Farmland Preservation: An Assessment of the Impact of Rural Non-Farm Development on the Viability of Ontario's Agricultural Industry

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Literature Review

Rural Non-Farm Development: Its Impact on the Viability and Sustainability of Agricultural and Rural Communities

Dr. Wayne J. Caldwell and Claire Dodds-Weir
School of Rural Development and Environmental Design

University of Guelph

Overview and Acknowledgements

Overview

This report is the second of a series of three reports on the topic of Rural Non-Farm Development: and its Impact on Agricultural and Rural Communities. This report reviews the literature that has documented the impact of rural non-farm development on agricultural communities.

The other two reports in the series are entitled:

1. Farmland Preservation: An Assessment of the Impact of Rural Non-Farm Development on the Viability of Ontario's Agricultural Industry – PHASE II REPORT. Written by Dr. Wayne Caldwell and Claire Dodds-Weir. 2003.

2. Ontario's Countryside: A Resource to Preserve or an Urban Area in Waiting? A Review of Severance Activity in Ontario's Agricultural Land During the 1990s. Written by Dr. Wayne Caldwell and Claire Weir. 2002.

All three reports are products of a research project called Rural Non-Farm Development - Its Impact on the Viability and Sustainability of Agricultural and Rural Communities.

All three reports are available on the following website:

www.waynecaldwell.ca

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- → the assistance of planning directors, planners, land division secretaries and staff at each of the thirty four counties and regions in Ontario included in this study.

Table Of Contents

List of Figures

List of Tables

1.1 Introduction

Ontario is blessed with some of the best farmland in Canada. Agricultural land is one of Ontario's most important resources. Literature identifies that as urban boundaries continue to expand and as rural non-farm development increases in the countryside, Ontario's agricultural resource becomes increasingly scarce, and the viability of the agricultural industry it supports becomes increasingly challenged. The New Webster's English Dictionary defines viable as "possessing the ability to grow and develop". While the viability of the agricultural industry is an incredibly complex issue, influenced by national and international laws regulations and markets, it has been recognized that development that occurs in proximity to agriculture also has an impact on the viability of agriculture.

While there are a number of perspectives on the specific impacts of rural non-farm development on the agricultural industry, the majority of authors who have written on the subject agree that there is some impact as a result of non-farm development establishing in an agricultural area. In his review of evolution of agricultural land preservation in Ontario and specifically in Huron County, Caldwell (1995) identified that the long-term welfare of many rural communities is dependent upon the preservation of the agricultural land resource. Caldwell also stated that "not only is the physical loss of farmland a threat to an active agricultural industry, but so too are the restrictions that tend to accompany the gradual introduction of non-farm uses in agricultural areas" (1995, p.22). This conclusion is reflected in the literature that discusses the impact of non-farm development on the agricultural industry.

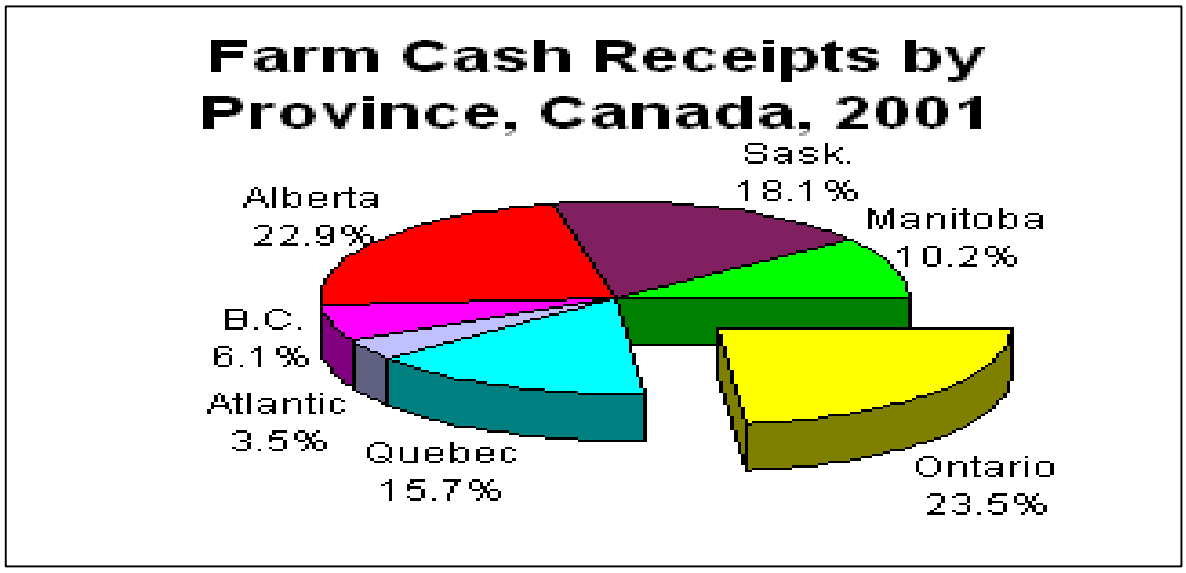
The goal of this report is to explore some of the literature and research that informs the discussion on the impact of rural non-farm development on the viability of Ontario's agricultural industry. The first section of this report will address the significance of the agricultural industry and its development in Ontario. Next, the literature on the physical impact of rural non-farm development is summarized. The third section will look at the agricultural land preservation effort. Fourthly, existing literature that has attempted to identify the impact of rural non-farm development on agriculture is reviewed. The next section will discuss why the creation of rural non-farm development is so persistent. The final section reviews the historical role of planning and planning policy with regard to the development of rural non-farm lots in the province.

1.2 Significance and Development of Ontario's Agricultural Industry

1.2.1 Significance of Ontario's Agricultural Industry

Despite tremendous changes in the twentieth century in terms of economic development and urbanization, agriculture remains a critical element in our daily lives in Ontario (Bryant, Russworm and McLellan, 1982; Bryant and Johnston, 1992). The agricultural industry in Ontario is significant at both the national and provincial levels. Figure 1.1 illustrates that Ontario led all provinces in farm cash receipts in 2000, with approximately 24% of the national total (Statistics Canada, 2001b). Ontario also accounted for 24% of the nation's farms in 2000 (Statistics Canada, 2001b).

Figure 1.1 Farm Cash Receipts by Province, Canada, 2001

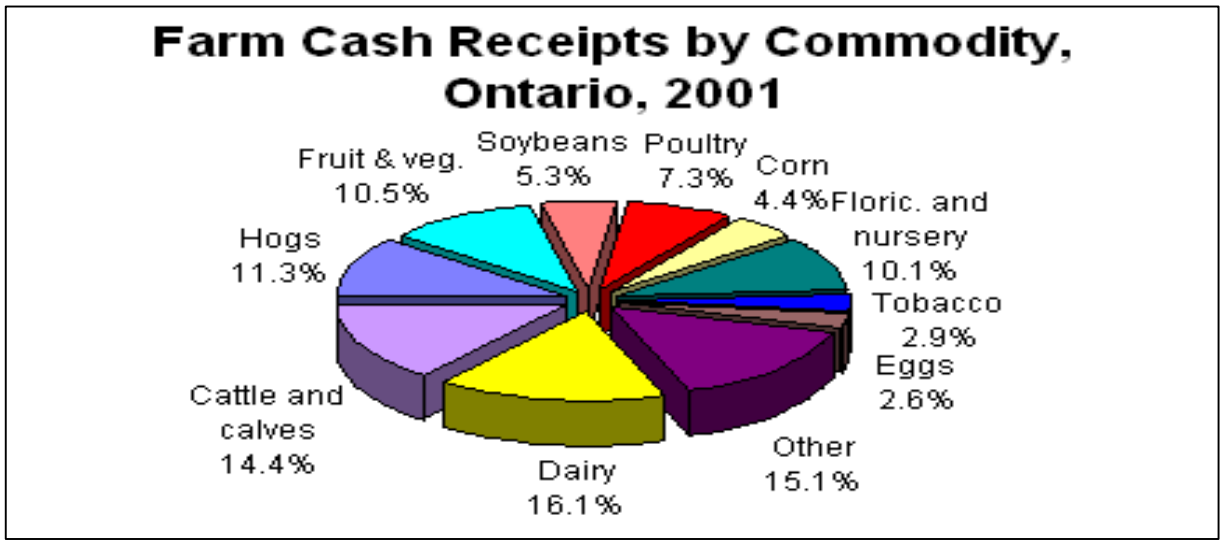


Source: Statistics Canada, 2001c, Catalogue No. 21-603.

Ontario is an economic powerhouse within Canadian agriculture, with its total gross farm receipts totalling just over $9.1 billion in 2000 (Statistics Canada, 2001b).

The agricultural industry in Ontario is diverse. Figure 1.2 illustrates the major commodity groups by farm cash receipts. The livestock sector accounts for almost 50% of Ontario's farm receipts, making it the most economically significant component of Ontario's agricultural industry in 2001. The cash crop sector, the flower, nursery and the fruit and vegetable sectors each comprise about 10% of the farm cash receipts in 2001.

Figure 1.2 Farm Cash Receipts by Commodity, Ontario, 2001



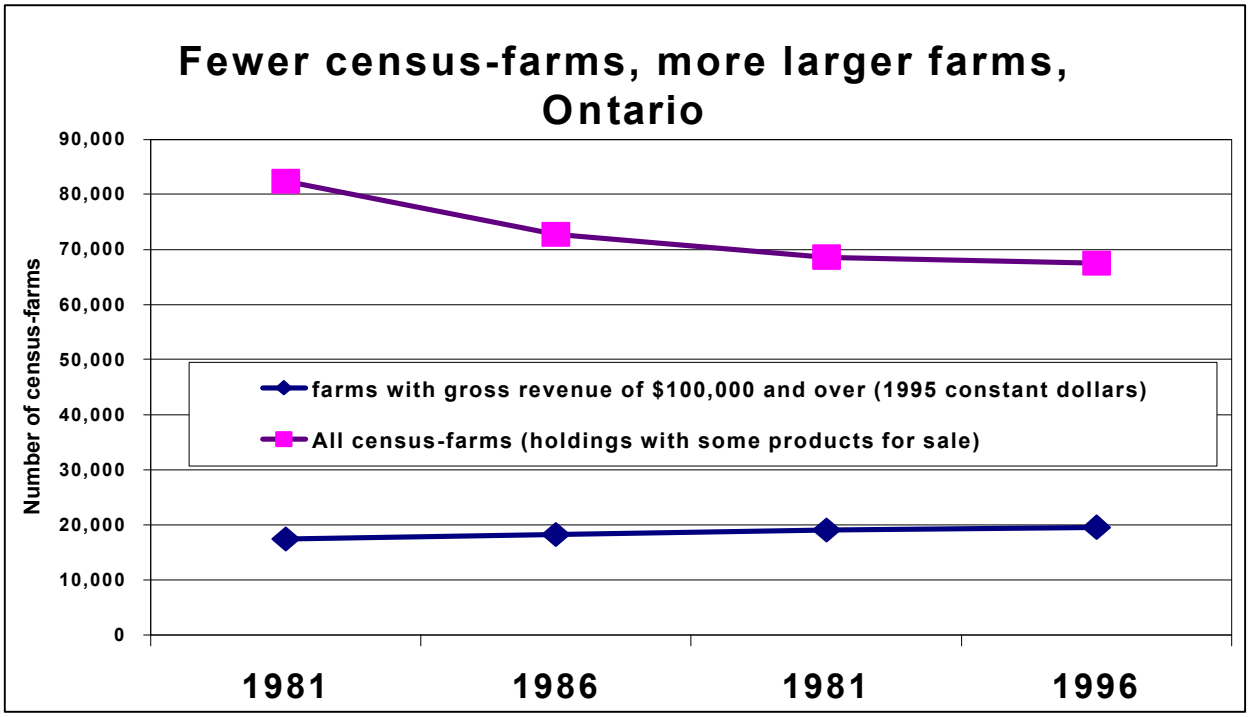
Source: Statistics Canada, 2001c, Catalogue No. 21-603.

1.2.2 Development of the Agricultural Industry in Ontario

Despite the apparent prosperity that has been generated by the agricultural industry, some individuals and entire commodities are under pressure; virtually every sector is facing the challenge of rapid change. Over the past few decades Ontario has seen a number of trends that indicate significant changes in the agricultural industry. The number of farms in Ontario has declined from 68,633 in 1991 to 59,728 in 2001

(Statistics Canada, 2001b). While there is an overall trend that indicates the number of farms in Ontario has been declining, the size in terms of area, herd sizes and gross farm receipts have been increasing. The average Ontario farm was 226 acres in 2001, up 9.7% from 1996 (Statistics Canada, 2001b). Figure 1.3 illustrates this trend by comparing the number of census farms with the number of farms reporting a gross revenue of $100,000 and over.

Figure 1.3 Fewer Census Farms, More Larger Farms between 1981 and 1996



Source: Statistics Canada, Census of Agriculture. 1981 to 1996

There are many reasons why these changes in the agricultural industry have, and continue to occur. According to a report published by Agricultural Odyssey Group in 2002, these changes have been brought on, in part, by international trade-liberalization, consumer demands, growing environmental concerns, a rationalization of

suppliers and processors, shrinking government commitment to the sector as well as the use of science and communication technologies that were not imagined a generation ago" (Agricultural Odyssey Group, 2002, p.5).

Increased technology such as mechanization, computerization, and biotechnology, has played a central part in the development of the agricultural industry. This increase in technology has allowed farms to raise more livestock with less labour and to obtain increased crop yields. As labour requirements in agriculture have declined drastically, the industry has become economically rationalized, dividing the industry into fewer, larger units and has shifted from labour to capital intensity (Troughton, 1990, p.24). This trend has partially driven the shift in agriculture towards large livestock facilities.

Increasingly farmers are forced to compete in the global market. As barriers to trade are removed, farmers are forced to compete internationally. In response, farmers compete for larger portions of limited production under cost-price squeeze[1] conditions (Caldwell 2001). Success is measured in terms of cost-per-unit of production and production efficiency is seen as stemming from increased scale of operation, capital intensification, and reliance on secondary inputs (Troughton, 1990, p.23). In order to make a profit, farmers feel pressure to grow larger. "In a search for increasing efficiencies and in response to the cost price squeeze, farmers find that net returns per unit of production are decreasing – dictating larger, more specialized and more efficient operations" (Caldwell, 2001, p.3). As a result, family farmers often find themselves working with large corporations to develop vertically integrated networks, where the corporation provides the farmer with funding to build a new barn and to produce

[1] The cost price squeeze is a crisis in farming because the price that farmers are paid is low but the cost of production keeps going up.

livestock on a contract basis. The farmer is increasingly financially connected to the corporation and less connected with the rural community.

As discussed above, there are numerous demands and challenges that pressure Ontario's agricultural industry. Farmers must remain as flexible as possible in order to respond to these demands. As non-farm development is established, the ability of the producer to remain flexible is challenged.

1.3 Loss of Agricultural Land

In Canada, approximately 673,000 square kilometres of land are used for agriculture. Although this figure seems large, it represents only about 7 percent of Canada's total landmass (Statistics Canada, 2001 c). Not all the land-used for agriculture is considered high-capability. Despite Canada's size, dependable[2] agricultural land is a scarce resource. Agricultural land in Canada has been classified according to its limitations for production based on variables such as soil and climate. Table 1.1 illustrates the percentage of Canada's land area that is considered Class 1 to 3. This table demonstrates that only about 5 percent of Canada's land area is considered dependable.

Table 1.1 National Agricultural Land Supply by Capability Rating

Canada Land Inventory Class	Description	% Of Canada's Land Area	Relative Production Potential For Arable Agriculture	Relative Direct Costs Of Production Per Kg. Of Product Produced
1	EXCELLENT TO VERY GOOD	0.45%	1.00	1.00
2	GOOD	1.80%	0.80	1.30
3	FAIRLY GOOD	2.80%	0.65	1.50
5.05%				

Source: C.F. Bentley and L.A. Leskiw, "Sustainability of Farmed Lands: Current Trends and Thinking", Canadian Environmental Advisory Council, 1984, p.11 in Misek-Evans, Margaret. 1992a. *Balancing Growth with Agriculture: Approaches to Managing Non-Farm Rural Residential Development*. Department of Planning and Development, County of Oxford, p.3.

Ontario's countryside is made up of some of the best farmland in Canada. Numbers recently published by Statistics Canada's Environment Accounts and

[2] Dependable agricultural land is a term that is used by Statistics Canada to describe agricultural land considered as Class 1 to 3 by the Canada Land Inventory.

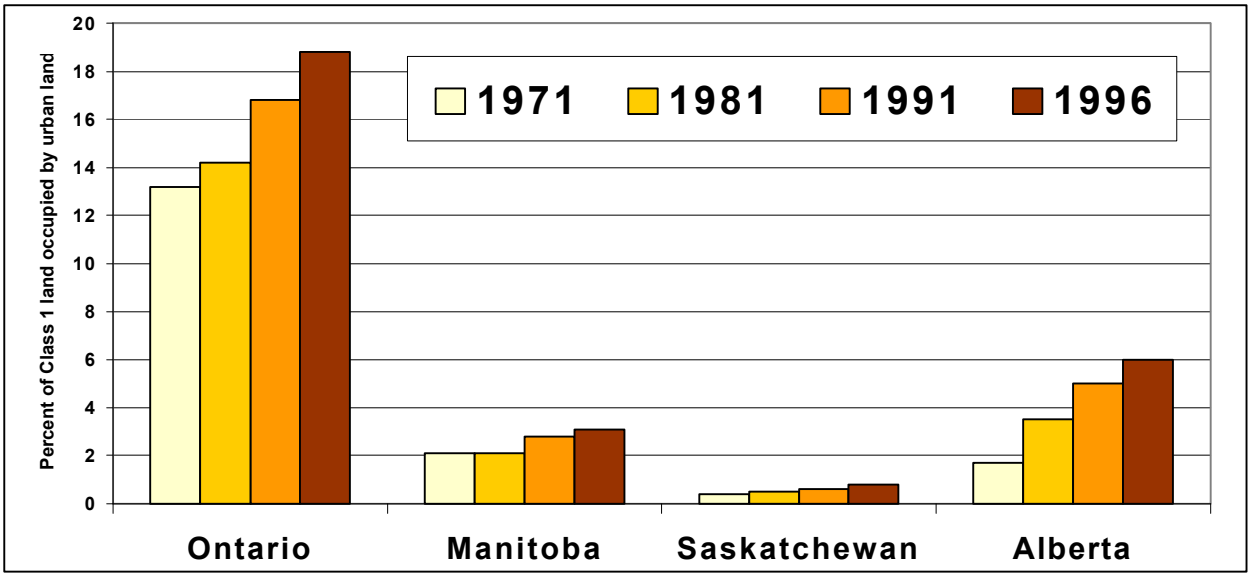
Statistics Division indicate that Ontario contains 52% of Canada's Class 1 land, 14% of Canada's Class 2 land, 11% of its Class 3 land and 8% of its Class 4 land (Statistics Canada, 2001c). The same publication identified that only 6.8% of Ontario's total land is considered dependable agricultural land. These statistics identify that the preservation of the agricultural resource in Ontario is critical, due to the lack of high-capability agricultural land within Canada.

In 1977, the Canada Land Inventory established that a total of 16.3 million acres in Ontario is potentially suitable for arable agriculture (Ontario Soil Conservation Society, 1977, p.5). About 3.5 million acres are north of North Bay where climactic limitations tend to restrict agricultural development. The remaining 12.8 million acres are south of the Laurentian Shield, where most Ontario residents and their space-consuming activities are located (Soil Conservation Society of America. 1977, p.5).

The challenge in Ontario is that, due to historic settlement patterns, most urban centres are situated in the middle of highly-productive agricultural land. In all but a few cases, further outward expansion of these centres has little alternative but to use good farmland for urban uses (Soil Conservation Society of America. 1977, p.5). As a result, there is a great deal of pressure to use agricultural land for purposes other than agriculture. There is competition from residential, industrial, commercial, institutional and recreational uses, gravel pits, landfill sites, highways, and other uses (Ontario Ministry of Agriculture and Food, 1992, p.3). This pressure is increasing as the population of Ontario grows, and is predicted to grow, at rapid rates over the next several decades.

Urban uses have consumed 12,000 square kilometres of land since 1971. One half of this was "dependable" farmland (i.e. Class 1-2-3 land as classified by the Canada Land Inventory) (Statistics Canada, 2001 c). Figure 1.4 illustrates as of 1996, over 18% of Ontario's Class 1 farmland was being used for urban purposes. This land is, for all intents and purposes, permanently lost to agriculture (Statistics Canada, 2001 c).

Figure 1.4 Percentage of Provincial Class 1 Soil Consumed for Urban Purposes



Source: Statistics Canada. 2001 c. *Urban Consumption of Agricultural Land.* Rural and Small Town Canada Analysis Bulletin. Volume 3, Number 2. Catalogue no. 21-006-XIE

Between 1996 and 2001 there was a 2.7% reduction in total farmland and an 11.5% reduction in the total number of farms in Ontario (Statistics Canada, 2001b). This is a continuation of a long-term trend. Much of this loss of land can be attributed to two processes. First, a considerable amount of agricultural land has been lost to the expansion of urban areas and scattered rural residential development within the agricultural areas of Ontario. Second, there has been a long-term trend to abandon marginal agricultural land and allow it to naturalize.

1.4 Protection of Ontario's Agricultural Resource

The issue of agricultural land preservation in Canada has been a topic of discussion for well over thirty years. A variety of perspectives exist regarding the importance of farmland protection. Some argue that with low commodity prices, agricultural surpluses, inexpensive food imports, and the overall pessimism that exists in certain agricultural sectors, agricultural land should not be protected. Edgens and Stanley, in a 1999 article entitled the "Myth of Farmland Loss", demonstrated the lack of concern for the preservation of agricultural land. While their research was specifically dealing with the situation of farmland loss in the United States, there have been similar criticisms made about farmland loss in Canada. A central argument is that farmland loss is a myth because the U.S.A. is losing farmland at half the rate it was lost in previous decades (Edgens and Stanley, 1999). While this is hopefully the case in the U.S.A., this argument does not take into consideration the cumulative impact of any additional agricultural land being lost to urban and non-farm uses. Nor does it take into account the growth pressures on agricultural land within the rural communities.

In an article comparing planning in Pennsylvania vs. Ontario, Ball et. al. (2002, p.31) reflect that "individual rights seem to be valued more highly than the public good. … The strength of property owners' rights presents difficulties for cohesive and coordinated planning among communities". Lancaster County in Pennsylvania ranks first in total agricultural receipts among all non-irrigation counties in the United States and it expects that the population will double in the next fifty years (Ball et al, 2002). There are concerns about where these people will go. This situation identifies that there continues to be significant pressure to develop on some of the country's best

agricultural land. This specific case alone demonstrates the on-going need for commitment to the protection of farmland. Although agricultural land may be lost at a slower rate than what it was in previous decades, there are still agricultural communities in both Ontario and the United States that are threatened by pressure from urban development.

Others argue that the protection of farmland should be a priority because there is a need to protect both food-production potential and the role of agriculture in the local and national economy. "Society cannot afford to consume the farmland base for other uses in the hope that technology will be able to provide the productivity required to feed growing domestic and global populations in the hope that food importation will be an adequate and affordable alternative to domestic food supplies" (Misek-Evans, 1992a, p.9). The long-term welfare of many rural communities is dependent upon the preservation of the agricultural land resource.

A variety of approaches to protect agricultural land have been taken by the public sector in both Canada and the United States. Some of these approaches include: the use of legislation; the purchase of development rights; tax incentives; comprehensive planning; and ordinances and zoning as basic tools used to preserve farmland (Daniels and Bowers 1997, Pfeffer and Lapping 1995, Peters 1990 and Furuseth et al. 1982). There has been a movement in the United States and Canada, over the past decade, to consider what is Smart Growth. In 2002, the Ontario government set up Smart Growth panels across the province to help it plan for the tremendous population increase that's expected over the next 25 to 30 years (Ontario Smart Growth, 2003). A key component of Ontario's Smart Growth strategy is to "protect rural areas, that are not settled

primarily for sustainable resource use" (Ontario Smart Growth, 2003, p. 15). Farmland has been recognized as a strategic resource, fundamental to national (U.S.A) security and therefore should be worth protecting (Daniels and Bowers, 1997). The same statement can be made about Canada's agricultural land.

Agricultural land preservation has remained a contentious goal that has had limited success in Canada. It continues to provoke debate about its purpose and effectiveness, but it has never quite matured into an integrated element of rural land-use planning. The preservation of agricultural land is a key component of some municipalities' planning, while other jurisdictions do not truly incorporate agricultural preservation as part of their planning strategy. The Canadian approach to agricultural land preservation has typically been policy and process based (Caldwell, 1995). The development of policy as a planning tool to protect and preserve agriculture as a resource in Ontario came about initially because of an increase in public awareness of the loss of agricultural land and the demands of an academic and professional community to conserve the agricultural resource.

Throughout the 1950s and 1960s the dominant public perception was of a continent with a limitless supply of farmland and unbounded technological capabilities, which was the breadbasket of the world (Bunce, 1998, p.233). A study by Krueger (1959) on the loss of tender fruit lands in the Niagara Peninsula was one of the first in Canada to focus attention on the issue of agricultural land loss. This study and several others elsewhere, combined with public demand, gradually led to provincial action in the early 1970s.

In the early 1970s the Ontario Institute of Agrologists stated "it is imperative … that … Governments take steps immediately to designate and preserve for food production all those limited areas of land which are most suitable for effective production of food" (1975, p.3)

The OIA argued that, in order to preserve food land, steps must be taken in the immediate future to:

1. greatly reduce the demand for food land by those users of land not engaged in food production; and
2. prevent further fragmentation of food land and further loss of this land; and
3. ensure the ability of producers to continue using foodland for food production

(Ontario Institute of Agrologists, 1975, p.3)

Individuals and groups began to demand that rural land-use policies be developed in order to encourage a viable agricultural industry. In response to this demand, the Ontario government began developing policies. The provincial perspective was that agriculture could be protected through planning. (Refer to the discussion about Provincial Planning Policy in this report for more information). Despite a variety of policies, there are still thousands of lots created in Ontario's agricultural land each year. Each time a non-agricultural use is established it has the potential to impact the agricultural area.

1.5 Impact of Rural Non-Farm Development in Agricultural Land

Land in agricultural areas has typically become developed through the severance process. The most common reason to sever land from an agricultural operation is to create a residential non-farm lot. Debate exists over the impact of rural non-farm lots. Bryant and Russwurm (1979) concluded that such development does not have significant impact. On the other hand, Rodd (1976) concluded that the impacts were of major significance. Authors, such as Caldwell in 1995 and Davidson in 1984, have made the argument that in isolation individual rural non-farm lots may have minimal impact on the agricultural community. However, "careful attention is required in the evaluation of the small but numerous non-farm uses since they chip away and weaken the structure of the rural community in a slow but cumulative fashion" (Davidson, 1984, p.344).

The conversion of farmland to non-farm uses, and the growth of the rural non-farm population in rural areas, can influence the commercial viability of farms. The development of non-farm lots may also reduce a farmer's options to react to changing economics and farm practices because it fragments the agricultural land base. Low-density, non-farm residential development has the tendency to have a detrimental effect on agriculture because of farm fragmentation, rising land prices, and restrictions placed on farm operations (Fuller, 1984; Ontario Government, 1978; Rawson 1976; Rodd, 1976). According to Bentley, "it is indisputable that unnecessary conversions of high quality agricultural lands to other uses – conversions which are usually permanent – are reducing the agricultural production potential of Canada" (Bentley, 1984 in Misek-Evans, 1992a, p.8). Zollinger and Krannich (2002), in their study on the factors that influence

farmers to sell their land to non-agricultural uses, found that "increased non-agricultural land-use near farming operations has the potential to cause negative changes in the farming operation," (Zollinger and Krannich, 2002, p.444).

1.5.1 Additional Costs

As rural non-farm uses are established in the countryside, farmers are often faced with additional costs to mitigate and relieve conflict (Daniels and Bowers, 1997; Misek-Evans, 1992b; Anderson; 1995; Baden, 1984). Farmers recognize the threat of increased operating costs, rising land taxes, and general headaches from non-farm neighbours when residential development invades the countryside (Daniels and Bowers, 1997, p.3). Due to the fact that rural non-farm lots are generally not directly related to, or supportive of, agriculture and do not leave the land suitable for future use in agriculture, farmers often have to bear costs related to changing their agricultural practices. "Because non-farm rural residents tend to have values oriented towards enjoyment of the rural environment rather than uses of the rural environment for agriculture, conflicts over dust, odour, hours of operation, chemical spraying, etc. frequently arise" (Misek-Evans, 1992b, p.20). The spread of non-farm people and activities into farming areas – can impose costs on farmers. Baden identified that "dogs attack farm animals, people tramp through cultivated fields, and ordinances [by-laws] are passed against the noises associated with farm machinery and against the spray application of pesticides" (1984, p.13).

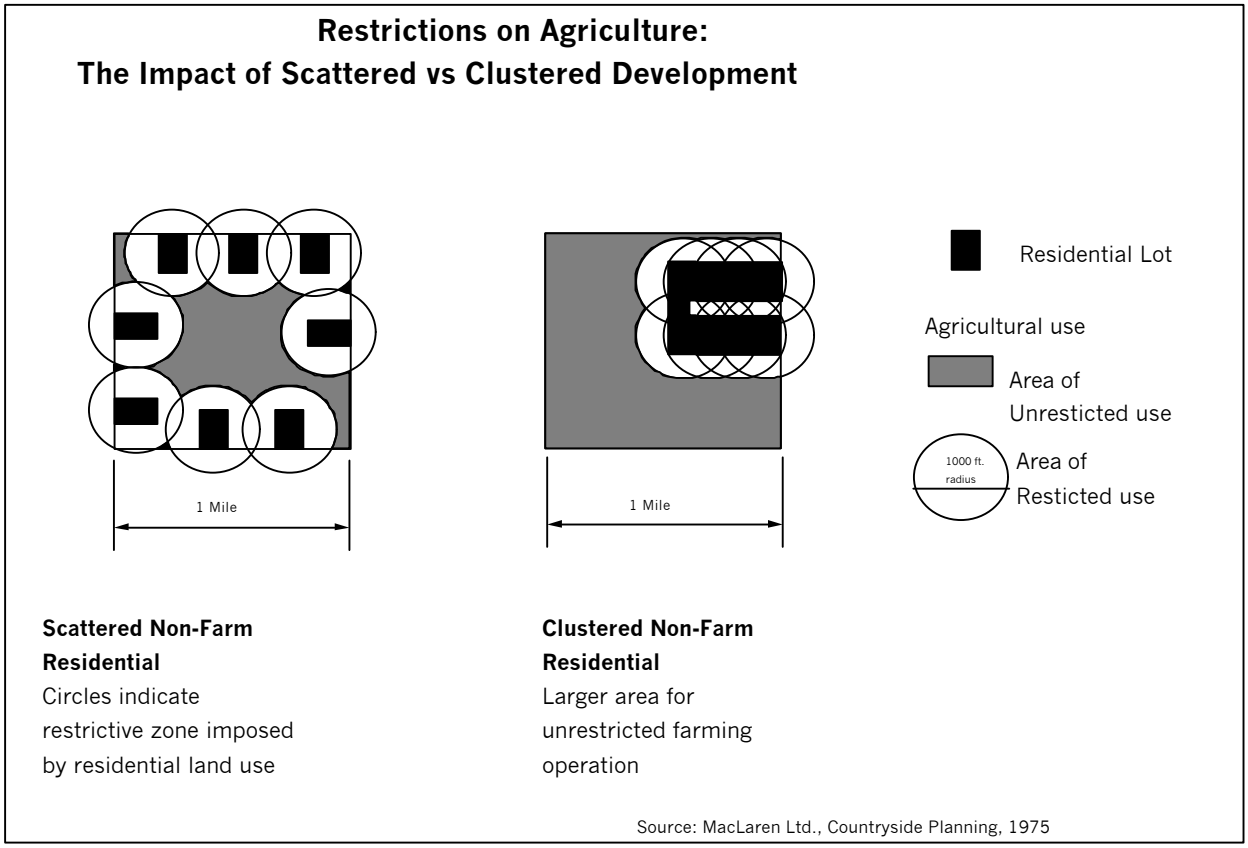
Anderson raised a concern regarding investment in agriculture in areas where non-farm development is prevalent. "If a farmer feels that adjacent residential development is restricting his traditional farming practices, he may cease to make

capital investments which help to maintain the long term viability of his farm. Where this occurs, farm practices may also shift from a focus on resource stewardship to resource exploitation" (Anderson, 1995, p. 17).

1.5.2 Restrictions that Accompany Rural Non-Farm Development

Most non-farm development is scattered throughout the countryside. It has been documented that when development occurs in a scattered way it restricts much more agricultural land than when development occurs in a clustered hamlet or village. In a 1975 study on Countryside Planning in Ontario, James MacLaren Ltd. identified that scattered rural development had a larger sphere of influence than clustered development in a hamlet or village. Figure 1.5 identifies MacLaren's view of the impact of scattered versus clustered development.

Figure 1.5 The Impact of Scattered versus Clustered Development



The presence of rural non-farm development in Ontario's agricultural land can be considered challenging for an active agricultural industry. As MacLaren identified in 1975, a number of restrictions accompany the presence of non-farm and farm-related development. New lot creation imposes a minimum distance separation (MDS) on surrounding agricultural operations. "The intent of the separation distances is to ensure sufficient distance between livestock, poultry and manure storage facilities and non-agricultural uses to allow the dissipation of odours and thereby prevent conflict" (Misek-Evans, 1992b, p.27). This requirement may restrict the expansion of an existing livestock operation or prohibit the establishment of a new operation. "A move to increase the viability of a farm through an expansion of its livestock or poultry facilities, may be limited or prevented due to the close proximity to non-farm residential development (or other non-compatible uses) and the conflict which may result" (Misek-Evans, 1992b, p.24). Given the tendency towards larger livestock operations the restrictions associated with non-farm development are in fact greater than anticipated in 1975 (i.e. the area of restricted use maybe significantly larger than 1000 feet).

1.5.3 Fragmentation of the Agricultural Land Base

It has also been identified that the development of non-farm lots may also reduce a farmer's options by fragmenting the land base. Caldwell (1995) identifies that as rural non-farm lots are established in the countryside, it becomes increasingly complicated to assemble large contiguous farm holdings. This has the possibility of reducing the flexibility of a farmer to respond to changing economies and farming practices. Caldwell (1995) states, "over time this may contribute to the under-utilization of the productive capacity of the farm". Overall the presence of rural non-farm development has the

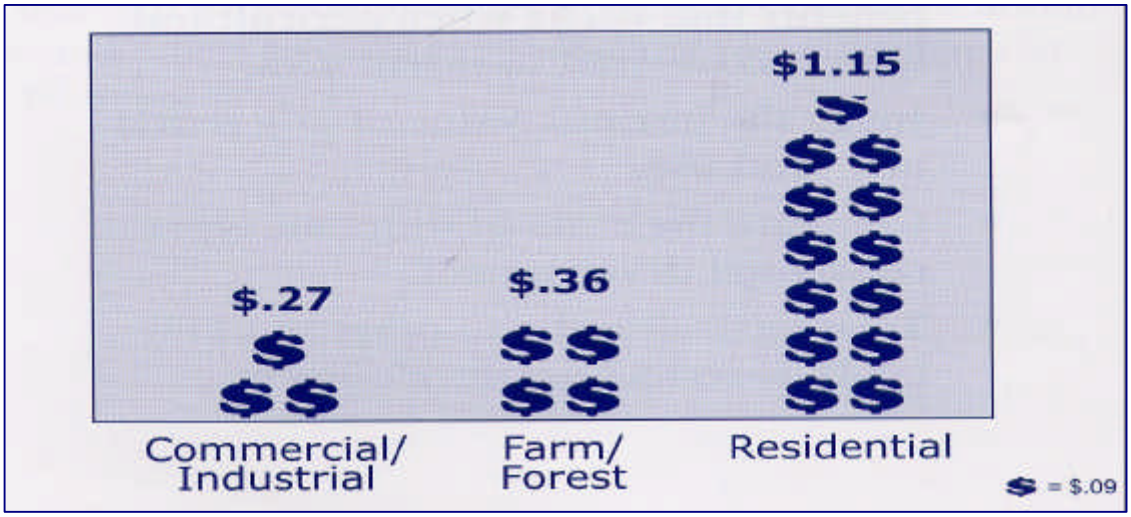
potential to impact the viability of the agricultural operation. Also, as farmland becomes fragmented there are additional concerns about the loss of open space and local amenity in the landscape (Beasley and Workman, 1986).

1.5.4 Cost of Servicing Rural Non-Farm Development

Another reason why rural non-farm lot development can be problematic is the difficulty in servicing. When lots are created randomly in agricultural land there is little opportunity to provide this development with services such as water or sewer. As more people relocate to the countryside, there are also additional demands put on other municipal services, such as roads.

A 1988 study of Brighton Township in the County of Northumberland by the Community Planning Advisory Branch of the Ministry of Municipal Affairs clearly shows that the Township consistently loses money on small residential properties every year. This study has accounted for municipal costs as well as for revenues from taxation, service fees, and provincial grants. The average residential property cost the Township $32 more annually than was brought in, in revenue for the property. The greatest losses ($46 per property annually) were found to be on properties less than two acres. Recently completed studies by the American Farmland Trust have drawn similar conclusions. Figure 1.6 identifies the median cost of services per dollar of revenue raised, based on 83 studies done by the American Farmland Trust and others in the United States.

Figure 1.6: Median Cost of Community Services per Dollar of Revenue Raised



Source: American Farmland Trust. 2002. Cost of Community Services Studies. Washington, U.S.A: American Farmland Trust.

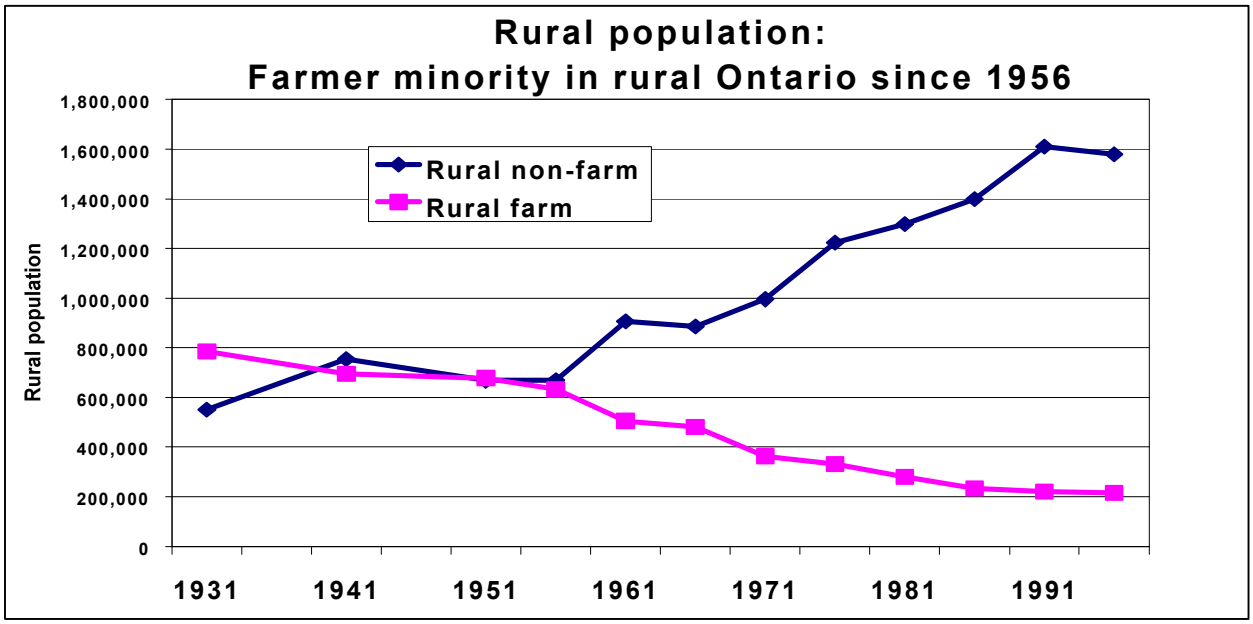
In virtually every study conducted by the American Farmland Trust, the agricultural/open land sector combined with commercial/industrial land offset deficits created by resident's high demand for services (American Farmland Trust, 2002).

1.5.5 Change in Rural Demographic

As non-farm development increases in the countryside, there is an increase in the rural non-farm population. In his 1995 study Caldwell identified that each additional residence established in the agricultural area changes the farm/non-farm composition of the community. In a recently published article, Ron Bonnet, the current president of the Ontario Federation of Agriculture, commented that one of the significant impacts of rural non-farm development is the change in the rural demographic. "Dramatic changes in demographics in rural Ontario are resulting in a multitude of new challenges for Ontario farmers. The most obvious of challenges is the significant decline in numbers of

farmers and the increase in non-farm residents in rural Ontario" (Bonnett, 2002, p.1). Figure 1.7 illustrates the historic growth of the rural non-farm population in Ontario.

Figure 1.7 Rural Non-Farm vs. Rural Farm Population in Ontario Since 1956



Source: Statistics Canada, Census of Population 1931-1996

As rural non-farm development occurs and agriculture becomes less labour intensive, the composition of the rural community changes. The introduction of residents who may not be familiar with the reality of an active agricultural industry may also lead to conflict within the community. "Where conflict develops between the non-farm and farm community around land-use, it decreases the efficiency of a farm, or where a conflict restricts or limits a farm's operation currently or in the future, the viability of that farm is diminished" (Misek-Evans, 1992b, p.24).

The increase in the non-farm population also has political implications that may in turn have implications for agriculture. Caldwell (1995) identifies that over time, the non-farm population may become dominant with a corresponding impact on local politics and decision-making. "Municipal councils today are commonly under the control of non-

farm rural residents, and the decisions coming from those councils are increasingly difficult for today's farmers to live with. Some of the decisions pose an outright threat to the future of farming in some municipalities" (Bonnett, 2002, p.1). An indicator of this change may be the degree to which local by-laws are supportive of agriculture.

The majority of the literature, which explores the impact of rural non-farm development, has documented that the creation of rural non-farm lots tends to bring about significant challenges for agricultural operations. While each study highlighted different impacts, all of the documented impacts of rural non-farm development indicate that the presence of this type of development tends to reduce the flexibility of farmers to adapt to changes in agricultural production, which thereby reduces the viability of agriculture. According to Davidson (1984), in order to function optimally, agriculture requires large spaces free of disruptive factors in which to operate; this space must be as free as possible from non-farm development.

1.6 Creation of Rural Non-Farm Lots in Ontario's Countryside

Through the review of the literature that identifies the impact of rural non-farm development, in the previous section, it has been established that rural non-farm development tends to negatively impact the viability of the agricultural industry. And yet rural non-farm lots continue to be established in agricultural land. This section reviews some of the literature that identifies why rural non-farm development is created, despite its problematic nature.

According to the literature, the most significant reason for persistent residential development in Ontario's countryside is the demand. Most typically the demand is for the creation of residential lots in the countryside. The demand comes from both urban and rural dwellers.

The literature has identified a number of push and pull factors that have been instrumental in creating a demand for rural properties over the last thirty years. Some key push factors from large urban centres include: the economic push primarily related to housing costs and high tax assessments (Bryant, Russwurm and McLellan, 1982); and environmental push factors, such as pollution, congestion or pace of life (Bryant, Russwurm and McLellan 1982; Williams and Sofranko 1979). Numerous factors that pull people to the countryside have also been identified. The most frequently mentioned pull factor is the search for rural quality of life (Polch, 1978; Williams and Sofranko, 1979; Fuguitt and Zuiches, 1975). Included in quality of life are privacy and space (Bryant, Russwurm and McLellan 1982; Joseph, Smit and McIlravey 1989), freedom of activity, quality of environment for raising children (Bryant, Russwurm and McLellan

1982), decentralization of cultural facilities, retirement, back-to-the-land ideology and return migration (Weeks 1976, Williams and Sofranko 1979).

The agricultural land lost to non-farm rural residential development is a topical issue in Ontario because of the intense demands for housing from population growth coupled with a preference for rural living. In his book, *Conflict and Crisis in Rural America*, Waterfield speaks about the American preference for rural living:

> Most Americans come from rural roots. The suburbs, with one foot in the city, one in the country, reflect this divided loyalty. Americans have taken the country with them to the city: the open spaces, parks, trees, music, games and sports. The ongoing struggle to save and preserve the best of rural America has led to conflict in Eden. Some serpents still lurk there. Voltaire said, 'Let each man cultivate his own garden.' Americans understand what he meant: they are torn between the call of the pavement and the deep desire to cultivate that garden. Rural America lives in the hearts of millions who see little more than glass, brick and stone.
>
> (Waterfield, 1986, p.18).

A very similar statement could be made about Canadians. The sheer number of Canadians who flock to the suburbs each year to obtain their engineered piece of rurality is a testament to this mentality. There is an appeal to living in a rural setting. This appeal, coupled with advances in technology and transportation, has produced a demand for rural non-farm properties in Ontario's countryside.

In addition to the demand for rural residential properties from non-farmers, there is pressure from the supply side as farmers sever off small parcels of land from their farms. It is appealing for farmers to create retirement lots, on their own farm property, so that they can stay close to the farm and perhaps family. There is also an economic incentive for farmers as they are able to sell the retirement lot and obtain some additional retirement income. Farmers also engage in rural non-farm lot development

by severing lots that are surplus to their agricultural operations. While these lots may be considered farm-related at the time the severance was granted, evidence (van Donkersgoed, 2001) has shown that they do not stay connected to agriculture in the long term. In 2001, van Donkersgoed reported, on average, a retired farmer stays on their retirement lot for 1.8 to 3 years. Based on this information, farm retirement lots quickly become rural residential building lots.

In many instances, farmers opt to sell off land in small parcels for residential purposes in order to inject much needed cash into their farm business (Misek-Evans, 1992a, p.5). In many places there is an attitude that it is a farmers right to sever land when times are tough. Misek-Evans captured this attitude in her report about the impact of severances in Oxford County by including the following quote, which appeared as an editorial piece in a local newspaper:

> …let the farmers sever the lots from their farms…a great deal of good would result from that decision…farmers would get a much needed cash injection to keep them viable…local tax bases would grow…small rural hamlets and villages would be revitalized…there would be an increased need for local goods and services…increased availability of land would lower the cost of building lots making it easier for first time builders and buyers of land…
>
> (anonymous, in Misek-Evans, 1992a, p.8)

While severing land and creating a building lot may assist farmers by injecting money into the farming operation in the short-term the creation of a non-farm lot may impact that farm's future viability.

Zollinger and Krannich (2002) identify factors that influence farmers' expectations to sell agricultural land for non-agricultural uses. The study was conducted in Utah, U.S.A., where rapid population growth occurred in the 1990s. Zollinger and Krannich identified that "though broad economic and demographic

changes are a key factor in this trend, the decisions of individual agricultural operators account for the aggregate loss of agricultural land in areas affected by growth" (2002, p.442). Zollinger and Krannich's study concluded that when a farmer was nearing retirement age, the farm was typically viewed as a retirement income. Selling a farm that would be converted to non-farm uses would ensure the farmer a larger retirement income. The study also found that a farmer whose profit was declining was more likely to sell the farm to a non-farm use. A farmer was less likely to sell the farm to a non-farm use if there was a chance that a child was interested in taking over the farm. The study also determined that that when a farmer's operation suffers negative changes due to increased urban land-uses in the area, he or she may begin to view the area as an increasingly problematic place for a farming operation (Zollinger and Krannich, 2002).

This section has summarized some of the key reasons why rural non-farm lots are created in Ontario's farmland, despite the acknowledgement that the impact from rural non-farm development has a tendency to have an overall negative impact on the agricultural industry. The next section explores the role of land-use planning in permitting the establishment of rural non-farm uses in the countryside.

1.7 Role of Land-use Planning

There are many influences and factors that impact the viability of Ontario's agricultural industry. Some of these include: national and international laws; regulations and markets; changes in production technology; and consumer demand. Some influences may have a more direct impact on agricultural viability than others. Land-use planners in Ontario such as Misek-Evans (1992a) and Caldwell (2001) have identified that while viability is a complex issue, it is recognized that municipalities have had, and continue to have, a role in supporting the viability of the agricultural industry through land-use planning. The New Webster's English Dictionary (Bergquist, 1988) defines viable as "possessing the ability to grow and develop". Under the Planning Act, land-use planning is the jurisdiction that processes and gives comment on applications that result in a wide variety of growth and development. Planning encourages the rational use of land, assists communities to develop long-term goals and objectives, and provides a framework to resolve conflicts.

This section will review the role of planning in the establishment of non-farm uses in agricultural land through the severance process. It will also review the policies that the province has developed over the past decade to manage non-farm development in the province's agricultural land.

1.7.1 Rural Development Through the Severance Process

The consumption of farmland in Ontario occurs through two main processes: subdivisions and consents (severances). Subdivisions tend to occur as part of the expansion of an existing urban area. They occur at relatively high densities and are the

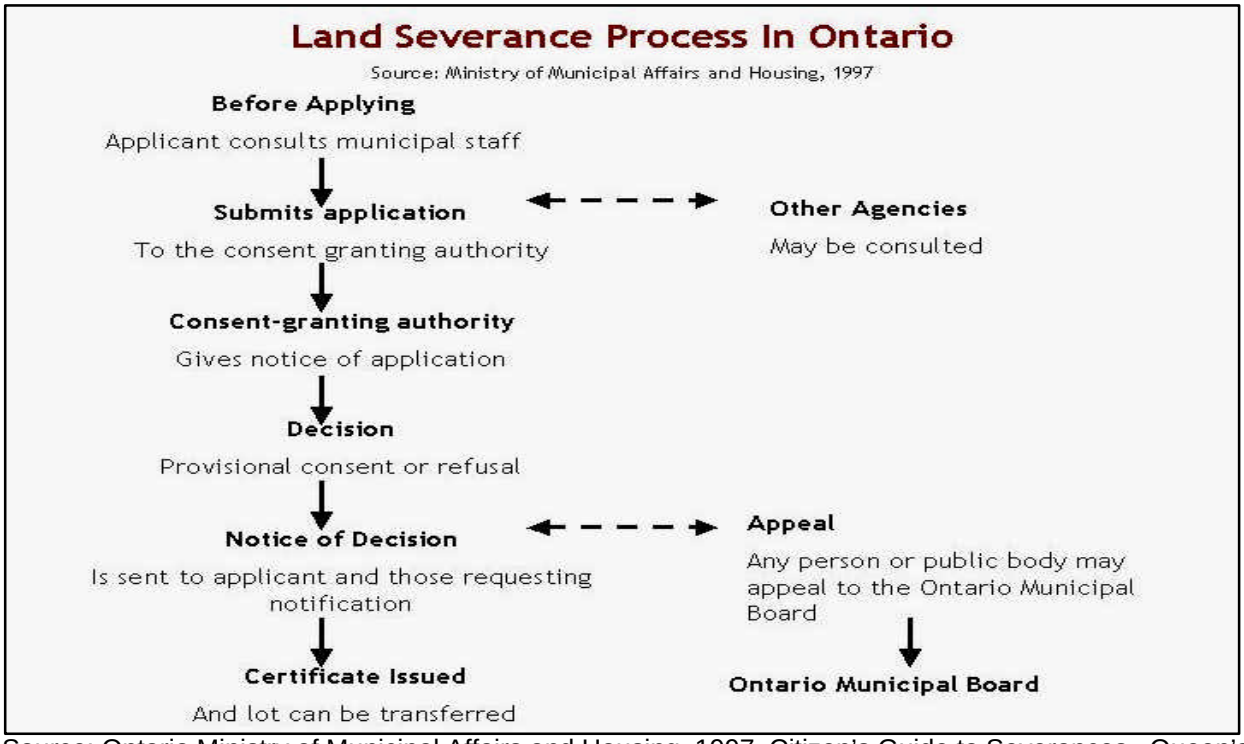
preferred way of accommodating new growth. Conversely severances (also known as consents) lead to scattered rural development. Consent to sever is the authorized separation of a parcel of land from an adjoining parcel in order to create a lot which can be conveyed (Anderson, 1995). The approved lot can be sold, mortgaged or leased. The planning principle behind the severance process is based on a desire to prevent indiscriminate division of land by subjecting all applications to review by an approved severance granting authority (Anderson, 1995).

Non-farm development that has resulted from consent to sever land is visible in the landscape of rural Ontario. The majority of development that occurs in rural Ontario results from approval of severances (consents). According to the Ministry of Municipal Affairs in 1977, "in rural areas, consents are undoubtedly the means of subdividing undeveloped lands. They are in fact the predominant vehicle for permitting land division and account for more residential lots on an annual basis than do conventional subdivision plans" (p.54). The creation of lots through the consent process remains an on-going issue.

1.7.2 Current Land Division Process in Ontario

From 1970 to the present day, rural municipalities have been, and continue to be, dependent on the severance process to create new building lots. Currently, the authority to grant consents/severances is held at either the County or Regional level unless it has been delegated to lower tier municipalities. Typically a committee of individuals, known as a land division committee, makes the decision as to whether or not to approve a severance. This process is illustrated in Figure 1.8.

Figure 1.8 The Current Land Division Process in Ontario



Source: Ontario Ministry of Municipal Affairs and Housing. 1997. Citizen's Guide to Severances. Queen's Printer, Toronto.

This decision is usually made after taking into account the input and recommendations of a planner and other key agencies. The recommendations and decisions are based on the conformity of the severance application to a series of policy. In most municipalities there is a local plan that sets out severance policies in agricultural land. The local policy must be in conformity with a county/regional plan and must have regard for the Provincial Policy Statement. The policy that is developed at each level plays a significant part in influencing the number, type, and distribution of rural non-farm and farm-related development in Ontario's agricultural land.

1.7.3 Planning for Agriculture in Ontario Throughout the 1990s

Currently, Ontario does not have legislation specifically designed to protect farmland. Farmland preservation is primarily a function of the land-use planning

process and in a legal sense is governed by the Planning Act (Agricultural Odyssey Group, 2002). Between 1990 and 2000, there have been four different provincial policies which have directed the creation of new lots in agricultural land. These four include: the Foodland Guidelines; the Growth and Settlement Policy Guidelines; the Comprehensive Provincial Policy Statement; and most recently the Provincial Policy Statement.

Foodland Guidelines (1978-1994)

The Foodland Guidelines were in place from 1978 to 1994. The Foodland Guidelines were widely reflected in County and Regional Official Plans. They helped decision makers and landowners identify prime agricultural areas and make decisions on permitted uses, land severances, and policies dealing with the conversion of agricultural land to non-agricultural uses.

The purpose of these guidelines was to preserve farmland, especially land with high agricultural capability, or specialized soil and climate combinations. It was felt that by curtailing non-farm related severances, land-use conflicts and impacts would be reduced (Troughton, 1981). Under the Foodland Guidelines agricultural land in CLI Classes (1-4), as well as specialty croplands, were deemed to be prime agricultural lands and therefore protected from non-farming uses.

Another feature of the Foodland Guidelines is that they recognized farm-related residential lot creation for bona-fide retiring farmers, hired help, or son/daughter involved in the farming operation, and surplus housing that resulted from farm consolidations (Penfold, 1990). The Foodland Guidelines also incorporated the use of

the Agricultural Code of Practice within its policy, using a distance formula to separate livestock facilities from non-farm land-uses in an effort to avoid nuisance conflicts.

While most Counties and Regions adopted the Foodland Guidelines through their Official Plans, questions have been raised about their effectiveness in reaching their desired goal. "The Guidelines and local policy seemed to reduce severance activity in the early 1980s; however by 1989, about 12,000 rural severances were granted in Ontario which is equivalent to severance activity prior to the Foodland Guidelines." (Penfold, 1990 in Misek-Evans, 1992a, p.16). This amount of development is equivalent to a city the size of Woodstock, Ontario.

Growth and Settlement Policy Guidelines (1992-1994)

The Ministry of Municipal Affairs released the Growth and Settlement Policy Guidelines in 1992. These guidelines were designed to compliment the Foodland Guidelines. It was the last major piece of land-use policy released by the Province prior to planning reform in 1993 and 1994. The goal of the Growth and Settlement Policy Guidelines was "to foster land-use planning practices which result in efficient, economically viable, sustainable and environmentally sound growth and settlement patterns"(MMA, 1992, p.3). The overall intent of the policy was to direct development into existing settlement areas. These guidelines did not specifically implement new policy directions for planning in agricultural areas. Because the Growth and Settlement Policies were in place for a short period (1992-1994) it is hard to assess their effectiveness.

Comprehensive Provincial Policy Statement (1994-1996)

In 1992 the Sewell Commission was established by the province to look at Planning and Development Reform in Ontario. The Commission's broad goals focused on a number of interest areas such as growth management and the environment, including agricultural land protection (Ministry of Agriculture and Food, 1992). As a result of planning reform the role of the province shifted from its previous role of performing a reactive, regulatory development-control function, to a more proactive policy-oriented function in which many approval functions have been transferred to upper tier municipal government (Anderson, 1995).

Less than one year following the release of the Commission's final report, the province released the Comprehensive Set of Policy Statements, introducing six new provincial policy statements including policy specifically for agriculture. The new agricultural land policies replaced the Foodland Guidelines. The most important change was that all development within agricultural areas needed to be consistent with the Comprehensive Set of Policy Statements.

Within the Policy Statements, the goal of the agricultural land policies was to protect prime agricultural areas for long-term agricultural use. The Policy stated lot creation in prime agricultural areas is generally discouraged, and will be permitted only for:

- primary agricultural uses where the severed and retained lots are intended for primary agricultural uses and are of a size appropriate for the type of agricultural use(s) common in the area and are sufficiently large to maintain flexibility for future changes in type or size of agricultural operation;
- existing agriculture-related uses;
- residences surplus to farming operations as a result of farm consolidation;

- residential infilling
- one lot for a full time farmer of retirement age who is retiring from active working life, was farming on January 1, 1994 or an earlier date set in an existing official plan and has owned and operated the farm for a substantial number of years;
- infrastructure where the facility cannot be accommodated through the use of easements or rights-of-way; and
- legal or technical reasons

(MMA, 1994, p.13)

From one perspective the Comprehensive Set of Policy Statements were more lenient than the Foodland Guidelines by virtue of allowing residential infilling. At the same time, the development allowed under the Comprehensive Set of Policy Statements was more restrictive than the Foodland Guidelines (1978) in two ways. First, it eliminated the creation of lots for farm help, and secondly, it very clearly defined the only types of development to be allowed. All municipal plans had to be consistent with the Comprehensive Set of Policy Statements. The Comprehensive Set of Policy Statements remained in place from 1994 to 1996.

Provincial Policy Statement (1996-present)

In 1996, the NDP government that brought in the Comprehensive Set of Policy Statements was replaced by the Conservative Government led by Mike Harris. The new Conservative Government replaced the Comprehensive Set of Policy Statements with the current Provincial Policy Statement, which reflects the original Foodland Guidelines and the Comprehensive Set of Policy Statements on planning for agriculture. It states “prime agricultural areas will be protected for agriculture” (MMAH, 1996, p.4). It allows the same type of lots that were granted under the Comprehensive Set of Policy Statements (agricultural-related uses). Unlike the Comprehensive Set of Policy Statements, the Provincial Policy Statement allows areas to be excluded from “prime

agricultural areas for the expansion of an urban area; extraction of mineral resources; and limited non-residential uses where need is demonstrated" (MMAH, 1996, p.4).

The fact that the Provincial Policy Statement moved from the wording "consistent with" to "shall have regard to", combined with providing opportunities for prime agricultural land to be excluded from these policies, suggests that these policies are not as committed to keeping agricultural land for agricultural uses. The Provincial Policy Statement is currently the policy governing development in Ontario. The Ministry of Municipal Affairs and Housing are in the process of reviewing the Provincial Policy Statement.

The fact that no accurate account of the number, type or distribution of new lots created during the 1990s exists, has made it difficult for policy-makers to evaluate the effectiveness of the severance policies in achieving their stated goal.

Municipal Planning

While the province issues land-use planning guidelines and policy statements under the authority of the Planning Act, much of the day to day planning decisions occur at the municipal level. "While municipalities must develop their planning policies in conformity to the provincial policy statement, there are however, many inconsistencies between municipalities regarding the interpretation and application of the Act" (Agricultural Odyssey Group, 2002, p.72). Caldwell identified that "at a local level, Huron County, is arguably one of the most successful local jurisdictions in Canada to respond to concerns related to the loss of agricultural land and to enact programs of agricultural land preservation" (1995, p.27). Not all Counties and Regions develop policies that are this supportive of agriculture. In fact, often local rural politicians have a

tendency to encourage residential or commercial development ahead of agriculture. As a result, policies are often developed that favour non-farm residents, thereby posing certain obstacles to agricultural activity (Caldwell, 1998). In this context, planning has a role to play in encouraging local commitment to effective development and implementation of policies which support the protection of the agricultural resource and in turn support the viability of Ontario's agricultural industry. As Ontario's population is expected to grow to 14 million people by 2016, (Agricultural Odyssey Group, 2002, p.76) planning has a critical role in accommodating this growth without urban sprawl and in minimizing the impact on agriculture.

1.8 Conclusion

After reviewing the literature that has dealt with the issues that surround rural non-farm development, the literature generally agrees that two major impacts from rural non-farm development are felt by the farming industry. Firstly, prime agricultural land is physically removed from production as a result of non-farm uses being established and secondly, the agricultural industry is challenged by the restrictions introduced by non-agricultural uses in the countryside. While the literature may not conclusively agree upon the specific challenges created by rural non-farm development on the viability of agriculture, it does identify that there is an impact. The review of the role of planning identified that there is an on-going need for planning to assist in ensuring the viability of agriculture through the protection of the agricultural resource.

References and Additional Sources

Agricultural Odyssey Group. 2002. *The Odyssey Report: An Industry Quest for Solutions. Published by the Agricultural Adaptation Council.* Ontario.

Anderson, P. M. 1995. *An Exploration of Opportunity and Policy Constraints Surrounding Rural Non-Farm Residential Development in Ontario.* Major Paper for School of Rural Planning and Development, University of Guelph.

American Farmland Trust. 2002.*Cost of Community Services Studies: Making the Case for Conservation*. Northampton, MA, U.S.A. American Farmland Trust Farmland Information Centre.

Baden, J. 1984. *The Vanishing Farmland Crisis: Critical Views of the Movement to Preserve Agricultural Land*. University of Kansas, USA.

Ball, J., E. Brockie, W. Caldwell, J. Marks, M. Nelson, J. Parsons, H. Rudy, S. Stonehouse, S. Weber, C. Weir, and M. Williams. 2002. “Reflections on Planning: Pennsylvania vs. Ontario.” *Plan Canada*. 42(2), 30-33.

Beasley, S. and W. Workman. 1986. “Amenity Values of Farmland.” *Agroborealis*. 18 (1), 52-54.

Bentley, C.F. and L.A. Leskiw. *Sustainability of Farmed Lands: Current Trends and Thinking*. Canadian Environmental Advisory Council, 1984, in Misek-Evans, Margaret. 1992a. Balancing Growth with Agriculture: Approaches to Managing Non-Farm Rural Residential Development. Department of Planning and Development, County of Oxford.

Bergquist, S.R. (ed.) 1988. *New Webster’s Dictionary of the English Language*. Modern Desk Edition. Delair Publishing, Illinois, USA.

Bonnett, R. August 2002. *Municipal Impact on Agriculture.* Ontario Federation of Agriculture. *http://www.nfawebsite.org/main_column.asp?id=213*.

Bryant, C.R. and L.H. Russwurm. 1979. “The Impact of Non-Farm Development on Agriculture: A Synthesis.” *Plan Canada*. 19(2): 122-139.

Bryant, C.R., L.H. Russwurm, A.G. McLellan. 1982. *The City’s Countryside: Land and Its Management in the Rural-Urban Fringe.* Longman. London, Ontario.

Bryant, C.R. and T. R. Johnston. 1992. *Agriculture in the City’s Countryside.* University of Toronto Press. Toronto, Ontario.

Bunce, M. 1998. "Thirty Years of Farmland Preservation in North America: Discourses and Ideologies of a Movement." *Journal of Rural Studies.* 14(2), 233-247.

Caldwell, Wayne J. 1995. "Rural Planning and Agricultural Land Preservation: The Experience of Huron County, Ontario." *The Great Lakes Geographer.* 2(2) 21-34.

Caldwell, W. 1998. "Land Use Planning, The Environment and the Siting of Intensive Livestock Facilities." *Journal of Soil and Water Conservation*. 53(2), 102-106.

Caldwell, W. J. 2001. *Agriculture In the New Rural Community: The Municipal Role*. Presented at the conference – Livestock: Options for the Future, Winnipeg, Manitoba.

Caldwell, W.J. and C.J. Weir 2002. *Ontario's Countryside: A Resource to Preserve or an Urban Area in Waiting? A Review of Severance Activity in Ontario's Agricultural Land During the 1990s.* University of Guelph. http://www.waynecaldwell.ca/development_final.PDF

Caldwell, W.J. and M. Williams. 2003. *Livestock Intensification: Community Perceptions of Environmental, Economic & Social Impacts After Establishment.* University of Guelph. *http://www.waynecaldwell.ca.*

Daniels, T. and D. Bowers. 1997. *Holding Our Ground – Protecting America's Farms and Farmland*. Island Press: Washington, D.C.

Davidson, G. 1984. *Current Issues in Rural Planning Policy.* In Bunce and Troughton (eds.) Pressures and Change in Rural Canada. Downsview: York University. 328-348.

Edgens, J and S. Stanley. 1999. "The Myth of Farmland Loss." *Forum for Applied Research and Public Policy.* 14 (3), 29-54.

Fuguitt, G.V. and J.J. Zuiches. 1975. "Residential Preferences and Population Distribution." *Demography*. 12(3), 491-504.

Fuller, T. 1985. *Farming and the Rural Community in Ontario: An Introduction.* Toronto: Foundation for Rural Living, Toronto: University of Toronto Press.

Furuseth, Owen and J.T. Pierce. 1982. "A Comparative Analysis of Farmland Programs in North American." *Canadian Geographer.* 26(3), 191-206.

Government of Ontario 1990. *The Planning Act*. Queen's Park. Toronto, Ontario.

Joseph, A.E., B. Smit. and G.P. McIllravey. 1989. “Consumer preferences for rural residences: a joint analysis in Ontario, Canada.” *Environment and Planning A*. 21, 47-63.

Krueger, R.R. 1959. “Changing Land-Use Patterns in the Niagara Fruit Belt.” *Transactions of the Royal Canadian Institute.* 32, Part 2, No.67.

Maclaren, J. 1976. *Countryside Planning: A Pilot Study of Huron County.* Prepared for the County of Huron and the Province of Ontario. Ontario Ministry of Housing.

Misek-Evans, Margaret. 1992a. *Balancing Growth with Agriculture: Approaches to Managing Non-Farm Rural Residential Development.* Department of Planning and Development, County of Oxford.

Misek-Evans, Margaret. 1992b. *Setting the Agricultural Agenda: Issues and Directions of Oxford County Agriculture.* Department of Planning and Development, County of Oxford.

Misek-Evans, Margaret. 1992c. *Severing Farms for Agriculture: Considerations for Planning.* Department of Planning and Development, County of Oxford.

Ontario Institute of Agrologists. 1975. *Foodland Preservation or Starvation: A Statement on Land Use Policy.* Executive Committee of the Council of Ontario Institute of Agrologists.

Ontario Ministry of Agriculture and Food. 1992. *An Agricultural Land Protection Program for Ontario: A Discussion Paper.* Toronto, Ontario, Queen’s Printer.

Ontario Ministry of Agriculture and Food. 1992. *Consent Applications Received by the Ministry for Comment Between 1979 and 1992.* Unpublished Paper.

Ontario Ministry of Agriculture and Food, Ministry of Environment and Ministry of Housing. 1976. *Agricultural Code of Practice.* Toronto: Queen’s Printer.

Ontario Ministry of Agriculture and Food. 1978. *Foodland Guidelines*. A Policy Statement of the Government of Ontario on Planning for Agriculture. Queen’s Park. Toronto, Ontario.

Ontario Ministry of Municipal Affairs and Housing. 1996. *Provincial Policy Statement.* Queen’s Park. Toronto, Ontario.

Ontario Ministry of Municipal Affairs. 1994. *Comprehensive Set of Policy Statements.* Queen’s Park. Toronto, Ontario.

Ontario Ministry of Municipal Affairs. 1992. *Growth and Settlement Policy Guidelines.* Queen’s Park. Toronto, Ontario.

Ontario Ministry of Municipal Affairs. 1988. *Financial Analysis of Residential Development: A Case Study for Brighton Township.* Prepared by Community Planning Branch.

Ontario Smart Growth. 2003. *Shape the Future: Central Ontario Smart Growth Panel Discussion Paper*. Queen's Printer, Toronto, Ontario.

Penfold, G. 1990. *Impacts of Rural Land Division on Agriculture in Ontario.* Paper presented at the Annual Conference of Canadian Association of Rural Studies held in Victoria British Columbia.

Peters J.E. 1990. "Saving Farmland: How Well Have We Done?" *Planning.* September, 12-17.

Pfeffer, M and M. Lapping. 1995. "Support For Purchase of Development Right." *Journal of Soil and Water Conservation.* 50(1), 30-33.

Rawson, M. 1976. *Ill Fares the Land: Land-Use Management at the Urban/Rural/Resource Edges: The British Columbia Land Commission.* The Ministry for Urban Affairs, Canada.

Rodd, R.S. 1976. "The Crisis of Agricultural Land in the Ontario Countryside." *Plan Canada.*16(3), 159-170.

Soil Conservation Society American. 1977. *Crisis in the Countryside: New Directions for Land Use Policy in Ontario.* A Position Statement of the Ontario Chapter Soil Conservation Society of America.

Statistics Canada. 1996a. Total Farm Sales. Census of Agriculture.

Statistics Canada. 1996b. Acreage of Agricultural Land. Census of Agriculture.

Statistics Canada. 2001a. Farm Cash Receipts by Commodity, Ontario, 2001. Catalogue No. 21-603.

Statistics Canada. 2001b . Sharp decline in number of farms in Ontario, According to 2001Census of Agriculture. http://www.statscan.ca/english/agcensus2001/first/regions/farmon.htm

Statistics Canada. 2001c. "Urban Consumption of Agricultural Land." Rural and Small Town Canada Analysis Bulletin. Volume 3, Number 2. Catalogue no. 21-006-XIE

Troughton, M.J. 1981. “The Policy and Legislative Response to Loss of Agricultural Land in Canada.” *Ontario Geography.* 18, 79-105.

Van Donkersgoed, E. October 19, 2001. *Countryside Smart Growth.* Farm and Countryside Commentary.

Waterfield, L.W. 1986. *Conflict and Crisis in Rural America.* Praeger Press.New York, U.S.A.

Weeks, S.B. 1976. “More About Controlling Demographic Change.” *Small Town.* 6(12), 4-6.

Williams, J.D. and A.J. Sofranko. 1979. “Motivations for the Immigration Components of Population Turnaround in Non-metropolitan Arena.” *Demography.* 16(2), 239-255.

Zollinger, B. and R. Krannich. 2002. “Factors Influencing Farmer’s Expectations To Sell Agricultural Land For Non-Agricultural Uses.” *Rural Sociology.* pp.442-463.