708	N/A	N/A	N/A
Kerns	51	\$4,371,985	\$2,837,288	\$1,534,697	\$30,092
Harley	32	\$2,084,795	N/A	N/A	N/A
Casey	26	\$4,210,569	\$1,891,135	\$2,319,434	\$89,209
Brethour	27	\$1,340,334	N/A	N/A	N/A
Hilliard	37	\$2,620,780	N/A	N/A	N/A
Armstrong	34	\$10,683,159	\$4,724,913	\$5,958,246	\$175,243
Dack	34	\$1,543,987	N/A	N/A	N/A
Evanturel	27	\$2,936,927	\$1,561,444	\$1,375,483	\$50,944
Chamberlain	25	\$1,778,392	N/A	N/A	N/A
UO, West Part	129	\$5,703,929	\$3,737,480	\$1,966,449	\$15,244

N/A denotes that too few farms have reported data in the Census Consolidated Subdivision to ensure confidentiality.

^a Total farm operating expenses excluding wages, interest, rent and property taxes.

^b Total Agriculture value added = (Total farm receipts – Total farm operating expenses excluding wages, interest, rent and property taxes).

Adapted from Statistics Canada, 2001.

The measure of value added can differ depending on the farm type. With an average 60 cents of value added per dollar of gross farm receipts, tobacco farms have the highest share (i.e. they use the most labour and capital but fewer inputs) among all farm types, while beef farms rank last (21 cents) (Wolfe, Statistics Canada 1999). When comparing the value added for every dollar in gross farm receipts between beef farms and dairy farms for example, the value-added figures are very different. Producing cattle for slaughter usually requires less capital and labour. In contrast, dairy farms are far more labour and capital (equipment and machinery) intensive. On dairy farms, labour and expensive milking equipment are essential. Another major difference between beef and dairy operations is that beef operations work in an open market, whereas dairy operators work within a supply management system which controls production and price levels.

As shown earlier in this report, dairy farms account for over 15% of all farms in Temiskaming District which is higher than the provincial average. The concentration of dairy farms in Temiskaming is an important factor in contributing to the total value added estimate of \$19.5 million for the District.

4.11 Farm Capital

In 2000, Temiskaming District reported \$241.7 million in total farm capital, which represents 23% of the northern Ontario total (Table 4.32). Within the District, Armstrong township had the highest ranking for value of farm capital at \$34 million, followed by Kerns at \$26.5 million and Casey at \$17.5 million. These three municipalities combined account for 32% of the District's total farm capital value. The Unorganized West Part reported a total of \$47 million in farm capital or 19% of the District's total farm capital.

On a per farm basis, Armstrong was the top ranking township in Temiskaming with an average farm capital value of \$1 million (Table 4.32). Casey was the next highest ranking township at \$675,726 per farm followed by Kerns at \$520,958 per farm. The average farm capital value for farms in Temiskaming was \$50,000 higher than the northern Ontario average but substantially lower than the provincial average. The concentration of livestock in certain parts of the District is a major factor influencing the high average farm capital values. The cost of modern livestock facilities can easily exceed half a million dollars. In the dairy sector, milk parlors alone range in cost from \$100,000 to \$300,000 depending on the size of the herd and the type of automated equipment (Hyde et al., 2002. p.4).

Table 4.32 Total Farm Capital for Temiskaming District and Townships, Northern Ontario and Ontario, 1995 and 2000.¹⁶

	1995			2000		
	Farms reporting	Total farm capital (market value)	Farm capital per farm	Farms reporting	Total farm capital (market value)	Farm capital per farm
Ontario	67,520	\$40,860,936,035	\$605,168	59,728	\$50,529,783,505	\$845,998
Northern Ontario	2,915	\$1,022,746,952	\$350,857	2,635	\$1,058,812,514	\$401,826
Temiskaming District	589	\$219,354,509	\$372,419	532	\$241,752,256	\$454,422
Haileybury	29	\$5,043,670	\$173,920	20	\$5,198,063	\$259,903
Harris	26	\$7,932,482	\$305,095	23	\$8,119,725	\$353,032
Dymond	38	\$18,762,210	\$493,742	35	\$16,564,850	\$473,281
Hudson	37	\$9,370,208	\$253,249	32	\$12,954,847	\$404,839
Kerns	59	\$22,920,472	\$388,483	51	\$26,568,854	\$520,958
Harley	39	\$9,286,328	\$238,111	32	\$15,004,183	\$468,881
Casey	33	\$19,177,969	\$581,151	26	\$17,568,875	\$675,726
Brethour	21	\$5,351,725	\$254,844	27	\$10,310,718	\$381,878
Hilliard	32	\$14,627,471	\$457,108	37	\$14,604,171	\$394,707
Armstrong	46	\$27,932,947	\$607,238	34	\$34,159,486	\$1,004,691
Dack	32	\$11,896,327	\$371,760	34	\$13,597,119	\$399,915
Evanturel	32	\$16,397,370	\$512,418	27	\$12,021,834	\$445,253
Chamberlain	24	\$8,195,213	\$341,467	25	\$8,009,855	\$320,394
UO, West Part	141	\$42,460,118	\$301,136	129	\$47,069,676	\$364,881

Source: Statistics Canada, 1996, 2001.

¹⁶ Farm Capital includes the value of farm machinery, livestock and poultry, and land and buildings.

Table 4.33 Distribution of Farms by Farm Capital Category for Temiskaming District and Townships, Northern Ontario and Ontario, 2000

	Total number of farms	Under \$50,000	\$50,000 to \$99,999	\$100,000 to \$199,999	\$200,000 to \$349,999	\$350,000 to \$499,999	\$500,000 to \$999,999	\$1,000,000 to \$1,499,999	\$1,500,000 to \$1,999,999	\$2,000,000 and over
Ontario	59,728	402	1,164	6,794	13,791	9,453	15,060	5,698	2,618	4,748
Northern Ontario	2,635	40	167	679	770	384	440	92	25	38
Temiskaming District	532	7	34	124	135	74	120	19	7	12
Haileybury	20	1	1	6	8	2	2	0	0	0
Harris	23	0	1	6	6	6	4	0	0	0
Dymond	35	1	0	9	9	4	9	2	0	1
Hudson	32	1	3	8	9	3	7	0	0	1
Kerns	51	0	0	6	11	14	17	2	0	1
Harley	32	0	3	11	9	3	4	0	1	1
Casey	26	0	1	3	7	3	7	3	1	1
Brethour	27	0	3	9	4	6	3	1	1	0
Hilliard	37	1	1	9	14	2	8	2	0	0
Armstrong	34	1	1	0	2	6	13	4	2	5
Dack	34	0	3	9	9	2	8	3	0	0
Evanturel	27	0	2	3	8	4	9	1	0	0
Chamberlain	25	0	1	8	6	4	6	0	0	0
UO, West Part	129	2	14	37	33	15	23	1	2	1

Source: Statistics Canada, 2001.

4.12 Farm Operator Characteristics

In 2001, Temiskaming District reported 790 farm operators down from 865 operators in 1996 (Table 4.34).¹⁷ Seventy percent of all farm operators in Temiskaming are male and 30% are female - this compares to 73% and 27% respectively for the province. The average age of farm operators in the District is 50 years, which is comparable to the northern Ontario and provincial average of 51 years. However, at the township level there is considerable variation. Evanturel and Casey have the youngest farm operators with an average age of 46 while Chamberlain has the oldest farm operators with an average age of 55 years (Table 4.34).

¹⁷ In 2001, 1996 and 1991, "farm operators" was defined as those persons responsible for the day-to-day management decisions made in the operation of a census farm or agricultural operation. Up to three farm operators could be reported per farm. Prior to the 1991 Census of Agriculture, the farm operator referred to only one person responsible for the day-to-day decisions made in running an agricultural operation.

Table 4.34 Characteristics of Farm Operators – Gender and Age, 1996 and 2001.

	Total number of operators	Male	Female	Age			
				Under 35 years	35 to 54 years	55 years and over	Average age
2001							
Ontario	85,020	62,215	22,800	8,975	44,150	31,890	51
Northern Ontario	3,820	2,670	1,150	345	2,060	1,415	51
Temiskaming District	790	555	235	90	425	275	50
Haileybury	30	20	10	0	10	10	54
Harris	30	25	5	0	15	10	53
Dymond	50	35	20	5	30	15	48
Hudson	50	35	15	10	25	15	50
Kerns	80	55	20	10	35	25	50
Harley	50	35	10	10	30	15	50
Casey	45	30	10	5	25	10	46
Brethour	35	25	10	5	25	10	50
Hilliard	55	40	20	10	30	10	47
Armstrong	50	40	10	5	30	15	47
Dack	50	40	10	5	20	20	54
Evanturel	40	30	15	5	25	15	46
Chamberlain	35	30	10	0	15	20	55
UO, West Part	205	135	70	25	105	70	50
1996							
Ontario	96,940	71,050	25,895	13,835	49,000	34,105	49
Northern Ontario	4,180	3,010	1,170	575	2,190	1,415	49
Temiskaming District	865	615	245	135	465	270	48
Haileybury	40	25	10	5	15	20	51
Harris	35	30	10	5	20	15	50
Dymond	65	45	20	10	30	20	48
Hudson	55	40	20	10	25	20	50
Kerns	90	65	30	15	45	30	49
Harley	60	40	15	10	30	20	48
Casey	45	35	5	10	30	5	42
Brethour	30	20	10	10	15	10	47
Hilliard	50	35	10	5	25	20	48
Armstrong	80	50	25	15	45	20	45
Dack	45	35	10	5	25	15	51
Evanturel	45	30	10	5	30	10	49
Chamberlain	35	25	10	0	30	10	48
UO, West Part	195	140	55	30	110	65	48

Source: Statistics Canada, 1996, 2001.

Table 4.35 provides data on the types and number of farm operation arrangements in Temiskaming District, northern Ontario and Ontario between 1996 and 2001. Statistics Canada uses four general categories of operation arrangements including:

- Sole Proprietor farms which refer to one-person operations.
- Partnership farms which refer to farms operating with and without written agreements between the partners.
- Corporation farms which includes family and non-family farms.
- Other farms which include institution farms, community pastures and other types of farms that are not otherwise categorized.

The majority of farms in Temiskaming District, northern Ontario and Ontario continue to be managed under a sole proprietor operating arrangement (Table 4.35). In Temiskaming, sole proprietorship type farms account for 56% of all farms which is comparable to the provincial average but lower than the northern Ontario average of 63%. There was only a small change in the percentage of farms managed under a sole proprietorship arrangement in Temiskaming between 1996 and 2001. Additional details on farm operation arrangements at the township level are presented in Table 4.36.

Table 4.35 Farm Operating Arrangements for Temiskaming District, Northern Ontario and Ontario, 1996 and 2001

	Total number of farms	Sole proprietorship ^a	Partnership without a written agreement ^b	Partnership with a written agreement ^b	Family corporation ^c	Non-family corporation ^d	Other
2001							
Ontario	59,728	33,675	14,646	4,078	6,670	605	54
Northern Ontario	2,635	1,659	636	131	170	31	8
Temiskaming District	532	299	144	41	42	4	2
1996							
Ontario	67,520	38,465	5,834	15,242	6,972	937	70
Northern Ontario	2,915	1,820	223	616	210	41	5
Temiskaming District	589	341	62	137	41	7	1

^a Sole proprietorship operation: an agricultural operation where one person owns the non-incorporated business. The person who owns the business may or may not own the land, buildings, machinery, etc. There may be multiple operators (persons responsible for the day-to-day management decisions) such as husband and wife, father and son, etc.

^b Partnership with or without a written agreement: an agricultural operation where the business is owned and operated jointly by two or more persons with or without a written agreement and where risks and profits are shared. The partners may or may not own the land, buildings, machinery, etc.

^c Family corporation: an agricultural corporation in which an individual or family owns the majority of the corporation shares.

^d Non-family corporation: an agricultural corporation in which a group of unrelated individuals owns the majority of the corporation shares.

Source: Statistics Canada, 1996, 2001.

Table 4.36 Farm Operating Arrangements for Temiskaming District and Townships, 2001

	Total number of farms	Sole proprietorship	Partnership without a written agreement	Partnership with a written agreement	Family corporation	Non-family corporation	Other
Temiskaming District	532	299	144	41	42	4	2
Haileybury	20	16	4	0	0	0	0
Harris	23	15	5	2	1	0	0
Dymond	35	20	5	3	6	0	1
Hudson	32	22	7	1	1	1	0
Kerns	51	27	12	7	5	0	0
Harley	32	16	12	2	2	0	0
Casey	26	14	4	2	6	0	0
Brethour	27	17	7	3	0	0	0
Hilliard	37	23	10	1	3	0	0
Armstrong	34	16	7	6	4	1	0
Dack	34	17	15	1	1	0	0
Evanturel	27	12	7	5	2	1	0
Chamberlain	25	15	7	2	1	0	0
UO, West Part	129	69	42	6	10	1	1

Source: Statistics Canada, 2001.

Agriculture has experienced significant structural change over recent decades as farm size, intensity, capitalization and specialization have dramatically moved from traditional to industrial configurations. Agricultural restructuring refers to the adjustments that the farm community has made in order to cope with the changing and demanding economic, technological and market environments that have developed in the post-war period. Adjustments are made at the farm level as operators attempt to remain profitable (Parsons, 1999, p. 345). One of the more notable farm changes occurring with restructuring is the fact that many farm operators have taken off-farm work to supplement the inadequate returns they receive from commodities to cover the costs of their farm expenses. Farmers, in general, have not seen an increase in profits since 1996. Operating expenses have risen to all-time highs, offsetting the modest gains in cash receipts (Statistics Canada, *The Daily: Farmers Leaving the Field*, Feb. 22, 2002).

As shown in Table 4.37 and Figure 4.9, approximately 50% of all farm operators in Temiskaming District reported working off the farm in 2000. This is comparable to other regions of northern Ontario but slightly higher than the provincial average of 45%. Between 1995 and 2000 the proportion of Temiskaming farm operators working off the farm increased from 40% to 50%.

Off-farm job opportunities for farmers appear to have improved dramatically in recent years. National figures from 1998 to 2000 reveal that main-job employment rose in transportation (+11%), manufacturing (+12%), trade (+11%), health care and social assistance (+9%) and education (+4%) - the main industries in which farm operators and their spouses can apply their skills. Farmers' spouses and children are also moving to off-farm work. As a result, the number of people mainly employed in agriculture per

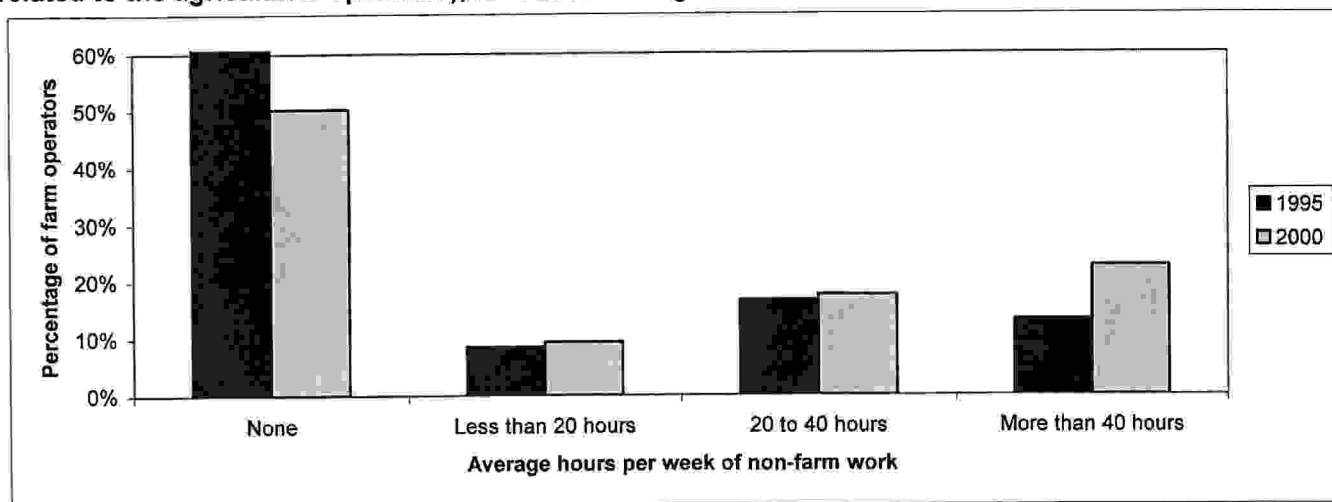
farming household has dropped. In 1998, in every 100 farming households, there were 143 people mainly employed on the farm. By 2001, this number had dropped to 131 (Statistics Canada, *The Daily: Farmers Leaving the Field*, Feb. 22, 2002).

Table 4.37 Number of Farm Operators by Average Hours Per Week of Non-farm Work (not related to the agricultural operation), for Temiskaming District and Townships, Northern Ontario and Ontario, 2000

	Total number of operators	Average hours per week spent working for the agricultural operation in 2000			Average hours per week of non-farm work (not related to the agricultural operation) in 2000				Percentage of farm operators working on the farm
		Less than 20	20 to 40	More than 40	None	Less than 20	20 to 40	More than 40	
Ontario	85,020	23,850	23,625	37,540	46,355	6,740	15,255	16,655	45.5
Northern Ontario	3,820	1,110	1,215	1,500	1,870	340	785	830	51.2
Temiskaming District	790	210	250	340	400	75	140	180	50.0
Haileybury	30	10	10	10	10	0	5	10	50.0
Harris	30	15	10	10	15	0	5	10	50.0
Dymond	50	20	15	20	20	5	10	15	60.0
Hudson	50	20	15	15	25	5	10	10	50.0
Kerns	80	20	25	35	45	10	10	15	43.8
Harley	50	15	20	15	20	5	15	10	60.0
Casey	45	5	15	25	30	0	5	0	11.1
Brethour	35	5	10	15	15	5	10	5	57.1
Hilliard	55	20	10	20	25	5	15	10	54.5
Armstrong	50	0	10	40	45	0	0	5	10.0
Dack	50	10	15	15	20	5	10	15	60.0
Evanturel	40	5	15	15	20	5	10	15	75.0
Chamberlain	35	5	20	15	20	0	5	10	42.9
UO, West Part	205	55	65	80	100	25	35	45	51.2

Source: Statistics Canada, 2001.

Figure 4.9 Percentage of Farm Operators by Average Hours Per Week of Non-farm Work (not related to the agricultural operation), for Temiskaming District 1995 and 2000



Source: Statistics Canada, 1996 and 2001.

4.13 Temiskaming District Compared to Témiscamingue (Quebec)

The 'little clay belt' that characterizes the agricultural region in Temiskaming District is part of a larger clay zone that surrounds Lake Temiskaming. Across the border in Quebec this clay zone takes in the Regional County Municipality (RCM) of Témiscamingue. Témiscamingue shares the same microclimate that benefits the agriculture sector Temiskaming District.

In 2001, Témiscamingue reported a total of 292 farms compared to 532 in Temiskaming. Both regions experienced a 9% decline in farm numbers between 1996 and 2001. Temiskaming District has a larger farmland base with 214,835 acres of farmland reported in 2001 compared to 167,851 acres in Témiscamingue. Between 1996 and 2001 Temiskaming reported an increase of 4,802 acres of farmland while Témiscamingue reported 4,325 fewer acres of farmland.

A larger percentage of the farmland base in Temiskaming is in crop production compared to Témiscamingue. While Témiscamingue reported 47% of its total farmland base in crop production, Temiskaming reported 55% of its farmland base in crop production. Both regions experienced an increase in the area of farmland reported in crop production between 1996 and 2001. However, the increase in cropland area reported in Temiskaming (11,671 acres) was almost three times as high as the increase reported in Témiscamingue (3,977 acres).

Although Témiscamingue has fewer farms and fewer acres of farmland reported, farms in Témiscamingue are on average larger than farms in Temiskaming. The average farm size in Témiscamingue is 575 acres compared to 404 acres in Temiskaming. The average farm size increased by 40-47 acres in both regions between 1996 and 2001.

As shown in Table 4.38, Temiskaming District reported approximately \$9.4 million more in total gross farm receipts than Témiscamingue between 1995 and 2000. Total average gross receipts per acre of farmland in Temiskaming District and Témiscamingue were very similar in 2000 at \$206-207 per acre.

In terms of operating expenses, Temiskaming District reported approximately \$9.4 million more in total expenses than Témiscamingue between 1995 and 2000. On a per acre basis Témiscamingue reported slightly lower farm operating expenses at \$168 per acre of farmland compared to \$175 per acre for Temiskaming District in 2000.

From a net farm revenue perspective, Témiscamingue reported approximately \$9 more in net revenue per acre of farmland than Temiskaming District in 2000. In 2000 Temiskaming District reported \$241.7 million in total farm capital compared to \$146.6 million in Témiscamingue. On a per acre basis Temiskaming District reported \$250 more in farm capital per acre of farmland than Témiscamingue in 2000.

Table 4.38 Agricultural Characteristics for Temiskaming District and RCM Témiscamingue (Quebec), 1996 and 2001

	Temiskaming District		Change 1996-2001	RCM Témiscamingue		Change 1996-2001
	1996	2001		1996	2001	
Total farm operators	865	790	-75	500	455	-45
Average age (years)	48	50	2	42.5	44.6	2
Total number of male farm operators	615	555	-60	330	310	-20
Male farm operators as a % of total	71.1%	70.3%	-0.8%	66.0%	68.1%	2.1%
Total number of female farm operators	245	235	-10	170	145	-25
Female farm operators as a % of total	28.3%	29.7%	1.4%	34.0%	31.9%	-2.1%
Total number of farms	589	532	-57	322	292	-30
Total area of farmland (acres)	210,033	214,835	4,802	172,176	167,851	-4,325
Total number of farm jobs per 1,000 acres of farmland	4.1	3.7	-0.4	2.9	2.7	-0.2
Average farm size	357	404	47	535	575	40
Total area of farmland in crop production (acres)	106,421	118,092	11,671	74,769	78,746	3,977
Percentage of total farmland in crop production	50.7%	55.0%	4.3%	43.4%	46.9%	3.5%
Total gross farm receipts (1995 and 2000)	\$36,399,900	\$44,163,495	\$7,763,595	\$31,880,067	\$34,758,108	\$2,878,041
Total gross farm receipts per acre of farmland	\$173	\$206	\$32	\$185	\$207	\$22
Total farm operating expenses (1995 and 2000)	\$31,488,609	\$37,693,440	\$6,204,831	\$24,012,617	\$28,212,414	\$4,199,797
Total farm operating expenses per acre of farmland	\$150	\$175	\$26	\$139	\$168	\$29
Total net farm revenue (1995 and 2000)	\$4,911,291	\$6,470,055	\$1,558,764	\$7,867,450	\$6,545,694	-\$1,321,756
Total net farm revenue per acre of farmland	\$23	\$30	\$7	\$46	\$39	-\$7
Total farm capital (1995 and 2000)	\$219,354,509	\$241,752,256	\$22,397,747	\$101,507,899	\$146,630,860	\$45,122,961
Total farm capital per acre of farmland	\$1,044	\$1,125	\$81	\$590	\$874	\$284

Source: Statistics Canada 1996 and 2001.

In 2000, Témiscamingue's 292 farms reported a total of 455 farm operators compared to 790 farm operators on 532 farms in Temiskaming District. This translates into approximately 1.5 farm operators per farm for both regions. On a per acre basis, Témiscamingue reported 2.7 farm operators per 1,000 acres of farmland in 2001. Temiskaming reported a higher number of farm operators at 3.7 farm operators per 1,000 acres of farmland – or one additional farm operator per 1,000 acres of farmland compared to Témiscamingue (Table 4.38).

Témiscamingue farmers are on average 5 years younger than farmers in Temiskaming District. The average age of a farmer in Témiscamingue in 2001 was 44.6 years compared to an average age of 50 years in Temiskaming District.

Both regions feature a diversity of different farm types. However the proportional representation of farm types varies between the two regions. In Témiscamingue, dairy farms make up the single largest category of farms accounting for over 35% of all farms in the region followed by beef farms at just under 30% and field crop farms at 15% (Table 4.39 and Figure 4.10). In Temiskaming District, beef farms make up the single largest category of farms accounting for over 40% of all farms in the region followed by field crop farms at 25% and dairy farms at 17%.

The size of the agricultural sector in Témiscamingue and its close proximity to the study area offers advantages for agri-related businesses in Temiskaming District. As demonstrated in Chapter 5 of this report, some agri-related businesses in Temiskaming are deriving a substantial amount of sales activity through farms located across the border in Quebec. The level of sales activity in areas outside of Temiskaming District provide an indication of the importance of the area as goods and service centre for farm operators in other regions.

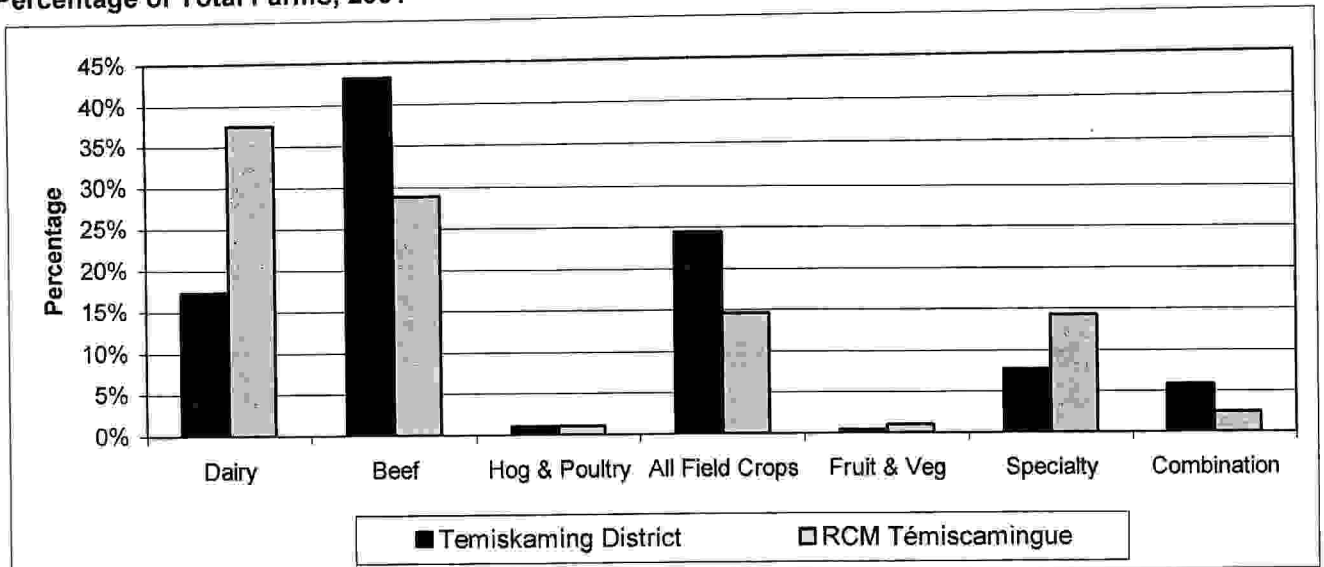
Table 4.39 Farm Types in Temiskaming District and RCM Témiscamingue (Quebec), 1996 and 2001 (number of farms)

Farm Type	Temiskaming District		Change 1996-2001	RCM Témiscamingue		Change 1996-2001
	1996	2001		1996	2001	
Total number of farms ^a	502	479	-23	311	280	-31
Dairy	98	83	-15	138	105	-33
Beef	147	207	60	91	81	-10
Hog	5	4	-1	2	3	1
Poultry and egg	4	1	-3	1	0	-1
Wheat	3	7	4	0	0	0
Grain and oilseed (except wheat)	38	41	3	5	7	2
Field crop (except grain and oilseed)	97	69	-28	30	34	4
Fruit	1	2	1	4	3	-1
Vegetable	1	0	-1	1	0	-1
Miscellaneous specialty	82	37	-45	36	40	4
Combination farms	26	28	2	3	7	4

^a Total number of farms reporting total gross farm receipts greater than \$2,499.

Source: Statistics Canada 1996 and 2001.

Figure 4.10 Farm Types in Temiskaming District and RCM Témiscamingue (Quebec) by Percentage of Total Farms, 2001



Source: Statistics Canada 2001

4.14 Summary

Characteristics and trends for the agriculture sector in Temiskaming District include the following:

- Temiskaming reported 532 farms and 214,835 acres of land being farmed in 2001.
- Between 1996 and 2001 the area of land being farmed in Temiskaming increased by 2.3% or 4, 802 acres – this is in contrast to declines in farmland reported in other parts of northern Ontario and the province as a whole.
- The average farm size in Temiskaming is 404 acres, which is considerably larger than the provincial average of 226 acres. Average farm size in Temiskaming increased by 15% or 54 acres between 1991 and 2001 which is consistent with the provincial trend.
- Temiskaming is the crop production heartland of northern Ontario. Over half of the total farmland area in Temiskaming (118,000 acres) is used for a wide range of cropping activities including grain, oilseeds and forage crop production.
- Approximately 61% of all farms in Temiskaming are primarily involved in livestock production, which is higher than the provincial average of 45%. Beef farms are the most common type of farm in Temiskaming followed by field crop farms, dairy farms and specialty farms which include bee colonies, nursery products, maple syrup, Christmas trees, etc.
- Temiskaming is the number one milk producing District in northern Ontario. In 2002 the region reported 38.7 million litres in milk shipments or 41% of the total milk production in northern Ontario.
- Temiskaming has a very productive agricultural sector. In 2000, the region reported \$44.2 million in total gross farm receipts which represents 27% of the total farm receipts for northern Ontario. Average farm receipts per acre of farmland in Temiskaming are 28% higher than the northern Ontario average.
- The total net farm revenue in Temiskaming amounted to \$6.5 million in 2000 or 36% of the total for northern Ontario. The total net farm revenue per acre of farmland amounted to \$30/acre which is 66% higher than the northern Ontario average. Some townships in Temiskaming reported net revenues/acre in excess of \$80/acre which is on par with the provincial average.
- The total value added component for agriculture in Temiskaming amounted to \$19.5 million in 2000. This translates into 44 cents of value added per dollar of gross farm receipts.
- Agriculture directly supports 745 jobs in Temiskaming consisting of farm managers and farm employees. The agriculture sector accounts for 4.7% of all jobs in Temiskaming compared to the provincial average of 1.8%. Agriculture accounts for more than 15% of all jobs in a number of townships including Kerns, Casey, Brethour, Armstrong, and Evanturel.

5.0 Agricultural Related Businesses and Economic Impact

5.1 Introduction

The economic impact of agriculture in Temiskaming District was measured through an accounting of the total sales and employment of Agriculture and Agriculture-related (agri-related) businesses located in Temiskaming District. This work involved an assessment of the direct, indirect and induced impacts of agriculture on the local economy. The methodology used was consistent with other agri-impact assessments completed across Ontario. An overview of the theory and applications associated with economic impact analysis is described in greater detail in Appendix B.

Direct Impacts

Data was taken from the 2001 Population Census of Canada and the 2001 Agricultural Census. This data yielded information on the economy of Temiskaming District including general labour trends. The direct impacts have been presented in earlier sections of this report. For the purposes of this study, direct impacts are the jobs and sales generated 'on the farm'.

Indirect Impacts

For the purposes of this study, indirect impacts are jobs and sales generated 'off the farm' by agri-related businesses which interact directly with farm operations through buying and selling products and services. It should be noted that 'agri-related' includes only those businesses that buy from or sell to the farm business; sales to farm families for personal consumption (e.g. household goods and services) are excluded from the indirect impact assessment, but are included later as induced impacts.

The research method used to measure the indirect impacts was a survey-based 'input-output-like' approach. This was completed through a telephone survey conducted between July and September 2003. The method and survey format was originally developed for use in a similar survey in Huron County in 1996 (Cummings, Morris and McLennan, 1998), and used again with some modifications (primarily translation into French) in the following parts of the province: Prescott, Russell, Stormont, Dundas and Glengarry Counties in eastern Ontario in 1998; Simcoe County, Lambton County and Perth County in 1999; Elgin, Middlesex, and Oxford Counties, Lanark and Renfrew Counties, and the New City of Ottawa in 2000; two northern Ontario studies that covered Nipissing, Parry Sound, East Sudbury District, City of Greater Sudbury, Algoma and Manitoulin in 2001; and Waterloo Region in 2003.

The methodology was designed to identify the value of gross sales and the jobs produced by a sample of agri-related businesses. From this sample, an estimate was produced for the total population of agriculture-related businesses in Temiskaming

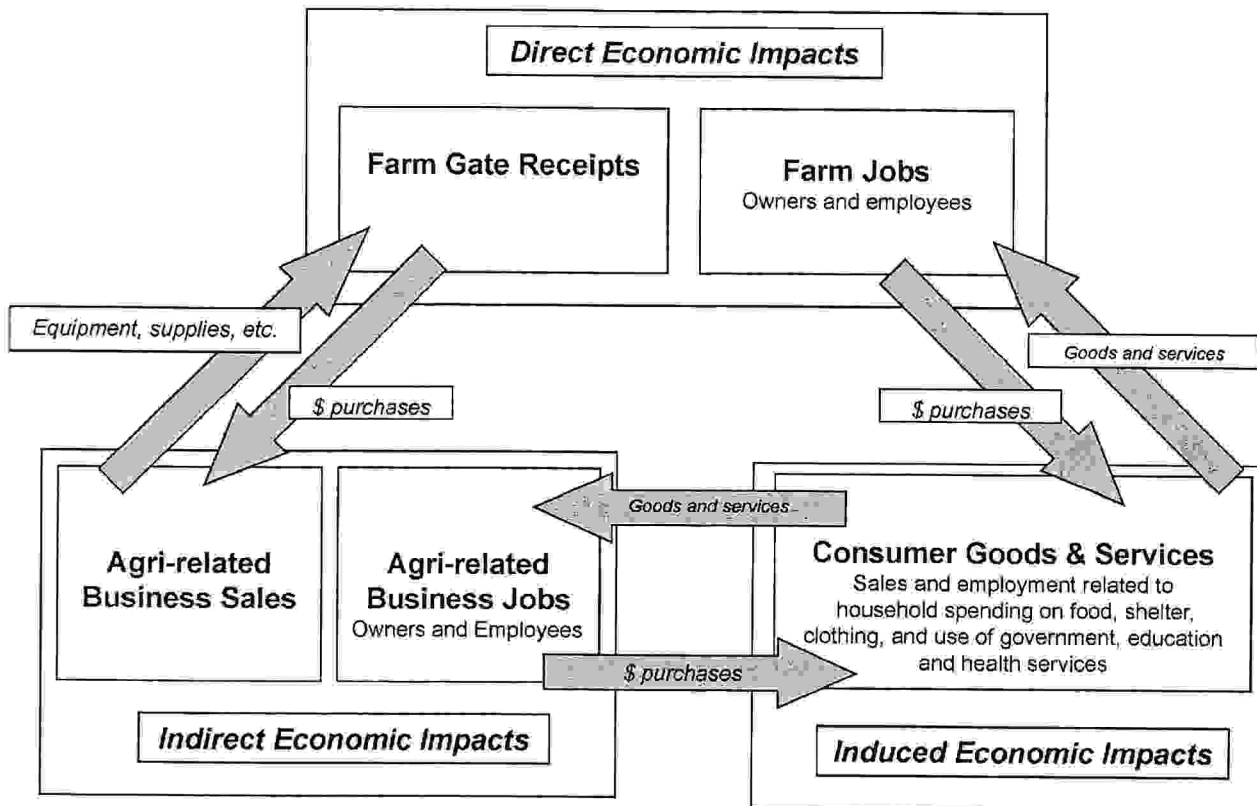
District. This in turn provided an estimate of the economic impact of agri-related businesses in Temiskaming District through indirect employment and sales.

Induced (Service Sector) Impacts

An examination of the induced effects of agriculture was conducted. Induced employment refers to jobs in the Education, Government, Health and Social service sectors that are supported by the people employed in the agricultural sector or in agri-related businesses that use the services provided by these three service industries. Population Census (2001) employment data from the agriculture and manufacturing sectors were compared to service sector jobs in the three sectors mentioned above to estimate the number of induced jobs in Temiskaming District.

Figure 5.1 illustrates the relationship between direct, indirect and induced economic linkages.

Figure 5.1 Tracking the Economic Impacts of the Agriculture Sector



While Figure 5.1 is useful in understanding key linkages in the agriculture sector, it does not reflect the overall complexity of the system. The system is really a multitude of interconnected loops between various sectors with each sector impacted by a host of inputs and outputs which in turn change the inputs and outputs of the other sectors in the system. The system is not a closed system, in addition to changes experienced within Temiskaming it is also impacted by change occurring elsewhere in the province, country and the world. Evidence of this can be seen in the effects of the world wide embargo that was placed on Canadian beef as the result of a single case of bovine spongiform encephalopathy (BSE or mad cow disease) in Alberta. Although regional figures are unavailable, Ontario's 21,000 beef producers were estimated to be losing about \$4 million per week during the BSE situation (Ontario Cattlemen's Association, September 2, 2003).

5.2 Agri-Related Business Survey and Indirect Economic Impacts

Development of the Business List and Survey Sample

The survey was based on a random sample of agri-related businesses in Temiskaming District. A list of agri-related businesses was developed by collecting business names and contact information from a number of sources including the Temiskaming Federation of Agriculture. A review of the Yellow Pages was also conducted and local newspapers were scanned.

Using the above process, a list of 202 agri-related businesses was compiled for Temiskaming District. The estimated number of agri-related businesses in the study area was further refined after contacting the first 100 businesses on the list and eliminating businesses that were either out of business, not related to agriculture, double-listed or had moved out of the study area. The final number of agri-related businesses in the study area was estimated at 175. In order to obtain a high level of confidence in the results (over 90% level of confidence), it was determined that at least 80 businesses would need to be surveyed. A total of 89 businesses were actually surveyed by random selection.

Location of Agriculture-related Businesses in the Survey

Agriculture-related businesses are located in rural areas, villages and towns across Temiskaming District. A large majority of agri-related businesses are located in New Liskeard. As shown in Table 5.1, approximately 65% of the agri-businesses surveyed in this study are located in New Liskeard. Earleton accounted for approximately 13.5% of the businesses surveyed while Englehart accounted for almost 8% of the businesses surveyed. Belle Vallee, Haileybury and Thornloe each accounted for 3.4% of the businesses surveyed. The remaining businesses surveyed are located in three different communities.

Table 5.1 Number of Agri-related Businesses Surveyed by Location in Temiskaming District

Town/Village	Number of businesses surveyed	Percentage of total businesses surveyed
New Liskeard	58	65.2%
Earlton	12	13.5%
Englehart	7	7.9%
Belle Vallee	3	3.4%
Haileybury	3	3.4%
Thornloe	3	3.4%
Elk Lake	1	1.1%
Kenabeek	1	1.1%
North Cobalt	1	1.1%
Total	89	100.0%

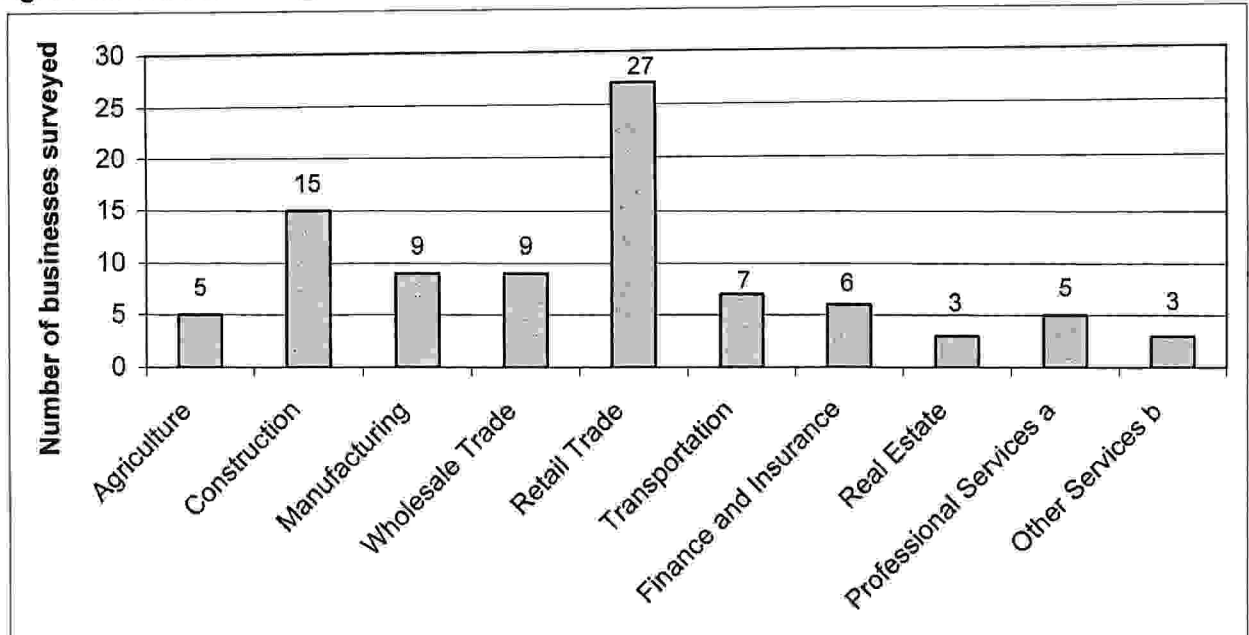
Source: Harry Cummings and Associates, 2003 Agri-business survey

Types of Businesses Surveyed

All of the businesses surveyed have a direct linkage with the agricultural sector in that they sell products or services directly to, and/or buy products or services directly from agricultural producers. These businesses also typically conduct trade with other sectors of the economy. The 89 surveyed businesses were categorized according to their primary activity, using the North American Industry Classification System (NAICS). This system separates Canadian businesses into twenty different industrial sectors such as Manufacturing, Retail Trade, and Agriculture and Related Service Industries.

As shown in Figure 5.2, businesses from 10 different industrial sectors were included in the survey. This indicates that the agriculture sector has linkages with many other sectors of the economy.

Figure 5.2 Number of Agri-related Businesses Surveyed by Industrial Sector



^a Professional Services includes accounting and tax services, legal services, etc.

^b Other Services includes custom welding services.

Source: Harry Cummings and Associates, 2003 Agri-business survey.

Several of the industrial sectors analysed in the study have comparatively stronger linkages with the agricultural sector. For example, a total of 27 businesses or 30% of the total businesses surveyed are in the Retail Trade sector. A total of 15 businesses or 17% of the businesses surveyed are in the Construction sector (includes electrical, plumbing, and heating contractors). Businesses in the Manufacturing sector and the Wholesale Trade sector each account for approximately 10% of the businesses surveyed.

With respect to total sales (agri-related and non-agri-related combined), 25 of the businesses surveyed reported \$1 million or more in annual gross sales while 18 businesses reported annual gross sales of under \$100,000. Statistics Canada classifies an industry with less than \$5 million in annual sales as a small business. A medium size business has sales between \$5 million and \$25 million per year. Business with annual sales above \$25 million are considered large. By this classification, agri-related businesses in Temiskaming District are generally small in size. Approximately 89% of the businesses surveyed (80 of 89) had sales under \$5 million.

Business Characteristics by Industrial Sector

During the course of the telephone survey, business managers were asked to provide information on the level of gross sales and employment associated with their business operation. They were also asked to estimate the percentage of sales related to the agriculture sector and to identify the location of their sales (i.e. within Temiskaming District, other areas of Ontario, Quebec/other provinces, international).

Businesses were asked to comment on any changes they've experienced over the past five years with respect to the number of people employed in their business. They were also asked if they expect the size of their workforce to change in the next five years. Additionally, businesses were asked to comment on any difficulties they've experienced in finding suitable employees from the local labour force. Finally, businesses were asked to provide any general comments on the significance of agriculture to their business and the local economy.

Findings for each of the ten industrial sectors represented in the survey are discussed below.

i) Retail Trade

Businesses included in the retail trade sector are primarily engaged in buying products for resale to the general public for personal or household consumption, and in providing related services such as installation and repair. However, these businesses also have strong backward linkages to agriculture through the sale of products such as trucks and truck parts, building materials, and tools. In total, 27 businesses from the retail sector were surveyed, examples of which are Gauthier Pro Hardware in Earlton, Wilson Chev-Olds in New Liskeard and, Laffin Farm Equipment in Thornloe.

The 27 retail businesses surveyed consist of six auto sales/service businesses, four hardware/building supply businesses, four farm supply/equipment businesses, two fuel supply businesses, and 11 other various retail/service stores providing specialized sales and service related to small engine repairs, hydraulics, tires, radiator repairs, alternator repairs, office supplies, and computers. The 27 retail businesses had a total of \$85.5 million in total gross sales of which 35.8% or \$30.6 million was attributable to sales related to agriculture.

Most of the auto sales/service businesses indicated that the number of people they employ has not changed over the past five years and they do not expect the employment picture to change significantly in next five years. However, one business operator suggested that he anticipated his business growing by 30% in the next five years. All of these businesses reported that they are able to hire locally but some reported that it is a challenge to find people with sales experience. The importance of agriculture to the local economy was acknowledged by all of these businesses and some of the comments are presented below.

- "Agriculture is very important to our business. It is the stabilizing factor in the region... when things are down we look to agriculture to support our economy."
- "Agriculture is all there is left... but this year with the mad cow event the business is really down, people are not buying cars or trucks because they haven't been able to sell their beef cattle."

- “It is the most important component of our business. Hopefully agriculture stays solid, it makes up about 40% of our business.”
- “We need to concentrate more on the agricultural market... there is a lot of business potential in diversifying our services and products to address the needs of farmers.”

The four hardware/building supply businesses experienced little or no change in employment in the past five years and don't anticipate hiring additional employees in the next five years. All of these businesses reported that they are able to hire locally. The significance of agriculture to the local economy was acknowledged by the businesses. As described by one business representative “agriculture is important to us... when farmers have trouble we have trouble, our business is bound to the farmers in the region.”

Two of the four farm supply/equipment businesses experienced an increase in employment in the past five years while one of the businesses noted that they have fewer employees than five years ago. The other business indicated that their employment picture has not changed. Two of these businesses noted that they expect their business to grow between 25% and 40% in the next five years. However, it was acknowledged that the spongiform encephalopathy (BSE or mad cow) crisis is still playing out and could have a lasting impact on their business depending on how soon the Canadian beef industry regains full access to the US market. All four of these businesses reported that they are able to hire locally. The agriculture sector is crucial to these businesses in that it accounts for 80%+ of their total sales activity. As described by one business representative, “agriculture is one of the few industries in the region with real potential for growth.” Another business representative noted the importance of maintaining and promoting a diverse agricultural sector to reduce the impact of an industry wide crisis like mad cow disease.

The two fuel supply businesses experienced little or no change in employment in the past five years and don't anticipate hiring additional employees in the next five years. The businesses indicated that they are able to hire locally although there is typically a high turn over in part time staff. As noted by one business representative, agriculture is “an important part of the local economy and what the community was built on.”

The remaining 11 businesses from the retail sector offer a mix of products and services as noted above. Most of these businesses indicated that they have not hired additional help in the past five years. Three of the businesses started operations within the past five years. Three of the businesses expect to increase their employment in the next five years. Most of the businesses indicated that they are able to meet labour needs through local labour pool. Business operators recognize agriculture as an important component of the local economy. As described by one business “agriculture is very important to us, if we can't keep the farms going we are in big trouble.” It was also suggested that businesses are increasingly moving toward part-time employees instead of full-time

employees. As noted by one business representative, this is likely to have a negative impact on the availability of skilled workers who are seeking job security.

ii) Construction

Fifteen businesses in the construction sector were surveyed. These businesses have strong backward linkages to agriculture through building construction, electrical contracting, plumbing and heating, excavating, and well drilling. One example of a construction business in Temiskaming District with linkages to the agricultural sector is Leroy Robinson Construction in New Liskeard which provides excavation, land clearing, and tile drainage services.

Total gross sales for the 15 construction businesses surveyed amounted to over \$6.8 million. Approximately 36% of the total sales activity (over \$2.4 million) was attributable to sales related to agriculture.

With respect to employment, most of the 15 businesses surveyed reported no change in the number of employees in the past five years. Two of the businesses reported an increase in employees in the past five years while one business reported a decline in employees. While most of the businesses expect their employment profile to remain unchanged in the next five years, four businesses expect to increase the number of employees at the operation.

Many of the businesses in this sector identified agriculture as a very important component of their client base.

iii) Manufacturing

A variety of products linked to the agriculture sector are manufactured by businesses in Temiskaming District. In total, 9 businesses from this sector were surveyed. An example of an agri-related manufacturing business in Temiskaming District is Temiskaming Ag Centre in Thornloe which produces livestock feed, and Rheel's Meat Market in Belle Vallee which slaughters cattle, swine, lamb and other livestock, and Pederson Concrete Ltd. in New Liskeard which produces concrete products.

The study found that the 9 manufacturing businesses had total gross sales of just over \$13.1 million of which 55% or \$7.3 million was related to agriculture.

While four of these businesses indicated that their number of employees remained the same over the past five years, three businesses reported that their number of employees increased. Two of the businesses began operations within the past five years. Five of the businesses believe that they'll increase the number of their employees over the next five years. The remaining four businesses expect their employment profile to remain the same in the next five years. All of the businesses indicated that they are able to hire local labour to meet their needs.

Many of the manufacturers acknowledged the important role that agriculture plays in the local economy. Several business representatives expressed that they would like to see farmers and processors involved in more value-added activities. It was also suggested that there are opportunities for direct marketing and niche marketing. One business representative suggested that local municipal governments need to be more supportive of new small business ventures.

iv) Wholesale Trade

A number of wholesale dealers have established backward links to the agriculture sector through the sales of farm machinery and livestock feed. Forward linkages are also present, primarily through the purchase of seed and grain for resale. A total of 9 businesses from the sector were surveyed, examples of which include Ag North Ltd. in Armstrong and Ebert Welding in New Liskeard – both of which sell and service agricultural equipment, and Northern Feed and Supplies in New Liskeard and Coop Federee du Quebec in New Liskeard – both of which sell livestock feed and farm supplies.

The study found that the 9 wholesale trade businesses had total gross sales of \$13 million. Of this, an average of 61%, or \$8 million was attributable to sales related to agriculture.

With respect to employment, four of the nine businesses in this sector reported that their number of employees has increased over the past five years and they expect to see continued growth in the next five years. The remaining five businesses have not experienced a change in employment over the past five years and do not anticipate hiring more workers in the next five years. Most of the businesses indicated that they are able to hire local labour to meet their needs. However, one of the businesses indicated that it is very hard to find licensed farm equipment mechanics.

All of these businesses view agriculture as a very important element of the local economy as illustrated by the following comments which were provided by the different business representatives.

- “Agriculture is extremely important to my business and the spin-offs are very large for the region.”
- “Agriculture is very important in sustaining the local economy... it is the economic anchor.”
- “Agriculture is the backbone of our community, if farmers sales are down, our sales are down and so is everyone else.”
- “Temiskaming agriculture is the only thing keeping things going right now... it is probably the number one employer... though right now the beef industry is having problems with the mad cow crisis.”

- “There are many opportunities here in the north for farmers, especially with the low land prices... agriculture is the number one industry for the area.”
- “Agriculture is very important, our business is based on agriculture, when the markets are down we are in trouble, agriculture is the backbone of all that is here.”

v) *Transportation and Warehousing*

A total of seven businesses in the transportation sector were included in the survey. These businesses have backward linkages to agriculture through the transport of livestock, grain, seed, fertilizer, equipment, and various farm supplies. Examples of businesses from this sector include Conray Dymond Trucks in New Liskeard and Pine Height Trucking in Earlton.

The seven transportation businesses surveyed had total gross sales of \$6 million of which approximately \$1 million was attributable to sales related to agriculture.

Most of the seven businesses surveyed in this sector reported no change in employment over the past five years while two businesses experienced an increase in employees and one business reported a decline in employees. The seven businesses see little or no change in their employment profile in the next five years.

Most of the businesses reported that they are able to hire locally. However, one business noted that they are “having some real problems with finding good qualified drivers.”

Businesses pointed out that the local agricultural sector is very important to their business operations. As described by one business representative “farming provides economic stability for the whole region... you don’t have to worry about getting paid from farmers.”

vi) *Finance and Insurance*

A total of six financial service and insurance businesses were surveyed. This consisted of four banks/credit unions which have backward linkages to agriculture through the provision of farm loans and banking services to farm operations, and two insurance businesses that provide farm insurance. TD Canada Trust in New Liskeard and the Cooperators in New Liskeard are examples of businesses in the finance/insurance sector that provide services to the local agriculture sector.

Sales data for finance institutions were calculated by multiplying the number of employees at the branch by an annual average salary of \$35,000. The average total gross sales for the six finance and insurance businesses that were surveyed amounted

to approximately \$6 million of which approximately \$1 million was attributable to sales related to agriculture.

With respect to employment the six businesses have experienced little of no change in their employment numbers over the past five years. However, three businesses expect that they will be hiring more workers in the next five years. All of the businesses noted that they are able to hire employees locally and provide training as needed.

Representatives from the six banks and insurance companies provided statements that emphasize the importance of agriculture in the local economy.

- "Agriculture is very important and there should be more support from all levels of government in promoting this sector... it is the main economic driver in the region."
- "The economy of the region was built with agriculture and forestry. Forestry is pretty much out and now we only have agriculture as our base... it has always been and will always be important. If we didn't have agriculture we would be in hot water... it stabilizes the economy."
- "Agriculture is 100% important. We need it. It is the largest economic driver in the region."

vii) Professional Services

Business service industries surveyed include accountants who provide financial accounting services such as general accounting and taxes, lawyers who provide legal services. The survey included five businesses from this sector, including Mars Accounting in New Liskeard and Ramsay Law Office in New Liskeard. Too few businesses were surveyed in this sector to present sales data.

Most of the businesses reported little or no change in their employment over the past five years and see little change in their employment profile in the next five years.

The businesses representatives in this sector provided a number of positive statements on the importance of agriculture to the region.

- "Without agriculture we have nothing... agriculture is key to the local economy. When any local citizen complains that we have no industry, the answer is to go for a drive in the country and see what we have."

One respondent noted the importance of agriculture but expressed concern about the future of the industry.

- "Agriculture is very important for the region and for our business. Farming seems to be shrinking in the north... it has a very unknown future. Free trade has not

been a good thing for the region and there is a real lack of support from the government. Agriculture is the biggest sector in the region and it is in trouble.”

Another respondent suggested that agriculture could present opportunities for attracting/keeping youth in the region. Currently “young people are migrating south while waste lands seem to be migrating north when you look at the Adams Mine issue.”

viii) Agricultural Services

Businesses in the agricultural services sector often have backward linkages in the form of services provided to farms such as veterinary services. More specialized services include breeding services and custom seed cleaning. Five businesses from this sector were surveyed. Temiskaming Vet Services is an example of a business that offers herd health services to the local agriculture sector. Too few businesses were surveyed in this sector to present sales data.

With respect to employment, most of the businesses in this sector reported no increase in the number of people they employed in the last five years, nor did they project any significant increase in employment in the next five years.

Businesses in this sector have strong linkages to the agricultural sector. Many of the business operators identified the agricultural sector as crucial to their client base and important to the foundation of the local economy.

- “Temiskaming District is an ideal area for agriculture, with ideal soil... it should be protected as an agricultural area. It is much cheaper to do agriculture up here considering the land prices. Agriculture will always be here... there needs to be support for the farmers. Adams Mine and the issue of waste disposal is going to be a major threat for agriculture.”
- “Agriculture is the backbone of Temiskaming... it will be here when everything else is gone.”

ix) Real Estate

Real estate agencies have backward linkages to the agriculture sector. The survey included three insurance businesses, an example of which is Sroka Real Estate in New Liskeard. Too few businesses were surveyed in this sector to present sales data.

With respect to employment, the businesses surveyed in this sector reported no increase in the number of people they employed in the last five years, nor did they project any significant increase in employment in the next five years.

One of the business representatives noted that there is a great opportunity for growth in the local agriculture sector. However, it was suggested that a commitment from industry

leaders and government officials is required to properly promote the local potential to attract farmers from other regions.

As noted by one business representative “farmland in Armstrong produces the same amount of milk per acre as in Huron County. Crops in Temiskaming are breathtaking and the last two years the region experienced average heat units of 2400. A long term vision is required to sell the region.”

A business representative suggested that the potential of the farmland has not been fully realized.

- “The base of the economy is the farm community that holds it stable. Without the agricultural community there is little prosperity. The economy is stabilized by farming. The reason local garages and stores are maintained is the steady income of farmers. Farming is becoming more intensive and producing all sorts of positive impacts. If there continues to be global warming, it will result in the mid-north corridor seeing a positive impact – the sector will maintain and expand production in the area. Vision is important in order to maintain the area. Currently have some very dynamic farm leaders. Southern farmers are coming up and taking a look at what the region has to offer – they typically have more money and this will lead to more investment in the area.”

x) *Other Service Industries*

This sector comprises establishments, not classified to any other category. A total of three businesses from this sector were surveyed. An example of a business from this sector is Nor Arc Welding in Earleton which provides custom welding services. Too few businesses were surveyed in this sector to present sales data.

With respect to employment, the businesses in this sector reported no increase in the number of people they employed in the last five years, nor did they project any significant increase in employment in the next five years.

Business representatives from this sector identified agriculture as being very important to the local economy.

5.3 Survey Results

Total Gross Sales for the Agri-related Businesses Surveyed

Total gross sales for the businesses surveyed include sales related and unrelated to the agriculture sector. For example, a plumbing business may have sales to farmers for their farm business, sales to farmers for their house, and sales to non-farmers. Agriculture-related sales include only those sales to farmers for operating the farm. Sales unrelated to agriculture include those of farmers for their personal use, as well as sales to non-farmers.

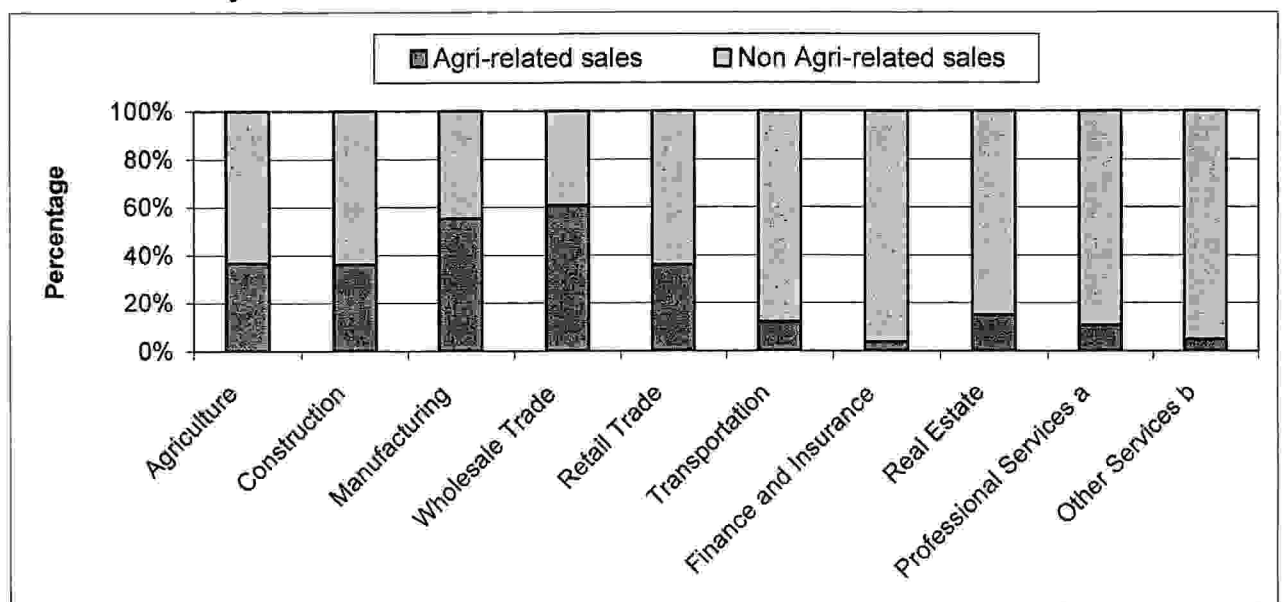
The survey determined that total gross sales were \$165,773,500 for the 89 agri-related businesses surveyed.

Agriculture-related Sales for the Businesses Surveyed

The survey asked respondents to estimate the percentage of their sales that are related to agriculture, either by providing products and/or services to farm businesses, or by purchasing products of agricultural origin. The results indicate that \$51,331,125 or 31% of total gross sales from the 89 businesses surveyed are related to agriculture.

As shown in Figure 5.3, several industrial sectors reported substantial agri-related sales activity. Over 50% of the total sales activity in the manufacturing and wholesale trade sectors was related to agriculture.

Figure 5.3 Percentage of Agri-related and Non Agri-related Sales by Industrial Sector for the Businesses Surveyed



^a Professional Services includes accounting and tax services, legal services, etc.

^b Other Services includes custom welding services.

Source: Harry Cummings and Associates, 2003 Agri-business survey.

Location of Agri-related Sales

Businesses were asked to report on the location of their sales. As shown in Table 5.2, approximately 25% of the total agri-related sales were made outside of Temiskaming District. None of the businesses surveyed as part of this study reported international sales.

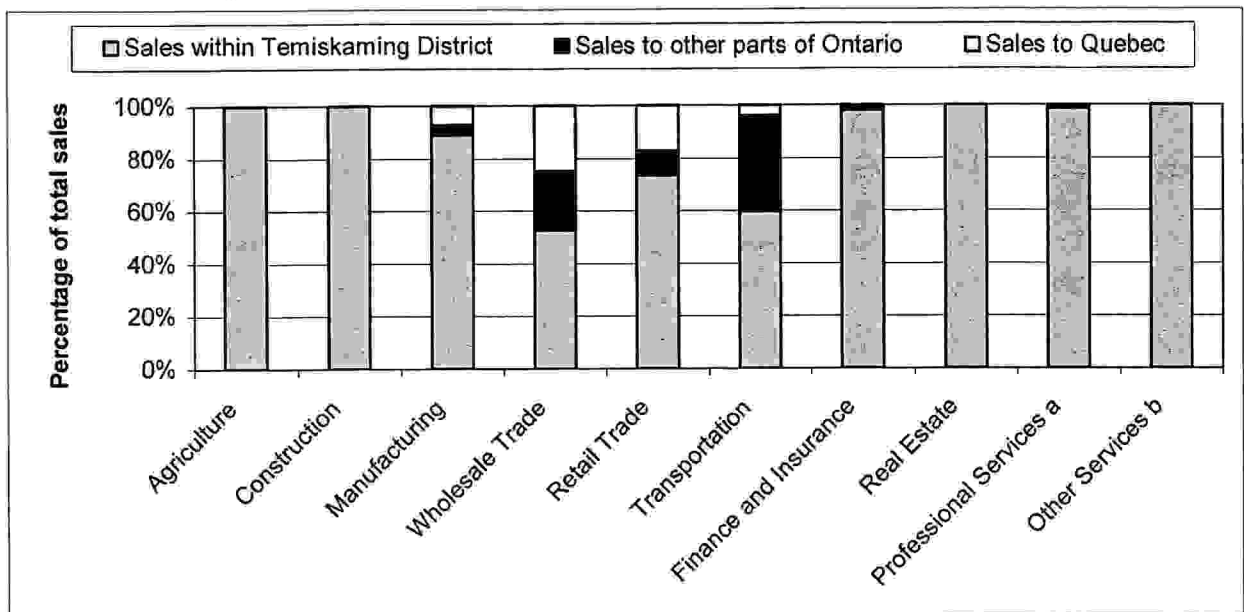
Table 5.2 Distribution of Total Agri-related Sales by Location of Sales for the Businesses Surveyed

	i. Sales within Temiskaming District	ii. Sales in other parts of Ontario	iii. Sales in Quebec	Total Sales
Agri-related sales	\$38,371,259	\$5,194,023	\$7,765,844	\$51,331,125
Percentage of Total Agricultural sales	74.8%	10.1%	15.1%	100%

Source: Harry Cummings and Associates, 2003 Agri-business survey.

Some industries reported substantially more 'export' related sales activity than others. Wholesale trade and the Transportation sectors both reported more than 40% of their agri-related sales activity from areas outside Temiskaming District (Figure 5.4). Just over 26% of the total sales activity reported by businesses in the Retail sector was reported as export related.

Figure 5.4 Percentage of Agri-related Sales by Location of Sales and Industrial Sector for Businesses Surveyed



^a Professional Services includes accounting and tax services, legal services, etc.

^b Other Services includes custom welding services.

Source: Harry Cummings and Associates, 2003 Agri-business survey.

Estimated Total Gross Sales for All Temiskaming District Agri-related Businesses

From the sample of 89 businesses, we can estimate the total gross sales for all 175 agri-related businesses in Temiskaming District. This includes sales both related and unrelated to agriculture. The 89 businesses surveyed represent 50.8% of the total number of businesses (89/175 *100). By dividing the total estimated number of businesses (175) by the total number of businesses that provided sales data (89), a sampling multiplier of 2 (e.g. 175/89 = 1.96) can be used to estimate the total gross sales for all agri-related businesses in Temiskaming District.

The estimated total gross sales for the 175 agri-related businesses amounts to \$331.5 million with agri-related sales accounting for approximately \$100.9 million of total sales. As shown in Table 5.3, agri-related businesses in Temiskaming District generate an estimated \$75.5 million in agri-related sales within Temiskaming District and another \$25.4 million in sales outside the region. Over \$15 million of the export agri-related sales are occurring in Quebec. The level of sales activity in areas outside of Temiskaming District provide an indication of the importance of the area as goods and service centre for farm operators in other regions.

Table 5.3 Distribution of Total Agri-related Sales by Location of Sales for All Agri-related Businesses

	i. Sales within Temiskaming District	ii. Sales in other parts of Ontario	iii. Sales in Quebec	Total Sales
Agri-related sales	\$75,497,126	\$10,194,131	\$15,240,730	\$100,931,987

Source: Harry Cummings and Associates, 2003 Agri-business survey.

Total Employment for the Businesses Surveyed

In estimating the total number of employees associated with the agri-related businesses, the survey estimated full time equivalents¹⁸ for all full time, part time and seasonal employees. The share of sales activity reported by each business as related to agriculture was then used to estimate the share of employment related to agriculture.

The total number of employees at the 89 businesses surveyed is 998 which consists of 656 full-time employees, 117 part-time employees and 225 seasonal employees. Based on the hours and weeks worked over the course of a year, and converting to FTE's, the estimate for the total number of FTE jobs at the businesses surveyed is 956. This includes all employees (full-time, part-time and seasonal employees) for the businesses surveyed, regardless of whether or not they perform activities related to the agriculture sector.

¹⁸ Based on a 1,875 hours per year workload (7.5 hours a day x 5 days a week x 50 weeks a year). Using the FTE jobs as a measure of employment allows for greater insight into the total number of jobs, at the full-time level that are supported by sales of goods and services to farms.

Total Agri-related Employment for the Businesses Surveyed

For the businesses surveyed, it is estimated that the employees spent 27.5% of their time on average on activities related to buying from and selling to farm operations which translates into 263 FTE jobs related to agriculture based on the total 956 FTE.

Estimated Total Employment for All Temiskaming District Agri-related Businesses

From the sample of 89 businesses, we can estimate the total employment for all 175 agri-related businesses in Temiskaming District. This includes employment both related and unrelated to agriculture. Using the sampling multiplier of 2 as discussed above, the estimated total employment for the 175 agri-related businesses amounts to 1,912 with agri-related employment accounting for approximately 526 of the total jobs.

Summary of Indirect Impacts of Agriculture in Temiskaming District

The analysis shows that businesses that buy from or sell to the agriculture sector in the Temiskaming District generate a significant amount of sales and employment. Furthermore, these companies generate flows of income and expenditure outside Temiskaming District in terms of both employment and income. It is estimated that agri-related businesses in Temiskaming District generated \$100.9 million in agri-related sales in 2002.

Indirect employment is a further impact of the agriculture sector. It is estimated that agri-related businesses in Temiskaming District supported 526 full time equivalent agri-related jobs in 2002.

5.4 Induced Impacts

Estimated Induced Jobs

Induced agricultural impacts are impacts on businesses that benefit from the expenditure of wages and salaries of workers in the agriculture and agriculture-related sectors. For the purposes of the current study induced sales were not calculated, although this would clearly add a significant figure to the overall agri-related sales total of agri-related businesses in Temiskaming District through the salaries of employees in the Health and Social Services, Education and Government Services sectors.

Induced employment refers to employment generated by the wages of workers in an area. We refer to wages spent in the services sector on private or public services. The economy can be divided into two general 'production' components: goods producing (primary production including agriculture, manufacturing, and construction) and service producing. The service component consists of public sector services (health and social

services, education and government) and private sector services¹⁹ (wholesale and retail trade, accommodation and restaurant, and finance and insurance related services). Induced effects are initiated through the spending of wages earned from agriculture and manufacturing, on public services; public service employees and agricultural workers purchase goods from retail stores; retail store workers require health services etc. This pattern of progressive spending reflects the chain of multipliers *induced* by the initial wage in the agriculture or manufacturing sector. The methodology we used to estimate the size of this multiplier is outlined below.

To make estimates of the induced jobs in Temiskaming District two census areas were used. Armstrong Township and Temiskaming Unorganized West Part were selected to represent the study area as they had the greatest direct agriculture employment numbers in 2001. The total direct employment figure for the two primary production industries in the two census areas, Agriculture and Manufacturing (270 and 215 respectively for a total of 485 jobs), was divided into the total number of jobs in the Health and Social Services, Education and Government sectors (155, 105 and 80 respectively for a total of 340 jobs). This calculation indicates that for every job created in the two primary production industries, 0.7 induced jobs were supported in the three public service sectors.

When this number is applied to the total number of direct and indirect jobs related to agriculture in Temiskaming District (745 direct and 526 indirect jobs for a total of 1,271 jobs X 0.7), it indicates that 890 induced jobs are supported by agriculture and agri-related businesses.

5.5 Total Direct, Indirect and Induced Impacts

As shown in Table 5.4, there are 745 direct, 526 indirect and 890 induced jobs created as a result of the agriculture sector in Temiskaming District. Thus, farm operations, businesses they buy from and sell to, and services that support farmers and farm businesses, are estimated to support a total of 2,161 jobs.

When we take the total employment figure and divide it by the total number of direct agriculture jobs, we get a multiplier of 2.9. This calculation allows us to estimate that for every job in the agriculture sector, an additional 1.9 jobs are supported in the wider economy.

¹⁹ Estimates for the 'private sector services' were excluded from induced employment because some of these jobs were already covered in the agriculture-related business survey. This helps in avoiding a double count of some jobs.

Table 5.4 Total Direct, Indirect and Induced Impacts of Agriculture in Temiskaming District

	Sales	Jobs
Direct ^a	\$44,163,495	745
Indirect	\$100,931,987	526
Induced		890
Total	\$145,095,482	2,161

^a Direct values are taken from Statistics Canada, Census of Agriculture 2001
Source: Harry Cummings and Associates, 2003 Agri-business survey.

In terms of dollars, agriculture makes a substantial contribution to the local economy. As shown in Table 5.4 direct sales associated with the agricultural sector amount to \$44.1 million while indirect sales associated with agri-related businesses amount to \$100.9 million. In total, approximately \$145 million in agri-related sales are generated in Temiskaming District. In order to estimate the sales expenditure multiplier for Temiskaming District, we divide the total amount of agri-related sales by the total amount of direct sales. This produces a sales expenditure multiplier of 3.3. This calculation allows us to estimate that for every dollar generated by direct agricultural sales (farm gate sales), an additional \$2.30 in sales related to agriculture is also produced. Please note, these are gross agriculture-related sales and no attempt has been made to identify the "net value-added" component.

5.6 Comparison to Other Studies

A number of other agri-related business surveys have been conducted in various regions of Ontario using the same methodology applied here. Research has been completed for: Huron County (1998), Simcoe County (1999), Perth County (2000), Lambton County (2000) the combined counties of Prescott, Russell, Stormont, Dundas and Glengarry (1999), the combined counties of Frontenac, Lennox & Addington, Leeds and Grenville (2000), the combined counties of Elgin, Middlesex and Oxford (2000), the combined counties of Lanark and Renfrew (2000), the new City of Ottawa (2000), Waterloo Region (2003), Algoma and Manitoulin Districts (2001), and the Blue Sky Region in Northern Ontario which is comprised of Nipissing, Parry Sound, the City of Greater Sudbury and the east portion of Sudbury District (2001). Tables 5.5 and 5.6 compare sales and employment data from research collected in other areas of Ontario with the results from the Temiskaming District agri-related business survey.

While sales and job figures are not directly comparable because of differences in size and characteristics of the study areas, the multipliers associated with these figures provide some insights into the importance of the linkages between agriculture-related business and farm enterprises.

As shown in Table 5.5, the sales multiplier estimated for Temiskaming District (3.3) is one of the highest reported among the different study areas. The sales multiplier for

Temiskaming District is similar to that of Waterloo Region (3.4), Simcoe County (3) and the combined counties of Prescott, Russell, Stormont, Dundas and Glengarry (3.1).

Table 5.5 Total Agri-related Sales and Sales Expenditure Multiplier for Temiskaming District Compared to Other Studies (\$ millions)

Study Area	Direct Sales ^c (Farm gate sales)	Indirect Sales (Agri-related businesses)	Total Agri-related sales	Sales Expenditure Multiplier
Temiskaming	\$44.1	\$100.9	\$145	3.3
Algoma Manitoulin	\$31.3	\$41.3	\$72.7	2.3
Blue Sky Region ^a	\$43.6	\$42.6	\$86.2	2.0
Waterloo	\$379.6	\$897.3	\$1,276	3.4
Lambton	\$301	\$472	\$773	2.6
Elgin, Middlesex, Oxford	\$1,131	\$1,490	\$2,621	2.3
Huron ^b	\$512	\$1,489	\$2,001	3.9
Perth	\$430	\$653	\$1,083	2.5
Simcoe	\$265	\$518	\$783	3
Frontenac, Lennox & Addington, Leeds & Grenville	\$183	\$351	\$534	2.9
Lanark & Renfrew	\$98	\$142	\$240	2.4
Prescott, Russell, Stormont, Dundas & Glengarry	\$363	\$756	\$1,119	3.1
City of Ottawa	\$137	\$265	\$402	2.9

^a The Blue Sky Region includes Nipissing, Parry Sound and the eastern portion of Sudbury District, as well as the City of Greater Sudbury.

^b Huron County was the first study of this type to be carried out. The methodology has been continuously refined for the succeeding studies. The higher numbers associated with Huron County's Indirect Sales may reflect these refinements.

^c Direct sales values are from Statistics Canada.

Source: Cummings et al., 1998, 1999, 2000, 2001, 2003 and 2004.

With respect to employment (direct, indirect and induced), the employment multiplier for Temiskaming District (2.9) is similar to Algoma-Manitoulin (3.0), Simcoe County (3.0), and the City of Ottawa (2.8).

Comparing the number of on-farm jobs to jobs in agri-related businesses, we find that Temiskaming District has a 1.4:1 ratio, or approximately 1½ on-farm jobs for every one job in an agri-related business. The number of indirect jobs linked to agriculture in Temiskaming District is relatively higher compared to other parts of northeastern Ontario. In Blue Sky Region the ratio is 3:1 and in Algoma-Manitoulin the ratio is 4:1. In fact, the Temiskaming ratio approaches that of Perth County in southern Ontario (1.6:1). Huron County, the largest agricultural county in the province in terms of total farm gate sales, has the highest ratio at 1:3 (approximately one on-farm job for every three jobs in agri-related businesses).

Table 5.6 Total Agri-related Jobs and Employment Multiplier for Temiskaming District Compared to Other Studies

Study Area	Direct Agri. Jobs ^c	Indirect Jobs ^a (Agri-related businesses)	Induced Jobs	Total Jobs	Employment Multiplier
Temiskaming	745	526	890	2,161	2.9
Algoma Manitoulin	805	242	1,780	2,827	3.5
Blue Sky Region ^b	1,250	404	3,143	4,797	3.8
Waterloo	3,450	7,616	6,971	18,037	5.2
Lambton	3,920	1,624	3,382	8,926	2.3
Elgin, Middlesex, Oxford	16,515	6,856	9,348	32,720	2.0
Huron	5,025	14,186	3,528	22,739	4.5
Perth	4,935	3,133	3,066	11,131	2.3
Simcoe	4,770	2,237	7,414	14,421	3.0
Frontenac, Lennox & Addington, Leeds & Grenville	4,325	1,935	5,321	11,581	2.7
Lanark & Renfrew	3,010	848	3,163	7,021	2.3
Prescott, Russell, Stormont, Dundas & Glengarry	5,955	4,516	7,007	17,478	2.9
City of Ottawa	3,510	1,045	5,466	10,021	2.8

^a Indirect jobs are presented as full time equivalents.

^b The Blue Sky Region includes Nipissing, Parry Sound and the eastern portion of Sudbury District, as well as the City of Greater Sudbury.

^c Direct employment values are from Statistics Canada.

Source: Cummings et al., 1998, 1999, 2000, 2001, 2003 and 2004.

Agri-related businesses in Temiskaming District are deriving a substantially larger share of their sales from exports in comparison to other regions of the province. Approximately 25% of the total sales of agri-related businesses are attributed to sales outside Temiskaming District – the bulk of this sales activity is occurring in Quebec (Table 5.7). This suggests that Temiskaming District is an important agri-business centre in the region.

Table 5.7 Location of Agri-related Business Sales: Temiskaming District Compared to Other Studies

Study Area	Location of Sales (%)				Total Sales outside the Study Area
	Sales within the Study Area	Sales outside Study Area but within Ontario	Sales to other Provinces	Sales outside Canada	
Temiskaming	74.8	10.1	15.1^b	--	25.2
Algoma Manitoulin	95.0	5.0	--	--	5.0
Blue Sky Region ^a	91.9	6.6	1.5	--	8.1
Waterloo	30.2	52.4	6.2	11.1	69.8
Lambton	83.6	15.6	0.3	0.5	16.4
Elgin, Middlesex, Oxford	66.8	24.7	3.8	4.7	33.2
Huron	42.9	34.5		22.6 ^c	57.1
Perth	65.5	33	1.2	0.3	34.5
Simcoe	43.6	41.5	3.5	11.4	56.4
Frontenac, Lennox & Addington, Leeds & Grenville	76.4	20.5	0.7	2.4	23.6
Lanark & Renfrew	86.2	9.9	3.8	0.1	13.8
Prescott, Russell, Stormont, Dundas & Glengarry	91.5	5.8	1.5	1.2	8.5
City of Ottawa	63.7	36.2	0.1	--	36.3

^a The Blue Sky Region includes Nipissing, Parry Sound and the eastern portion of Sudbury District, as well as the City of Greater Sudbury.

^b Reported as exclusive sales to Quebec.

^c Sales to other provinces and international sales were combined for this study.

Source: Cummings et al., 1998, 1999, 2000, 2001 and 2003.

5.7 Summary of Economic Impact

Key findings from the economic impact analysis include the following:

- The Temiskaming agriculture sector has linkages with almost every other sector of the local economy.
- Agriculture in Temiskaming supports 745 direct, 526 indirect and 890 induced jobs for a total of 2,161 jobs supported by agriculture and its linkages to agri-related businesses and other sectors of the economy.
- Agriculture in Temiskaming generated approximately \$44.2 million in total farm receipts (direct economic impact).
- Agricultural-related businesses in Temiskaming generated approximately \$101 million in sales through transactions with farmers (indirect economic impact).
- Approximately \$145 million in agricultural and agri-related sales are generated in Temiskaming.
- Employment and sales expenditure multipliers indicate that:
 - for every job in the agriculture sector an additional 2 jobs are supported in the wider economy, and
 - for each dollar of farm income there is additional \$2.30 in sales related to agriculture in the wider economy.
- Agri-related businesses are conducting a substantial amount of business activity outside Temiskaming – the region is an important service centre for farm operators in western Quebec.
- Businesses from a variety of different industrial sectors see opportunities for expanding their operations and the ongoing growth of the agriculture sector is seen as playing an important role in the process.
- Farmers and agri-related business leaders believe the region offers many advantages to farmers from other parts of Ontario or overseas who are interested in relocating or establishing their farm operation - this includes lower land prices, fewer urban pressures, and a supportive agri-related businesses base.

6.0 Agriculturally Related Assessment and Taxation

6.1 Introduction

The revenue municipalities need to deliver services is primarily raised through property taxes. This chapter explores the contribution that agriculture makes to the local tax base. Attention is first directed to the importance of agriculture to the local assessment base and then to the municipal property tax base. The approach used draws on economic impact work previously done by Walton and Hunter in the Greater Toronto Area (November 1999).

6.2 Background

a) *Property Assessment*

Prior to 1997, the assessment base for many municipalities was outdated and confusing and resulted in many inequities. With the passage of the Fair Municipal Finance Act in 1997, the provincial government created a new province-wide Current Value Assessment system (CVA) and introduced a host of new property classes – residential, multi-residential, commercial, industrial, pipe line, farm, managed forest, new multi-residential, office building, shopping centre, parking lots and vacant land, large industrial, professional sports facility, etc. With the implementation of CVA in 1998, all properties across Ontario were assessed at their market value on a common base year. Beginning in 2004, properties will be assessed annually based on their market value as of June 30 the previous year.

Under CVA, agriculturally related buildings and land fall under several property classes. The farm dwelling plus 1 acre of land falls within the residential property class. Land used for farming, including outbuildings, falls within the farm property class and is taxed at 25% of the rate applicable to the residential property class. If the “farm” includes an area of “managed forest”, “conservation land” or a property class with a “farm land awaiting development” subclass, additional classes or subclasses will apply.

b) *Property Taxes*

Property taxes in Ontario are made up of two components – the municipal property tax and the educational property tax. The amount of municipal property tax owed is determined by multiplying the assessed value of a property by a tax rate set by the municipality. The tax rate is normally expressed as a percentage of assessed value. A municipality can set different rates for different classes of property. The provincial government sets the education tax rate. If for example one wanted to determine the total property tax on a residential property, the following formula would be used:

- Assessed Value x Municipal Tax Rate = Amount of Municipal Property Tax
- Assessed Value x Education Tax Rate = Amount of Education Property Tax
- Municipal Property Tax + Education Property Tax = Total Property Tax

6.3 Approach

a) *Property Assessment*

To determine the “total contribution” agriculturally related buildings and land make to a municipality’s assessment base, it would be necessary to identify the extent of each agricultural operation found within the municipality and to add up the assessed value of all property classes found within each operation. While such an approach is possible, it is beyond the scope of this study.

Since most agriculturally related assessment is associated with the farm house, farm buildings and related farm land, the approach used in this study is to estimate the agriculturally related assessment in each municipality by estimating the assessed value of each municipality’s farm dwellings and adding that figure to the assessed value of the municipality’s farm property class, which includes outbuildings and farmland. Table 6.1 sets out the approximate number of households/dwellings in each municipality and the number of census farms in each municipality in 2001.

**Table 6.1 Temiskaming District and Temiskaming Agricultural Municipalities – 2001
Population, Number of Households and Number of Farms**

District/Municipality	2001 Population	2000 Households ^{abc}	2001 Number of Farms
Temiskaming District	34,442	^d	532
Twp of Armstrong	1223	523	34
Twp of Brethour	157	67	27
Twp of Casey	421	151	26
Twp of Chamberlain	348	160	25
Twp of Dack	426	163	34
Twp of Dymond	1,181	440	35
Twp of Evanturel	506	203	27
Town of Haileybury	4,453	1972	20
Twp of Harley	557	214	32
Twp of Harris	518	231	23
Twp of Hilliard	241	90	37
Twp of Hudson	490	311	32
Twp of Kerns	360	138	51
Temiskaming, Unorganized West Part	3,275	^d	129

^a The term "household" is defined as a self-contained set of rooms in a building used as a residential premise and containing kitchen and bathroom facilities. Households include single family dwellings, residential units in multiple dwelling buildings, farm houses, cottages and residential units on Canadian Armed Forces bases. The totals are based on the 2000 enumeration, and are provided by the Ontario Property Assessment Corporation.

^b As most of the municipalities listed lost population between 1996 and 2001, the 2000 household figures from the municipal directory are felt to be a reasonable approximation of the number of residential dwellings which existed in each municipality in 2001.

^c The household figures from the 2000 enumeration are felt to be a better reflection of the total number of residential dwellings in each municipality because they include all residential dwellings not just the number of occupied private dwellings captured in the 2001 census.

^d The 2001 Ontario Municipal Directory does not include a figure for the total number of households in Temiskaming and the Unorganized West Part.

Source: Population and Number of Farms - Statistics Canada, 2001 Census and 2001 Census of Agriculture; Households - 2001 Ontario Municipal Directory.

If for estimating purposes, one assumes each census farm has one dwelling and all dwellings are of equal value, it is possible to estimate the percentage of the assessed value of the residential property class in each municipality that is attributable to farm dwellings. For example, if Armstrong Township has 34 farm dwellings out of a total of 523 households/dwellings, 34/523 i.e. 6.5% of the total assessed value of its residential property class can be attributed to farm dwellings. Table 6.2 presents the "Estimated Farm Dwelling Portion of Residential Property Assessment" and the "Total Estimated Farm Dwelling and Farm Property Class Assessment" for each municipality and the percentages each constitutes of total assessment.

Table 6.2 Temiskaming District and Temiskaming Agricultural Municipalities – Property Value Assessments for 2001

District / Municipality	Total Assessed Value of All Property	Assessed Value of Residential Property Class	Estimated Farm Dwelling Residential Property Assessment	Farm Dwelling Residential Property Class as % of Total Assessment	Assessed Value of Farm Property Class	Farm Property Class as % of Total Assessment	Total Estimated Farm Dwelling and Farm Property Class Assessment	Total Farm Dwelling & Farm Property Class Assessment as % of Total Assessment
Temiskaming District	1,183,187,411	799,569,514	n/a	n/a	53,481,865	4.5%	n/a	n/a
Armstrong Twp	62,740,040	29,968,280	1,948,225	3.1%	8,834,600	14.1%	10,782,825	17.2%
Brethour Twp	5,555,400	2,904,200	1,170,349	21.1%	2,227,200	40.1%	3,397,549	61.2%
Casey Twp	17,331,920	11,157,455	1,921,151	11.1%	5,817,000	33.6%	7,738,151	44.6%
Chamberlain Twp	32,165,700	10,072,745	1,573,866	4.9%	1,521,700	4.7%	3,095,566	9.6%
Dack Twp	18,941,500	10,313,270	2,151,234	11.4%	3,163,000	16.7%	5,314,234	28.1%
Dymond Twp	105,302,490	49,368,585	3,927,046	3.7%	4,472,165	4.2%	8,399,211	7.9%
Evanturel Twp	32,596,880	14,311,550	1,903,507	5.8%	4,835,200	14.8%	6,738,707	20.7%
Town of Haileybury	165,124,979	128,094,719	1,299,135	.8%	887,300	.5%	2,186,435	1.3%
Harley Twp	23,968,100	17,452,995	2,609,794	10.9%	4,236,400	17.7%	6,846,194	28.6%
Harris Twp	27,124,000	24,206,310	2,410,152	8.9%	2,296,000	8.5%	4,706,152	17.3%
Hilliard Twp	11,562,045	6,578,700	2,704,577	23.4%	4,627,500	40.0%	7,332,077	63.4%
Hudson Twp	37,946,900	32,937,070	3,389,023	8.9%	2,716,200	7.2%	6,105,223	16.1%
Kerns Twp	28,272,200	9,038,195	3,340,203	11.8%	6,652,800	23.5%	9,993,003	35.3%

Source: 2001 Municipal Financial Information Return

b) Property Taxes

Using each municipality's total "Taxes on Residential Property Class" and applying the same ratios that were used in estimating the farm dwelling assessment figures, it is possible to calculate the "Estimated Farm Dwelling Portion of Residential Property Taxes" for each municipality. Once calculated, these figures can be added to the municipality's "Taxes on Farm Property Class" figures to generate the "Total Estimated Farm Dwelling and Farm Property Class Taxes" for each municipality. These figures are presented in Table 6.3 with the pertinent percentages of total municipal taxes.

Table 6.3 Temiskaming District and Temiskaming Agricultural Municipalities – Estimated 2001 Taxes Paid by Farm Properties (Local General Levy)

District / Municipality	Total Municipal Taxes 2001	Taxes on Residential Property Class	Estimated Farm Dwelling Residential Property Taxes	Farm Dwelling Residential Property Class as % of Total Municipal Taxes	Taxes on Farm Property Class	Farm Property Class Taxes as % of Total Municipal Taxes	Total Estimated Farm Dwelling and Farm Property Class Taxes	Total Farm Dwelling & Farm Property Class Taxes as % of Total Municipal Taxes
Temiskaming District	18,792,901	11,020,132	n/a	n/a	100,143	0.53%	n/a	n/a
Armstrong Twp	513,215	278,136	18,081	3.5%	20,505	4.0%	38,586	7.5%
Brethour Twp	16,369	7,751	3,124	19.1%	1,486	9.1%	4,610	28.2%
Casey Twp	102,032	86,291	14,858	14.6%	11,247	11.0%	26,105	25.6%
Chamberlain Twp	235,877	56,528	8,833	3.7%	2,135	0.9%	10,968	4.6%
Dack Twp	153,634	86,456	18,034	11.7%	6,629	4.3%	24,663	16.0%
Dymond Twp	831,260	301,198	23,959	2.9%	6,820	0.8%	30,779	3.7%
Evanturel Twp	221,961	103,206	13,727	6.2%	8,717	3.9%	22,444	10.1%
Town of Haileybury	2,175,573	1,503,063	15,244	0.7%	2,602	0.1%	17,846	0.8%
Harley Twp	162,429	127,261	19,030	11.7%	7,723	4.7%	26,753	16.5%
Harris Twp	185,180	176,374	17,561	9.5%	4,182	2.3%	21,743	11.7%
Hilliard Twp	72,613	52,116	21,425	29.5%	9,167	12.6%	30,592	42.1%
Hudson Twp	247,483	231,409	23,811	9.6%	4,771	1.9%	28,582	11.5%
Kerns Twp	128,853	52,825	19,522	15.1%	9,721	7.5%	29,243	22.7%

Source: 2001 Municipal Financial Information Return

6.4 Findings

In presenting the findings, the term “agriculturally related assessment” will be used to refer to the estimated total farm dwelling and farm property class (includes farm building and farmland) assessment of each municipality. Similarly, the term “agriculturally related taxation” will be used to refer to the estimated total local general levy taxation on farm dwellings, farm buildings and farmland.

a) *Property Assessment*

A review of the data in Table 6.2 reveals that the estimated agriculturally related assessment varies significantly in relative importance across the subject municipalities. At one end of the spectrum, we have agriculturally related assessment making up approximately 1.3% of total assessed value in the Town of Haileybury. At the other end, we have agriculturally related assessment making up approximately 63.4% of total assessment in Hilliard Township. With the exception of Dymond Township with 7.9% and Chamberlain Township with 9.6%, agriculturally related assessment makes up more than 15% of total assessment in all of the other municipalities examined. While playing a less significant role in the area’s more urban municipalities, it is apparent that agriculturally related assessment makes up a significant portion of the assessment base for most of the municipalities examined and would pose a major challenge if allowed to decline.

b) *Municipal Taxes*

In that municipal taxation is based on assessed values, it is not surprising to see that the data in Table 6.3 reflect patterns which are somewhat similar to those observed in Table 6.2. There are differences, however. Since the tax rate applied to the farm property class (farm buildings and farmland) is 25% of the rate applied to residential structures including farm residences, agriculturally related tax makes up a smaller proportion of the total tax base than does agriculturally related assessment of total assessment. In the case of the Town of Haileybury, agriculturally related tax makes up 0.8% of the total local general levy. In the case of Hilliard Township at the other end of the spectrum, agriculturally related taxation makes up 42.1% of the local general levy. The Townships of Brethour (28.3%), Casey (25.6%), Dack (16.%), Harley (16.5%) and Kerns (22.7%) all have agriculturally related taxes contributing more than 15% of the total local general levy.

In the Walton & Hunter “GTA Agricultural Economic Impact Study”, agriculturally related taxation was found to make up 8.1% of the total local general levy in the Township of Brock and that was the highest percentage found within all Greater Toronto Area communities. While the municipalities in the study area are very different from the Township of Brock, the comparison to Brock underscores the relative importance of agriculturally related taxation to many of the municipalities in the study area. If for example, the Township of Hilliard, with 42.1% of its local general levy coming from

agriculturally related tax, lost a significant portion of its agricultural operators, it would have a major impact on the municipality.

6.5 Agricultural Service Requirements

A couple of Ontario studies²⁰ have explored the cost of low density residential development in rural areas. Little attention, however, has been paid to the cost of servicing agriculturally related development in rural areas. The American Farmland Trust²¹ is one of the few organizations that have undertaken work in this area. It has carried out a number of studies in different US states and has found that farm related land uses often generate more tax dollars than are required to service them. While care must be exercised in assuming such a relationship also exists in Ontario, the work of the Farmland Trust would suggest that it is unlikely that the agricultural operations in the municipalities being examined are generating servicing costs in excess of the taxes they are contributing. If servicing costs associated with different land uses in the area are of concern, it is suggested that a further study be initiated to examine such relationships.

6.6 Summary

Agriculturally related activities make an important contribution to both the assessment base and municipal tax base of most of the municipalities studied. While the level of contribution is least in the more urban municipalities, it is significant for most of the rural municipalities studied. Particularly in municipalities such as Hilliard, with 42.1% of its tax base coming from agriculturally related activity, the financial well being of the municipality is clearly tied to the well being of its agricultural sector.

²⁰ Community Planning Advisory Branch, Ministry of Municipal Affairs. 1988. *Financial Analysis of Residential Development – A Case Study for Brighton Township*
Berridge, Lewinberg, Greenberg, Dark, Gabor Ltd. 1996. *The Economics of Urban Form*

²¹ The American Farmland Trust is a private nonprofit organization founded in 1980 to protect U.S. farmland. It works to stop the loss of productive farmland and to promote farming practices that lead to a healthy environment. More information on the Trust can be found on its web site
<http://www.farmland.org>

7.0 Non-Economic Benefits of Agriculture

7.1 Introduction

Much of the emphasis of this study has been to demonstrate the quantifiable impact of agriculture on the local economy. In addition to their direct economic impacts, local farms provide many non-economic benefits that enhance the local community and the region. This section of the report provides a general assessment of the multifunctional role of agriculture in terms of the social, cultural and environmental benefits that are derived from agricultural-related activities.

7.2 Social and Cultural Benefits of Agriculture

In many communities there is growing public recognition of the "intangible" benefits of agriculture. Societal benefits are derived from a range of rural amenities including food security, open spaces and scenic beauty. Rural pleasantries include walks in pastoral settings, scenic drives in the countryside, visiting local farms, and buying fresh produce from local producers.

Farmers' markets in particular are experiencing a resurgence in popularity. This is associated with the desire of consumers to seek out and preserve an alternative shopping experience that is more personal in nature and more closely connected with the food producer. A 1999 provincial study on farmers' markets found that freshness and quality were key attractions at the market (Cummings et al, May 1999, p.66). The study also revealed that customers strongly identify the local farmers' market as a community icon that offers both economic and social benefits. Customers identify farmers' markets as important venues that provide opportunities for interacting with local farmers and learning more about where food comes from (p.67). As noted in chapter two of this report the New Liskeard Farmers' Market provides the local community and tourists an opportunity to meet with local growers and sample a taste of Temiskaming.

Agricultural fairs also provide an excellent opportunity for producers and consumers to come together in a fun and interactive setting. Temiskaming District features three agricultural fairs (Englehart, Charlton, and New Liskeard). These events enable town and county residents to meet and develop a better understanding and appreciation of each other.

The agricultural landscape is a major contributor to the character and cultural ambience of Temiskaming District. The region depends on farmers to maintain the rural character and cultural heritage of communities. The agricultural heritage of the District extends back to the European fur traders who began to settle in the region when the fur stock became depleted and trapping declined. The fur traders settled on the Quebec shore near North Temiskaming (present-day Notre-Dame-du-Nord) where they kept cattle, grew grain and potatoes and raised small livestock (Ontario Heritage Foundation, 2003).

By the late 19th century, the provincial government had become interested in the economic potential of “new” or northern Ontario. The government organized surveying parties to travel through northern Ontario identifying natural resources and mapping the region. In 1899, Arthur Barlow wrote a report on the geology and natural resources of the area, which suggested that the rich belt of clay situated north of Lake Temiskaming was ideal for agricultural settlement. The following year, the government announced plans to develop the area by tapping its natural resources (Ontario Heritage Foundation, 2003).

The settlers who came to New Liskeard in the following years were mainly from “old” or southern Ontario, and British immigrants lured by incentives and advertisements about the agricultural potential of the Little Clay Belt. French-speaking settlers were also brought into the area and the region continues to feature a large bilingual population. The settlers worked their farms during the summer and fall and during the winter months many farmers worked in the bush for large lumber companies. The growth of the agricultural and lumber industries spurred the development of other businesses and New Liskeard became the largest business centre north of North Bay (Ontario Heritage Foundation, 2003).

Agriculture continued to grow in prominence and in 1904, New Liskeard held its first annual fall fair showcasing the horticulture and agriculture of the Little Clay Belt. The growth of the agriculture sector also prompted the construction of the Temiskaming and Northern Ontario Railway, now the Ontario Northland Railway, which arrived at New Liskeard in January 1905. The railway was built to transport agricultural products and lumber from Temiskaming to Toronto and helped to end the isolation of the community during the winter months (Ontario Heritage Foundation, 2003).

Today, farm families in Temiskaming continue to support a significant foundation for the local quality of life by supporting rural communities that are vital to the region. As independent small businesses, local farms contribute to a strong middle class and a healthy civil society. They also serve as responsible caretakers for a substantial part of the regional land base and promote a rural character that is attractive to tourists and employers.

Another attractive feature of the agriculture sector in northeastern Ontario is that it represents one of the few remaining areas in Ontario where the agricultural land base is still expanding and where land prices are affordable.

7.3 Environmental Benefits of Agriculture

The long term vitality and prosperity of the agriculture sector is linked to its ability to co-exist sustainably with the natural environment. Environmental issues are of significant interest and concern to farmers. A recent national survey of farmers and rural landowners, which included 1,215 respondents from across Ontario, revealed that farmers understand the role that wildlife plays as an indicator of overall ecological well-

being (Environics Research Group, September 2000. p.6). A follow-up study revealed that farmers believe they have a positive impact on wildlife conservation and the natural environment. At the same time, they sense that urban Canadians have a poor understanding of the contribution that rural landowners make toward conservation and a healthy environment (Environics Research Group, June 2003. p.10).

In terms of agriculture's environmental impacts, many farming practices benefit the environment by conserving valuable soil resources, protecting watersheds, improving wildlife habitat and ensuring bio-diversity.

Conservation agriculture has emerged as an alternative to conventional agriculture as a result of losses in soil productivity due to soil degradation (e.g. erosion and compaction). Conservation agriculture aims to reduce soil degradation through several practices that minimize the alteration of soil composition and structure and any effects upon natural biodiversity. In general, this includes any practice that reduces, changes or eliminates soil tillage in order to maintain adequate surface cover throughout the year (The Economics of Conservation Agriculture. Food and Agriculture Organization, United Nations 2001).

As shown in Table 7.1, farm operators in Temiskaming are using a variety of practices to promote soil conservation. Crop rotation is the most common practice as reported by 344 farms in 2001. Crop rotation is an important practice for soil conservation and avoiding disease and pest problems. Crop rotation affects the amount of organic matter in the soil. Forages and legumes (i.e. alfalfa, soybeans, etc.) are typically used in rotation practices. These crops have extensive rooting systems that leave large amounts of organic matter in the soil when they die. Organic matter is essential for maintaining a soil's ability to produce crops economically and to resist degradation.

Although some organic matter has been lost from soils since they were first converted to agriculture, the loss is not nearly as high as was thought in the early 1980's (E.G. Gregorich et al. August 2003). Organic matter is an essential component of soil because it:

- holds soil particles together and stabilizes the soil, thus reducing the risk of erosion
- aids crop growth by improving the soil's ability to store and transmit air and water
- stores and supplies many nutrients needed for the growth of plants and soil organisms
- retains carbon from the atmosphere
- reduces the negative environmental effects of pesticides, heavy metals, and many other pollutants.

The use of forages and legumes in Temiskaming District is growing substantially. In 2001, Temiskaming District reported approximately 30,000 acres of land in alfalfa and alfalfa mixtures and 1,222 acres of soybean production. This represents a considerable increase from 1996 figures which showed approximately 20,000 acres in

alfalfa and alfalfa mixtures and almost no production in soybeans (Statistics Canada, 1996 and 2001).

The second most common soil conservation practice reported by Temiskaming farms in 2001 was permanent grass cover. Other practices used throughout the region include grassed waterways, green manure crops for plough-down, and windbreaks. The maintenance of woodlots and windbreaks also serves to provide habitat for birds and animal species.

Zero or minimum tillage (also known as conservation tillage) is perhaps the best example of conservation agriculture since it avoids the disturbance caused by mechanical tillage. Conservation tillage is a method designed to keep most of the crop residue on the surface of the soil where it can protect against soil loss caused by erosion. The crop residue also serves to reduce water loss by runoff and evaporation. This type of tillage concentrates organic matter at the soil's surface because crop residues are not mixed into the soil.

The last two decades have seen major improvements in technologies associated with conservation tillage and their adaptation for nearly all farm sizes, soil and crop types and climate zones. Farmers in Temiskaming are using a variety of tillage practices that promote soil conservation. In 2001, Temiskaming farmers reported a total of 14,452 acres of seeded land that was prepared using minimum-tillage practices. An additional 4,137 acres of seeded land was prepared using zero-tillage practices.

Furthermore, farmers in Temiskaming are increasing their use of conservation tillage practices. In 1996 the area of land prepared for seeding using minimum or zero-tillage practices accounted for less than 20% of the total land area. By 2001 Temiskaming farmers reported that a third of their total land area for seeding was prepared using minimum or zero-tillage soil conservation practices (Figure 7.1).

Table 7.1 Land Management Practices for Farms in Temiskaming District and Townships, Northern Ontario and Ontario, 2001 (number of farms)

	Total number of farms	Crop rotation ^a	Permanent grass cover ^b	Winter cover crops ^c	Contour cultivation ^d	Strip cropping ^e	Grassed waterways ^f	Windbreaks or shelterbelts ^g	Green manure crops for plough-down ^h	Mechanical or hand weeding of crops ⁱ
Ontario	59,728	39,040	17,913	5,751	2,298	1,280	8,276	8,132	7,288	8,785
Northern Ontario	2,635	1,227	1,100	48	68	26	280	205	244	223
Temiskaming District	532	344	199	10	20	6	56	39	53	41
Haileybury	20	8	7	0	0	0	0	0	3	2
Harris	23	13	6	0	2	0	1	1	2	2
Dymond	35	25	14	1	0	0	3	3	1	2
Hudson	32	19	11	1	2	1	4	6	5	3
Kerns	51	44	17	1	4	0	6	4	2	8
Harley	32	11	13	0	0	0	2	2	2	1
Casey	26	24	3	1	2	0	1	1	3	3
Brethour	27	16	14	1	1	0	3	0	1	3
Hilliard	37	24	14	2	1	0	5	3	5	2
Armstrong	34	29	6	0	2	0	4	2	5	2
Dack	34	28	13	0	1	0	6	1	4	0
Evanturel	27	18	8	0	1	0	2	1	3	1
Chamberlain	25	15	14	1	1	2	2	2	3	1
UO, West Part	129	70	59	2	3	3	17	13	14	11

^a **Crop rotation:** a practice where crops are alternated each year, or in a multi-year cycle, for soil conservation or disease control purposes.

^b **Permanent grass cover:** a practice where a field or land is kept in grass cover indefinitely to keep the soil from being eroded away.

^c **Winter cover crops:** crops such as oats or fall rye seeded in the fall to protect the soil from water and wind erosion during the winter and from heavy rains and run-off in the spring.

^d **Green manure crops for plough down:** the practice of incorporating young green plants into the soil for fertility purposes. These plants are usually grown with the single purpose of being used as a soil improver. Common examples are buckwheat and red clover.

^e **Contour cultivation:** the practice of cultivating the field across the slope to reduce soil erosion from rapid water run-off.

^f **Grassed waterways:** either natural or constructed to control soil erosion. The waterway is permanently grassed and consists of a shallow channel, which is designed to slow down run-off water. The grass stabilizes the soil and prevents it from being washed away.

^g **Strip-cropping:** a method of controlling soil erosion by dividing the farm into narrow fields having different crops. For example, the fields may be alternately cropped-uncropped (e.g., wheat-fallow-wheat-fallow) or they may be strips of different crops (cereals, corn, soybeans).

^h **Windbreaks or shelterbelts:** trees, either planted or naturally present.

ⁱ **Mechanical or hand weeding of crops:** extracting weeds mechanically or by hand.

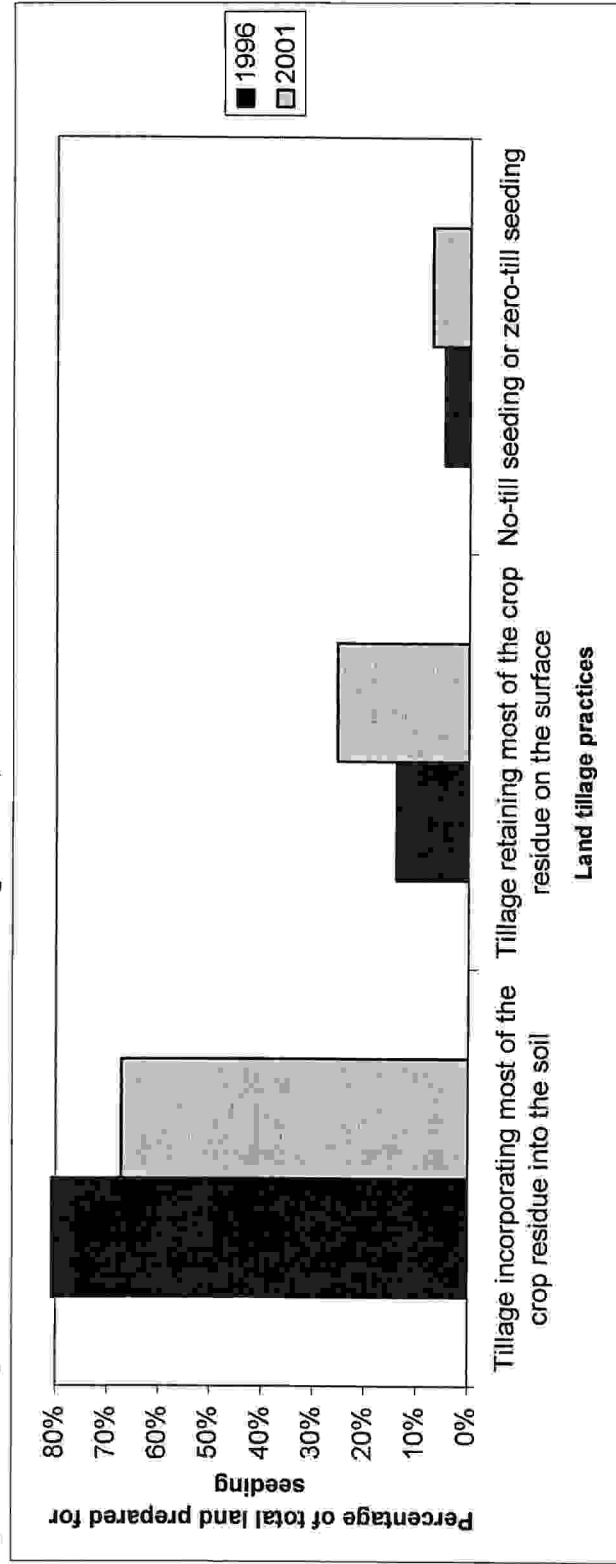
Source: Statistics Canada, 2001

Table 7.2 Tillage Practices for Farms in Temiskaming District, Northern Ontario and Ontario, 1996 and 2001 (acres)

	Total land prepared for seeding			Tillage incorporating most of the crop residue into the soil ^a			Tillage retaining most of the crop residue on the surface (minimum till)			No-till seeding or zero-till seeding		
	1996	2001	% change	1996	2001	% change	1996	2001	% change	1996	2001	% change
Ontario	6,167,161	6,669,735	8.1%	3,667,924	3,452,834	-5.9%	1,374,771	1,444,045	5.0%	1,124,466	1,772,856	57.7%
Northern Ontario	82,865	107,021	29.2%	65,757	76,580	16.5%	12,426	23,308	87.6%	4,682	7,133	52.3%
Temiskaming District	42,525	56,737	33.4%	34,518	38,148	10.5%	5,930	14,452	143.7%	2,077	4,137	99.2%

^a Tillage refers to the practice of working the soil for the purpose of bringing about the more favourable conditions for plant growth. Clean-till (conventional tillage) incorporates most of the crop residue into the soil while minimum-till (conservation tillage) retains most of the crop residue on the surface. No-till includes direct seeding into stubble or sod.
Source: Statistics Canada, 1996 and 2001

Figure 7.1 Tillage Practices for Farms in Temiskaming District, 1996 and 2001



Source: Statistics Canada, 1996 and 2001

Agricultural production activities and the maintenance of open spaces and woodlots also serve to have a positive impact on air quality. Through the process of photosynthesis, agricultural crops enhance air quality by generating oxygen and absorbing carbon dioxide. Corn production for example, generates significant amounts of oxygen as noted by the Ontario Corn Producers Association:

An average hectare of corn produces enough oxygen per hectare per day in mid summer to meet the respiratory needs of about 325 people. The one million or so hectares of corn grown in Ontario produce enough oxygen for the annual respiratory needs of Ontario's 10 million residents in about 11 summer days (Ontario Corn Producers Association).

The data is equally impressive with respect to the amount of carbon dioxide that corn absorbs from the air:

During a full growing season, an average hectare of corn in Ontario removes 22 tonnes of carbon dioxide from the air. The one million hectares of corn grown in Ontario will remove an annual quantity of carbon dioxide equivalent to that produced in burning about 9 billion litres of gasoline - about 75% of annual Ontario gasoline consumption (Ontario Corn Producers Association).

While it is recognized that the activities associated with growing corn generates carbon dioxide from the manufacturing inputs (i.e. fertilizer, fuel, equipment), the amount of carbon absorbed during the growing process far exceeds the amount released from manufacturing inputs:

It can be estimated that about 1.3 tonnes of carbon dioxide are released during the production of a hectare of corn. This includes input manufacturing and all transportation costs. (Calculations are based on data published by Unnasch, 1990, adapted for Ontario conditions.) The ratio of carbon dioxide absorbed to carbon dioxide released is, thus, about 17:1.

The area of land in corn production in Temiskaming District has increased substantially since the mid 1990's (Johnston et al. 2000). Between 1996 and 2001 the total area in corn production (grain and silage) in Temiskaming District increased from 461 acres to 1,761 acres or 280% (Statistics Canada, Census of Agriculture 1996 and 2001).

7.4 Environmental Management and Best Management Practices

Agriculture has experienced significant structural change over recent decades as producers adapt to changing markets, adopt new production activities, become more specialized and more capital intensive. While these changes have resulted in significantly higher per acre outputs they have also raised public awareness and concern about the effects of these changes on the environment (Parson, 1999. p.344).

The farming community recognize their responsibility as environmental stewards and are taking proactive measures to address these concerns. Opportunities are available to farmers in Ontario to improve the environmental sustainability of their farms through several programs. Farm operators can utilize a variety of Best Management Practices resources offered through the Ontario Ministry of Agriculture and Food. These practices promote practical and affordable approaches that harmonize productivity with business objectives and the environment. A series of books is available to farmers which present a range of options for addressing particular environmental concerns. Some of the subjects covered in the series include:

- Farm forestry and habitat management
- Conservation tillage
- Livestock and poultry waste management
- Irrigation management
- Soil management
- Water management

Another program provided to farmers in Ontario was the Environmental Farm Plan (EFP) Incentive Program. The EFP Program was initiated as a pilot project in 1993 and was funded by the Land Management Assistance Program under Agriculture and Agri-Food Canada's Green Plan up until 1997. Between 1997 and 2002, financial support was provided by Agriculture and Agri-Food Canada through the CanAdapt program, administered in Ontario by the Agricultural Adaptation Council.

The EFP program was designed to assist farmers in developing an environmental action plan through the use of a Workbook. The process involves highlighting the environmental strengths of the farm, identifying areas of environmental concern, and setting realistic goals and time-tables to improve environmental conditions. The goal of the EFP Workbook was to help farm operators see their farm in a new way by asking them to think about their land, buildings and the products they use from a different point of view. Specifically, it asked farmers to rate how each of these things could affect the environment (i.e. the air, soil, wildlife and water sources) around the farm. It also asked farmers to consider alternative ways of working that would reduce risks to the natural environment.

The EFP Workbook consists of two sections – the Farm Review and the Action Plan. The Farm Review includes 23 Worksheets that can be used to rate different situations on the farm including:

- Storage of agricultural waste
- Disposal of farm wastes
- Manure use management
- Nutrient management in growing crops
- Soil management
- Wetlands and wildlife ponds
- Woodlands and wildlife

- Fertilizer storage and handling
- Pesticide storage and handling
- Noise and odour
- Water efficiency

Since 1993, over 20,000 participants across Ontario have made use of the EFP Incentive Program. The program has documented investments of \$48 million in on-farm improvements and has won international recognition (Ontario Ministry of Agriculture and Food).

Another factor that is likely to enhance the protection of the natural environment is Ontario's Nutrient Management Act (NMA).²² The decision to develop the legislation followed lengthy public consultation and the tragedy associated with the e-coli contamination of the Town of Walkerton's water supply. As part of the Ontario government's Clean Water Strategy, the Act provides for province-wide standards to address the effects of agricultural practices on the environment, especially as they relate to land-applied materials containing nutrients.

Under the Act, all farms that generate a certain level of manure, or apply nutrients including fertilizer, will soon be required to prepare a Nutrient Management Plan. Under this plan the number of animals that can be raised, or the amount of fertilizer or manure that can be applied will be established, based on the capability of the land to safely utilize the nutrients.²³

The Act addresses the issues and risks identified in the Environmental Commissioner's special report of July 2000, "The Protection of Ontario's Groundwater and Intensive Farming." It also aligns with Commissioner Dennis O'Connor's Report of the Walkerton Inquiry Part Two and builds on the government's Smart Growth Strategy, which calls for well-planned and environmentally sensitive development.

The legislation represents a comprehensive, clear, province-wide approach that protects water, the environment and the well-being of communities in rural Ontario, while ensuring farmers can invest in and operate their farms with confidence. The need for this approach was confirmed by farmers, municipalities, environmental groups and others during consultations held by the Task Force on Intensive Agricultural Operations in Rural Ontario during early 2000.

²² Bill 81, the Nutrient Management Act, can be viewed at the following Internet URL: www.ontla.on.ca/documents/Bills/37_Parliament/Session3/b081ra_e.htm

²³ Plant nutrients which are contained in both manure and chemical fertilizers are essential to a farm operation. When applied in proper quantities and at appropriate times, the nutrients will aid in achieving optimum crop yields. However, improper use of nutrients can lead to soil-nutrient and feed-ration imbalances and can cause water quality problems both locally and downstream. The objective of nutrient management is to use nutrients (mainly nitrogen, phosphorus and potassium) wisely for optimum economic benefit, while minimizing impact on the environment. *From "10 Steps To Complete A Nutrient Management Plan For Livestock & Poultry Manure", Ministry of Agriculture, Food and Rural Affairs.*

The agricultural community is supportive of the legislation and is prepared to work with the Government of Ontario to help develop and implement NMA regulations that meet the Act's stated purpose, that being:

“...to provide for the management of materials containing nutrients in ways that will enhance protection of the natural environment and provide a sustainable future for agricultural operations and rural development.”²⁴

A crucial part of the implementation process is the funding to be committed by the Ontario Government to assist existing farm operations in making necessary improvements. In the course of developing the NMA, all parties of the Legislature committed to providing support to farmers who incurred costs to meet the requirements of the Act and its regulations. As noted in the Ontario Federation of Agriculture's Pre-Budget Submission to the Minister of Finance in January 2004, farm community support for Nutrient Management is dependent on the availability of adequate funding to ensure that sensible costs are remunerated. The Budget Submission emphasizes that farm operators, particularly livestock producers in light of the BSE crisis, cannot afford any new capital outlay to meet the new regulations. The Budget Submission warns that without the promised support, Nutrient Management compliance costs will force many thousands of Ontario's farms out of production.²⁵

7.5 Summary

This chapter has provided a general overview of the social, cultural and environmental benefits that are associated with agriculture in Temiskaming District. These benefits are important in contributing to the well being of society and the health of the environment. The maintenance of a productive and sustainable agriculture sector is essential in sustaining the quality of life enjoyed by all residents in the region.

²⁴ From "Open Letter" to Hon. Steve Peters, MPP Minister of Agriculture and Food, and Hon. Leona Dombrowsky, MPP Minister of Environment. From Ontario Farm Environment Coalition. December 1, 2003.

²⁵ From "The Public Interest - Growing Ontario's Greenest Industry: Agriculture in Perspective, 2004" A Pre-Budget Submission to the Honourable Greg Sorbara, Minister of Finance. By the Ontario Federation of Agriculture, Ron Bonnett, President. January 2004.

8.0 Conclusions

Agriculture is making a significant contribution to the economy of Temiskaming District. An analysis of data from the Population and Agricultural Census and survey data collected from agri-related businesses reveal that Temiskaming District is the agricultural heartland of northern Ontario.

In 2001, Temiskaming reported 532 farms and over 213,000 acres of farmland which represents approximately 20% of all farms and the total land area being farmed in northern Ontario. It is also one of the few areas of the province that reported an increase in farmland in recent years. Between 1996 and 2001, farmers in Temiskaming reported an additional 4,800 acres of land in production.

Southern Temiskaming features a micro-climate and soil conditions that allow for a variety of crops to be grown including alfalfa, corn, canola, spring wheat, and even soybeans. Over half of the total farmland area in Temiskaming (118,000 acres) is used for crop production. This represents close to one third of the entire cropland area reported in northern Ontario in 2001. Temiskaming accounts for almost 50% or more of the total northern Ontario production for a number of crops including spring wheat, barley, buckwheat, grain corn, canola, and soybeans.

Approximately 61% of all farms in Temiskaming are primarily involved in livestock production. This is higher than the provincial average of 45%. Beef and dairy farms are the most common types of farms in the region. Temiskaming is the number one milk producing District in northern Ontario. In 2002, the region reported 38.7 million litres of milk shipments representing 41% of the total milk production in northern Ontario. Other livestock and poultry types represented across the region include hogs, goats, sheep, chickens and turkey. Temiskaming farmers are also raising 'exotic' or specialty breeds such as deer and bison. The region accounts for 41% of the total bee colonies in northern Ontario.

The value of agricultural production in Temiskaming District is significant. In 2000, farmers in the region reported a total of \$44.2 million in gross farm receipts which represents 27% of the total receipts for northern Ontario. Average farm receipts per acre of farmland in Temiskaming are 28% higher than the northern Ontario average. Total net farm revenue per acre (total gross farm receipts – total operating expenses / total acres of farmland) amounted to \$30 per acre in 2000 which is 66% higher than the northern Ontario average. In some townships of the District the net revenue per acre figure is considerably higher, particularly in those areas that feature dairy production. In Armstrong Township the net revenue figure amounts to \$128/acre which exceeds the provincial average of \$95/acre.

Agriculture in Temiskaming has been greatly advanced by the research work of the 'experimental farm', the New Liskeard College of Agricultural Technology – now the New Liskeard Agricultural Research Station (NLARS) – and through the efforts of local farm leaders and organized commodity groups who share production and farm

management information. Another stakeholder group that has played an important role in supporting agriculture is the agri-related business community. These businesses represent a range of industry sectors including retail and wholesale trade, manufacturing, construction, transportation and business services. Agri-related businesses provide the support infrastructure for the agriculture sector and through their linkages to farm based activities, generate substantial economic benefits for the region. In 2002, agri-related businesses in Temiskaming generated an estimated \$101 million in sales through transactions with farmers. Collectively, farmers and agri-related businesses generated a total of \$145 million in gross sales in Temiskaming. The associated sales expenditure multiplier indicates that for every dollar of farm income generated, there is an additional \$2.30 in sales related to agriculture generated in the wider economy.

The study also indicates that agriculturally related activities make an important contribution to both the assessment base and municipal tax base of most of the municipalities studied. While the level of contribution is least in the more urban municipalities, it is significant for most of the rural municipalities studied.

The other key economic contribution made by agriculture is employment. Farms in Temiskaming directly employ 745 people and support an additional 526 jobs in agri-related businesses across the region. A further 890 induced jobs are supported by agriculture and agri-related businesses in Temiskaming. As a combined figure, agriculture and agri-related businesses support over 2,100 jobs in the local economy. The associated employment multiplier indicates that every on-farm job generates/supports an additional 2 jobs in the wider economy.

The agriculture sector is also providing a number of social, cultural and environmental benefits to the region. The agricultural landscape is a major contributor to the character and cultural ambience of Temiskaming District. Farm families in Temiskaming support a significant foundation for the local quality of life by supporting rural communities, organizations and events that are vital to the region. They also serve as responsible caretakers for a substantial part of the regional land base and promote a rural character that makes the region a desirable area for residents, tourists and employers.

Farmers recognize that the long-term prosperity of the agriculture sector is linked to its ability to co-exist sustainably with the natural environment. Farmers in Temiskaming are using a variety of practices that benefit the environment by conserving valuable soil resources, protecting watersheds, improving wildlife habitat and ensuring bio-diversity.

Despite the successes experienced by the agriculture sector, farming remains a highly stressful occupation for many farmers who have to cope with a variety of factors beyond their control including weather, fluctuating market prices and inadequate returns. In addition to changes experienced within Temiskaming the agriculture sector is also impacted by changes occurring elsewhere in the province, country and the world. Evidence of this can be seen in the effects of the world-wide embargo that was placed on Canadian beef as the result of a single case of bovine spongiform encephalopathy

(BSE or mad cow disease) in Alberta. Although regional figures are unavailable, Ontario's 21,000 beef producers were estimated to be losing about \$4 million per week during the height of the BSE crisis.

While the challenges facing agriculture are considerable, farmers and agri-related businesses see opportunities for growth in Temiskaming District. The region offers many advantages to local farmers who are interested in expanding their existing operation and to farmers in other parts of Ontario or overseas who are interested in relocating or establishing a farm operation. The advantages include lower land prices, an expanding farmland base, fewer urban pressures and potential urban/rural conflicts, and a supportive agri-related businesses base. A coordinated education and marketing campaign that emphasizes agricultural business opportunities in the region could help to address the issue of youth out-migration and attract new business entrepreneurs to the area.

This study has demonstrated that agriculture in Temiskaming District produces significant economic, social and environmental benefits for local communities. For agriculture to continue to thrive and maintain its economic viability, decision makers will need to make a strategic commitment to the long-term success of agriculture. Protection of the northern Ontario agricultural heartland should have high priority in developing land policies and supporting programs. The maintenance of a productive and sustainable agriculture sector is essential in sustaining the quality of life enjoyed by all residents in the region.

References

- Agriculture and Agri-Food Canada. Crop Heat Units.
http://res2.agr.ca/ecorc/clim3/resu-ana_e.htm
- Barnett, P.J. 1991. "Quaternary Geology of Ontario". In P.C. Thurston, H.R. Williams, R.H Sutcliffe and G.M. Stott (Eds.). Geology of Ontario - Special Volume Part 2. Ontario Ministry of Northern Development and Mines.
- Bendavid-Val, Avrom. 1991. Regional and Local Analysis for Practitioners, 4th ed. Westport, Connecticut: Praeger.
- Better Farming, June/July 2000.
- Bollman, Ray D. and Brian Biggs. 1992. "Rural and Small Town Canada: An Overview." In Bollman, R.D. (Ed.) Rural and Small Town Canada. Lewiston, N.Y.: Thompson Educational Publishing Inc.
- Bootsma, Andy. March 2001. Average Crop Heat Units Available for Corn and Soybean Production in Eastern Canada. Agriculture and Agri-Food Canada.
http://sis.agr.gc.ca/cansis/nsdb/climate/crop_heat/webmap.html
- Bradfield, Michael. 1988. Regional Economics: Analysis and Policies in Canada. Toronto: McGraw-Hill Ryerson Ltd.
- Brown, D.M., A. Bootsma and R de Jong. Analysis of Growing Season Water Deficits in Ontario. Land Resource Science, University of Guelph.
- Cummings and Associates. 2003. Growing Food and Economy: Economic Impact Study of the Agriculture and Food Related Sectors in Waterloo Region. Harry Cummings and Associates. Unpublished report. Guelph, Ontario.
- Cummings and Associates. 2002. Economic Impact Study of the Agriculture Sector in Algoma – Manitoulin. Harry Cummings and Associates. Unpublished report. Guelph, Ontario.
- Cummings and Associates. 2001. Economic Impact Study of the Agriculture Sector in the Blue Sky Region. Harry Cummings and Associates. Unpublished report. Guelph, Ontario.
- Cummings and Associates. 2000. The Economic Impacts of Agriculture on the Economy of Perth County. Harry Cummings and Associates. Unpublished report. Guelph Ontario.
- Cummings and Associates. 2000. The Economic Impacts of Agriculture on the Economy of Lambton County. Harry Cummings and Associates. Unpublished report. Guelph Ontario.
- Cummings and Associates. 1999. Economic Impact of Agriculture on the Economy of Simcoe County. Harry Cummings and Associates. Unpublished report. Guelph Ontario.

- Cummings, Harry and Vince Deschamps. 1999. Economic Impact of Agriculture on the Economy of Prescott, Russell, Stormont, Dundas, and Glengarry Counties. University School of Rural Planning and Development. Unpublished report. University of Guelph. Guelph, Ontario.
- Cummings, Harry, Karen Morris and Dan McLennan. 1998. Economic Impact of Agriculture on the Economy of Huron County. University School of Rural Planning and Development. Unpublished report. University of Guelph. Guelph, Ontario.
- Cummings, Harry, Galin Kora and Don Murray. 1999. Farmers' Markets in Ontario and Their Economic Impact. University School of Rural Planning and Development. Unpublished report. University of Guelph. Guelph, Ontario.
- Dasgupta, Satadal. 1988. Rural Canada: Structure and Change. Lewiston , New York: Edwin Mellen Press.
- Davis, H. Craig. 1990. Regional Economic Impact Analysis and Project Evaluation. Vancouver: University of British Columbia Press.
- Easton, R.M and J.A. Fyon. 1991. "Metallogeny of the Grenville Province." In P.C. Thurston, H.R. Williams, R.H Sutcliffe and G.M. Stott (Eds.). Geology of Ontario - Special Volume Part 2. Ontario Ministry of Northern Development and Mines.
- E.G. Gregorich, D.A. Angers, C.A. Campbell, M.R. Carter, C.F. Drury, B.H. Ellert, P.H. Groenevelt, D.A. Holmstrom, C.M. Monreal, H.W. Rees, R.P. Voroney, and T.J. Vyn. Agriculture and Agri-Food Canada. Changes in Soil Organic Matter. August 2003. http://res2.agr.gc.ca/publications/hs/chap05_e.htm
- Environics Research Group, September 2000. Survey of Farmers, Ranchers and Rural Landowners: Attitudes and Behaviours Regarding Land Stewardship.
- Environics Research Group, June 2003. National Survey of Rural Landowners: Attitudes and Behaviours Regarding Land Stewardship.
- Faas, Ronald C. 1980. "Coping with Growth: What Does the Impact Statement Say About Economic Impacts." Corvallis, Oregon: Western Rural Development.
- Goe, W.R., and M. Kenney. 1991. "The Restructuring of the Global Economy and the Future of U.S. Agriculture." In Pigg, Kenneth E. (Ed.). The Future of Rural America. Boulder, Colorado: Westview Press.
- Johnston, Jim, Matt Bowman, and Bill Garner. New Liskeard Agricultural Research Station. Corn Silage Variety Test Results at New Liskeard in 2000. January 2004. http://www.kemptvillec.uoguelph.ca/research/nlpubs/Corn_Silage__2000.htm
- Josling, L.T. 1996. An Empirical Study of the Interdependence Among Agriculture and Other Sectors of the Canadian Economy - An Input-Output Model. Agriculture Economics Research Council of Canada.

- Hoffman, D.W. and H.F. Noble. 1975. Acreages of Soil Capability Classes for Agriculture in Ontario. Ontario Ministry of Agriculture and Food, Rural Development Branch and Department of Regional Economic Expansion, Canada.
- Keddie, Phil. 1999. "The Demographic, Social and Economic Diversity of Rural and Small Town Southern Ontario." In Fuller, Tony and Nichol, Paul (Eds.). Dynamics of the New Rural Economy: An Exploration of Community Sponsored Research from Huron County. Guelph: University School of Rural Planning and Development. University of Guelph.
- Murray, Don. 2000. "Agricultural Exports and their Impact on the Local Economy: A Case Study of Huron County." Unpublished M.Sc. Thesis, University School of Rural Planning and Development, University of Guelph, Guelph Ontario.
- Odyssey Report: An Industry Quest for Solutions. Sept. 2002. Agricultural Adaptation Council.
- Ontario Association of Agricultural Societies. Listing of Agricultural Fairs. www.ontariofairs.com/oaas/fairs/
- Ontario Cattlemen's Association. Press Release - September 2, 2003. Beef farmers grateful for continued provincial support. <http://www.cattle.guelph.on.ca/communications/2003/provincialsupport.html>
- Ontario Corn Producers Association. Corn and the Environment - A Brief Overview. January 2004. <http://www.ontariocorn.org/envt/envview.html>
- Ontario Corn Producers Association. Corn and Climate Change. January 2004. <http://www.ontariocorn.org/envt/envclim.html>
- Ontario Heritage Foundation, 2003. New Liskeard Historical Background. Feb. 2004. <http://www.heritagefdn.on.ca/Eng/Heritage/plaques/2003/july.shtml>
- Ontario Ministry of Agriculture, Food and Rural Affairs. February 2001d. New Liskeard Agricultural Research Station - Profile. <http://www.gov.on.ca:80/OMAFRA/english/offices/northern/noresearch/noresearch1>.
- Ontario Smart Growth – Shape the Future. 2003. Northeastern Ontario Smart Growth Panel. Queen's Printer for Ontario.
- Parson, H.E. *Regional Trends of Agricultural Restructuring in Canada*. Canadian Journal of Regional Science. XXII:3. Autumn 1999, 343-356.
- Poole, Eric, Ronald Rioux and Claude Simard. 1994. "The Input-Output Model and Economic Policy". Policy Options. Vol. 15 (10), 28-31.
- Statistics Canada. 1991. Agricultural Profile of Ontario. Ottawa, Ontario.
- Statistics Canada. 1996. Agricultural Profile of Ontario. Ottawa, Ontario.
- Statistics Canada. 2001. Agricultural Profile of Ontario. Ottawa, Ontario.

- Statistics Canada. 1986a. Population Profile of Canada - Part A. Supply Services. Ottawa, Ontario.
- Statistics Canada. 1986b. Population Profile of Canada - Part B. Supply Services. Ottawa, Ontario.
- Statistics Canada. 1991a. Population Profile of Canada - Part A. Supply Services. Ottawa, Ontario.
- Statistics Canada. 1991b. Population Profile of Canada - Part B. Supply Services. Ottawa, Ontario.
- Statistics Canada. 1996a. Population Profile of Canada - Part A. Supply Services. Ottawa, Ontario.
- Statistics Canada. 1996b. Population Profile of Canada - Part B. Supply Services. Ottawa, Ontario.
- Statistics Canada. 2001. Population Profile of Canada. Supply Services. Ottawa, Ontario.
- Statistics Canada. The Daily: Farmers Leaving the Field, Feb. 22, 2002.
- Statistics Canada. 2001 Census Dictionary
- Strategic Plan for the Tri Town Area. June 5, 2003. Tri Town Strategic Economic Development Unit.
- Thurston, P.C. 1991. "Geology of Ontario." In P.C. Thurston, H.R. Williams, R.H. Sutcliffe and G.M. Stott (Eds.). Geology of Ontario - Special Volume Part 1. Ontario Ministry of Northern Development and Mines.
- Unnasch, Stefan. 1990. Greenhouse Gas Emissions from Corn-based Ethanol Production and Vehicle Use. Acurex Corporation, Mountain View, California.
- Van Hoeve, Frank, P.S. 1995. "The Eastern Ontario Dairy Industry: Regional and Provincial Economic Impacts and Linkages." Unpublished M.Sc. Thesis, University School of Rural Planning and Development, University of Guelph, Guelph Ontario.
- Walton & Hunter Planning Associates, Betsy J. Donald, J. Ross Raymond & Associates Ltd. November, 1999. *Greater Toronto Area – Agricultural Economic Impact Study*. Commissioned by the GTA Federations of Agriculture Project Management Committee.
- Wolfe, Christian Wolfe, Statistics Canada, with files from Vicky Cano Lamy, Agriculture and Agri-Food Canada. 999. *What exactly is "value added" anyway?*
<http://www.statcan.ca/english/kits/agric/value.htm>
- Whyte, Donald R. 1978. "Rural Canada in Transition." In Tremblay, M.A., and W.J. Anderson (Eds.). Rural Canada in Transition. Ottawa: Agricultural Economics Research Council.

Appendix A: Farm Types in Temiskaming District by NAICS

Number of Farms by Farm Type for Temiskaming District and Townships, Northern Ontario and Ontario, 2001 – North American Industrial Classification System (NAICS).

	Total farms ^a	Cattle ranching and farming	Hog and pig farming	Poultry and egg prod.	Sheep and goat farming	Other animal prod.	Oilseed and grain farming	Veg. and melon farming	Fruit and tree nut farming	Greenhouse, nursery and floriculture prod.	Other crop farming
Ontario	55,092	19,152	2,491	1,614	1,017	5,428	13,371	1,416	1,739	2,430	6,434
Northern Ontario	2,279	1,167	16	16	36	241	75	35	23	125	545
Temiskaming District	479	272	4	1	13	40	49	2	2	4	92
Haileybury	17	8	0	0	1	2	0	0	1	1	4
Harris	19	12	0	0	0	2	2	0	0	0	3
Dymond	34	21	0	0	2	5	3	0	0	1	2
Hudson	26	17	0	0	0	1	1	0	0	0	7
Kerns	51	28	0	0	1	2	14	0	0	0	6
Harley	30	15	0	0	1	1	3	0	0	0	10
Casey	25	10	0	1	0	3	4	0	0	0	7
Brethour	24	10	0	0	4	0	4	0	0	0	6
Hilliard	34	19	1	0	1	2	1	0	1	0	9
Armstrong	33	26	0	0	0	1	3	1	0	0	2
Dack	30	17	1	0	0	2	2	0	0	0	8
Evanturel	23	14	0	0	0	1	4	0	0	0	4
Chamberlain	22	11	0	0	1	3	1	0	0	1	5
UO, West Part	111	64	2	0	2	15	7	1	0	1	19

^a Farms reporting total gross farm receipts of \$2,500 or more.

Source: Statistics Canada, 2001.

Appendix B: Economic Impact Analysis - An Overview

Economic impact is generally a measure of the impact of a sector or a project on all sectors of the economy. Economic impact analysis studies are aimed at identifying "...changes in a local economy resulting from a stimulus (positive or negative) to a particular segment of the economy" (Davis, 1990, p 5). These studies are often based on one of the several standard methodologies of regional analysis: the economic base analysis and input-output analysis (Faas, 1980, p. 4).

Economic Base Approach

Economic Base Theory maintains that economic growth is only possible if the economy's exports grow (Bradfield, 1988, p.38). The theory is based on the belief that as exporting industries expand their sales, there will be an increasing demand for inputs locally which will consequently drive local economic growth (Bradfield, 1988, p.39). In economic base theory, the economy is classified into two sectors of basic and non-basic. The basic sector includes industries that ultimately export their product out of the region. The non-basic sector is the economic activity with final sales remaining inside the region (Davis, 1990, p. 10). These are support industries that provide everything from industrial inputs to houses for basic sector employees (Higgins and Savoie, 1995, p. 66). The exporting industries are identified as basic sectors while all other industries are classified as non-basic.

According to economic base theory, exports are the engine of the local economy. It follows then that the export of goods supports all other needs of the economy (Bendavid-Val, 1991, p. 77). Economic base theory and its supporters carry the separation of basic and non-basic sectors to the point where they attempt to predict the relative impact of the basic sector on the non-basic sector. The prediction of economic impact is assessed through two economic indicators known as the economic base ratio and economic base multiplier. Economic base theory has been refined to the point where it can be questioned: "What is the overall gain in employment or income in the region associated with each gain in export sales?" (Bendavid-Val, 1991, p. 78).

This question is answered through the economic base ratio indicator and the base multiplier indicator (Bendavid-Val, 1991, p. 780). The economic base ratio calculates jobs that are theoretically created from one additional job in the basic sector. The economic base ratio is the ratio between employment in the basic and non-basic sectors and is supported by the idea of basic and non-basic employment combined equaling total employment (Bendavid-Val, 1991, p. 78). The economic base multiplier is the ratio of total employment to basic employment and indicates how many jobs in total are provided for each basic job. Thus, the economic base multiplier is the total sum of the jobs created in both sectors from one job in the basic sector (Bendavid-Val, 1991, p. 78). The economic base method is used in this study to estimate jobs in the service sector related to the basic sector of agriculture.

Input-Output Analysis

Input-Output (IO) analysis is used to measure the inter-relationships between economic activities at the sectoral, national and regional levels. Linkages are expressed by estimating the sales (outputs) from a given sector to all other sectors in the economy, and by estimating inputs from all other sectors to a specific sector. What makes the IO model so useful is its comprehensiveness, which disaggregates the economy into individual sectors (Josling, 1996, p. 5). Disaggregation permits analysis at the sectoral level, providing researchers with a close-up view of the economy. This analysis allows the researcher to assess where each sector purchases its inputs and where it sells its outputs. Such analysis is invaluable in identifying what investment will provide the greatest impact on an economy (Poole et al., 1994, p. 30).

The IO model estimates the movement of expenditures through the economy. This is traced through four different levels of expenditure: intermediate and primary suppliers, and intermediate and primary purchasers. Suppliers - intermediate and primary - purchase inputs for processing into outputs. Purchasers - intermediate and primary - buy outputs from suppliers and either use them to manufacture a product, or sell them as a final product (Bendavid-Val, 1991, p.88).

Input-output analysis has two main approaches. The Open Model allows the estimation of only the direct and indirect effects of a sector. The Closed Model estimates these, as well as the induced effects of a sector. The open model is used to trace the flow of variables between sectors of the economy (i.e. direct and indirect expenditures). The open model does not measure induced spending in the economy; expenditures on food, services and other household expenses would not be included (Davis, 1990, p. 59). The closed model is used to measure all aspects of the economy, including the direct, indirect and induced effects. Treating the household sector as a producer that sells labour to other purchasing sectors assesses induced effects (Davis, 1990, p. 59). As this study aims to measure all of the effects of agriculture on the Study Area economy, it is based on the Closed Model approach.

There are several problems associated with the IO model. The first is that it is time-specific; it takes a snapshot of the economy at a specific point in time. This model cannot account for changes in product demand or input costs, or for the introduction of new technology into the industrial sector (Davis, 1990, p. 62). Thus, the IO model does not adjust for the changing nature of the economy. A second problem of the IO model is the cost and time needed for the construction of the tables associated with this analysis. For this reason, the analysis for this study has been carried out using a survey-based "input-output-like" approach.

Multipliers

Given the previous discussion of economic base analysis and input-output analysis, the reader may question where the application of the two models leads. One of the best uses is that they allow the analyst to identify the impacts of economic changes or

shocks to a system. Essentially, what these models do is measure the multiplier effects that result from a change in the economic system. In basic terms, multiplier effects are the relationship between direct jobs produced by a project or sector and indirect and/or induced jobs caused by the direct jobs, presented in a single number (Lewis et al., 1979, p. 1). Therefore, an economic multiplier can be used to estimate the impact of change in one variable (for example, the value of agricultural production) on another variable (for example, the value of non-agricultural production). Direct employment and production in the agriculture sector will affect the rest of the economy by supporting employment in related industries as well as in the retail sector. In this way, "...a multiplication of transactions occurs in the economy by people re-spending money" (Van Hove, 1995, p. 66). The multipliers calculated for this research include a sales expenditure multiplier and an employment multiplier.