

Université de Montréal

**Dynamiques des paysages et recomposition sociodémographique des communautés  
rurales du sud du Québec**

par

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**Thèse présentée à la Faculté des études supérieures  
en vue de l'obtention du grade de  
Philosophiæ Doctor (Ph.D.)  
en aménagement**

Janvier 2001

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0-612-65324-2

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Université de Montréal  
Faculté des études supérieures

Cette thèse intitulée:

Dynamiques des paysages et recomposition sociodémographique des communautés  
rurales du sud du Québec

présentée par

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Thèse acceptée le: 27 juin 2001

## Sommaire

Les milieux ruraux connaissent de profondes transformations. La chute des populations agricoles, l'élargissement des franges périurbaines, la diffusion de la villégiature et l'appropriation de vastes secteurs par les nouveaux ruraux ne sont que quelques manifestations d'une recomposition sociale des campagnes encore plus considérable.

Or, dans quelle mesure ces phénomènes ont-ils évolué selon des intensités différentes d'une région à l'autre? Dans quelle mesure également certaines caractéristiques paysagères risquent-elles d'orienter ce processus? Comment cette recomposition risque-t-elle d'insuffler de nouvelles dynamiques des paysages et de modifier les qualités qui justifient leur attrait? Alors que les phénomènes associés à la dynamique des paysages ruraux et à la recomposition sociale des campagnes ont fait l'objet de nombreuses recherches, un travail considérable reste à accomplir afin de mettre au jour les interactions complexes qui existent entre ces deux phénomènes.

La présente recherche vise précisément à mieux saisir la complexité de ces relations suivant trois perspectives complémentaires.

Tout d'abord, elle entreprend de dresser un tableau régional des dynamiques rurales. Sur la base des indicateurs agricoles et sociodémographiques disponibles dans les recensements canadiens et mettant à profit les nouvelles possibilités des analyses multivariées, elle vise à dégager des esquisses typologiques aptes à rendre compte: 1) des trajectoires évolutives des pratiques agricoles (1961-1991); 2) des profils agricoles résultants; et 3) des profils sociodémographiques actuels des municipalités rurales du sud du Québec. De ces esquisses ressort un double constat. Alors qu'au plan agricole, les dynamiques observées (intensification-régression) induisent un



clivage territorial de plus en plus contrasté, celles qui prévalent, au plan sociodémographique, témoignent paradoxalement d'une diversité croissante des situations sociospatiales.

Une lecture détaillée de l'occupation des lots (analyse visuelle *in situ*, changements d'utilisation du sol (1968-1997) et informations relevées auprès des résidents) d'un territoire témoin (Havelock, Haut-Saint-Laurent) permet d'approfondir les évolutions locales qui émergent de ce portrait d'ensemble. Cet examen suggère d'abord que l'implantation résidentielle des nouveaux résidents n'est pas uniforme sur le territoire à l'étude. Pour certains, le paysage agirait sur le choix résidentiel, orientant du coup les trajectoires sociodémographiques des communautés rurales. Il suggère ensuite que les migrants participent, de près ou de loin, à une diversité de trajectoires paysagères et ce, malgré qu'un faible nombre semble davantage associé aux lots marqués par un abandon agricole avancé.

L'ampleur véritable des transformations paysagères induites par ces derniers ne peut être évaluée sans une caractérisation détaillée des pratiques résidentielles (caractéristiques des bâtiments et de l'espace domestique adjacent, utilisation du sol). À partir des quatre trajectoires paysagères identifiées à l'échelle domestique, cet examen permet d'apprécier en quoi ces pratiques façonnent de nouveaux paysages ruraux et s'avèrent le reflet de nouveaux rapports à l'espace et d'identités plurielles à la ruralité.

Par-delà la nécessité de saisir les motivations profondes qui se dissimulent sous cette pluralité de regards, ces phénomènes réclament, en matière d'aménagement du territoire, la mise en œuvre de pratiques plus soucieuses des diverses aspirations entretenues.

## Résumé

Les milieux ruraux ont connu, et connaissent encore, de profondes transformations. Parallèlement à la chute importante des actifs agricoles consécutive à la restructuration de l'agriculture, certains milieux ruraux connaissent paradoxalement une reprise démographique. Cette véritable recomposition sociodémographique des campagnes se traduit, entre autres, par l'élargissement des franges périurbaines, la diffusion de la villégiature et l'appropriation de secteurs de plus en plus vastes par les nouveaux ruraux.

Or, dans quelle mesure ces phénomènes ont-ils évolué selon des intensités différentes d'une région à l'autre, voire d'une municipalité à l'autre? Dans quelle mesure également certaines caractéristiques paysagères risquent-elles d'orienter ces processus? Comment les migrants en milieu rural risquent-ils d'insuffler de nouvelles dynamiques des paysages et de modifier, une fois en place, les qualités même qui justifient leur attrait? Alors que les phénomènes associés à la dynamique des paysages ruraux et à la recomposition sociale des campagnes ont fait l'objet de nombreux travaux, et dans le contexte où l'importance relative du paysage se trouve régulièrement posée dans l'analyse des milieux ruraux, un travail considérable reste à accomplir afin de mieux comprendre les interactions complexes qui existent entre caractéristiques des paysages et dynamique des ensembles ruraux. Ces questions s'imposent d'autant plus qu'au moment où les activités traditionnelles (ex. : agriculture) ont laissé et continuent de laisser des pans de territoires à l'abandon, plusieurs municipalités rurales voient à travers l'émergence de ces phénomènes de nouvelles opportunités en termes de développement économique, social et culturel de leurs collectivités comme en terme de mise en valeur de leur territoire.

Cherchant à poser les jalons d'un travail qui vise une telle compréhension, la présente recherche témoigne de la nécessité de mieux saisir les nouveaux rapports à l'espace rural qui se dessinent suivant trois perspectives complémentaires. Aussi, elle entend mettre en lumière les phénomènes qui se déploient tant à l'échelle régionale, locale que domestique.

Elle entreprend d'abord de dresser un tableau régional des dynamiques rurales. Sur la base des indicateurs agricoles et sociodémographiques disponibles dans les recensements canadiens et mettant à profit les nouvelles possibilités des analyses multivariées, elle vise à dégager des esquisses typologiques aptes à rendre compte: 1) des trajectoires évolutives des pratiques agricoles (1961-1991); 2) des profils agricoles résultants et, 3) des profils sociodémographiques actuels des municipalités rurales du sud du Québec. De ces esquisses ressort un double constat. Des deux principales trajectoires agricoles observées (intensification-régression) pour la période allant de 1961 à 1991, et des cinq profils agricoles résultants en 1991 (agriculture intensive de type maraîcher, intensive de type céréalière, modérément intensive, extensive d'élevage et marginalisée), les dynamiques en cours suggèrent un clivage territorial de plus en plus contrasté. Au plan sociodémographique, l'identification de sept groupes de municipalités (à prédominance agricole, agricoles en transition, agricoles marginalisées, périurbaines, petits centres industriels en mutation, de villégiature traditionnelle et de villégiature haut de gamme) témoigne paradoxalement de la diversité importante des situations socio-spatiales.

Une lecture détaillée de l'occupation des lots (analyse visuelle *in situ*, changements d'utilisation du sol (1968-1997) et informations relevées auprès des résidents) d'un territoire témoin (Canton de Havelock, Haut-Saint-Laurent) permet d'approfondir les évolutions locales qui émergent de ce portrait d'ensemble. Cet examen suggère d'abord que l'implantation résidentielle des nouveaux résidents n'est pas uniforme à

l'intérieur des quatre grands types paysagers identifiés ("lot boisé - vue fermée"; "versant supérieur - vue panoramique"; "plaine agricole - vue limitée"; "versant inférieur - vue potentielle"). Des différences significatives, en terme de composition sociodémographique, sont observées d'un type à l'autre. Pour certains segments de population (origine urbaine, statut professionnel, groupe d'âge 45 - 65 ans), les attributs de certains contextes paysagers agiraient donc sur le choix résidentiel, orientant du coup les trajectoires sociodémographiques des communautés rurales. Il suggère ensuite que les migrants participent, de près ou de loin, à une diversité de trajectoires paysagères et ce, malgré qu'un faible nombre semble davantage associé aux lots marqués par un abandon agricole avancé. Par ailleurs, il apparaît que certains contribueraient également à maintenir une activité agricole, bien que les mécanismes complexes assurant ce maintien restent à approfondir.

Compte tenu que les choix résidentiels découlant de ce mouvement de recomposition sociale des campagnes sont, pour plusieurs, chargés de valeurs identitaires, l'ampleur véritable des transformations paysagères induites par ces derniers ne peut être évaluée sans une caractérisation détaillée des pratiques qui ont cours à l'échelle domestique, là où leur manifestation est la plus expressive. Sur la base d'observations *in situ* et d'informations recueillies auprès des résidants, les pratiques résidentielles sont relevées pour chacun des lots (caractéristiques des bâtiments et de l'espace domestique adjacent, utilisation du sol). Des sept groupements identifiés, quatre trajectoires paysagères se distinguent (lots à vocation "résidentielle", "agricole", "paysagère" et lots "en déclin"). Cet examen permet d'apprécier en quoi ces pratiques façonnent de nouveaux paysages ruraux et s'avèrent le reflet de nouveaux rapports à l'espace et d'identités plurielles à la ruralité.

Aussi, de l'ensemble des phénomènes dégagés à l'échelle régionale, locale et domestique, émergent certaines tendances significatives.

D'une part, derrière le caractère polymorphe des réalités socio-spatiales mises en évidence à l'échelle régionale, se dévoile une dissociation croissante des dynamiques agricoles et sociodémographiques. La reprise démographique de certaines municipalités rurales caractérisées par une agriculture en régression en est l'expression la plus éclatante. Comme en témoignent nos résultats, cette dissociation s'accomplit à travers l'émergence de nouvelles dynamiques d'implantation résidentielle, en regard desquelles les qualités de certains contextes paysagers se trouvent à même de constituer un facteur déterminant dans la localisation de populations migrantes spécifiques.

D'autre part, force est de reconnaître que suivant l'échelle à laquelle se situe l'observateur, les incidences de cette recomposition sociodémographique sur la dynamique même des paysages s'avèrent variables. À l'échelle locale, l'implantation des migrants n'est pas, à une exception près (lots caractérisés par un abandon agricole avancé), associée à l'émergence de trajectoires paysagères spécifiques. À l'échelle domestique cependant, celle-ci s'associe à la présence de pratiques résidentielles singulières (lots à vocation "paysagère" et lots "en déclin"). Ces résultats suggèrent un certain décalage, voire une certaine dissociation, entre dynamiques résidentielles et dynamiques agricoles.

Somme toute, il s'avère, sur la base de ses résultats, que le mouvement de recomposition sociale des campagnes participe, de manière incontournable, à la formation de nouveaux paysages et à la définition de nouvelles ruralités.

Aussi, par-delà la nécessité de mieux saisir les motivations et intentions profondes qui se dissimulent sous la pluralité des phénomènes observés, ceux-ci réclament, en matière d'aménagement, la mise en œuvre de pratiques plus soucieuses des diverses aspirations entretenues. Plus encore, ils commandent une réévaluation des pratiques traditionnelles d'exploitation, de gestion ou d'aménagement des territoires et

**encouragent des modes de mise en valeur des espaces plus sensibles aux dimensions paysagères et qualitatives des territoires ruraux.**

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## Remerciements

Je tiens à remercier d'abord mon directeur de recherche, Gérald Domon, en reconnaissance de l'appui soutenu qu'il a manifesté tout au long de ces années, au plan académique comme au plan humain. Je garderai à l'esprit sa générosité intellectuelle et sa rigueur scientifique, qualités chères aux grands pédagogues, toutes deux guidées par sa passion pour le monde rural et ses paysages, pour ceux d'hier, d'aujourd'hui, comme ceux de demain.

Cette recherche n'aurait été possible sans l'apport financier de plusieurs organismes. Il est nécessaire de mentionner ici le soutien du Conseil de Recherches en Sciences Humaines du Canada, de l'Université de Montréal et du Service Canadien des Forêts.

Plusieurs personnes ont apporté leur part à la réalisation de ce projet. Travailleur infatigable et porteur de judicieux conseils, je pense d'abord à Martin Joly pour son aide à la cartographie et aux préparatifs de terrain. Mes remerciements s'adressent également à Tracey Hesse qui a accepté de réviser les trois derniers chapitres et qui, par son aide précieuse, aura permis de rendre plus limpides les idées exprimées à l'intérieur de cette thèse.

Bien qu'épisodiques, ce projet a bénéficié de collaborations non moins significatives. Que Guy Cucumel, pour son assistance lors des analyses statistiques, Karine Faure, pour son travail d'interprétation et de numérisation en vue de la mise en forme de la base de données cartographiques de Havelock, de même que Carolyne Chiasson-Hooper et Inas Farag, pour leur collaboration à la traduction du premier chapitre, trouvent ici l'expression de ma gratitude. Je suis redevable aussi à Christiane Montpetit et Louis Roy, pour avoir partagé, au cours de nombreux échanges, un peu de leur savoir anthropologique et leur passion de la ruralité. Pour leur accueil chaleureux et très sympathique, je remercie très sincèrement les résidents de Havelock qui ont bien voulu participer à cette recherche au cours de l'été 1998.

En tant que membre du groupe de recherche Haut-Saint-Laurent: Écologie et Aménagement, je désire souligner ma reconnaissance à toute l'équipe, notamment à André Bouchard codirecteur du groupe depuis maintenant plus de quinze ans. Le savoir pluridisciplinaire qui en résulte, a participé, et participe toujours, à offrir un cadre de recherche des plus motivants. Je tiens à exprimer ma gratitude également à l'équipe de la Chaire en paysage et environnement, et plus spécifiquement à Philippe Poullaouec-Gonidec et Isabelle Gaudin, pour le support et la collégialité manifestés au cours des derniers moments de cette recherche.

Je désire enfin adresser une pensée spéciale envers parents et amis qui, bien qu'à l'affût d'un dénouement imminent, m'ont constamment témoigné un soutien indéfectible. Plus particulièrement, à ma mère et à mon père, Marie et Jacques, pour tout ... et le reste. À Gisèle et Judes aussi, pour votre grande générosité.

Je ne peux passer outre, en terminant, ma reconnaissance envers celles qui ont partagé au quotidien ce projet de longue haleine. À Marie Chantal d'abord, pour qui aucun remerciement ne saura être à la hauteur de tes encouragements et de ta très grande compréhension, en dépit des tourments et des sacrifices réels qu'entraînent une telle aventure. À ma petite Mathilde ensuite, arrivée en cours de route, pour m'avoir rappelé qu'il y a une vie en dehors du doctorat et surtout des moments de bonheur très précieux.

# **CHAPITRE 1**

## **INTRODUCTION**

Avec la publication de *La fin d'un règne*, Gérald Fortin proclamait en 1971 ni plus ni moins que la fin du rural. S'il est nécessaire de convenir que les milieux ruraux ont connu, et connaissent encore, des bouleversements majeurs, force est de reconnaître, 30 ans plus tard, que la campagne est toujours vivante (Kayser, 1990). Qui plus est, elle fait l'objet d'une convoitise affichée comme jamais auparavant, les enquêtes récentes menées au Québec (Jolicoeur et al., 1999), en France (Hervieu et Viard, 1996) comme aux États-Unis (Willits et Luloff, 1995) le témoignent. Plus qu'un simple désir, cette redécouverte de la campagne se traduit par une véritable redistribution des populations, alimentée largement par l'arrivée de résidents d'origine urbaine en milieu rural (villégiateurs, retraités, migrants pendulaires, etc.).

Parallèlement, les dernières années ont été marquées par un nouvel intérêt pour la question du paysage<sup>1</sup>. Loin d'être un phénomène passager ou fortuit, cet intérêt à l'égard du paysage pourrait bien participer de l'émergence de nouveaux rapports à l'espace, de nouveaux regards portés sur le territoire, de nouvelles formes de ruralité.

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<sup>1</sup>Au Québec seulement, cet intérêt se manifeste notamment par la tenue des premiers "États généraux sur le paysage"; la création en 1996 de la Chaire en paysage et environnement, unité de recherche associée à l'Université de Montréal; et par l'édition d'ouvrages spécialisés (Domon et Falardeau, 1995; Poullaouec-Gonidec et al., 1999; Villeneuve, 1999) ou "grand public" (Laframboise, 1999).

Nous en avons pour preuve les tensions relevées en milieu rural entre résidents aux prises avec des perceptions du territoire à première vue irréconciliables<sup>2</sup>. Ces conflits trouvent en bonne partie leur origine dans ce que Marcel Jollivet anticipait de manière assez juste dès le milieu des années 1970 en déclarant que les zones rurales n'étaient plus seulement une réserve de paysans, mais aussi une réserve d'espace (1974: 230).

Depuis, l'importance relative du paysage se trouve régulièrement posée dans l'analyse des milieux ruraux (Kayser, 1990; Halliday et Coombes, 1995; Donadieu, 1998). Dans quelle mesure la question du paysage est-elle devenue un élément significatif du monde rural actuel? Cette question s'impose d'autant plus qu'au moment où les activités traditionnelles (ex. : agriculture) ont laissé et continuent de laisser des pans de territoires à l'abandon, des initiatives prennent forme afin d'assurer la protection et la mise en valeur de certains paysages (Domon et al., 2000). Par conséquent, ce sont les relations actuelles et potentielles entre caractéristiques paysagères et dynamique des ensembles ruraux qui demandent à être mieux comprises. De manière ultime, il s'agit de mieux saisir dans quelle mesure le paysage s'avère étroitement lié au phénomène de recomposition sociale des campagnes et de quelle manière celle-ci risque d'induire, en retour, des trajectoires territoriales et paysagères singulières.

Le parcours de ce questionnement se situe au carrefour de deux champs de connaissances. Avant de poursuivre cette réflexion et d'exposer la démarche

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<sup>2</sup>À titre d'exemple et pour le Québec seulement, voir entre autres: En quête d'une cohabitation harmonieuse: La fonction agricole prédomine souvent au détriment d'autres activités qui seraient compatibles avec elle, *Le Devoir*, 17 mars 1998; L'homme des chalets: Les résidents secondaires néo-ruraux et fraîchement retraités qui envahissent les villages freineraient leur développement, *Le Devoir*, 18 février 1999; Last stand: In the small village of Hinchinbrooke, the values of new arrivals and established residents clash along a three-lined road, *Hour*, octobre 2000.

privé, un bref rappel des principales approches conceptuelles qui ont marqué, au cours des dernières années, les thèmes de la ruralité et du paysage s'avère utile.

### **1.1 Entre la "fin du rural" et sa "renaissance": quelques repères conceptuels**

Chercher à définir ce qu'est l'espace rural n'est pas une préoccupation nouvelle. Au côté des précurseurs tels P. George (1970) en France ou F. Tönnies en Allemagne, il est de mise de définir cet espace en opposition à la ville. Pour ce dernier, la dichotomie ville/campagne se traduit à travers les notions de *Gesellschaft* et de *Gemeinschaft*. La première évoque les sociétés où dominent des relations contractuelles impersonnelles et un degré élevé de mobilité sociale et spatiale. la seconde représente, quant à elle, les communautés caractérisées par des relations d'interconnaissance et une forte homogénéité culturelle (Kayser, 1990; Robinson, 1990; Murdoch et Pratt, 1993). Si elle s'avère appropriée pour dépeindre la réalité préindustrielle, cette interprétation du rural et de l'urbain s'applique plus difficilement aux nouvelles réalités en émergence marquées par la progression d'une économie industrielle et la disparition graduelle des sociétés traditionnelles. Sur la base de ces nouvelles conditions, deux positionnements conceptuels émergeront.

#### **1.1.1 Thèse de l'urbanisation des campagnes**

Dans la foulée des transformations observées au cours de la période d'après-guerre, plusieurs auteurs souscrivent à la thèse de l'urbanisation des campagnes, voire à la thèse de la fin du rural (Jean, 1997). Suivant cette posture conceptuelle, défendue notamment en France par Mendras (1991) et Lefebvre (1970), et au Québec par Fortin (1971), les sociétés rurales tendent à perdre leur autonomie au fur et à mesure

que la généralisation des modes capitalistes de développement économique englobe des territoires de plus en plus vastes tant urbains que ruraux. Celles-ci seraient engagées dès lors à l'intérieur d'une dynamique inévitable d'urbanisation et d'homogénéisation des modes de vie (Fortin, 1988; Jean, 1989; 1992).

Bien que permettant de rendre compte de l'articulation des sociétés locales à la société globale sous l'angle des rapports économiques, le déterminisme économique sous-jacent à cette thèse fait bientôt l'objet de critique. Plus encore, c'est le poids prépondérant accordé à la fonction agricole qui est critiqué. En effet, pour les tenants de l'urbanisation des campagnes, l'évolution du monde agricole et du monde rural constitue une même réalité (Jollivet, 1988). Suivant cette logique, il n'est pas surprenant qu'avec la "fin des paysans" (Mendras, 1991) s'ensuive la "fin du rural". Conscient des limites de cette position théorique et cherchant à replacer dans une plus juste perspective les transformations en cours, Jollivet (1974) invite plutôt à "prolonger la théorie des sociétés rurales considérées [auparavant] comme des sociétés paysannes [...] pour une théorie de l'espace "rural" et du peuplement "rural" comme simple forme d'habitat (p. 230)". Par conséquent, si tous s'accordent pour proclamer la fin d'une conception de la ruralité marquée par une certaine hégémonie de l'agriculture (Jean, 1997; Halfacree et Boyle, 1998), tous ne partagent pas cette vision négative propre à la thèse de la fin du rural.

### 1.1.2 Thèse de la recomposition sociale des communautés rurales

Parallèlement à l'observation des premiers signes de reprise démographique des régions rurales, une nouvelle génération de recherches émerge. La mise en évidence

du phénomène de "turnaround" démographique des populations rurales incite même certains à annoncer une véritable "renaissance rurale" (Hansen, 1973). Plus soucieuse de la complexité des processus en cause, la thèse qui en découle et qui sera reprise plus tard en France (Kayser, 1990; Kayser et Bontron, 1992) comme au Québec (Jean, 1997), entend reposer la légitimité du "fait rural" en cherchant à mieux saisir les phénomènes liés à la recomposition sociodémographique des communautés rurales. Deux éléments concourent à légitimer cette position conceptuelle, position par ailleurs adoptée dans le cadre de la présente recherche.

D'une part et alors que l'expression des multiples formes contemporaines de recomposition sociale du monde rural rend caduque toute entreprise de délimitation du rural, voire toute recherche de frontières nettes entre région rurale et région urbaine (Mougenot, 1986), la spécificité du rural résiderait plutôt dans la diversité même des manifestations de cette ruralité (Clout, 1986; Jean, 1989). Tel que soutenu par Murdoch et Pratt (1993: 423): "[...] rather than trying to "pin down" a definition of rurality or the rural, we should explore the ways in which rurality is constructed and deployed in a variety of contexts".

D'autre part, il importe de signaler que le redéploiement de nouveaux usages et de nouvelles pratiques identitaires "tendent à créer autant de mondes ruraux qu'il y a de rapports possibles à l'espace" (Mougenot, 1986: 17). Sous cet angle, le rural ne constitue plus un référent stable, il trouve plutôt son identité (multiple et complexe) dans l'épaisseur des représentations sociales de l'espace entretenues (Halfacree et Boyle, 1998). Pour ces auteurs, "the rural experienced in the countryside is the mediated physical expression of one or more of these social representations [...] with



only its imprint on the landscape [...]" (Halfacree et Boyle, 1998: 4). Le paysage devient en quelque sorte un livre, ou plutôt un palimpseste, ouvert sur les intentions entretenues par les différents acteurs.

La nécessité de documenter ce redéploiement des nouveaux rapports au territoire et de rendre compte en quoi ceux-ci se trouvent à même d'orienter la dynamique des paysages s'impose. L'articulation de ces questions doit passer préalablement par une nécessaire clarification du concept de paysage.

## **1.2 Concept de paysage: clarification et positionnement**

D'emblée, il importe de préciser que ces quelques lignes introductives ne peuvent prétendre épuiser la multiplicité des questionnements et des significations que recouvre le concept de paysage. Des ouvrages entiers se sont d'ailleurs attachés à mieux circonscrire cette notion foncièrement polysémique, sans clore de manière définitive les questions qu'elle interpelle (ex: Rougerie et Beroutchachvili, 1991; Roger, 1995). Elles visent plus modestement deux objectifs. D'abord, effectuer un rappel des principaux repères conceptuels attachés à la notion de paysage afin d'esquisser l'étendue des significations qu'elle porte. Ensuite et sur la base de cet exercice, clarifier la position conceptuelle proposée à l'intérieur de cette thèse.

Au gré des champs disciplinaires qui ont fait usage du concept de paysage, deux grandes postures conceptuelles se dégagent. Il y a d'une part celles qui abordent le paysage exclusivement comme une réalité objective, matérielle et indépendante de l'observateur. La notion de géosystème développé par certains biogéographes européens (Rougerie et Beroutchachvili, 1991), les méthodes d'évaluation des

caractéristiques visuelles issues de la pratique professionnelle (British Columbia Forest Service, 1981; Smardon, 1986), ou plus récemment, les avancées de certains courants en écologie du paysage au travers desquels le paysage représente ni plus ni moins qu'un assemblage spatial d'écosystèmes (Forman et Godron, 1986), en sont quelques exemples. Ici, le paysage s'assimile au territoire, à l'environnement, voire au pays, dans la mesure où il réfère aux composantes biophysiques et anthropiques envisagées simplement en tant que faits en soi.

À l'opposé, d'autres positions conceptuelles invitent à dépasser les analyses morphologiques et fonctionnelles des espaces afin de chercher à révéler la diversité des représentations résultant de regards subjectifs. Investissant tantôt des notions telles "espace-vécu" (Frémont, 1974) ou "territorialité" (Raffestin, 1977), tantôt des approches phénoménologiques (Tuan, 1974; Relph, 1976; Sanguin, 1981), ces courants s'emploient à poser les jalons d'une conception axée sur les dimensions sensibles du territoire. En réaction vis-à-vis d'une certaine conception du paysage, partagée notamment chez les écologues, des positions plus formalistes soutiennent que ce n'est qu'à travers l'expérience esthétique (*in visu*), par la médiation de l'art, qu'émerge le regard paysager (Roger, 1994). Par-delà les nuances propres à chaque position, le paysage s'apparente ici à l'image mentale que l'on se fait d'un espace donné, image superposée à cet espace et reconstruite par des modèles paysagers variés, qu'ils soient d'ordre pittoresque, emblématique (Cadiou et Luginbühl, 1995), artistique (Roger, 1994), patrimonial ou environnemental (Domon et al., 2000; Tremblay et Poullaouec-Gonidec, 2000). Bien qu'instructive au plan conceptuel, cette approche demeure, sous ces positions les plus radicales, encore fragile au plan

opératoire (Rougerie et Beroutchachvili, 1991). En effet, la reconnaissance du passage d'un lieu en paysage reste difficilement accessible par l'observation (Lenclud, 1995) dans la mesure où celui-ci se montre éphémère, n'existant souvent que pour un instant ou pour un seul individu, voire reposant sur des impulsions non encore formulées dans la conscience.

Derrière ces deux cas de figure volontairement schématisés, se distinguent des approches conceptuelles qu'il est possible de qualifier d'intermédiaires. Le paysage relève ni seulement d'une réalité physico-spatiale objective, ni seulement d'une qualification subjective du regard. Il renvoie plus précisément à la relation dialectique existant entre les deux. Suivant les traditions disciplinaires (géographie, écologie du paysage, ethnologie du paysage), les objectifs de recherche poursuivis et les stratégies méthodologiques adoptées, certains interrogent cette relation en portant une attention plus spécifique soit aux dimensions objectives (Bertrand, 1978; Naveh et Lieberman, 1984; Sauer, 1925 cité dans Schein, 1997), soit aux dimensions subjectives (Berque, 1990; Bloch, 1995).

Par-delà ces démêlés théoriques, et compte tenu des avantages et des limites de chacune de ces positions (Zube et al., 1982; Daniel et Vining, 1983; Domon, et al, 1997), plusieurs reconnaissent comme Rougerie et Beroutchachvili (1991) la nécessité de puiser, au plan méthodologique, à une diversité d'approches. C'est la volonté d'établir des lectures transversales et de prendre en compte les multiples dimensions paysagères qui est posée. Le projet PAISAGE mené au cours des années 1970 dans Charlevoix (Bureau, 1977; Raveneau, 1977) ou, plus récemment, l'étude portant sur la caractérisation des paysages de Verchères (Poullaouec-Gonidec et al.,

1993) illustrent bien ce souci de coupler analyse morphologique et analyse des perceptions, lecture visuelle et lecture ethnologique.

Force est de constater, comme le soutient Lenclud (1995), que "la question du paysage est «problématisable» de bien des manières" (p. 4). Aussi, est-il nécessaire de situer préalablement le point de vue adopté. Cherchant avant tout à mettre en lumière les relations entre dynamique sociale et dynamique paysagère, cette thèse s'inscrit, en ce sens, au nombre des approches médianes. Par-delà ce positionnement conceptuel avoué, cette recherche ne prétend point aborder pour autant l'ensemble des dimensions paysagères avec une attention égale. Des choix méthodologiques s'imposent inévitablement, choix justifiés par les objectifs de recherche poursuivis. De même, quelques précisions s'avèrent essentielles au sujet de la démarche privilégiée.

Ainsi, à travers l'examen des relations entre recomposition sociale et dynamique des paysages, il s'agit moins de savoir si un territoire fait ou ne fait pas paysage (*in visu*) que de chercher à rendre compte de ce qu'un groupe social ou un individu valorise dans ce territoire (Dubost et Lizet, 1995: 233). Aussi, les voies à partir desquelles se traduisent ces valorisations sont multiples. Dans le contexte de la recomposition sociale des ensembles ruraux, celles-ci se reflètent, entre autres, dans la manière dont une population occupe et aménage un territoire, le façonne par l'entremise de certains usages agricoles ou forestiers, le transforme par le déploiement de nouvelles pratiques résidentielles, bref, y inscrit les marques révélatrices de son identité. De même, l'acquisition, pour un résidant d'origine urbaine, d'une propriété dominant un point de vue panoramique, la participation, pour un autre, à la mise en valeur agricole d'un

lopin de terre, ailleurs, l'entretien soigné des terrains ou la remise en ordre d'un muret de pierre, représentent quelques-unes des manifestations possibles de tels modes de valorisation. Les empreintes matérielles composant le paysage sont par conséquent envisagées moins comme des faits neutres, isolés ou fortuits, que comme des signes d'appropriation identitaire. Sous cet angle, le paysage est à la fois le résultat *in situ* (tangibile mais instable) et le reflet d'investissements de valeur pluriels (eux aussi changeants). Cette définition renvoie à l'idée formulée par Berque (1990: 44) selon laquelle une société se représente un milieu en fonction des usages qu'elle en fait et l'aménage, en retour, suivant l'interprétation qu'elle en a. Pour ce dernier, le paysage se définit par conséquent comme une "empreinte-matrice", le premier terme faisant référence à l'inscription physique des modes d'aménagement d'un milieu, le second désignant l'expression de schèmes interprétatifs et de perception du milieu. Selon Lewis (1979) les empreintes inscrites à l'intérieur d'un paysage, et données à lire, renseignent d'autant plus sur les aspirations individuelles ou collectives entretenues qu'elles s'avèrent "more truthful than most autobiographies because we are less self-conscious about how we describe ourselves [through landscapes]" (p. 12). Cette acception soutient que la "fabrication" des paysages, de même que leur transformation et leur maintien, émergent d'un agrégat de gestes individuels se traduisant, en quelque sorte, en autant de discours "matérialisés" (Schein, 1997).

Une dernière remarque est requise au terme de cette clarification conceptuelle. Ainsi, il est important d'ajouter que la démarche adoptée ne partage aucunement des visées susceptibles de mener par exemple à un portrait exhaustif et statique (de type monographique) de cet ensemble paysager complexe. Dans la foulée des intentions

plus modestement exploratoires de cette thèse, il s'agit plutôt de révéler, caractériser, bref établir une première lecture des signes de changements des paysages ruraux qui accompagnent la venue de populations nouvelles, essentiellement d'origine urbaine. Cet effort visant à documenter les gestes et pratiques individuels à l'origine de ces changements est envisagé tout en gardant à l'esprit que ces transformations, diffuses et variées, se trouvent modulées de plus en plus par des regards extérieurs qui ont perdu ce lien étroit, familial, quotidien et exclusif avec le monde rural, tel qu'encore prédominant il y a à peine quelques décennies (Lowenthal, 1997). Pour certains, ces regards procéderaient d'aspirations nouvelles, voire idylliques (Halfacree et Boyle, 1998; Swaffield et Fairweather, 2000) projetées sur un "Ailleurs" mythifié (Simon, 1995), aspirations alimentées, entre autres, par les regards d'ordre littéraire, pictural, touristique ou environnementaliste. La pertinence d'une analyse approfondie et rigoureuse de ces nouvelles aspirations et représentations sociales exprimées envers la ruralité et le paysage n'est pas remise en cause ici. Néanmoins, vu la nature exploratoire de la présente recherche, il est clair que la réalisation d'un tel programme déborde du propos avancé dans le cadre de cette thèse. Un balisage et une mise en relation préliminaires des phénomènes liés à la recomposition des ensembles ruraux et à la transformation des paysages s'imposent d'abord.

### **1.3 Enjeux de recherche et stratégie développée**

La réflexion engagée à l'intérieur de cette thèse s'articule autour de domaines de savoirs en apparence distincts. Les lignes qui suivent exposent les principaux enjeux de recherche qu'interpellent les phénomènes associés à la recomposition sociale des campagnes et à la dynamique des paysages ruraux. Certains acquis, de même que la

reconnaissance de carences en terme de compréhension des phénomènes en question, réclament implicitement une nécessaire convergence des regards.

Ainsi, du côté des ruralistes, les travaux ont visé d'abord à documenter les processus migratoires se manifestant dans le cadre de la reprise démographique des communautés rurales. Ils se sont attardés plus particulièrement à dégager les caractéristiques sociodémographiques des populations migrantes (Beesley, 1988; Kayser, 1990; Dahms et Hallman, 1991; Thomson et Mitchell, 1998), les motivations qui sous-tendent ces mouvements démographiques (Coppack, 1988; Halliday et Coombes, 1995; Thomson et Mitchell, 1996; Walmsley et al., 1998) de même que les facteurs explicatifs les plus aptes à mettre en lumière ces phénomènes migratoires. Tous s'accordent pour affirmer qu'aucune explication unique ne permet d'embrasser la complexité des processus en cause (Champion, 1998; Kontuly, 1998; Dahms et McComb, 1999), ceux-ci émanant plutôt d'une combinaison de facteurs (ex: économiques, culturelles, technologiques, etc.). Du reste, le caractère sélectif des trajectoires migratoires, observé au plan spatial, demeure une donnée récurrente (Gorton et al., 1998). Aussi, des concepts tels que "paysage rural" (Jean, 1989; Donadieu, 1998) "scenery", "scenic amenity" (Bryant et al., 1982; Halliday et Coombes, 1995) ou "attractive physical environments" (Walmsley et al., 1998), sont évoqués comme autant d'éléments attractifs pouvant agir sur les choix résidentiels exprimés. Découlant le plus souvent d'enquêtes réalisées à grande échelle, ces recherches demeurent toutefois silencieuses quant à la spécificité des dynamiques d'occupation résidentielle induites par ces valorisations paysagères. Autrement dit, aucune étude ne semble, à ce jour, avoir cherché à documenter de manière empirique

l'influence des caractéristiques paysagères sur la recomposition sociodémographique des milieux ruraux.

Compte tenu de l'ampleur des territoires ruraux touchés par ces mouvements de recomposition sociale, peu de travaux ont cherché, en contrepartie, à cerner l'incidence de ces phénomènes en terme de transformations paysagères, la dynamique des paysages ruraux étant le plus souvent abordée uniquement au travers sa dimension agricole (Meeus et al., 1990; Baudry, 1993; Domon et al., 1993). Il est possible de trouver néanmoins quelques résonances de ces préoccupations du côté des travaux abordant les préférences paysagères (Coeterier, 1994; Sullivan, 1994; Hunziker, 1995; Ryan, 1998) ou le redéploiement de pratiques identitaires (Marié et Viard, 1988; Archambault, 1995; Hart, 1998) entretenues par les nouveaux ruraux. Au moment où l'agriculture tend à abandonner des secteurs de plus en plus vastes à d'autres types de fonctions, au moment où à l'intérieur de ces espaces se concrétisent parallèlement les aspirations résidentielles d'une population migrante de plus en plus nombreuse, la nature et l'ampleur des transformations paysagères induites dans ce contexte demeurent à évaluer. Comme les activités traditionnelles ne peuvent plus assurer à elles seules la vitalité des milieux ruraux, ces questions s'imposent d'autant plus que la reprise démographique observée est pressentie comme une opportunité en faveur du développement des petites collectivités rurales et de la mise en valeur de leur territoire.

En terme de connaissance des phénomènes en présence, force est de reconnaître qu'en dépit des avancées réelles accomplies à l'intérieur de ces perspectives disciplinaires distinctes, un certain vide de nature empirique, voire théorique, reste à combler. La



question des relations existant entre dynamique sociodémographique et dynamique des paysages ruraux demeure par conséquent entière.

Comment par exemple le phénomène de recomposition sociale des communautés rurales a-t-il évolué selon des intensités et des rythmes différents d'une région, voire d'une municipalité à l'autre? En quoi certaines caractéristiques paysagères risquent-elles d'orienter ce processus? En retour, dans quelle mesure les migrants en milieu rural risquent-ils d'insuffler aux paysages des évolutions singulières et de modifier, une fois en place, les qualités même qui justifient leur attrait?

De manière ultime, c'est l'importance relative du paysage en tant qu'élément charnière des dynamiques rurales actuelles qui demande à être explorée davantage, à savoir en tant qu'il est susceptible de moduler l'expression de la recomposition sociale des campagnes de même qu'en tant qu'il est lui-même constamment refaçonné comme réceptacle investi de valorisations diverses et changeantes.

Cherchant à poser les assises d'un travail qui partage, à plus long terme, une telle visée, cette thèse témoigne de la volonté de mieux saisir les nouveaux rapports à l'espace qui traversent le monde rural. Soucieuse d'explorer ces rapports à des échelles où leurs manifestations s'avèrent les plus expressives, la stratégie retenue propose de mettre en évidence ces phénomènes suivant trois perspectives complémentaires: soit selon une perspective régionale, locale et domestique.

De manière à dresser un portrait d'ensemble des dynamiques rurales, cette recherche s'emploie, dans un premier temps, à dégager, sur la base des indicateurs agricoles et sociodémographiques disponibles dans les recensements canadiens, des esquisses

typologiques aptes à révéler les trajectoires et les profils actuels des municipalités rurales du sud du Québec. Ce faisant, le tableau régional qui résulte de cet exercice typologique vise à mettre en lumière la diversité des situations socio-spatiales et rendre compte des tendances lourdes.

De ce portrait d'ensemble et prenant appui sur les connaissances acquises dans le cadre des travaux menés par l'équipe « Haut-Saint-Laurent : Écologie et Aménagement » (Bouchard et Domon, 1997), une lecture détaillée de la dynamique d'occupation des lots d'un territoire témoin (Canton de Havelock, Haut-Saint-Laurent) permet, dans un second temps, d'approfondir les évolutions locales en présence. Il s'agit plus précisément, à partir d'une caractérisation des grands contextes paysagers réalisée à l'aide d'analyses visuelles *in situ* et d'informations recueillies auprès des résidants (profil sociodémographique et histoire résidentielle), de montrer dans quelle mesure de nouvelles sensibilités paysagères tendent à orienter l'implantation résidentielle de populations migrantes en milieu rural. Il s'agit également de révéler en quoi ces nouvelles dynamiques d'occupation sont amenées à induire des trajectoires paysagères spécifiques à l'échelle du lot, entrevues ici à travers les transformations particulières de l'utilisation des sols et du cadre bâti. Somme toute et par-delà les phénomènes observés à travers cette lecture locale, c'est le nécessaire examen des interactions complexes entre dynamique d'occupation résidentielle et dynamique des paysages ruraux qui est posé ici.

Compte tenu que les choix résidentiels découlant de ce mouvement de recomposition sociale des campagnes sont, pour plusieurs, chargés de valeurs identitaires, l'ampleur véritable des transformations paysagères induites par ces derniers ne peut être évaluée

sans une caractérisation détaillée des pratiques et usages qui ont cours à l'échelle domestique, là où la manifestation de ces changements risque de s'avérer la plus éloquente. Dans un troisième temps, cette recherche s'est attachée par conséquent à relever, à partir d'observations *in situ* réalisées à l'échelle de chacun des lots retenus, la diversité des signes d'appropriation en présence (caractéristiques des bâtiments, entretien des espaces domestiques, usage d'éléments ornementaux, utilisation des sols, etc.). À travers cet examen, il est possible d'apprécier en quoi ces pratiques façonnent de nouveaux paysages et s'avèrent le reflet d'identités plurielles à la ruralité.

Après un rappel des tendances dominantes observées tant à l'échelle régionale, locale que domestique, une lecture transversale des résultats obtenus sur la base de cette démarche tripartite, permet, en terminant, d'apprécier l'imbrication complexe des phénomènes relevés. Ce faisant, elle témoigne de la nécessité de mieux saisir les évolutions en cours à l'échelle locale et domestique et en quoi celles-ci conduisent tantôt à induire certaines transformations paysagères, tantôt à maintenir certaines formes anciennes. Plus encore, elle cherche à montrer en quoi le redéploiement de populations migrantes en milieu rural tend à s'accompagner d'une dissociation de plus en plus accentuée entre dynamiques d'occupation résidentielle et dynamiques agricoles. Cette recherche ouvre, en guise de conclusion, sur une discussion d'ordre plus prospective. Elle s'attache à situer l'implication de ces résultats tant en regard des évolutions démographiques et paysagères susceptibles de prendre place, qu'en regard des enjeux d'aménagement des territoires ruraux appelés à se manifester dans un

avenir rapproché. Elle termine enfin en évoquant quelques avenues de recherche à explorer.

## CHAPITRE 2

**AGRICULTURAL TRAJECTORIES (1961-1991), RESULTING  
AGRICULTURAL PROFILES AND CURRENT SOCIODEMOGRAPHIC  
PROFILES OF RURAL COMMUNITIES IN SOUTHERN QUEBEC  
(CANADA): A TYPOLOGICAL OUTLINE**

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Ce chapitre a fait l'objet d'une publication dans la revue *Journal of Rural Studies*.

Reprinted from *Journal of Rural Studies*, Volume 15, Paquette, S. et Domon, G., *Agricultural Trajectories (1961-1991), Resulting Agricultural Profiles and Current Sociodemographic Profiles of Rural Communities in Southern Québec (Canada): A Typological Outline*, pp. 279-295, Copyright (1999), with permission from Elsevier Science.

### **Abstract**

The transformation of the rural areas in Quebec is a result of the decrease in the agricultural population, the spread of the periurban fringes, and the appropriation of areas by seasonal residents. To what extent have these phenomena evolved according to different spaces, from one municipality to the other? Have they made the territory more homogeneous, or have they rather contributed to produce new spatial patterns? What are the dominant traits of the rural communities' sociodemographic profiles that are attributed to these trajectories? Considerable work remains to be done in order to characterize the evolving trajectories, induced by these phenomena, and the resulting spatial patterns. Based on the agricultural and sociodemographic indicators available in Canadian censuses, and the possibilities offered by multivariate analyses, the present research aims to identify typological outlines apt to report on: (1) evolving agricultural trajectories (1961-1991); (2) resulting agricultural profiles; and (3) current sociodemographic profiles. Two observations result from these outlines. First, resulting from the two main agricultural trajectories observed (intensification-regression), the five following agricultural profiles were observed for 1991: vegetable

crop intensive farming, cereal crop intensive farming, moderately intensive farming, extensive cattle farming, and marginalized farming. Second, on the sociodemographic level, the identification of seven rural municipality groups (predominantly agricultural, agricultural in transition, marginalized agricultural, periurban, small mutating industrial centre, traditional and high-class rural amenity municipalities) accounts for the diversity of social recomposition shapes. This paper attempts to contribute to the understanding of the spatial and demographic dynamics of contemporary rural communities.

## **2.1 Introduction**

The decrease in the agricultural population in Quebec (Jean, 1991; Domon, 1994), as elsewhere in Western countries (Kayser, 1990; Robinson, 1990; Shumway and Davis, 1996), the spread of residential areas around urban centres (Bryant et al., 1982; Troughton, 1983; Lucy and Phillips, 1997), and the appropriation of vast stretches of land by seasonal residents have, among other phenomena, led to profound transformations in rural areas. If the agricultural and the rural are no longer synonymous (Jollivet, 1988; Jean, 1989), there remains substantial work to be done to identify and characterize these evolving trajectories and spatial patterns that arise from them on an agricultural or sociodemographic level.

To what degree have these phenomena acted according to similar intensities and rhythms? And have they varied from one region, and even municipality, to the other? Have these phenomena made the territory more homogeneous, or have they rather helped to produce new spatial patterns? What are the chief characteristics of the sociodemographic profiles in rural communities that are attributed to these trajectories? Is it possible to identify a few typical profiles and establish some kind of current rural typology?

These questions refer to the shared necessity of better understanding contemporary rurality (Clout, 1986; Jean, 1989; Murdoch and Pratt, 1993). Neither the dichotomies that attempt to make a strict distinction between rural and urban milieu (George, 1970), nor the more recent interpretations which call for the end of the rural (Friedland, 1982; Lefevbre, 1970) seem to be qualified to construct a satisfactory portrait of the current rural reality. Today, rural is no longer associated to a traditional farming oriented social organization. As a result, an interesting theoretical alternative emerges that allows us to rethink and reposition rurality through its contemporary forms. Corresponding with the observation of the urban-to-rural population turnaround, authors like Fuguitt in the United-States (1985), Kayser in France (1990), and Jean in Quebec (1991) propose to see rurality through a new social recomposition which creates an important sociospatial diversity. Therefore, rather than trying to provide a universalistic definition of the rural or to reveal the "essence" of rurality, the present typological outlines modestly aim to explore the changing face and the various manifestations of some agricultural and sociodemographic phenomena, which are linked to rural municipality trajectories.

In this perspective, some typological outlines have already been the subject of specific studies. Deslauriers et al. (1991) in Quebec, Canevet (1992) in France, and Thomas et al. (1996) in the United States have proposed typologies aimed at taking into account the transformation of agricultural structures. Looking into urban-to-rural migrations that started at the beginning of the seventies, Brunet (1980) has suggested a pattern of spatial distribution suited to account for the relative importance of the exurban population. With the same aim, Halliday and Coombes (1995) have applied themselves to characterize different types of migratory flows by connecting them to associated personal motivations. Despite the importance of the clarifications brought forth by these studies, they have nearly always tackled rural reality from the standpoint of a specific phenomenon, and have not been able to offer a global



perspective. Under these circumstances, the contribution from authors who, like Kayser (1990), have applied themselves to report the diversity of situations, which arise from different phenomena, seems considerable. Thus, considering the whole French territory, Kayser has proposed a typological outline that can produce a preliminary interpretation of the nature, diversity, and spatial distribution of rural areas. Four types of rural areas can be distinguished: the periurban rural area, the productive agricultural area, the remote rural area, and the regenerating rural area. The latter type is characterized by the setting up of new urban service activities outside of the actual periurban area (Kayser, 1990, p. 30). Taking into account their significant interest regarding the understanding of rurality, but also their exploratory nature, such characterization deserve to be pursued. It concerns the development of approaches qualified to systematically characterize the different evolving trajectories of rural communities, and to report current situations. It is through this viewpoint that this paper is written.

On the empirical basis of the major agricultural and sociodemographic indicators that are available in Canadian censuses (1961 and 1991) and the possibilities offered by multivariate analyses, this study attempts, on a primary level, to identify typological outlines suited to report on: (1) evolving agricultural trajectories (1961-1991); (2) resulting agricultural profiles (1991); and (3) current sociodemographic profiles (1991). On a secondary level, in combining agricultural and sociodemographic analyses, it aims to bring out the diversity of the situations and courses that have appeared, and will continue to do so, within a relatively limited territory (6,300 km<sup>2</sup>), which covers a wide spectrum of sociospatial situations. By doing so, it intends to contribute to the understanding of the spatial and demographic dynamics of contemporary rural communities.

After a brief description of the study area and the methodological framework developed, the following pages will characterize the different types in regards to the evolution of agriculture, the resulting agricultural profiles, and the current sociodemographic profiles. The predominant tendencies of recent agricultural trajectories, their impact on the demographic evolution of municipalities, as well as the main current shapes of sociodemographic recompositions of rural communities will also be discussed. Constituting the first part of a larger research project, this paper allows ultimately to bring out the territorial dynamic trends of southern Quebec's rural municipalities in order to place local trajectories in a broader geographical context.

## **2.2 Methodology**

The selected methodological approach consists of analyzing one territory's municipalities with data taken from censuses dealing with agriculture and the population's characteristics. The cluster analysis, which is applied to these data, helps to draw typological outlines related to the evolution of agriculture, the resulting agricultural profiles, and the current sociodemographic profiles. Though this methodological framework only provides a partial reading of the complex nature of the rurality, it allows to show sociospatial differentiations under distinct viewpoints.

### **2.2.1 Study Area**

Located at the southern limit of the province of Quebec (Canada), the study area (6,300 km<sup>2</sup>) is composed of 108 municipalities situated along the Canadian-American border (Fig. 2.1). It occupies, towards the west, the littoral areas of the Saint Lawrence River and spreads, towards the east, up to the border of the state of Maine



(United States). It consists of the Regional County Municipalities<sup>1</sup> (RCM): Haut-Saint-Laurent, Jardins-de-Napierville, Haut-Richelieu, Brome-Missisquoi, Memphrémagog and Coaticook.

The interest of this region lies in the diversity of situations encountered. First, the diversity in the population's structure which expresses itself in a complex network of small and medium-sized cities (from 5,000 to 36,000 inhabitants), village nuclei, and municipalities with a scattered population (over 75% of municipalities number fewer than 2,500 individuals). Second, the diversity of biophysical characteristics: while the Saint Lawrence Lowlands, which are characterized by a flat relief and clay soil, dominate the western area, the eastern area is mainly occupied by the Appalachian Plateau Uplands with clearly more uneven reliefs and great stretches of water (Fig. 2.2). Finally, the diversity on the socio-economic level, since this is where the agricultural, wooded, industrial, and recreational areas cohabit.

### 2.2.2 Documentary Sources

Nearly all selected data comes from Canadian censuses of 1961 and 1991. They are three types of data.

First, the data available in agricultural censuses (farm population, number of farms, capital and farm income, average area per farm, cultivated areas, pasture, cattle, areas dedicated to maize-grain, hay, and lucerne crops) were collected. Let us specify that these data were compiled by Statistics Canada at the scale of the census consolidated subdivision, which is a geographic division merging one or more municipalities<sup>2</sup>.

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<sup>1</sup> The territory of the province of Quebec is divided into 96 regional county municipalities, that is to say, administrative supramunicipal entities notably responsible for land-use planning.

<sup>2</sup> For the purpose of confidentiality, Statistics Canada merges census subdivisions that only have a few farms.

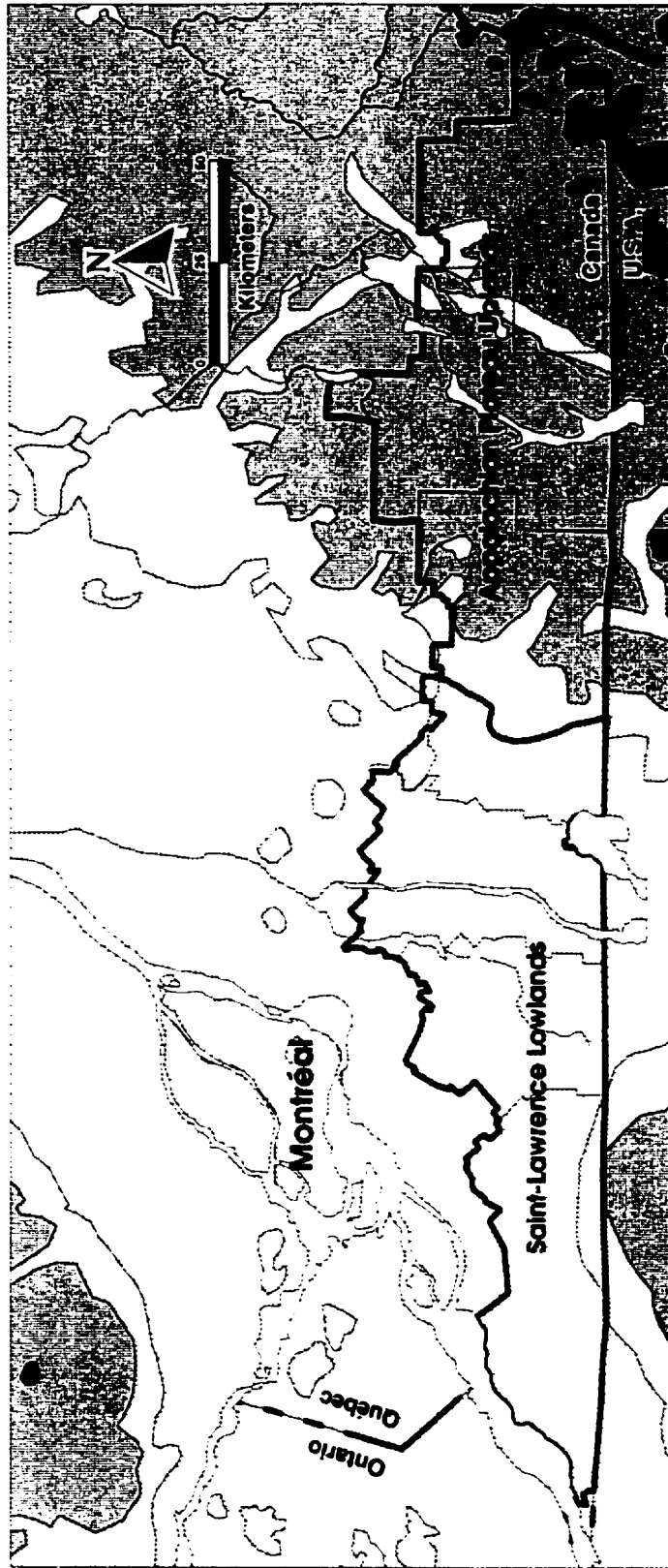


Figure 2.2: Study area's principal physiographic units recognized on the basis of topographical characteristics.

Second, data of sociodemographic nature were added for 1991 (population density, age distribution, population according to the level of schooling, number of workers per sector of activity, average and median income, rate of activity, unemployment rate) at the scale of each census subdivision (or municipality). The geographic division was adjusted, for the purpose of this research, in order to standardize the selected territorial entities. To do so, all the changes in the municipal boundaries were collected through a systematic verification of the census subdivision maps (1961, 1971, 1991), and of all information pertaining to the areas of each of the municipal entities. Moreover, a review was made of the municipal annexations that are provided in documents published by Statistics Canada between 1971 and 1991<sup>3</sup>. Following these verifications, a small number of municipalities had to be excluded from the database<sup>4</sup>. These exclusions are the result of boundary changes that included municipalities located outside of the study area.

Finally, the information related to the land property values of 1991 and provided by the Ministry of Municipal Affairs of Quebec, was added to the database. The standardized data of taxable values (land and buildings) for the different categories of land-use (i.e., residential, cottages, industrial, agriculture, trades and services), have been considered for each municipality studied.

### 2.2.3 Statistical Analyses

The different typological exercises were achieved by cluster analysis. Applied with SPAD software (version 3 for Windows), the latter allows the identification of homogeneous groups on the basis of distances between each pair of municipalities.

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<sup>3</sup> Statistics Canada, Standard Geographical Classification SGC 1991, vol III (cat. 12-573); SGC 1986, vol III (cat. 12-573); Changes to municipal boundaries, status and names, 1974-1986 (cat. 12-201 and 12-549); 1971 census of Canada, Population: census subdivisions (Historical), Vol 1: part 1 (cat. 92-702), Ottawa.

<sup>4</sup> It concerns the St-Luc, Brigham, Lac-Brome, Orford and Compton-Station municipalities.

The average of each of the variables is calculated for each of these groups. With the help of a statistic test, it is possible to recognize, for each variable and each group, the averages that diverge significantly from global averages. This statistical tool is of great importance in the identification of the municipality groups, and therefore in the development of the spatial typological outlines. Finally, within each group, the distance which separates the municipalities from one another is calculated, making it possible to identify the municipalities that turn out to be either the most or the least typical. These measures give an idea of the internal variability of the groups.

The analysis of the data was conducted in three distinct stages. Firstly, analyses have allowed the identification of those municipality groups that adopt comparable agricultural trajectories which are characterized by the calculation of the rate of change for the 1961-1991 period. The rate of change, for example in the farm population between 1961 and 1991 equals the percentage of the farm population of 1991 divided by the one of 1961. A second series of cluster analyses has distinguished the different agricultural profiles encountered in 1991. The last series of analyses has applied itself to report the various resulting sociodemographic profiles for 1991. In each case, cluster analysis resulting groups have been spatialized on a Quebec municipality map.

### **2.3 Results**

The presentation of results is based on three distinct typological outlines. The first aims to bring to light the characteristics of the evolution of agriculture between 1961 and 1991. The second attempts to show, in a more detailed manner, the spatial differentiation which results from this evolution. The last searches to bring to light the main characteristics of the sociodemographic profiles (1991) for the municipalities in question.

### 2.3.1 Agricultural Trajectories, 1961-1991

The present typology has led to the identification of four different groups (Fig. 2.3). The first two, made up of 13 and 29 municipalities respectively, mainly occupy the area of the lowlands; the other two, consisting of 2 and 16 municipalities respectively, are spread out within the Appalachian Uplands.

#### *1. Advanced Agricultural Intensification*

Most of the municipalities of this group (11 out of 13) are located next to a densely populated area (included within the Haut-Richelieu and Jardins-de-Napierville RCM) and form a group of municipalities relatively close to one another (Fig. 2.3).

These municipalities are distinguished by a marked agricultural intensification: an increase of 46.3% of the lands dedicated to maize-grain crops, an increase of almost double the average agricultural area by farm, and the substantial rise in cultivated areas. At the same time, these municipalities have had an accelerated fall in the number of farms per km<sup>2</sup>, in the percentage of the farm population and in the proportion of hay crops (Tab. I)<sup>5</sup>.

#### *2. Moderate Agricultural Intensification*

This group includes 29 municipalities, concentrated within the Saint Lawrence Lowlands (Fig. 2.3). Compared to those in the first group, these municipalities are marked by a more moderate character of the tendencies observed.

The signs of agricultural intensification are nonetheless quite perceptible. On the one hand, the proportion of cultivated lands has greatly increased (Tab. I). On the other

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<sup>5</sup> In order to simplify the result presentation, only the averages that diverge significantly from the global averages are presented in the tables. The dashes show, for their part, the presence of the averages that do not distinguish themselves significantly from the global averages.



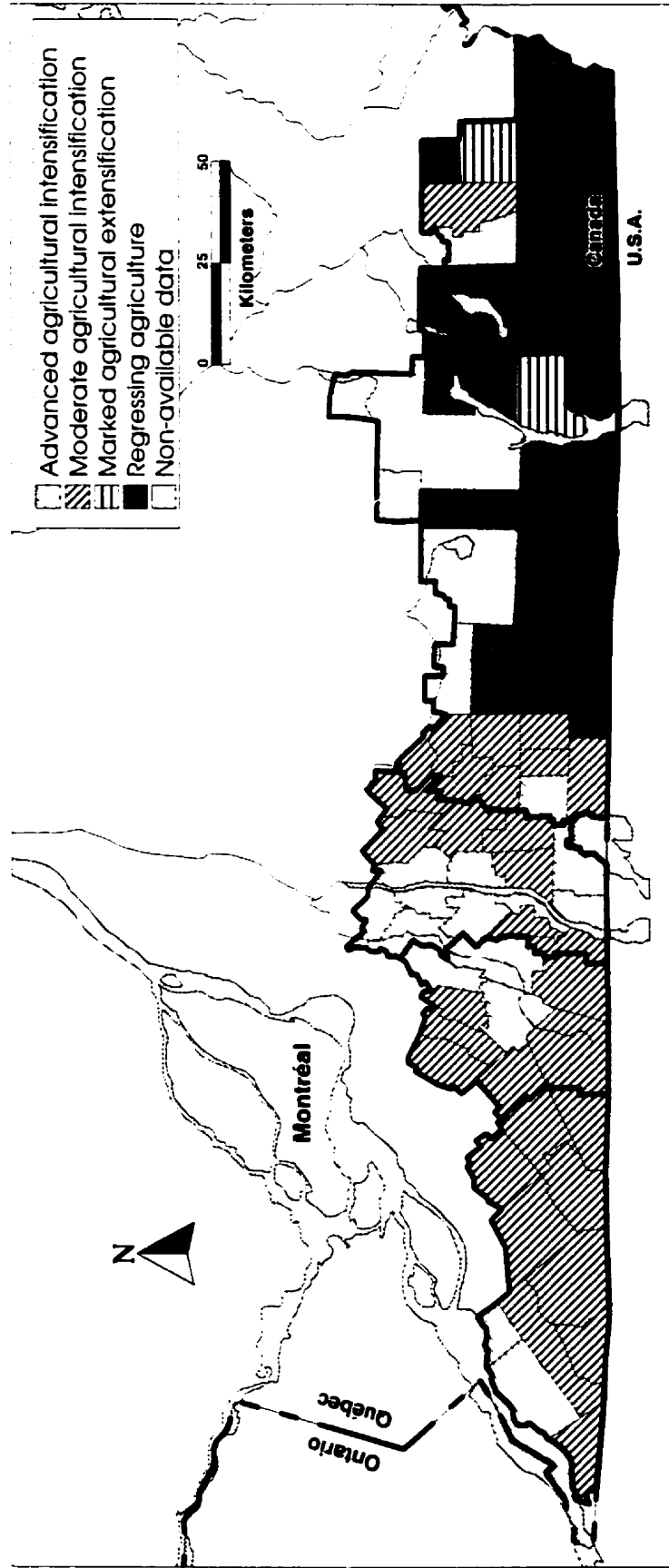


Figure 2.3: Agricultural trajectories (1961 - 1991), by census consolidated subdivision.

**Table I: Average and Standard Error of cluster results from 1961-1991 agricultural rate of change clustering analysis (N=60, P ≤ 0.05).**

Agricultural indicators	General		Cluster 1		Cluster 2		Cluster 3		Cluster 4	
	Avg.	SE	Avg.	SE	Avg.	SE	Avg.	SE	Avg.	SE
Farm population (%)	0.30	0.11	•0.18	0.06	•0.35	0.09	0.43	0.07	—	—
Farms (Nbr./km <sup>2</sup> )	0.51	0.10	0.46	0.06	•0.57	0.08	—	—	•0.43	0.09
Average area by farm (Ha)	1.51	0.36	•1.95	0.29	1.39	0.20	—	—	—	—
Under crops (%)	1.19	0.20	1.28	0.14	1.24	0.17	—	—	•1.02	0.18
Pasture (%)	0.73	1.49	—	—	0.34	0.22	•7.97	2.46	—	—
Area under maize crops (%)	21.73	19.34	•46.31	11.45	—	—	—	—	•1.23	2.05
Area under hay crops (%)	0.54	0.32	•0.21	0.10	0.44	0.15	0.99	0.10	•0.94	0.19

(•) P ≤ 0.001

hand, the relative size of pasture lands and lands dedicated to hay crops show a substantial decrease. Finally, the number of farms per km<sup>2</sup> and the proportion of the farm population have experienced a decrease, albeit a relatively small one.

### *3. Marked Agricultural Extensification*

This group contains only two municipalities located in the east portion of the territory (Fig. 2.3). The latter is distinguished by a very strong rise in pasture lands, by the retention of, despite the general tendency, the proportion of the area dedicated to hay crops, and by a relatively small decrease in the farm population (Tab. I).

### *4. Regressing Agriculture*

The group's municipal entities, that number 16, cover nearly all the region of the Appalachian Plateau Uplands (Fig. 2.3). They are distinguished by the presence of extensive agriculture that appears to be regressing.

These municipalities are characterized by a very substantial decrease in the number of farms per km<sup>2</sup>, and the absence of increase in the proportion of cultivated areas and areas dedicated to maize-grain crops (Tab. I). Moreover, in spite of the extensive agricultural character of this group the proportion of hay crops has, over the thirty years studied, dropped slightly.

Globally, the percentage of cultivated areas under hay crops and maize-grain crops seem to explain variability between the different agricultural trajectories observed. While the proportion of hay crops exhibit statistically significant values for all the groups, with a maximum decrease for group 1 and a minimum one for groups 3 and 4 (Tab. I). The percentage of maize-grain crops show diametrically opposite values for groups 1 and 4 which represent extreme situations (Tab. I).

### 2.3.2 Resulting Agricultural Profiles (1991)

While the final results have made it possible to characterize the agriculture temporally, the present section attempts to provide a more detailed account of the resulting profiles of the observed tendencies. Five groups, each of 10 to 16 municipalities that spread in adjacent groupings over the territory, are displayed prominently (Fig. 2.4). Let us note that the two large physiographic units identified earlier (Fig. 2.2) support, clearly enough, distinct agricultural profiles. While the Saint Lawrence Lowlands present profiles that are qualified as: "Vegetable Crop Intensive Farming", "Cereal Crop Intensive Farming", and "Moderately Intensive Farming", the lands of the Appalachian Plateau consist of "Extensive Cattle Farming" and "Marginalized Farming" profiles.

#### *1. Vegetable Crop Intensive Farming*

The ten municipalities of this group are mostly concentrated in the north of the Jardins-de-Napierville and Haut-Richelieu RCM (Fig. 2.4). These are either truly periurban municipalities (St-Grégoire-Le-Grand, St-Cyprien-de-Napierville), where the farm population represents between 7.4% and 9.6% of the total population, or municipalities that are more agricultural (St-Michel). The farm population numbers in this case up to 20% of the total population.

This group displays an agricultural profile strongly turned towards vegetable crop intensive production and presents the greatest density of farms per km<sup>2</sup> (Tab. II). Despite a relatively low value of the average area of the farms (71.5 ha), the proportion of cultivated lands (79.8%) and the areas dedicated to maize-grain crops (33.0%) remain higher than the averages. The gross average income per farm is also higher at \$157,600. In return, the percentage of the improved areas for pasture, the proportion of lands unimproved for pasture, and lands dedicated to hay crops are

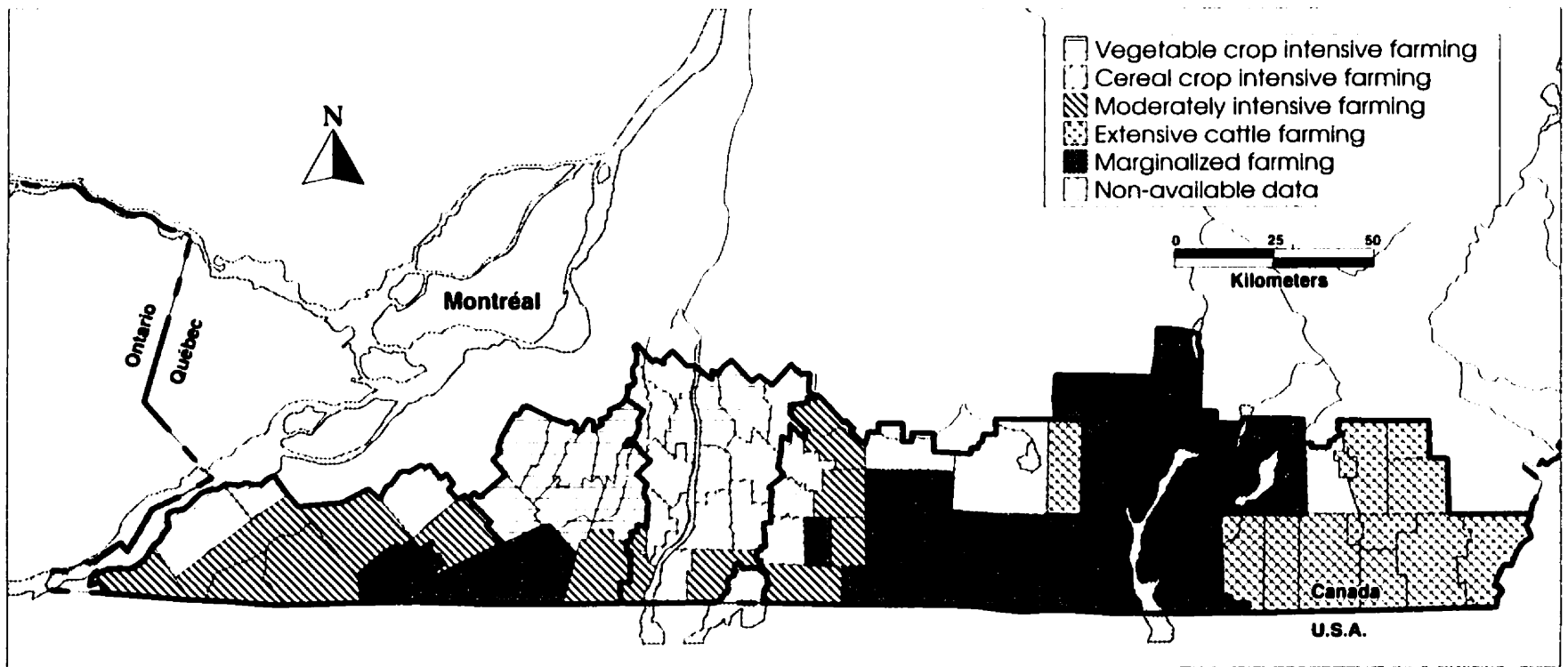


Figure 2.4: Resulting agricultural profiles (1991), by census consolidated subdivision.

Table II: Average and Standard Error of cluster results from 1991 agricultural data clustering analysis (N=65, P ≤ 0.05).

Agricultural indicators	General		Cluster 1		Cluster 2		Cluster 3		Cluster 4		Cluster 5	
	Avg.	SE	Avg.	SE	Avg.	SE	Avg.	SE	Avg.	SE	Avg.	SE
Farm population (%)	14.0	8.6	—	—	—	—	—	—	20.3	9.3	9.7	7.7
Farms (N/km <sup>2</sup> )	0.7	0.3	•1.1	0.5	—	—	—	—	0.5	0.2	•0.5	0.2
Avg farm capital <sup>1</sup>	426.9	110.1	—	—	•571.1	89.9	—	—	376.0	27.6	•322.2	52.1
Avg gross farm receipts <sup>1</sup>	126.9	55.7	157.6	39.4	•189.7	31.8	—	—	—	—	•63.3	27.6
Avg. area by farm (Ha)	94.7	25.9	•71.5	18.0	—	—	—	—	•128.2	19.8	82.1	14.7
Under crops (%)	56.8	24.2	•79.8	11.6	•81.6	7.4	—	—	•32.3	9.0	•29.4	7.9
Pasture (%)	6.1	3.9	•2.4	1.3	•3.3	1.6	—	—	•10.8	3.7	8.0	3.2
Unimproved land (%)	10.3	7.3	•3.8	3.5	•3.7	2.4	—	—	—	—	•18.6	5.3
Other land (%)	26.9	16.4	14.0	7.9	•11.4	5.5	—	—	•43.4	12.8	•44.0	7.3
Maize- grain (area %)	21.2	19.3	33.0	23.3	•40.6	9.1	—	—	•1.8	2.3	•4.2	7.6
Hay (area %)	13.8	5.9	•7.7	4.1	11.1	5.1	—	—	•20.4	4.8	—	—
Lucerne (area %)	6.7	4.1	—	—	•10.8	3.0	9.7	2.0	•3.2	1.6	•2.6	1.4
Avg. cattle by farm	45.0	22.0	•19.4	11.7	55.0	18.8	—	—	•68.6	16.7	30.9	12.9

(•) P ≤ 0.001

(<sup>1</sup>) (000\$)

below the averages. The average number of head of cattle per farm (19.4) remains very low.

### *2. Cereal Crop Intensive Farming*

This group is mainly made up of an adjacent grouping of 13 municipalities located in the south of the Haut-Richelieu RCM and on the west edge of the Brome-Missisquoi RCM (Fig. 2.4). It also includes three municipalities inside the Haut-Saint-Laurent RCM.

The averages of certain variables reach heights for the study area (Tab. II). This is so for average farm capital (\$571,100), average gross income per farm (\$189,700), the proportion of cultivated lands (81.6%), and the percentage of lands dedicated to maize-grain (40.6%) and lucerne (10.8%) crops. The average number of head of cattle per farm (55.0) remains also above average, while improved lands for pasture, unimproved lands for pasture, and the areas dedicated to the production of hay present proportionally very low values.

### *3. Moderately Intensive Farming*

This group, consisting of a total of 13 municipalities, represents the lowland municipalities that offer variable potentials for intensive cultivation, that is to say, the municipalities where clay plains cohabit with areas of a somewhat uneven relief (i.e. Godmanchester, Hinchinbrook). It also consists of municipalities located along the margin of the Appalachian Fold (Fig. 2.4). Globally these municipalities present an overall agricultural profile characterized by moderated intensification. Owing to the frequent cohabitation of clay areas and areas with an uneven relief, this profile can result from the cohabitation of intensive and more extensive sectors.

The particular character of this group lies in the fact that, with one exception (the proportion of areas destined to lucerne crops), the variables never diverge significantly from the averages obtained for all of the study area (Tab. II). The agricultural profile of the typical municipality (St-Armand-Ouest) makes it possible to situate the municipalities of this group. In one instance, the proportion of the farm population reaches 16.8% and the proportion of the cultivated areas account for over 52% of the total area. In the other, the gross income per farm is relatively low (\$92,800), as is the percentage of the areas dedicated to maize-grain crops (18.5%).

#### *4. Extensive Cattle Farming*

With the exception of one municipality (Bolton-Ouest), the eleven municipalities concerned cover all of the territory of the Coaticook RCM (Fig. 2.4). They represent the typical traits of extensive cattle farming and of dairy production.

This group stands apart by reaching heights in respect of many variables generally associated with these types of productions: the average area of farms (128.2 ha), the importance of pasture lands (10.8%), the importance of areas dedicated to hay crops (20.4%), the average number of head of cattle per farm (68.6), and the importance of farm population (20.3%). In return, it presents minimums in respect of the number of farms per km<sup>2</sup> (0.5) and of the percentage of lands destined to maize-grain (1.8%). Likewise, the average capital per farm, the proportion of cultivated lands and the percentage of areas dedicated to lucerne crops present values well below average (Tab. II).

#### *5. Marginalized Farming*

This group of 15 municipal entities covers all the Memphrémagog RCM territory and includes some municipalities located in the south sector of the Brome-Missisquoi, Haut-Saint-Laurent and Jardins-de-Napierville RCM (Fig. 2.4). These municipalities



are characterized by uneven relief, which is more accentuated towards the east, that is, in the sectors where the Appalachian Mountains cross. On the whole, agriculture today tends to be marginalized.

This group includes the municipalities for which the proportion of the farm population is the lowest (9.7%), where the average gross farm income (\$63,300) and the average farm capital (\$322,200) are the lowest, and where the percentage of cultivated lands is the smallest (29.4%). The areas destined to maize-grain and lucerne crops, the number of farm per km<sup>2</sup>, the average number of head of cattle per farm, as well as, the average area of farms present values that are clearly lower, in each case, than the averages. Finally, this group presents a high proportion of unimproved lands for pasture (18.6%) and other unimproved lands (44.0%; Tab. II).

Today, these municipalities have very few farmers. In the most statistically representative municipality of the group (Ste-Catherine-de-Hatley) the proportion of the farm population, for example, only attains 5.6%. Even if certain municipalities located more to the west (Franklin and Havelock) present a more important farm population (19% and 30% respectively), their agricultural profile encompasses some of the characteristics of the present group, insofar as the average farm capital and the gross farm income remain limited.

Variability between these resulting agricultural profiles is expressed by some variables which, in at least 4 of the 5 groups identified, diverged significantly from global averages. In this way, areas under crops (%), under pasture (%), other land (%), maize-grain cultivated areas (%), and average cattle by farm generally exhibit opposite trends between the first two groups (clusters 1 and 2) and the last two (clusters 3 and 4; Tab. II).

### 2.3.3 Sociodemographic Profiles (1991)

The present section attempts to bring to light a municipality typology of southern Quebec from the perspective of the sociodemographic characteristics taken from the 1991 census. As seen in Figure 2.5, the identified groups follow spatial patterns that are extremely variable. While some groups overlap adjacent municipal groupings, others are made up of municipalities isolated from one another and are distributed unevenly throughout the territory. The seven identified groups number 11 to 29 municipalities each, with one exception which only has a single municipality.

#### *1. Predominantly Agricultural Rural Municipalities*

Spatially, this group of 29 municipalities is divided into two large groupings (Fig. 2.5). The first spreads out within the Saint Lawrence Lowlands and tends to include municipalities located somewhat set back from the urban influenced areas (the north sector of the Jardins-de-Napierville and Haut-Richelieu RCM). The second one constitutes most of the rural municipalities of the Coaticook RCM. These municipalities are distinguished by the predominance of an agricultural character, the presence of poorly skilled labour and a younger population.

The percentage of agricultural land value (41.3%) is clearly above average (Tab. III). The proportion of the primary sector workers reaches 28%, while that of the tertiary sector remains well below average (45.0%). The other traits, that underline the agricultural character of this group, are the result of a very low population density (14.6 inhab./km<sup>2</sup>) and the small percentage of the residential land value (47.4%). These municipalities are also distinguished by a particular age distribution: a higher representation of individuals aged 0 to 34 and a smaller proportion of people aged 65 and over. Furthermore, the population has a higher percentage of individuals who have not reached grade nine (26.9%) and a small proportion of individuals who have

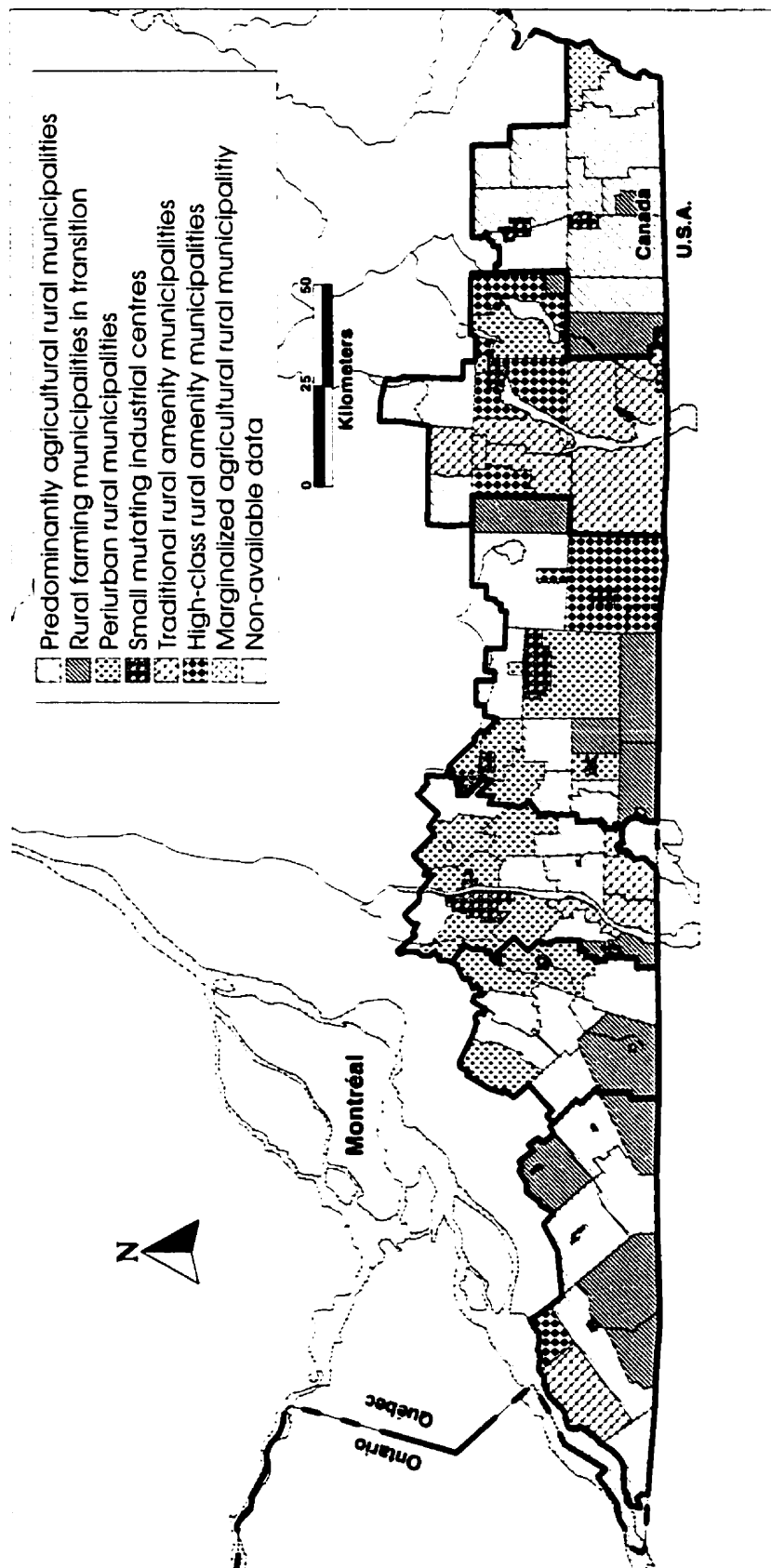


Figure 2.5: Sociodemographic profiles (1991), by census subdivision.

Table III: Average and Standard Error of cluster results from 1991 sociodemographic data clustering analysis (N=102, P ≤ 0.05).

Sociodemographic indicators	General		Cluster 1		Cluster 2		Cluster 3		Cluster 4		Cluster 5		Cluster 6		Cluster 7	
	Avg.	SE	Avg.	SE	Avg.	SE	Avg.	SE	Avg.	SE	Avg.	SE	Avg.	SE	Avg.	SE
Population density by km <sup>2</sup>	154.0	322.3	14.6	8.2	12.4	4.9	—	—	•668.1	462.5	—	—	—	—	1.9	0.0
Age structure (%)																
0-4 years	7.3	1.7	•8.3	1.4	—	—	8.1	0.8	6.7	1.0	•5.8	1.8	6.2	1.6	9.2	0.0
5-14 years	15.3	2.7	•17.1	2.2	—	—	•17.8	2.0	•13.2	1.6	13.5	1.6	13.4	1.7	18.4	0.0
15-24 years	11.7	2.2	•13.1	2.3	—	—	—	—	12.6	1.6	•9.8	1.8	•9.4	1.9	9.2	0.0
25-34 years	15.4	2.7	16.6	2.4	13.5	2.2	17.1	1.1	16.5	2.2	•12.9	2.1	•12.9	1.9	18.4	0.0
35-44 years	15.7	2.5	15.0	2.0	17.6	2.3	•18.1	1.7	•13.7	1.2	14.6	1.9	—	—	18.4	0.0
45-54 years	11.4	1.9	—	—	—	—	—	—	10.4	0.8	12.7	1.2	12.4	2.2	4.6	0.0
55-64 years	10.0	2.7	9.1	2.1	—	—	•7.5	1.2	—	—	•13.5	3.1	12.1	1.5	13.8	0.0
65 years and over	13.0	5.2	•9.6	2.5	—	—	•7.6	2.1	•17.7	3.5	•17.0	4.2	16.9	5.6	9.2	0.0
Highest level of schooling (%)																
Less than grade 9	23.8	6.8	26.9	5.8	•18.6	4.6	—	—	26.3	4.5	—	—	•14.8	5.9	40.5	0.0
Without secondary certificate	24.6	6.4	—	—	27.6	4.9	—	—	—	—	—	—	20.0	8.0	47.6	0.0
With secondary certificate	17.0	4.6	—	—	—	—	—	—	—	—	—	—	19.6	4.5	0.0	0.0
Trades certificate	6.1	2.6	—	—	4.4	1.7	—	—	—	—	—	—	—	—	11.9	0.0
Other non-university education	16.7	4.6	—	—	—	—	—	—	—	—	—	—	19.0	4.7	0.0	0.0
University without degree	5.5	3.2	—	—	—	—	—	—	—	—	—	—	•8.4	4.8	0.0	0.0
University with degree	6.0	4.3	•3.9	2.7	—	—	—	—	—	—	—	—	•12.8	6.2	0.0	0.0
Industry divisions (%)																
Primary industry	16.4	13.6	•28.0	10.2	23.2	10.1	—	—	•5.2	5.0	10.4	8.3	6.4	5.9	71.4	0.0
Secondary industry	27.7	8.7	—	—	23.3	6.9	32.4	6.6	—	—	—	—	—	—	0.0	0.0
Tertiary industry	53.6	11.9	•45.0	7.6	—	—	—	—	•61.7	11.5	—	—	•64.0	8.0	28.6	0.0
Income 1991 (000\$)																
Average income	40.1	5.4	37.9	4.1	—	—	•45.2	5.5	38.2	3.4	•35.7	4.4	•46.1	4.2	37.4	0.0
Median income	35.1	5.1	33.3	3.7	—	—	•40.6	4.8	—	—	•30.5	4.1	•40.3	4.5	33.4	0.0
Participation rate	63.2	7.4	•67.2	5.1	—	—	•68.9	4.1	•58.1	5.9	•54.0	5.7	—	—	40.0	0.0
Unemployment rate	10.8	4.5	—	—	—	—	—	—	—	—	13.0	5.2	14.5	4.7	0.0	0.0
Land property value (%)																
Residential	62.8	15.6	•47.4	9.4	52.3	9.7	—	—	•74.6	6.7	•75.2	7.0	•78.5	6.3	39.4	0.0
Cottages	9.7	13.4	5.2	7.5	—	—	3.7	7.7	•0.1	0.2	•32.5	12.7	•22.9	12.2	12.9	0.0
Manufacturing industries	2.8	4.5	—	—	0.9	1.1	—	—	•8.6	6.1	0.7	1.0	—	—	0.0	0.0
Trades and services	6.5	4.9	5.1	3.8	3.7	2.6	—	—	•12.9	3.6	4.4	3.3	3.6	2.3	2.0	0.0
Agriculture	22.6	19.2	•41.3	11.4	•38.9	11.2	—	—	•1.4	2.2	8.4	8.1	8.3	7.4	36.7	0.0

(•) P ≤ 0.001

obtained a university degree (3.9%). Finally, the land value attributable to cottages, and trades and services is well below the average (Tab. III).

## *2. Rural Farming Municipalities in Transition*

Set discontinuously along the edge of the Canadian-American border (Fig. 2.5), this group of 13 municipalities presents a definite agricultural vocation, even though an in depth examination of the raw data shows a cohabitation, still limited, of agricultural activities with services, and second home settlements.

Many indicators show the relative importance of agriculture: the percentage of land value attributable to agriculture (38.9%), clearly higher than those attributable to the residential and the commercial sectors (Tab. III), the high proportion of workers from the primary sector (23.2%), the low population density (12.4 inhab./km<sup>2</sup>), and the high percentage of individuals who have not obtained a secondary certificate (27.6%).

This overall picture conceals a more complex reality. Thus, the relative percentage of land value for cottages represents, for the most typical municipalities of this group (Hinchinbrook and Frelighsburgh), a significant percentage (11.3% and 10.1% respectively). Moreover, the important gap which exists, in the first case (Hinchinbrook), between the average (\$39,300) and the median incomes (\$29,800) implies a certain divide within the local population, while in the second case (Frelighsburgh) over 62% of the workers are related to the services sector.

## *3. Periurban Rural Municipalities*

This third group, including 16 municipalities, covers nearly all the municipalities located along the edge of the main urban centres of the study area (Fig. 2.5).

The group is distinguished by the presence of a population of predominantly young families and displays an important pool of skilled industrial workers. The distribution of age groups is distinguished, in one instance, by a greater representation of youth below the age of 15 and average age adults (25 to 44 years). In the other, it is distinguished by a low representation of people aged 55 and over (Tab. III). The average and median incomes clearly remain higher, with values of \$45,200 and \$40,600 respectively. This group is also characterized by a relatively higher number of workers from the secondary sector and a high rate of activity (68.9%).

This picture conceals variations that should be noted. On the one hand, it includes certain municipalities which have a typically periurban character (St-Athanase). These municipalities effectively show a greater population density (120.6 inhab./km<sup>2</sup>), a high proportion (61.9%) of labour related to the services sector, and residential land value (81.2%). On the other hand, it also includes the municipalities with an agricultural predominance (i.e. St-Alexandre), where the sociodemographic characteristics tend to adopt a periurban profile. The population's density is lower (25.3 inhab./km<sup>2</sup>), an important percentage (21.3%) of the labour is related to the primary sector, and land value tied to the agricultural sector remains relatively important (34.7%).

#### *4. Small Mutating Industrial Centres*

Present in each of the study area's RCM (Fig. 2.5), most of the municipalities (19 in all), which make up this group, represent older industrial centres that are reconverting to the services sector.

These municipalities present an average of 668.1 inhab./km<sup>2</sup>. The land value of the commercial, manufacturing and residential use categories represent an important percentage of the land evaluation's total value (Tab. III) and the proportion of the

tertiary sector workers remains high (61.7%). The age distribution shows a lower representation of individuals of less than 15 years of age and a greater proportion of people of 65 years and over. Finally, these municipalities present a rate of activity (58.1%) and an average income (\$38,200) that are below average for the municipalities studied.

#### *5. Traditional Rural Amenity Municipalities*

All but one of the 13 municipalities of this group present themselves in groupings of adjacent municipalities (Fig. 2.5). It includes, on the one hand, a grouping of 4 municipalities located in the southern sector of the Haut-Richelieu RCM and, on the other hand, a grouping of 8 adjacent municipalities located within the Memphrémagog RCM. Water stretches are present in each of these municipalities and the high percentage of land value attributable to secondary residences (32.5%) also characterize them.

The age distribution for these municipalities show a certain divide: a high representation of individuals aged 45 and over, and a low proportion of individuals aged 45 or less. Moreover, the rate of activity remains below average (54.0%), as well as the average (\$35,700) and median (\$30,500) incomes. A workforce poorly represented by the primary sector (10.4%) and the small percentage of the land value attributable to agriculture (8.4%), also constitute one of the most specific characteristics of this group's municipalities (Tab. III).

#### *6. High-class Rural Amenity Municipalities*

The eleven municipalities belonging to this group represent either village nuclei (North Hatley, Ayer's Cliff), or townships with a scattered population (St-Étienne-de-Bolton, Hatley, Magog). Even though many municipalities do not stand near water stretches, they are generally concentrated within the Memphrémagog and Brome-

Missisquoi RCM (Fig. 2.5). Two main phenomena seem to characterize the municipalities of this group.

On the one hand, the residential sector (78.5%) and, to a lesser degree, the secondary residences (22.9%) account for an important portion of the total land value (Tab. III). On the other hand, they include a high representation of individuals aged 45 and over, and average (\$46,100) and median (\$40,300) incomes that are clearly above average. There are other significant facts: the percentage of individuals that have pursued a university education is large (21.2%) and the tertiary sector predominates with 64% of the workforce.

Beyond these overall characteristics, certain variables deserve to be emphasized. While the population of the two village municipalities (North-Hatley and Philipsburg) remains older, with a proportion of individuals aged 65 and over of 21.0% and 29.1% respectively, the population of the most typical municipality (Magog Ct.) remains relatively younger, with only 8.9% of individuals aged 65 and over.

#### *7. Marginalized Agricultural Rural Municipality*

The St-Venant de Hereford municipality, located along the margin of the study area is on its own a particular case (Fig. 2.5). Its singularity is expressed by a low population density (1.9 inhab./km<sup>2</sup>), obvious under-schooling (nearly 90% of the population has not completed its secondary degree), and a workforce which comes essentially from the primary sector (71.4%). Added to this picture, it has a rate of activity of only 40%, and relatively low average (\$37,400) and median (\$33,400) incomes. Finally, the percentage of the residential land value remains relatively low (39.4%; Tab. III).

Globally, variables such as the age structure (particularly the percentage of individuals aged 0 to 14 years, 25 to 44 years and 65 years and over), the proportion of workers from the primary sector, the average income and land property value for



many categories (residential, cottages, agriculture, trades and services) appear to explain the variability between all these groups. Showing statistically significant value in at least 5 of the 7 clusters identified (Tab. III), these variables turned out to be discriminating factors in regard of the various sociodemographic profiles observed.

## **2.4 Discussion**

The extent of agricultural changes, their differentiated spatial character, as well as the great diversity of sociospatial situations emerge as the most significant components of the recent dynamic of southern Quebec's rural territories. The present section also aims first to explain the dominant tendencies that are identified in the agricultural trajectories' analysis. Then, it attempts to show to what extent the examination of these trajectories helps to shed light on the picture of municipal demographic evolutions. Finally, it also brings to light the current shapes of sociodemographic recomposition of the rural communities of southern Quebec through discussing the observed sociodemographic profiles.

### **2.4.1 Agricultural Trajectories (1961-1991): a few dominant tendencies**

The examination of agricultural trajectories reveals two diverging tendencies. On the one hand, the agricultural intensification is confirmed within the Saint Lawrence Lowlands area. In certain areas (group 2, Tab. I), this intensification is conveyed by an increase of 28% in the proportion of cultivated lands (Tab. I). On the other hand, with the Appalachian area, the proportion of cultivated areas displays zero growth between 1961 and 1991 (group 4, Tab. I).

The examination of the resulting agricultural profiles for 1991 (Fig. 2.4) confirms the territorial divide of the agricultural trajectories observed above. In fact, the observed agriculture intensification tendency adopts very distinct spatial patterns depending on whether one is within the Saint Lawrence Plain (groups 1, 2, and 3; Tab. II) or on the

Appalachian Plateau (groups 4 and 5; Tab. II). The intensive production area's municipalities generally stand out because of the importance of the average farm capital and income, the high proportion of cultivated lands, and the extent of areas dedicated to maize-grain crops (Tab. II). The municipalities included within the Appalachian area are experiencing, for these same characteristics, values clearly below average. They present a profile turned towards stock breeding which is also marked by the importance of pasture areas (Tab. II). In this sense, variables which express the variability between agricultural trajectories (areas under hay crops and maize crops; Tab. I) and between resulting agricultural profiles (areas under crops, under pasture, other land, maize-grain cultivated areas and average cattle by farm; Tab. II) point out the pronounced differences among agricultural strategies observed, and reinforce the distinction between the resulting spatial patterns.

In southern Quebec, this dual intensification-regression tendency associated with distinct biophysical characteristics has already been the subject of analyses. Researches, carried out at more precise scales (Paquette and Domon, 1997; Pan et al., 1999), confirm the spatial specialization of land-use. This specialization, during the last three decades, appears increasingly linked to biophysical characteristics. Therefore, one of the most significant components of the recent agricultural dynamic is the obvious hold of the biophysical determinism and, its corollary, the spatial distinction of agriculture. These phenomena remain common to other western countries, as noted for the agricultural dynamics encountered both in North America (Simpson et al., 1994) and Europe (Bowers and Cheshire, 1983; Meeus et al., 1990).

Another major fact, brought to light by the trajectories' analysis, is that of the importance of the agricultural function reversal. In the space of only three decades, the percentage of the farm population fell by two-thirds, while the number of farms per km<sup>2</sup> diminished by half, and this for all of the study area's municipalities (Tab. I).

Also, the farm population, in 1991, only accounted for 14% of the total population (Tab. II).

Compared to France, for example, where the portion of agricultural population remains relatively high (Kayser, 1990), the decline in the farm population, that results from the dual intensification-regression tendency, happens to be particularly marked in southern Quebec. The examination of the agricultural dynamics, on their own, disposes of an increasingly important section of the rural population. Therefore, it appears necessary to couple this examination with that of the demographic trajectories and the sociodemographic profiles. The two next sections tackle precisely these stakes.

#### 2.4.2 Agricultural and Demographic Trajectories of Municipalities in Southern Quebec (1961-1991)

To better understand the current sociodemographic profiles, which are discussed more in depth in the following section, we propose to look again into the agricultural trajectories, but this time in relationship to the demographic trajectories. It consists notably in understanding to what extent and in which manner the agricultural trajectories have influenced the demographic ones.

The examination of the municipalities' demographic evolution for the study area underline the diversity of the sociospatial situations (Fig. 2.6). The real explanation for these situations extends beyond the scope of the present study, but to lay its foundations by relating the previously carried out cluster analyses to each other might be useful. By grouping together the results of the typological exercises and the information on the demographic evolutions, and by focusing on extreme situations, namely, municipalities with a strong demographic decrease (Tab. IV) and a strong

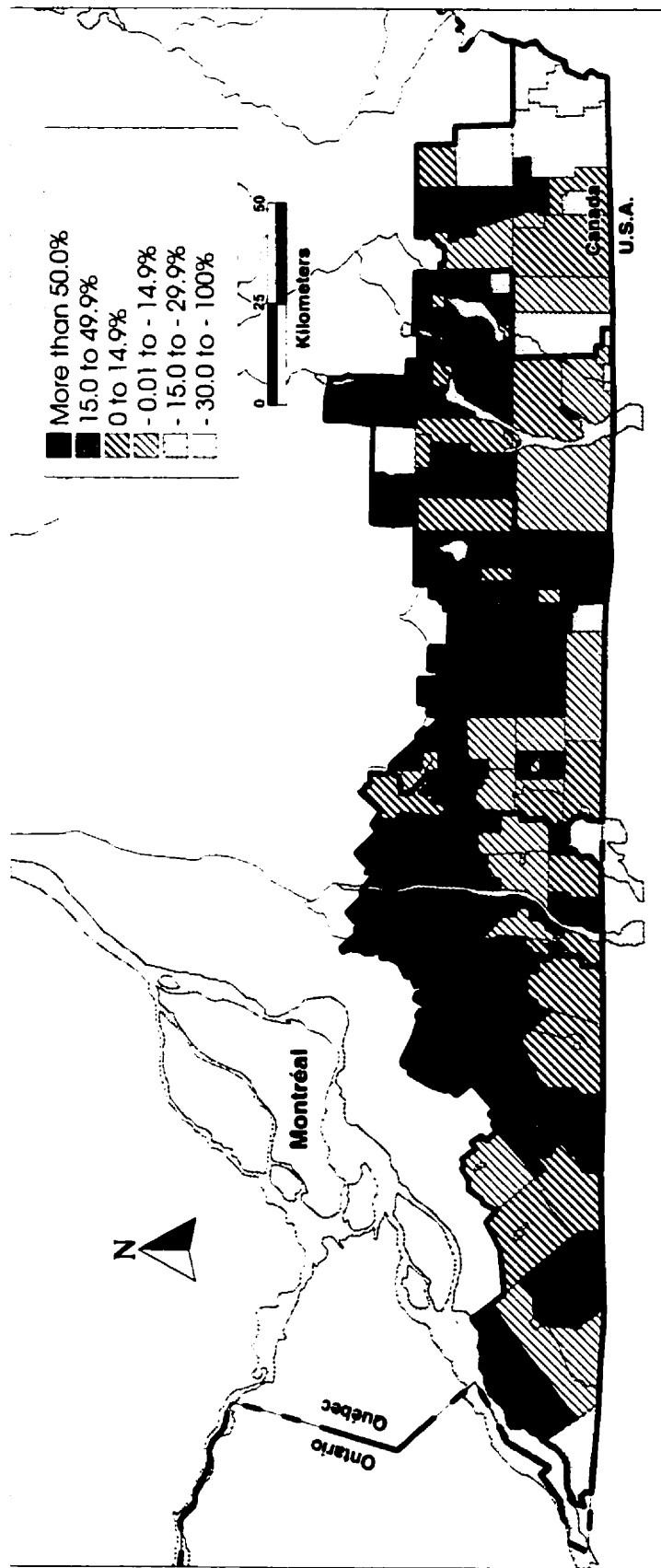


Figure 2.6: Demographic evolution (1961-1991) of the study area's municipalities, by census subdivision.

**Table IV: Current sociodemographic profiles (SOC 1991), recent agricultural trajectories (AGR 61-91), and current agricultural profiles (AGR 1991) of municipalities that have experienced demographic losses of 15% to 100%, between 1961 and 1991.**

<b>Municipalities</b>	<b>SOC 1991</b>	<b>AGR 61-91</b>	<b>AGR 1991</b>
Dundee	(1) Predominantly agricultural	(2) Moderate intensification	(3) Moderately intensive farming
Ste-Edwidge-de-Clifton	(1) Predominantly agricultural	(3) Marked extensification	(4) Extensive cattle farming
East Hereford	(1) Predominantly agricultural	(4) Regressing agriculture	(4) Extensive cattle farming
St-Hermenegilde	(1) Predominantly agricultural	(4) Regressing agriculture	(4) Extensive cattle farming
Dixville	(2) Rural farming in transition	(4) Regressing agriculture	(4) Extensive cattle farming
Stanstead-Est	(2) Rural farming in transition	(4) Regressing agriculture	(4) Extensive cattle farming
Hatley (Vlg.)	(2) Rural farming in transition	(4) Regressing agriculture	(5) Marginalized farming
Beebe Plain	(4) Small industrial centre	(4) Regressing agriculture	(5) Marginalized farming
Rock Island	(4) Small industrial centre	(4) Regressing agriculture	(5) Marginalized farming
Philipsburg	(6) High-class rural amenity	(2) Moderate intensification	(3) Moderately intensive farming
Abercorn	(6) High-class rural amenity	(4) Regressing agriculture	(5) Marginalized farming
St-Venant-de-Hereford	(7) Marginalized agriculture	(4) Regressing agriculture	(4) Extensive cattle farming

demographic growth (Tab. V), it seems possible to raise a few significant relationships.

In respect of the municipalities with a strong demographic decrease, two situations clearly emerge (Tab. IV). The first is the case of the municipalities which are dominated, on the level of the evolving trajectories or the current agricultural profiles, by an agriculture of extensive or regressing nature, and always present, for 1991, an agricultural type sociodemographic profile. The second refers to the municipalities that present, for 1991, a profile of mutating industrial centres. In both cases, it concerns municipalities that remain strongly turned towards declining activities (either agricultural or industrial) and that, on the social or professional level, do not present obvious signs of recomposition.

In the case of strong growth municipalities, the picture seems particularly revealing (Tab. V). Here, it is important to note the predominance of periurban and rural amenity municipalities. These two types of municipalities represent the great majority of the strong demographic growth municipalities. Furthermore, a great number of these (13 out of 17) present profiles characterized by a marked or moderate intensification of the agricultural structures. More than the single rural amenity vocation or the proximity to an urban centre, it is the simultaneous presence of either one or the other of these characteristics, along with a strong and productive agriculture, that seems to be common to the strong demographic growth rural municipalities. In that sense, the capacity to withstand a certain activity diversity (residential, agricultural, and recreational) could well be decisive.

Between both cases of figure known elsewhere in North America (Shumway and Davis, 1996), different combinations are obviously possible. In the light of the previous examination, the demographic recovery of many communities seems closely

Table V: Current sociodemographic profiles (SOC 1991), recent agricultural trajectories (AGR 61-91), and current agricultural profiles (AGR 1991) of municipalities that have experienced a demographic growth of over 50%, between 1961 and 1991.

Municipalities	SOC 1991	AGR 61-91	AGR 1991
Ste-Anne-de-Sabrevois	(1) Predominantly agricultural	(1) Advanced intensification	(2) Cereal crop intensive farming
Compton (Ct.)	(1) Predominantly agricultural	(2) Moderate intensification	(4) Extensive cattle farming
St-Athanase	(3) Periurban	(1) Advanced intensification	(1) Vegetable crop farming
L'Acadie	(3) Periurban	(1) Advanced intensification	(2) Cereal crop intensive farming
St-Blaise	(3) Periurban	(1) Advanced intensification	(2) Cereal crop intensive farming
St-Grégoire-Le-Grand	(3) Periurban	(2) Moderate intensification	(1) Vegetable crop farming
Ste-Sabine	(3) Periurban	(2) Moderate intensification	(2) Cereal crop intensive farming
Bedford (Ct.)	(3) Periurban	(2) Moderate intensification	(5) Marginalized farming
Dunham	(3) Periurban	(4) Regressing agriculture	(5) Marginalized farming
Omerville	(3) Periurban	(4) Regressing agriculture	(5) Marginalized farming
Ste-Catherine-de-Hatley	(3) Periurban	(4) Regressing agriculture	(5) Marginalized farming
Compton (Vlg.)	(4) Small industrial centre	(2) Moderate intensification	(4) Extensive cattle farming
Noyan	(5) Traditional rural amenity	(1) Advanced intensification	(2) Cereal crop intensive farming
St-Paul-de-L'Isle-aux-Noix	(5) Traditional rural amenity	(1) Advanced intensification	(2) Cereal crop intensive farming
Venise-en-Québec	(5) Traditional rural amenity	(1) Advanced intensification	(3) Moderately intensive farming
Ste-Barbe	(6) High-class rural amenity	(1) Advanced intensification	(2) Cereal crop intensive farming
Magog (Ct.)	(6) High-class rural amenity	(4) Regressing agriculture	(5) Marginalized farming

linked to the new residential settlement dynamics. Mentioned in the examination of the current sociodemographic profiles, these dynamics adopt, for the study area, varied shapes.

#### 2.4.3 Rural Communities of Southern Quebec and Sociodemographic Recomposition

The examination of sociodemographic profiles for 1991 shows that, as suggested by Clout (1986), contemporary rurality is expressed by a diversity of shapes. Without pretending to exhaust every angle of this diversity, it seems that through the seven sociodemographic profiles obtained, three main shapes of rurality cover the study area: the agricultural rural area, the periurban rural area, and the rural amenity area.

##### *The Agricultural Rural Area*

In a context where the farm population tends to occupy a diminishing percentage of the active population, there were still in 1991 rural municipalities that were distinguished by a predominantly agricultural character. Though, this predominance was no longer as marked. The labour from the primary sector represented, at best, less than a third (28%) of the active population (Tab. III, group 1). Within the predominantly agricultural communities, over two-thirds of the active population draws its income from an another source than agriculture. Despite the importance of the cultivated areas, the landscape also remains mostly shaped by agriculture, but the social sphere is no longer only defined through it. Therefore, the importance of the phenomenon of the countryside's social recomposition is notably expressed by the fact that the agricultural vocation within these communities did not prove to be exclusive (Brunger et al., 1991; Jean, 1992).



### *The Periurban Rural Area*

Limited, in the past, to the immediate border of the great urban agglomerations, the current residential areas spread increasingly within the truly rural area (Lucy and Phillips, 1997). In the study area, this phenomenon is displayed clearly around small regional centres (Fig. 2.5). These new "periurban" municipalities are notably distinguished by the settling of young families, an important socioprofessional diversification, and higher incomes (group 4, Tab. III). The last trait would be, along with a rapid demographic growth, one of the main characteristics of the low density periurban areas (Lucy and Phillips, 1997). These overall characteristics should, in the light of our results, take into account nuances. Instead of presenting a uniform profile, the periurban rural communities (group 4, Tab. III) present a continuum of situations, both in terms of population density and socioprofessional structure, and of the importance of the residential land value. These characteristics most probably fluctuate in function of the proximity of urban areas. In the medium term, this periurbanization phenomenon could possibly penetrate deeper within the rural territory, if, as certain predicted (Vachon, 1995), the anticipated decentralization of the post-industrial economy really takes shape. Whatever it may be, this phenomenon already constitutes an important factor in respect of the sociodemographic profiles of the rural communities of southern Quebec.

### *The Rural Amenity Area*

As our analyses show, land occupation for the purpose of seasonal recreational activities constitutes another important trait, and the profile of many municipalities (group 6 and 7, Tab. III) is totally indissociable from it. Sign of the importance that recreational activities take on, in 20 out of the 108 municipal entities for which information was available, the percentage of the land value attributable to cottages

exceeded one quarter of the total land value<sup>6</sup>, even attaining in certain cases half of the total land value (Fig. 2.7). Some facts are maybe even more significant. First, certain of these municipalities (Abercorn, St-Étienne-de-Bolton, St-Herménégilde) have no major water stretches. Second, the percentage of land value attributable to cottages is no longer negligible in traditional agricultural municipalities (Havelock, Hinchinbrook, St-Armand-Ouest), and has reached up to 11.3% of the total land value. For a long time concentrated around lakes and recreation centres (i.e. ski resorts), today second home residents spread within the traditional agricultural territory (Brunger et al., 1991).

In one instance, municipalities are marked by the presence of lower income families, and in the other by that of a population with higher schooling and higher income (Tab. III). However, these municipalities possess common characteristics. They are distinguished by the importance of the land value of secondary residence, but also by a relatively older population (Tab. III). The last-mentioned characteristic appear to be more important, since the age distribution of the rural population turned out to be one of the most discriminating factor in regard of sociodemographic profiles observed. As Jean (1989) emphasizes, the ageing of the rural population, shown by the censuses, is not always a sign of devitalization. This ageing could well be, in some circumstances, an indicator of rural revival. Both in Canada (Bowles and Beesley, 1991) and in Europe (Clout, 1986; Robinson, 1990), many authors have already raised the importance of retirement migration in regard of the countryside's sociodemographic recomposition process. During the transformation of work organization (anticipated retirement, part-time work, etc.), this process might acquire importance in the near future. Therefore, periurbanization and second home settlements could, in the coming years, merge more frequently and create new shapes of territory occupation.

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<sup>6</sup> These figures do not account, for example, for the permanent residents that have converted their cottage into a main residence at the time of their retirement.

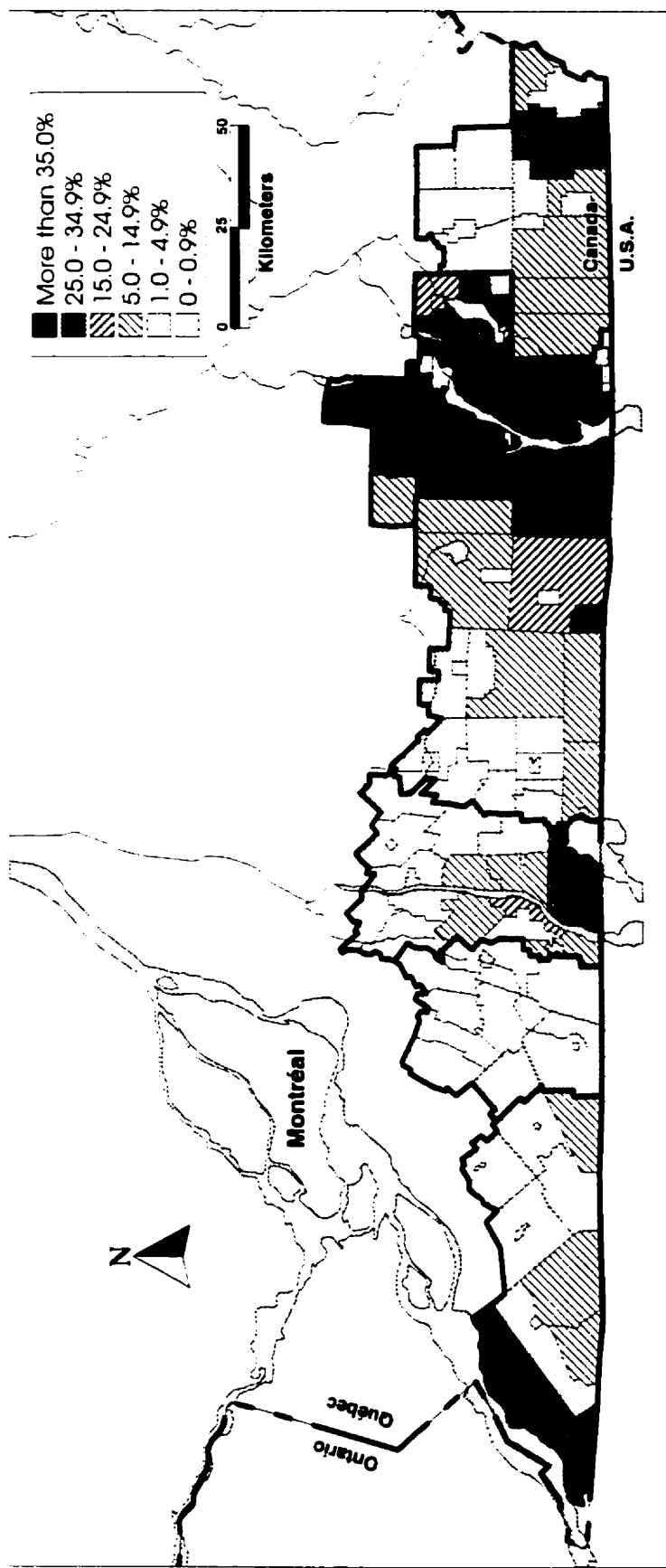


Figure 2.7: Land value (%) attributed to cottages, by census subdivision.

The Magog township (Memphrémagog RCM) is, in this respect, a good example: marked by the presence of an important seasonal population, it is also distinguished by certain sociodemographic characteristics (demographic growth, high income, younger population, etc.), suggesting by this same fact the presence of a periurban influence.

## **2.5 Conclusion**

As the previous pages show, the recent dynamics and the current profiles of rural areas cannot be understood from a single viewpoint. However, this complex reality has more often been tackled through a set of problems dominated by queries that are either exclusively of an agricultural (Deslauriers et al., 1991; Canevet, 1992; Thomas et al., 1996) or sociodemographic nature (Brunet, 1980; Halliday and Coombes, 1995). In these circumstances, the present study has attempted to initiate the setting up of an analysis strategy focusing on both agricultural and sociodemographic realities. This strategy seems better qualified to report on the nature and the diversity of the sociospatial situations that face one another.

On a methodological level and in considering the complexity of the subject of the study, turning to multivariate analyses proved to be indispensable. These analyses remain more qualified to report on the many factors involved (agriculture, demography, socioprofessional profile, age distribution, etc.). This said, it is clear that compared to the complexity of the subject of the present study, the analyses only provide a partial reading of reality. On the one hand, the availability of indicators constitutes an inevitable constraint. For instance, the characteristics in regard of different types of cultivation or stock breeding (e.g. the pig population), as well as some specific individual profiles (i.e. retired, multi-active farmer, etc.) could not be taken into account. On the other hand, the indicators that are available, at best, are

provided at the scale of the municipality. Particularly in the case of rural areas, the territory covered by the census subdivisions rarely turns out to be homogeneous. The calculation of average values can conceal, within the same municipality, the presence of contrasting situations. As an example, the municipality group that presents a moderately intensive agricultural profile, which was underlined in 1991, could well, in fact, result from the cohabitation between intensive and extensive activity areas.

Beyond these methodological limits, the examination of agricultural trajectories and sociodemographic profiles of rural areas of southern Quebec suggests that most of the understanding of contemporary rurality resides in the knowledge of the new residential settlement dynamics. In fact, in the post-industrial economy era, rural space is no longer exclusively a raw material production area, but also, mostly a living environment for a considerable number of either rural or urban workers, cottagers, and pensioners. Strangely, while the question of agriculture has attracted considerable attention and will continue to do so (Allanson and Moxley, 1996; Thomas et al., 1996; Poudevigne and Alard, 1997), few works have, up to now, attempted to underline these new dynamics. As shown in our study, the evolution of agriculture follows trajectories for which the examination remains unable to bring to light all of the current changes. While the size of the agricultural population has not ceased to dwindle during the past decades, many rural municipalities have experienced a significant demographic revival. In this scope, it increasingly seems that it is by paying attention to the understanding of the different relationships that individuals maintain with the rural space, and that are notably outlined through new residential settlement dynamics, that we will be able to better grasp the current trajectories.

While rurality today appears to be, as Jollivet (1974) anticipated, a reserve of space and not only a reserve of farmers, it is urgent, in order to ensure the local

communities' long-term vitality, to initiate a rereading of the landscape characteristics (topographic location, outlook, type of cultivation, presence of woodlands or water stretches, etc.) of rural areas, in the aim of understanding social recomposition processes. Consequently, it is necessary to specify to what extent and in which manner these characteristics inspire new residential preferences; and, as a result, constitute determinant localization factors, and induce new residential settlement spatial patterns. In return, it is important to see to what extent this sociodemographic recomposition of rural communities is changing the landscape dynamics, and modifying the same characteristics that have contributed to the localization of new rural residents. This seems even more important for municipalities for which the future remains uncertain as those presenting: (1) regressing agricultural trajectories and predominantly agricultural sociodemographic profiles, and (2) marginalized agricultural profiles and agricultural rural municipality in transition or (3) predominantly agricultural. Finally, in southern Quebec, as elsewhere, the relationship dynamics between landscape, housing and rurality must be examined more thoroughly.

# CHAPITRE 3

## TRENDS IN RURAL LANDSCAPE DEVELOPMENT AND SOCIODEMOGRAPHIC RECOMPOSITION IN SOUTHERN QUEBEC (CANADA)

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Ce chapitre est accepté (mars 2001) pour publication dans la revue *Landscape and Urban Planning* et est actuellement sous presse.

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**Abstract**

Farming production currently leaves vast stretches of land to other functions. At the same time, rural areas are becoming residential places for a growing number of urban migrants. The landscape developments that result from these changes must be more closely examined. To what extent does the influx of a new rural population change or maintain local landscape dynamics? To what degree do landscape contexts appear to influence the settlement choices of new rural residents? Is it possible to identify recurring sociodemographic profiles with regard to these residents? From a detailed analysis of settlement evolution in a territory located in southern Quebec, this study attempts to reveal the relationships existing between social recomposition and landscape developments. Based on three distinct but complementary readings (*in situ* visual analysis, land use change analysis (1968-1997) and sociodemographic information surveys), and on the possibilities generated by multivariate analysis, it aims to identify: 1) residential settlement patterns according to landscape contexts



and 2) local landscape transformations. On the one hand, results suggest that specific sociodemographic recomposition movements do not spread uniformly throughout the study area. They lead us to believe that some landscape contexts (upper hillside, panoramic views and woodlots) constitute determining factors of attractiveness. On the other hand, the diversity of local landscape dynamics (*significant or moderate persistence of agricultural activities; advanced agricultural abandonment; transitional agricultural lots; and residential development lots*) suggests that complex phenomena link social recomposition processes with large-scale agricultural land use transformations. While establishing a framework of analysis appropriate for exploring the diversity and the complexity of current landscape changes, this paper emphasizes the necessity of considering local landscape developments along with social dynamics. This approach helps to better document the evolution of rural communities, as well as to provide insight into the shaping of future rural landscapes.

### **3.1 Introduction**

In the last ten years, studies in agricultural landscape changes have contributed to the understanding of ongoing rural landscape dynamics (Meeus et al., 1990; Baudry, 1993; Domon et al., 1993; Poudevigne et Alard, 1997; O'Rourke, 1999). However, since *agricultural* and *rural* are no longer synonymous (Jollivet, 1988; Jean, 1989; Murdoch and Pratt, 1993), rural landscape transformation studies must consider other dimensions (Primdahl, 1999; Vos and Meekes, 1999). Agricultural activities currently leave vast stretches of land to other functions (e.g. housing, recreation, forestry, etc.). Rural areas are simultaneously becoming residential places for a growing number of

urban-to-rural migrants (Fuguitt, 1985; Kayser, 1990; 1993). The landscape changes that emerge from these new types of settlements must be investigated. This exploration appears all the more necessary since scholars focusing on sociodemographic recomposition movements have recognized landscape features as potential explanatory factors of the "Rural Renaissance" phenomenon.

To what degree does the presence of new rural residents change or maintain local landscape developments? Are the settlement patterns of new rural residents induced by specific landscape characteristics? If so, is it possible to identify recurring sociodemographic profiles with regard to these residents? The relationships that exist between specific rural landscape contexts and new residential settlements as well as the possible effects of social recomposition on these landscape dynamics must be explored in greater detail.

Given the extent of the rural territories experiencing social recomposition, few landscape dynamics studies have explored this field, with the exception of research confined to specific areas (Riebsame et al., 1996; Theobald et al. 1996). However, landscape perception studies have made some allusions to the urban-to-rural migration phenomenon (Coeterier, 1994; Sullivan, 1994; Yu, 1995; Ryan, 1998). Overall, they suggest that people from urban areas prefer natural landscapes to domesticated ones. When observing attitudes that value naturalness (Hunziker, 1995), other studies also acknowledged the attractiveness of "vistas" and the quest for panoramic viewpoints (Bourassa, 1991; Lacoste, 1995).

The qualitative aspects of rural territories are also presented in various works that discuss urban-to-rural migration. These studies have contributed to the identification of the particular sociodemographic characteristics of the urban-to-rural population (Beesley, 1988; Kayser, 1990; Dahms and Hallman, 1991; Thomson and Mitchell, 1998), their motivations for relocation (Coppack, 1988; Halliday and Coombes, 1995; Thomson and Mitchell, 1996; Walmsley et al., 1998) as well as the most relevant explanations of rural population turnaround (Fuguitt, 1985; Kayser, 1990; Dahms and McComb, 1999). Moreover, concepts such as "rural landscape" (Jean, 1989; Mathieu, 1996; Donadieu, 1998), "scenery or scenic amenity" (Bryant et al., 1982; Coppack, 1988; Halliday and Coombes, 1995) or "attractive physical environments" (Walmsley et al., 1998) have been identified as important factors of attraction in explaining rural destination moves. While focusing on large-scale urban-to-rural population movements, these studies implicitly address the need to explore local processes associated with the interactions existing between new residential spatial patterns and local scale landscape evolution.

Based on this overview, two points should be emphasized. First, landscape characteristics appear to be a determining element with regard to the demographic evolution of many rural communities (Dahms and Hallman, 1991; Halliday and Coombes, 1995; Thomson and Mitchell, 1996). Therefore, such an evolution is an important factor to consider when assessing future landscape dynamics. Second, the theoretical gap that still exists between rural landscape dynamics and social recomposition processes (Riebsame et al., 1996; Theobald et al., 1996) justifies in

itself the need for an in-depth exploration and preliminary characterization of these phenomena.

This study attempts to reveal these complex relationships through a detailed analysis of the settlement dynamics of a specific territory. Based on three distinct but complementary readings (*in situ* observations, land use change analysis from aerial photographs (1968-1997) as well as sociodemographic and residential history information surveys) and on the possibilities generated by multivariate analysis, it aims to identify: 1) residential settlement patterns according to different landscape contexts and 2) local land use and built environment transformations (hereafter referred to as landscape trajectories). In doing so, it intends to characterize the nature and the extent of these new spatial developments and explore factors (landscape contexts as well as sociodemographic profiles) that enable plausible interpretations of the observed phenomena.

A description of the study area and the methodological strategy used are developed in the next section. Dominant tendencies with regard to residential settlement patterns and landscape trajectories are revealed after a short report of the study area's sociodemographic profiles. Finally, these results, as well as their implications for rural planning are discussed from a landscape dynamics perspective.

### **3.2 Methodology**

An analysis of a specific territory according to distinct perspectives was undertaken to better identify the relationships between rural landscape developments and social recomposition processes. Detailed local investigations are needed to reveal these

relationships because their empirical evidence is only apparent at the lot scale. Data relative to visual characteristics, land use change and sociodemographic profiles as well as residential history of the local residents was collected. The complexity of this data arises from the fact that these observations refer to different dynamic processes evolving within distinct time-frames. Sociodemographic changes and land use evolution do not occur at the same rate and there is often a distinct time-lag between them. Given the complex nature of the database, and in order to permit the differentiation between phenomena at the scale of each lot, multivariate analysis helped to discern the dominant tendencies related to residential settlement patterns and to landscape trajectories.

### 3.2.1 Study Area

Havelock township (88 km<sup>2</sup>), approximately one hour's drive from downtown Montreal, is located in the southernmost corner of the province of Quebec (Canada) (Fig. 3.1). As shown in previous typological outlines (Paquette and Domon, 1999), this area is representative of a larger group of rural municipalities characterized by transitional phenomena (of an agricultural as well as a sociodemographic nature) related to social recomposition. The ambivalent character of this dynamic is evocative of other settlement experiences along the urban fringe in North America (Brunger et al. 1991; Hart, 1998). Therefore, documenting the evolution of these municipalities is essential to the comprehension of large scale rural landscape dynamics. Havelock township is characterized primarily by "marginalized agriculture" (1991) and, from a

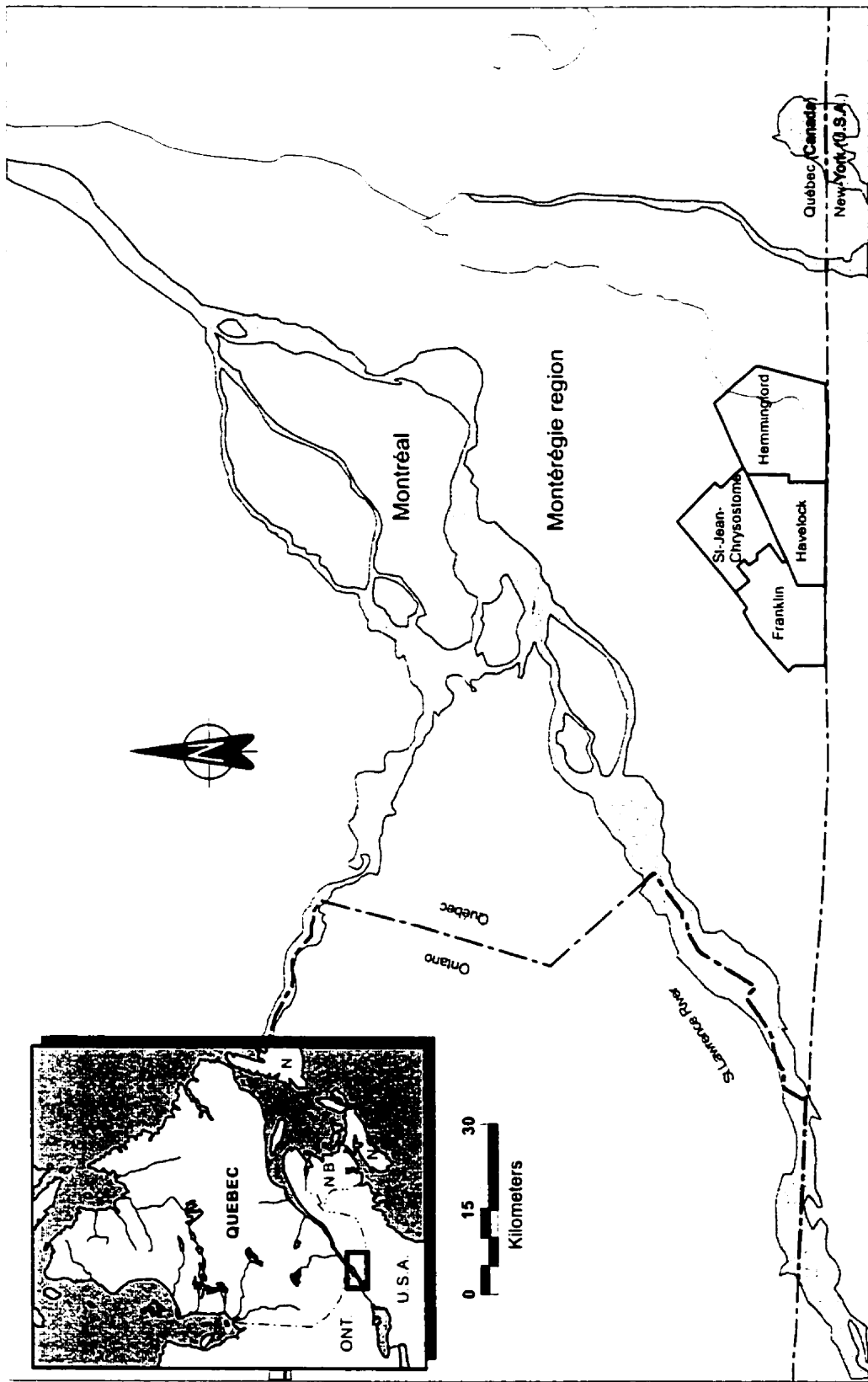


Figure 3.1: The regional context and location of the study area. Inset shows location in Quebec (Canada).

sociodemographic viewpoint, by its profile of a farming municipality in transition (Paquette and Domon, 1999). Although Havelock's agriculture is less predominant in comparison with other municipalities in southern Quebec, farming activities are still present in more extensive forms. As an indication of its population change, Havelock township shows a demographic growth of 21.2% between 1961 and 1991, even if the farming population decreased from 63.4% to 29.8% of the total population during this same period<sup>1</sup>. The landscape diversity observed in this area also adds interest. This diversity enables us to explore residential settlement patterns in a wide assortment of situations. Agricultural lowlands characterized by corn, soybean and hay production, as well as pasture lands, are concentrated in the northeastern part of the township (Fig. 3.2; 3.3a). These crop lands are surrounded by agro-forested upland areas with an elevation ranging from 100 to 340 m. Many locations on the summit of Covey Hill and the upper hillsides (Fig. 3.2; 3.3b) offer panoramic views of the region (Fig. 3.3c, d, e).

Havelock township shows a predominantly scattered settlement pattern (811 individuals in 1996) which includes a few small hamlets. Given the objectives of this study, the residential settings located outside these hamlets are emphasized. The resulting database comprises a large sample of the population (254 of a total of 297 properties) while taking into consideration the presence of vacant lots (31) and the

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<sup>1</sup> Statistics Canada, 1961 Population census, Cat. 92-525; 1961 Census of agriculture, Province of Quebec, Part 2, Cat. 96-535; 1991 Census of agriculture, Agriculture profile of Quebec; 1991 Census of Canada, Profile of census divisions and subdivisions in Quebec, Part B, Cat. 95-326.

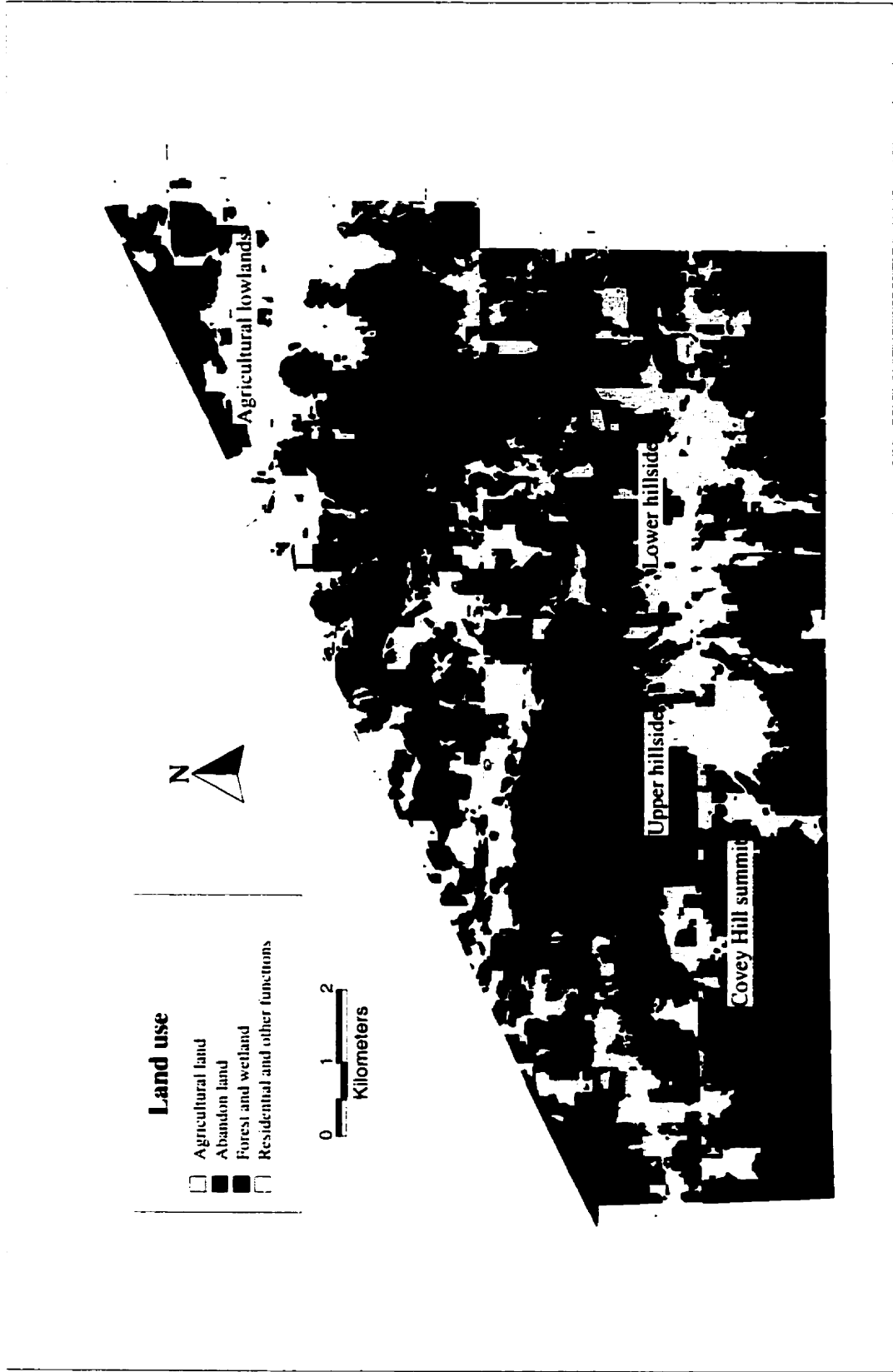
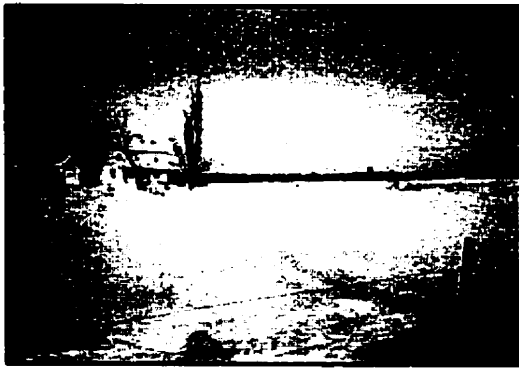


Figure 3.2: Havelock township's land use (1997) and dominant topographical locations.





a)



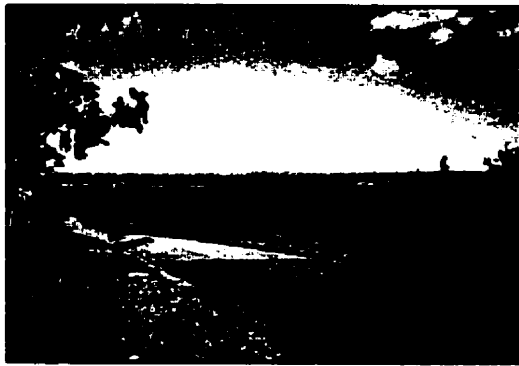
b)



c)



d)



e)



f)

Figure 3.3: Some Havelock Township landscapes: (a) a typical lowland location; (b) Covey Hill as seen from the adjacent municipality of Saint-Jean-Chrysostome; views from upper hillside locations (c) in summer (d) and winter; (e) upper hillside panoramic views overlooking a reforested area; (f) a lower hillside view with Covey Hill in the background.

inaccessibility of particular locations (12).

### 3.2.2 Database Development

Between August and October 1998, all the 254 residential settings retained for study were visited. For each setting, three main types of data were collected: visual analysis data, landscape trajectory data as well as sociodemographic and residential history data (Tab. VI).

Four categories of indicators derived from Jacobs et al. (1986) were used in visual analysis: width of the visual field, depth of the visual field (distance to the horizon), prevailing views and visual accessibility from other locations (Tab VI). In order to evaluate the potential views (i.e. without vegetation screen) for each residential setting, a viewshed index was calculated using Vertical Mapper software (Northwood Geoscience Ltd., 1996) and the Havelock topographical database. This index helps to document view possibilities that would remain hidden through *in situ* observation alone. To define this viewshed index, four pre-eminent landforms within a 60 km radius of the study area were selected (Mount Royal ( located in Montreal), two village nuclei, and the summits of the Adirondack mountains in the United States). As an exemple, high values (i.e.: large viewshed) indicate direct visual links between one particular location in the study area and all these landforms, while low values (i.e.: small viewshed) indicate the absence of visual links with many selected landforms (Tab. VI). To complete the visual analysis, topographical entities (summit,

Table VI: List of indicators used.

Visual indicators	Landscape trajectory indicators	Sociodemographic indicators	
<b>Visual field</b>	<b>Areas remaining under forest cover</b>	<b>Occupation</b>	<b>Age group</b>
open	< 1%	full-time farmer	18-24 years
filtered	1% - 50%	part-time farmer	25-44 years
closed	> 50%	farm worker	45-64 years
		small business	65 years and over
<b>Depth of the visual field</b>	<b>Areas remaining under cultivation</b>	salaried worker	<b>Family acquisition</b>
< 100 m.	< 1%	professional	present
100 m. - 2 km	1% - 25%	retired	absent
> 2 km.	> 25%	without earned income	
<b>Prevailing view</b>	<b>Areas remaining under pasture</b>	<b>Place of work</b>	<b>Year of personal acquisition</b>
elevated	< 1%	Havelock	before 1960
horizon	1% - 15%	adjacent municipalities	1960-69
closed	> 15%	Montréal area	1970-79
		greater Montréal area	1980-89
<b>Topographical entity</b>	<b>Abandoned land-to-forest</b>	without fixed place of work	1990 and after
summit	< 1%	not applicable	
upper hillside	1% - 20%	<b>Place of birth</b>	<b>Relatives</b>
lower hillside	> 20%	Havelock	present
hillock		adjacent municipalities	absent
boulder	<b>Pasture-to-forest</b>	Montréal area	
river terrace	< 1%	greater Montréal area	
small valley	1% - 20%	other places	
plain	> 20%		
<b>Viewshed</b>	<b>Residential transformation</b>	<b>Previous place of residence</b>	
very small	constructed before 1965	Havelock	
small	constructed after 1965	adjacent municipalities	
intermediary	after 1965 - original demolished	Montréal area	
large		greater Montréal area	
very large	<b>Original farm building dynamics</b>	other places	
	no building before 1965		
<b>Visual accessibility</b>	all original buildings presents	<b>Residential occupation type</b>	
high	one building demolished	permanent	
intermediary	many buildings demolished	weekly	
low		seasonal	
none	<b>New building dynamics (1965-)</b>	occasional	
	no new building	transitional (toward permanence)	
	one new building	non-resident	
	new buildings		

upper hillside, plain, etc.) were also identified for each residential setting (Tab. VI) based on the terminology provided by Gerardin and Lachance (1997).

At the lot scale, landscape trajectories were identified on the basis of land use change and built environment transformation. The Havelock township's land use was interpreted for two periods of study (1968 and 1997) using 1: 15000 black and white aerial photographs. The land use classification system included seven categories: forest, cultivation, pasture, orchard, abandoned land, marshland, and residential land. Using the IDRISI geographic analysis system (Clark Labs, 1997) and a digitalized cadastral map of Havelock township, we then evaluated the extent of the five most dominant trajectories at the lot scale (areas remaining under forest cover, pasture-to-forest change, etc.) that together occupied more than 75% of the total area (Tab. VI). For instance, if one quarter of the area of a given lot corresponded to pasture land in 1968 while the same patch is entirely under forest cover in 1997, the pasture-to-forest land use change should be equal to 25%. Built environment transformation (Tab. VI) was assessed during field research using maps (1: 20 000) of Havelock township. These maps, from 1966<sup>2</sup> and 1992<sup>3</sup>, permitted a detailed comparison of house and farm building changes in the township. Field evaluation was completed through systematic verification of aerial photographs from 1965 and 1997.

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<sup>2</sup>Ministère des terres et forêts du Québec (1978), Carte cadastrale à 1/20 000 de Châteauguay (Feuille no. 31 H-4 S.O.), Québec. (Revised from 1966 aerial photographs).

<sup>3</sup>Ministère des ressources naturelles (1994), Carte topographique à 1/20 000 de Saint-Jean-Chrysostome (Feuille no. 31 H 04-200-0101) et de Hemminford (Feuille no. 31 H 04-200-0102), Québec. (Revised from 1992 aerial photographs).

Sociodemographic and residential history data (occupation, place of birth, previous place of residence, etc) derived in part from the work of Kayser (1990), was collected during face-to-face interviews with Havelock residents (Tab. VI). Information was successfully obtained for over 70% of the households (181 / 254), thus representing a substantial part of the whole population. To help interpret sociodemographic data in a more larger perspective, open-ended questions on the motives for urban-to-rural migration as well as residential preference were also introduced.

### 3.2.3 Statistical Analyses

Residential settlement patterns and landscape trajectories are derived through cluster analysis. Using SPAD software (Version 3.2 for Windows), this analysis provides the identification of relatively homogeneous groups based on the distance between each pair of lots. Clusters are established from active indicators. Illustrative variables are then projected onto multidimensional axes in order to reveal significant correlations between the different clusters and potential explanatory factors. For each variable of these clusters, the percentages that diverge significantly from the percentage of the whole population were calculated using a statistical test. Therefore, cluster percentages (%CL) express the proportion of a variable present in a given group. For their part, the indicators' percentages (%IN) reveal the relative proportion of a given variable within a cluster in comparison to the internal variability of this variable in the whole population. The higher a given indicator's percentage, the more that indicator is specific to a particular cluster and absent from the others. These percentages do not necessarily fluctuate similarly. Rather, they express the relative

weight of the variables within clusters (%CL) as well as within the whole population (%IN).

The analysis of the data was conducted following two distinct steps. First, analyses permitted the identification of residential settlement patterns. These analyses were accomplished using visual indicators at the scale of each residential setting where sociodemographic information was collected (N=181). These indicators account for active variables, while the sociodemographic indicators constitute the illustrative ones. Thus, we were able to evaluate the potential attractiveness of landscape contexts on residential settlements. Secondly, another series of cluster analyses allowed to distinguish the different landscape trajectories at the scale of each lot (N=254). In these cases, land use change and built environment transformation act as active variables while visual and sociodemographic indicators are considered illustrative ones.

### **3.3 Results**

This section presents results relating to residential settlement patterns and landscape trajectories. To consider these phenomena in the particular context of the study area, this section will briefly review the sociodemographic profile of the Havelock township.

### 3.3.1 Havelock Township: a sociodemographic overview

The phenomena of social recomposition have been documented elsewhere in Quebec (Vachon, 1986; Paquette and Domon, 1999), and the case of Havelock township is no exception to this tendency. It appears clearly when examining the origins of the residents (Tab. VII). Residents born in Havelock or adjacent municipalities (Franklin, St-Jean-Chrysostome and Hemmingford) (44.2%) and those born in the greater Montreal area or outside the region (42.5%) are in similar proportion. Under the category of previous place of residence, the proportion of residents indicating Havelock or adjacent municipalities (44.7%) is comparable to residents from the greater Montreal area or other places (39.8%). The categories of relatives and family acquisition (i.e. lots obtained through family acquisition) show similar proportions for native and migrant populations (Tab. VII). Havelock township is therefore composed of two nearly equal populations: the local and the migrant one. In this respect, the demographic growth recorded between 1961 and 1991 for Havelock township (21.2%) is representative of the evolution of many rural municipalities in southern Quebec (Paquette and Domon, 1999). The recomposition movement in the study area appears to emerge at the beginning of the 1970's. Accordingly, most of the residents encountered (73.0%) acquired their properties between 1970 and 1998, with the evolution of new acquisitions for each decade remaining constant since 1970 (22% to 26%). Moreover, a relatively higher proportion of individuals are aged 45 and over

Table VII: Global sociodemographic profile of the Havelock Township municipality (N=181).

Sociodemographic indicators	Number	%
<b>Occupation</b>		
full-time farmer	18	9.9
part-time farmer	22	12.2
farm worker	6	3.3
small business	9	5.0
salaried worker	76	42.0
professional	15	8.3
retired	52	28.7
without earned income	3	1.7
<b>Place of work</b>		
Havelock	48	26.5
adjacent municipalities	16	8.8
Montérégie area	16	8.8
greater Montreal area	31	17.1
without fixed place of work	12	6.6
not applicable	50	27.6
<b>Place of birth</b>		
Havelock	65	35.9
adjacent municipalities	15	8.3
Montérégie area	11	6.1
greater Montreal area	42	23.2
other places	35	19.3
<b>Previous place of residence</b>		
Havelock	69	38.1
adjacent municipalities	12	6.6
Montérégie area	18	9.9
greater Montreal area	62	34.3
other places	10	5.5
<b>Residential occupation type</b>		
permanent	155	85.6
weekly	6	3.3
seasonal	6	3.3
occasional	2	1.1
transitional (toward permanence)	5	2.8
non-resident	5	2.8
<b>Age group</b>		
18-24 years	1	0.6
25-44 years	63	34.8
45-64 years	75	41.4
65 years and over	41	22.7
<b>Family acquisition</b>		
present	68	37.6
absent	113	62.4
<b>Year of personal acquisition</b>		
before 1960	17	9.4
1960-69	13	7.2
1970-79	40	22.1
1980-89	45	24.9
1990 and after	47	26.0
<b>Relatives</b>		
present	101	55.8
absent	80	44.2



(64.1%). As remarked by Jean (1991), rural population changes occur at the socio-professional level. In our study area, full-time (9.9%) and part-time farmers (12.2%) represent an important part of the sample population. Two thirds of part-time farmers are local residents while one third are urban-to-rural migrants. Compared with farmers, salaried workers represent a larger part of the population (42%). Professionals correspond to a small sample of the population (8.3%), while the proportion of retirees attains a considerable percentage (28%) (Tab. VII).

### 3.3.2 Residential Settlement Patterns

For the purpose of this study, residential settlement patterns correspond to the ways an individual with a given sociodemographic profile chooses to settle on a particular lot given its specific landscape context. Based on their visual and topographical characteristics, four types of lots result from cluster analysis: "*Woodlot - closed view*"; "*Upper hillside - panoramic view*"; "*Agricultural lowland - limited view*" and "*Lower hillside - potential view*" (Fig 3.4 and Tab. VIIIa). For each group, significantly associated sociodemographic indicators are identified and described (Tab. VIIIb).

#### *Cluster 1: Woodlot - closed view*

With the exception of agricultural lowland areas, this cluster includes 19 woodlots dispersed throughout almost all the territory of Havelock township (Fig. 3.4). The lots are characterized by a closed visual field, a depth of visual field of less than 100 m,

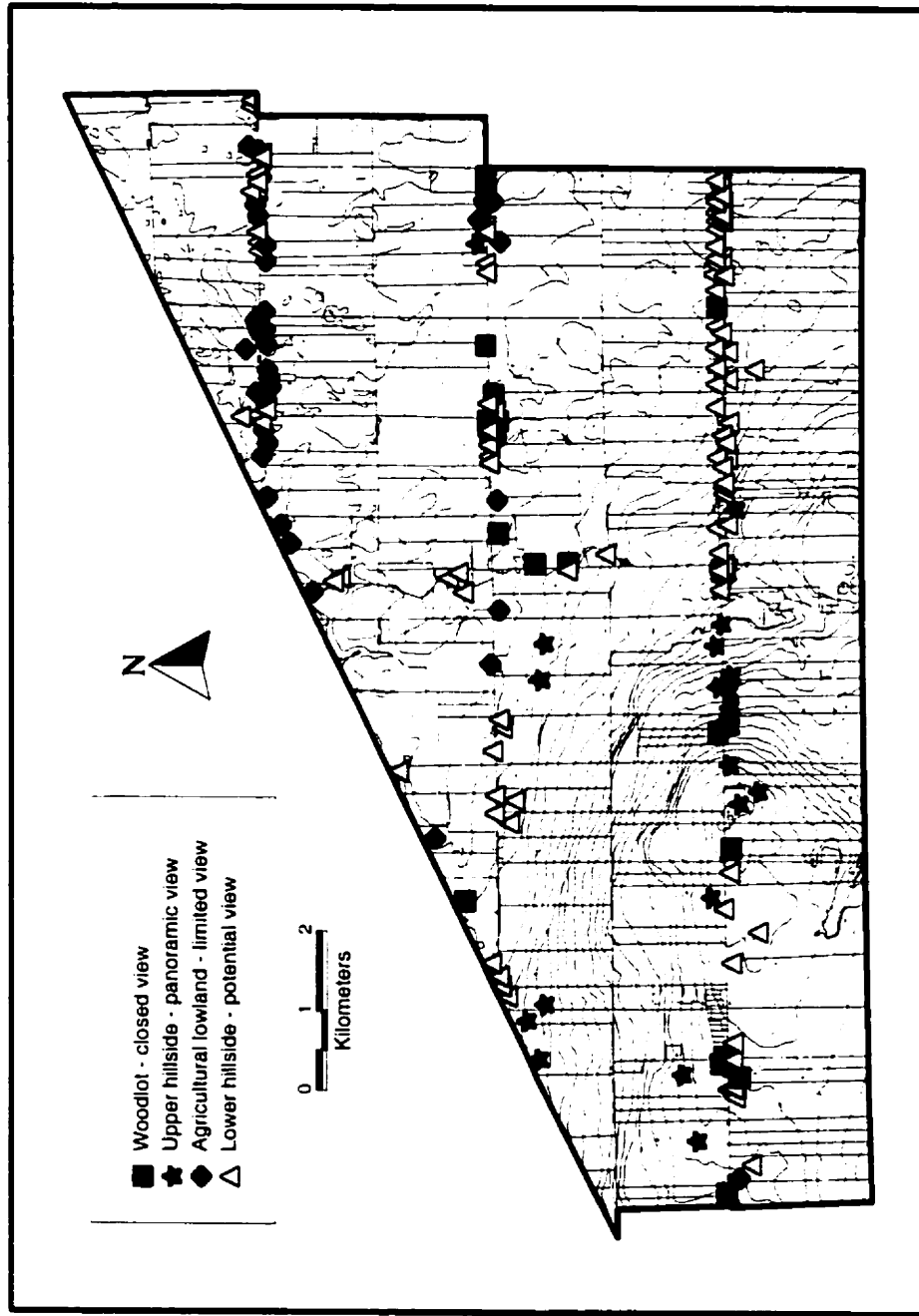


Figure 3.4: Visual characterization and topographical locations of residential settings - Havelock township (N=181)

Table VIIIa: Cluster analysis results derived from visual analysis showing percentages of each visual indicator relative to the global population (%GLO), the clusters (%CL) and the indicators (%IN) (P<0.05).

Visual indicators	Global	Woodlot		Upper hillside		Agr. lowland		Lower hillside	
	N=181	n=19		n=28		n=37		n=97	
	%GLO	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN
<b>Visual field</b>									
open	60.2	*0,0	*0,0	85.7	22.0	x	x	x	x
filtered	13.3	x	x	x	x	x	x	x	x
closed	26.5	*100,0	*39,6	*0,0	*0,0	x	x	x	x
<b>Depth of the visual field</b>									
< 100 m.	10.5	*100,0	*100,0	0.0	0.0	0.0	0.0	*0,0	*0,0
100 m. - 2 km	43.7	*0,0	*0,0	*0,0	*0,0	*75,7	*35,4	52.6	64.6
> 2 km.	45.9	*0,0	*0,0	*100,0	*33,7	24.3	10.8	x	x
<b>Prevailing view</b>									
elevated	10.5	x	x	*67,9	*100,0	0.0	0.0	*0,0	*0,0
horizon	36.5	*0,0	*0,0	x	x	x	x	x	x
closed	51.9	*100,0	*20,2	*3,6	*1,1	x	x	x	x
<b>Topographical entity</b>									
summit	9.9	x	x	x	x	x	x	x	x
upper hillside	8.3	x	x	*46,4	*86,7	0.0	0.0	*0,0	*0,0
lower hillside	38.7	x	x	x	x	*0,0	*0,0	*58,8	*81,4
hillock	3.9	x	x	x	x	x	x	7.2	100.0
boulder	11.1	x	x	0.0	0.0	*54,1	*100,0	*0,0	*0,0
river terrace	11.1	x	x	x	x	x	x	15.5	75.0
small valley	7.7	26.3	35.7	x	x	0.0	0.0	x	x
plain	8.8	x	x	x	x	*35,1	*81,3	*0,0	*0,0
<b>Viewshed</b>									
very small	5.5	x	x	x	x	*24,3	*90,0	*0,0	*0,0
small	8.3	x	x	x	x	x	x	x	x
intermediary	34.8	63.2	19.1	17.9	7.9	x	x	x	x
large	44.8	21.1	4.9	71.4	24.7	*18,9	*8,6	51.6	61.7
very large	6.6	x	x	x	x	x	x	x	x
<b>Visual accessibility</b>									
high	7.7	x	x	*35,7	*71,4	x	x	*0,0	*0,0
intermediary	24.9	0.0	0.0	39.3	24.4	*46,0	*37,8	17.5	37.8
low	58.6	36.8	6.6	*14,3	*3,8	43.2	15.1	*81,4	*74,5
none	8.8	*63,2	*75,0	x	x	0.0	0.0	*1,0	*6,3

(\*) P<0.001

(x) non statistically significant

Table VIIIb: Sociodemographic indicators associated to visual analysis clusters showing percentages relative to the global population (%GLO), the clusters (%CL) and the indicators (%IN) (P&lt;0.05).

Sociodemographic indicators	Global	Woodlot		Upper hillside		Agr. lowland		Lower hillside	
	N=181	n=19		n=28		n=37		n=97	
	%GLO	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN
<b>Occupation</b>									
full-time farmer	9.9	x	x	x	x	x	x	x	x
part-time farmer	12.2	x	x	x	x	27.0	45.5	7.2	31.8
farm worker	3.3	x	x	x	x	10.8	66.7	x	x
small business	5.0	x	x	x	x	x	x	x	x
salaried worker	42.0	x	x	25.0	9.2	x	x	x	x
professional	8.3	x	x	21.4	40.0	x	x	4.1	26.7
retired	28.7	x	x	x	x	x	x	x	x
without earned income	1.7	x	x	x	x	x	x	x	x
<b>Place of work</b>									
Havelock	26.5	x	x	x	x	x	x	x	x
adjacent municipalities	8.8	x	x	x	x	x	x	x	x
Montréal area	8.8	x	x	x	x	x	x	x	x
greater Montreal area	17.1	x	x	x	x	x	x	x	x
without fixed place of work	6.6	x	x	x	x	x	x	x	x
not applicable	27.6	x	x	x	x	x	x	x	x
<b>Place of birth</b>									
Havelock	35.9	5.3	1.5	x	x	x	x	42.3	63.1
adjacent municipalities	8.3	x	x	x	x	x	x	x	x
Montréal area	6.1	x	x	x	x	x	x	x	x
greater Montreal area	23.2	x	x	x	x	x	x	x	x
other places	19.3	x	x	x	x	x	x	x	x
<b>Previous place of residence</b>									
Havelock	38.1	10.5	2.9	x	x	x	x	45.4	63.8
adjacent municipalities	6.6	x	x	x	x	x	x	x	x
Montréal area	9.9	x	x	x	x	18.9	38.9	x	x
greater Montreal area	34.3	57.9	17.7	x	x	x	x	27.8	43.6
other places	5.5	x	x	x	x	x	x	x	x
<b>Residential occupation type</b>									
permanent	85.6	68.4	8.4	64.3	11.6	x	x	91.8	57.4
weekly	3.3	15.8	50.0	x	x	x	x	0.0	0.0
seasonal	3.3	x	x	x	x	x	x	x	x
occasional	1.1	x	x	x	x	x	x	x	x
transitional (toward permanence)	2.8	x	x	x	x	x	x	x	x
non-resident	2.8	x	x	10.7	60.0	x	x	x	x
<b>Age group</b>									
18-24 years	0.6	x	x	x	x	x	x	x	x
25-44 years	34.8	x	x	x	x	x	x	x	x
45-64 years	41.4	73.7	18.7	x	x	x	x	x	x
65 years and over	22.7	0.0	0.0	x	x	x	x	x	x
<b>Family acquisition</b>									
present	37.6	15.8	4.4	x	x	x	x	46.4	66.2
absent	62.4	84.2	14.2	x	x	x	x	53.6	46.0
<b>Year of personal acquisition</b>									
before 1960	9.4	x	x	x	x	x	x	x	x
1960-69	7.2	x	x	x	x	x	x	x	x
1970-79	22.1	x	x	x	x	x	x	x	x
1980-89	24.9	x	x	x	x	40.5	33.3	x	x
1990 and after	26.0	x	x	x	x	x	x	x	x
<b>Relatives</b>									
present	55.8	31.6	5.9	x	x	x	x	65.0	62.4
absent	44.2	68.4	16.3	x	x	x	x	35.1	42.5

(x) non statistically significant

with a significant number (63.2%) characterized by no visual accessibility (Tab. VIIIa).

Residents that previously lived in the greater Montreal area (57%), individuals aged 45 - 64 (73%) and, to a lesser degree, second-home residents (weekly occupation) are significantly associated with this group (Tab. VIIIb). A lower proportion of Havelock natives (5.3%) as well as the significant absence of relatives (68.4%) and family acquisition (84.2%) complete the profile of these residents.

*Cluster 2: Upper hillside - panoramic view*

The 28 lots offering panoramic views are generally concentrated on the summit and the upper hillside of Covey Hill (Fig. 3.3d, e; 3.4). All lots are characterized by a depth of visual field of more than 2 km. Moreover, a larger part are characterized by an open visual field (85.7%), an elevated prevailing view (67.9%), upper hillside locations (46%), a high visual accessibility (35%) and a large viewshed (71%) (Tab. VIIIa).

Residents with professional occupations appear to be significantly associated with these lots. Although only one fifth (21.4%) of the residents of this cluster are found in this category, their proportion represents three times the percentage (8.3%) of professionals in the whole population (Tab. VIIIb). At the same time, the proportion of salaried workers (25.0%) as well as the relative number of permanent residents

(64.3%) stays below the overall percentage. The professionals identified in this cluster are all urban-to-rural migrants.

*Cluster 3: Agricultural lowland - limited view*

Nearly all the 37 lots included in this cluster are located in the northeastern agricultural lowlands of the township (Fig. 3.3a; 3.4), where views are limited by the flat topography. The depth of the visual field reaches a peak (75.7%) for the intermediate category (100 m - 2 km). The topography is characterized by a significant presence of morainic boulders (54.1%) and plains (35.1%). A greater proportion of lots (24.3%) are defined by very small viewsheds and by intermediate visual accessibility (Tab. VIIIa).

Part-time farmers (27%) and farm workers (10.8%) are significantly correlated to this cluster (Tab. VIIIb). The Montreal vicinity (Montérégie region - Fig. 3.1) reaches a significantly higher proportion (18.9%) as the previous place of residence. The acquisition of these lots seems concentrated in the 1980's (40.5%). Despite the fact that this cluster refers directly to agricultural lowland settlements, there is no evidence of the local population being predominant (Tab. VIIIb).

*Cluster 4: Lower hillside - potential view*

Although they are observed over the whole study area (Fig. 3.4), the 97 lots of this cluster are mainly concentrated on the lower hillside (58.8%) (Fig. 3.3f). A greater percentage of these lots are marked by an intermediate depth of visual field (52.6%)

and low visual accessibility (81.4%). Even if the described views seem limited, a significantly larger part of these lots (51.6%) are characterized by large viewsheds (Tab. VIIIa).

The sociodemographic profile associated with this cluster shows many traits specific to the local population. A significantly larger proportion of the residents are Havelock natives (42.3%), have indicated Havelock as their previous place of residence (45.4%), have mentioned the presence of relatives in the near Havelock surroundings (65.0%) or have purchased lots through family acquisition (46.4%) (Tab. VIIIb). In the same way, nearly all (91.8%) of this population are permanent residents.

Overall, the contrasting sociodemographic profiles associated to the four distinct clusters, each illustrated by particular landscape contexts, enable us to recognize residential settlement patterns that have taken shape in Havelock township. As a result, migrants from urban areas or professionals seem to be clearly associated with specific landscape contexts (i.e.: closed woodlot and upper hillside).

### 3.3.3 Landscape Trajectories (1968-1997)

Five distinct landscape trajectories based on land use change and built environment transformations at the lot scale emerge from the cluster analysis, namely: "*Significant persistence of agricultural activities*"; "*Moderate persistence of agricultural activities*"; "*Advanced agricultural abandonment*"; "*Former agricultural lots in transition*" and "*Residential development lots*" (Fig. 3.5 and Tab. IXa). After a short

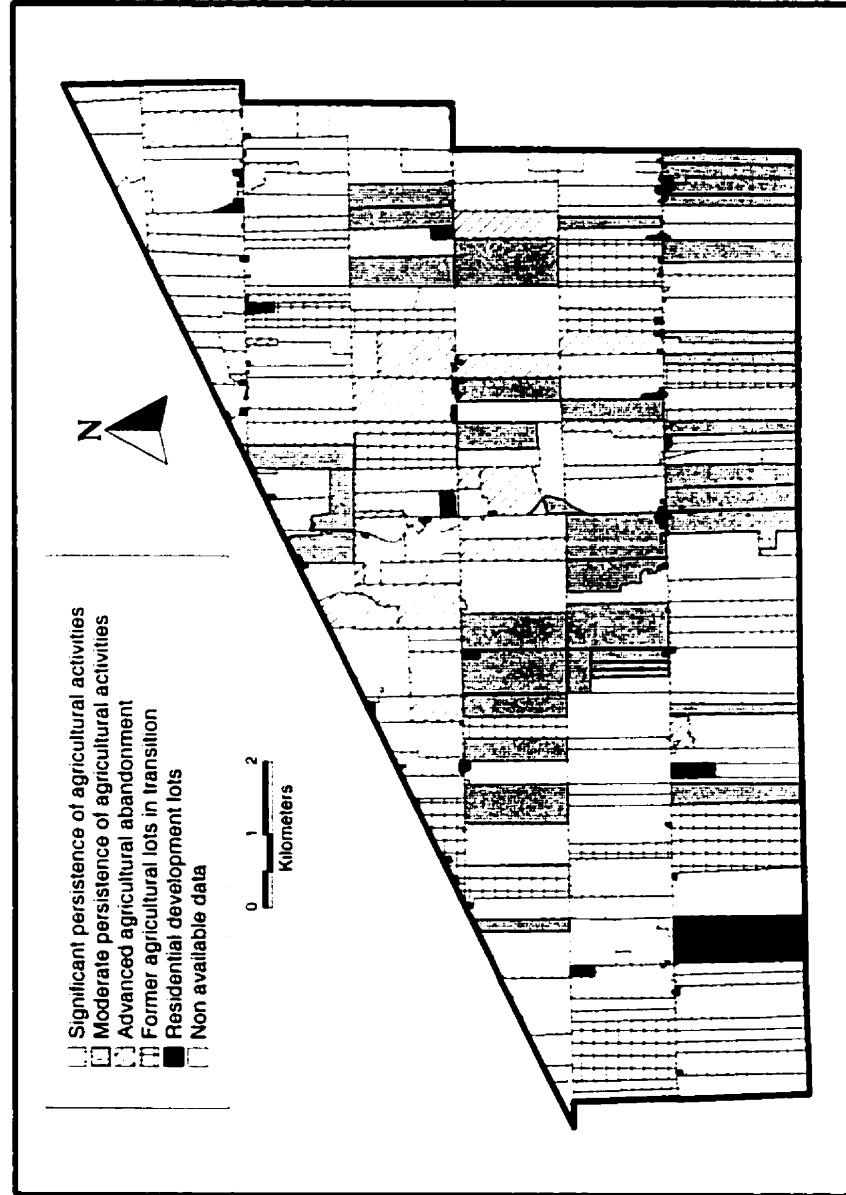


Figure 3.5: Landscape trajectories (1968-1997) - Havelock township (N=254)



Table IXa: Cluster analysis results of landscape trajectories observed at the lot scale showing percentages of each trajectory indicator relative to the global population (%GLO), the clusters (%CL) and the indicators (%IN) (P<0.05).

Trajectories indicators	Global	Signif. agric.		Moder. agric.		Ag. Abandon.		In transition		Residential	
	N=254	n=72		n=35		n=16		n=14		n=117	
	%GLO	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN
<b>Areas remaining under forest cover</b>											
< 1%	48.0	*5,6	*3,3	*0,0	*0,0	*0,0	*0,0	21.4	2.5	*98,3	*94,3
1% - 50%	36.6	*94,4	*73,1	*2,9	*1,1	*87,5	*15,1	64.3	9.7	*0,9	*1,1
> 50%	15.4	*0,0	*0,0	*97,1	*87,2	x	x	x	x	*0,9	*2,6
<b>Areas remaining under cultivation</b>											
< 1%	63.8	*15,3	*6,8	x	x	x	x	x	x	*97,4	*70,4
1% - 25%	25.6	*51,4	*56,9	*48,6	*26,2	x	x	x	x	*0,9	*1,5
> 25%	10.6	*33,3	*88,9	0.0	0.0	x	x	x	x	*1,7	*7,4
<b>Areas remaining under pasture</b>											
< 1%	62.2	*18,1	*8,2	x	x	37.5	3.8	28.6	2.5	*97,4	*72,2
1% - 15%	29.9	*65,3	*61,8	x	x	x	x	x	x	*0,0	*0,0
> 15%	7.9	16.7	60.0	0.0	0.0	x	x	x	x	2.6	15.0
<b>Abandoned land-to-forest</b>											
< 1%	56.3	*19,4	*9,8	*31,4	*7,7	*0,0	*0,0	*14,3	*1,4	*99,2	*81,1
1% - 20%	36.6	*80,6	*62,4	*68,6	*25,8	*0,0	*0,0	71.4	10.8	*0,9	*1,1
> 20%	7.1	0.0	0.0	x	x	*100,0	*88,9	x	x	*0,0	*0,0
<b>Pasture-to-forest</b>											
< 1%	49.6	*9,7	*5,6	*2,9	*0,8	12.5	1.6	14.3	1.6	*97,4	*90,5
1% - 20%	41.3	*68,1	*46,7	*94,3	*31,4	*81,3	*12,4	x	x	*2,6	*2,9
> 20%	9.1	*22,2	*69,6	x	x	x	x	35.7	21.7	*0,0	*0,0
<b>Residential transformation</b>											
constructed before 1965	59.8	*75,0	*35,5	x	x	x	x	28.6	2.6	53.0	40.8
constructed after 1965	30.7	*8,3	*7,7	x	x	x	x	57.1	10.3	*42,7	*64,1
after 1965 - original demolished	7.1	12.5	50.0	x	x	x	x	x	x	3.4	22.2
<b>Original farm building dynamics</b>											
no building before 1965	45.3	*5,6	*3,5	28.6	8.7	x	x	x	x	*76,9	*78,3
all original buildings presents	32.7	*56,9	*49,4	x	x	x	x	x	x	*13,7	*19,3
one building demolished	14.2	x	x	x	x	x	x	x	x	8.6	27.8
many buildings demolished	7.9	*18,1	*65,0	x	x	x	x	x	x	*0,9	*5,0
<b>New building dynamics (1965-)</b>											
no new building	77.2	x	x	x	x	x	x	*0,0	*0,0	*92,3	*55,1
one new building	17.3	27.8	45.5	34.3	27.3	x	x	x	x	*7,7	*20,5
new buildings	5.5	0.0	0.0	x	x	x	x	*100,0	*100,0	*0,0	*0,0

(\*) P<0,001

(x) non statistically significant

description of each of these trajectories, the visual (Tab. IXb) and sociodemographic (Tab. IXc) characteristics significantly correlated to each one will be described.

*Trajectory 1: Significant persistence of agricultural activities*

Although the majority of the 72 lots in this group are located on agricultural lowlands, almost all sectors of the study area contain lots related to this landscape trajectory (Fig. 3.5). This trajectory is defined by lots where agricultural activities were predominant from 1968 to 1997. For one third of these lots, more than 25% of their acreage remained in cultivation. This result appears to be the most specific characteristic of this cluster considering the indicator variability percentage (88.9%) (Tab. IXa). In addition, a significantly larger proportion of these lots (51.4%) maintained up to 25% of their area in cultivation. At the same time, another relatively large number shows considerable pasture-to-forest change (22.2%). This cluster exhibits a relatively higher proportion of lots where original farm buildings are preserved (56.9%) as well as other lots with new buildings (27.8%) (Tab. IXa).

Two topographical positions stand out in significantly higher proportions: morainic boulder locations, which are mainly confined within agricultural lowlands, and upper hillside locations. Despite many residential settings corresponding to lower hillside locations, these positions remain in significantly lower proportions when compared to their whole distribution (Tab. IXb).

Table IXb: Visual indicators associated to landscape trajectories showing percentages relative to the global population (%GLO), the clusters (%CL) and the indicators (%IN) (P<0.05).

Visual indicators	Global	Signif. agric.		Moder. agric.		Ag. Abandon.		In transition		Residential	
	N=254	n=72		n=35		n=16		n=14		n=117	
	%GLO	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN
<b>Visual field</b>											
open	58.3	69.4	33.8	x	x	x	x	x	x	49.6	39.2
filtered	15.0	x	x	x	x	x	x	x	x	20.5	63.2
closed	26.8	16.7	17.7	x	x	x	x	x	x	x	x
<b>Horizon</b>											
< 100 m.	11.0	x	x	x	x	x	x	x	x	x	x
100 m. - 2 km	45.3	x	x	x	x	x	x	x	x	x	x
> 2 km.	43.7	x	x	x	x	x	x	x	x	37.6	39.6
<b>Depth of the visual field</b>											
elevated	9.8	16.7	48.0	x	x	x	x	x	x	5.1	24.0
horizon	36.6	x	x	x	x	x	x	x	x	x	x
closed	52.8	40.3	21.6	x	x	x	x	x	x	61.5	53.7
<b>Topographical entity</b>											
summit	7.5	x	x	x	x	x	x	x	x	x	x
upper hillside	8.3	16.7	57.1	x	x	x	x	x	x	3.4	19.1
lower hillside	37.4	26.4	20.0	57.1	21.1	x	x	x	x	x	x
hillock	6.3	x	x	x	x	x	x	x	x	x	x
boulder	9.5	18.1	54.2	x	x	x	x	x	x	x	x
river terrace	10.2	x	x	x	x	x	x	x	x	14.5	65.4
small valley	7.5	1.4	5.3	x	x	x	x	x	x	x	x
plain	13.0	x	x	x	x	x	x	x	x	x	x
<b>Viewshed</b>											
very small	6.7	x	x	x	x	x	x	x	x	x	x
small	8.7	x	x	x	x	x	x	x	x	x	x
intermediary	34.7	x	x	x	x	x	x	x	x	41.9	55.7
large	42.9	x	x	60.0	19.3	x	x	x	x	x	x
very large	7.1	x	x	x	x	x	x	x	x	x	x
<b>Visual accessibility</b>											
high	6.3	x	x	x	x	x	x	x	x	x	x
intermediary	26.4	37.5	40.3	x	x	x	x	x	x	x	x
low	58.3	43.1	21.0	x	x	x	x	x	x	67.5	53.4
none	9.1	x	x	x	x	x	x	x	x	5.1	26.1

(x) non statistically significant

Table IXc: Sociodemographic indicators associated to landscape trajectories showing percentages relative to the global population (%GLO), the clusters (%CL) and the indicators (%IN) (P<0.05).

Sociodemographic indicators	Global	Signif. agric.		Moder. agric.		Ag. Abandon.		In transition		Residential	
	N=254	n=72		n=35		n=16		n=14		n=117	
	%GLO	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN
<b>Occupation</b>											
full-time farmer	7.1	13.9	55.6	17.1	33.3	x	x	x	x	*0.0	*0.0
part-time farmer	9.5	*20.8	*62.5	x	x	x	x	x	x	*0.9	*4.2
farm worker	2.8	x	x	x	x	x	x	x	x	x	x
small business	3.5	x	x	x	x	x	x	*28.6	*44.4	x	x
salaried worker	31.9	x	x	x	x	x	x	x	x	37.6	54.3
professional	5.9	x	x	x	x	x	x	21.4	20.0	2.6	20.0
retired	23.2	x	x	x	x	43.8	11.9	x	x	x	x
without earned income	1.2	x	x	x	x	x	x	x	x	x	x
<b>Place of work</b>											
Havelock	20.1	27.8	39.2	x	x	x	x	42.9	11.8	12.0	27.5
adjacent municipalities	7.1	x	x	x	x	x	x	x	x	x	x
Montréal area	6.7	x	x	x	x	x	x	x	x	x	x
greater Montréal area	12.2	x	x	x	x	x	x	x	x	x	x
without fixed place of work	4.7	x	x	x	x	x	x	x	x	x	x
not applicable	21.7	x	x	x	x	x	x	0.0	0.0	x	x
<b>Place of birth</b>											
Havelock	25.6	x	x	x	x	x	x	x	x	x	x
adjacent municipalities	6.3	x	x	x	x	x	x	x	x	x	x
Montréal area	4.3	x	x	x	x	x	x	x	x	x	x
greater Montréal area	17.3	x	x	x	x	x	x	x	x	x	x
other places	14.2	x	x	x	x	x	x	x	x	x	x
<b>Previous place of residence</b>											
Havelock	27.2	x	x	x	x	6.3	1.5	x	x	x	x
adjacent municipalities	5.1	x	x	x	x	x	x	x	x	x	x
Montréal area	7.5	x	x	x	x	x	x	x	x	x	x
greater Montréal area	26.8	x	x	x	x	56.3	13.2	x	x	x	x
other places	3.9	x	x	x	x	x	x	x	x	x	x
<b>Residential occupation type</b>											
permanent	64.2	x	x	x	x	x	x	x	x	x	x
weekly	3.9	x	x	x	x	x	x	x	x	x	x
seasonal	2.8	x	x	x	x	x	x	x	x	x	x
occasional	0.8	x	x	x	x	x	x	x	x	x	x
transitional (toward permanence)	2.0	x	x	x	x	x	x	x	x	x	x
non-resident	2.8	x	x	x	x	x	x	x	x	x	x
<b>Age group</b>											
18-24 years	0.4	x	x	x	x	x	x	x	x	x	x
25-44 years	26.4	x	x	x	x	x	x	x	x	x	x
45-64 years	29.9	x	x	x	x	x	x	*71.4	*13.2	23.9	36.8
65 years and over	19.3	x	x	x	x	x	x	0.0	0.0	x	x
<b>Family acquisition</b>											
present	27.6	x	x	x	x	x	x	x	x	x	x
absent	44.9	x	x	x	x	x	x	x	x	x	x
<b>Year of personal acquisition</b>											
before 1960	6.7	x	x	x	x	x	x	x	x	x	x
1960-69	5.1	x	x	x	x	x	x	x	x	x	x
1970-79	15.8	x	x	x	x	x	x	x	x	x	x
1980-89	19.7	x	x	x	x	x	x	50.0	14.0	x	x
1990 and after	19.7	x	x	x	x	x	x	x	x	x	x
<b>Relatives</b>											
present	39.8	x	x	x	x	x	x	x	x	x	x
absent	31.5	x	x	x	x	x	x	x	x	x	x

(\*) P<0.001

(x) non statistically significant

Part-time farmers (20.8%) and full-time farmers (13.9%) are present in significantly higher proportions (Tab. IXc). However, analysis failed to show any significant results with regard to place of birth and previous place of residence categories (Tab. IXc). Even if this landscape trajectory refers to the persistence of agricultural activities, residents coming from urban areas as well as from the local population appear in similar proportions. In fact, more than 44.2% of these residents belong to the migrant population.

*Trajectory 2: Moderate persistence of agricultural activities*

The 35 lots included in this cluster (Fig. 3.5) are distinguished by more moderate tendencies when compared to the previous group. Farming activities persist in the context of an agro-forested landscape where forest cover remains important. Nearly all the lots (97.1%) maintained a considerable forest cover, while many of them (48.6%) remained under cultivation for up to 25% of their total area (Tab. IXa). For a majority of these lots, the forest cover also results from abandoned land-to-forest (68.6%) and pasture-to-forest changes (94.3%), each accounting for up to 20% of the total area (Tab. IXa).

A significantly larger part of these lots is associated with lower hillside locations (57.1%) and has a large viewshed (60%) (Tab. IXb).

Full-time farmers are associated to this cluster. They are present in a superior proportion (17.1%) compared to the overall percentage (7.1%) (Tab. IXc).

*Trajectory 3: Advanced agricultural abandonment*

This cluster includes 16 lots characterized by advanced agricultural abandonment (Fig. 3.5). All these lots show abandoned land-to-forest change over large areas (>20% of the lot area). In addition, pasture-to-forest transformation on up to 20% of the total area represents a greater percentage of these lots (81.3%). The vast majority of these lots (87%) have also maintained a forest cover on up to 50% of their area (Tab. IXa).

No visual attributes are significantly associated with this cluster (Tab. IXb). However, a larger part of retired residents (43.9%) and residents previously living in the greater Montreal area (56.3%) is closely associated with this trajectory (Tab. IXc). Accordingly, residents which indicate Havelock township as a previous place of residence account for a very small percentage (6.3%).

*Trajectory 4: Former agricultural lots in transition*

The transitional nature of these 14 lots (Fig. 3.5) is illustrated by their agricultural-to-forest land use trajectory as well as by the presence of home and building construction. In fact, a significantly higher proportion of these lots had large areas of abandoned land-to-forest (71.4%) or pasture-to-forest changes (35.7%) (Tab. IXa). Lots with up to 50% of their total area remaining under forest cover are present in relatively higher percentages (64.3%). Moreover, a larger proportion (57.1%) of these lots are marked by new home construction since 1965. At the same time, all of the 14 lots show major farm or non-farm building construction after 1965 (Tab. IXa).

From a sociodemographic perspective, a larger percentage of the residents' occupations derives from small business (28.6%) or professional (21.4%) categories, while individuals aged 45 to 64 constitute a significantly superior percentage (71.4%). Residents who indicated Havelock township as their place of work also remain closely associated with this cluster (42.9%) (Tab. IXc).

*Trajectory 5: Housing development lots*

These 117 lots correspond to small roadside building plots (Fig. 3.5) where few land use changes are observed (Tab. IXa). A significantly higher proportion (42.7%) of houses were built after 1965 and a majority of these lots show neither original farm buildings (76.9%) nor new buildings (92.3%).

These lots are defined by closed prevailing views (61.5%) and by low visual accessibility (67.5%) (Tab. IXb).

The associated sociodemographic profiles reveal a proportionally higher percentage of salaried workers (37.6%) while full-time farmers, part-time farmers and professionals represent significantly lower percentages. Residents working in the Havelock township (12.0%) are also less significantly correlated to this group (Tab. IXc).

Overall, two main tendencies emerge from our results. First, the trajectories marked by advanced agricultural abandonment and, to a lesser degree, by agricultural lots in transition, are associated with urban-to-rural migrants, retired residents or

professionals. These two phenomena are relatively confined within the study area (Fig. 3.5). Second, our analysis failed to show any significant association between the first trajectory type (significant persistence of agricultural activity) and both local or migrant residents. Contrary to all expectations, some migrant residents participate in the maintenance of farming activities. The nature and the extent of this participation, however, need to be clarified. These topics will be discussed in the following section.

### **3.4 Discussion**

Sociodemographic recomposition movements are not spread uniformly throughout Havelock township. Landscape contexts appear to significantly direct this process through the development of particular residential settlement patterns. From a landscape trajectory perspective, results suggest that the migrant population seems related to various dynamics. However, a number of urban-to-rural migrants remain significantly associated with agricultural abandonment trajectories. After a brief presentation of the general sociodemographic trends of the study area, the distinct manifestations of residential settlement patterns and landscape trajectories is discussed.

#### **3.4.1 Overall Sociodemographic Trends: the example of Havelock township**

As recognized in southern Quebec (Paquette and Domon, 1999) and elsewhere in western countries (Robinson, 1990; Jean, 1991; Kayser, 1993), rural areas are typified by the transition of traditional farming communities to post-industrial rural ones. The current sociodemographic profile of Havelock township is a result of similar evolutionary processes. Between 1961 and 1991, Havelock township has shown a



demographic growth (+ 21.2%) at a time when the farming population decreased by more than half. Our survey has revealed that nearly 40% of the residents interviewed were born in or come from the greater Montreal area or other places outside the region (Tab. VII). The fact that a small proportion of residents purchased their lots from a family member (Tab. VII) and that a relatively high number of residents have mentioned the absence of relatives in proximity to Havelock township (Tab. VII) supports the same tendencies. The higher number of part-time farmers in comparison to full-time farmers, as well as the higher proportion of respondents aged 45 and over, or who are retired, reflect other social changes representative of many rural territories (Clout, 1986; Bowles and Beesley, 1991; Dahms and Hallman, 1991; Kristensen, 1999).

#### 3.4.2 Residential Settlement Patterns

Cluster analysis allows us to define four differentiated landscape contexts. The first two clusters are significantly associated with residents whose many sociodemographic characteristics are typical of migrant populations. In contrast, the last two clusters result from quite different residential settlement patterns. While one cluster is related to both types of resident, the other is significantly associated with the local population.

Urban background, age group (45-64) and second-home ownership are the most significant characteristics of residents associated with closed woodlot settings (Tab. VIIIa, b). These characteristics remain very representative of urban-to-rural migrants sociodemographic profiles. As shown by other studies, the migration of retirees and

the weekly commuting practiced by second-home owners are two well-documented factors of social recomposition observed in the Canadian (Brunet, 1980; Jean, 1989; Dahms and McComb, 1999) or European countryside (Clout, 1986; Kayser, 1990). Why did these residents settle on closed woodlots? A recurring reason evoked by many of these residents was the countryside's peacefulness. For some of them, this peacefulness appears to be expressed through a very limited social network in the local community. Another common attitude is a conservationist position with regard to forest production and management. Many authors have emphasized that urban migrants associate rural settings with quietness (Hervieu and Viard, 1996; Thomson and Mitchell, 1996) or value a sense of isolation (Riebsame et al., 1996). We can assume that the preference for natural (or natural-looking) areas and pristine landscapes frequently mentioned by newcomers (Riebsame et al., 1996; Ryan, 1998; Domon and Paquette, 1999) seems to remain an important factor here.

With regard to the second cluster, the significant relationship between professionals and residential settings located in upper hillside (Table VIIIb) corresponds to another form of social recomposition which appears to be induced by specific landscape contexts. Previous works have shown that professional occupations (Walmsley et al., 1998) or high income categories (Dahms and Hallman, 1991; Thomson and Mitchell, 1998) were dominant among urban-to-rural migrants. Large-scale surveys have already identified scenery (Coppack, 1988; Halliday and Coombes, 1995) or attractive physical environments (Walmsley et al., 1998) as potential factors of attraction to explain moves to rural destinations. Our results show the relationship existing between these migrants and the landscape contexts at a finer scale, namely, at

the lot scale. It appears that the motives for the acquisition of scenic lots are inseparable from the social position of their owners. As Riebsame et al. (1996) have noticed, incidences of these processes on agricultural practices need more investigation, particularly in upper hillside or mountain settings. This investigation is of primary importance considering that these agricultural practices are essential to maintain the openness in the landscapes that attracts newcomers.

Results from the third cluster suggest that part-time farmers are associated with lots situated on agricultural lowlands characterized by limited views (Table VIIIb). The singular nature of these results lies in the fact that these residents are from the local population as well as from the migrant population (Table VIIIb). The recent acquisition (1980-89) of a relatively higher proportion of these lots (Table VIIIb) is another indication of the importance of newcomers. Such residential settlement patterns correspond to quite different phenomena than to the previously documented scenic attraction, and could eventually become more important given the growing extent of part-time farms (Marié and Viard, 1988; Jean, 1997; Hart, 1998; Kristensen, 1999). In this regard, the former full-time farmer from the local population and the newly-arrived part-time farmer who combines agricultural activity with off-farm work may share very different motivations. More work has to be done to understand the complex incidences of these processes on landscape dynamics.

The last cluster refers mainly to lots on lower hillsides largely occupied by the local population (Table VIIIb). Although characterized by limited views, these lots still have great visual potential based on their large viewsheds (Table VIIIa). In a context where newcomers have purchased virtually all the lots of high scenic value located on

the upper hillside, the settlement of lower hillside lots with high potential visual value may eventually present an interesting choice for newcomers. In this way, subsequent increases or decreases in the establishment rate of the migrant population as well as the ensuing land use changes likely to take place (reforestation or agricultural land maintenance) could be decisive factors in the future settlement of this area.

All things considered, this examination of residential settlements of the four landscape contexts holds a twofold interest. First, results show that the population does not spread uniformly through all the landscape contexts identified. Some significant sociodemographic distinctions occur between these clusters. Second, some well-known characteristics of residents (Beesley, 1988; Kayser, 1990; Dahms and Hallman, 1991; Thomson and Mitchell, 1998) associated with social recomposition processes (urban background, age 45 - 64, professional) are correlated with specific landscape contexts (woodlot, upper hillside). Consequently, specific landscape contexts seem to induce urban-to-rural migrant relocation. Rather than an exclusive manifestation of the social recomposition process, it is important to emphasize that these results refer to *significant tendencies*. These trends reveal not only profound reconfigurations of the rural milieu but also new social representations of the countryside, especially those that perceive rural areas in terms of their landscape characteristics rather than their productivity (Hervieu and Viard, 1996).

### 3.4.3 Landscape Trajectories

The five landscape trajectories observed bring out the heterogeneous character of the lots' evolution. Their diversity remains important even though it emerges from within a limited territory (88 km<sup>2</sup>).

The first trajectory is marked by lots where agricultural activities such as cultivation and pasture were persistent during the last three decades (Table IXa). Previous abandoned land-to-forest changes are observed but remain limited to confined areas when compared with other groups (Table IXa). Land use change such as pasture-to-forest transition is also present. The persistence of agricultural activity along with the reforestation of other limited areas do not constitute strictly opposing trajectories. These transformations may both derive from the intensification of agriculture on lowlands and from the withdrawal of farming activities on stony upland locations (Domon et al., 1993; Bouchard and Domon, 1997; Paquette and Domon, 1997). Built environment transformation analysis (Table IXa) leads us to believe that traditional farm settings co-exist with farms more likely to adopt new methods (i.e. farm enlargement) which require modifications such as demolishing obsolete barns and constructing buildings more suitable to their new needs. From a regional viewpoint (Paquette and Domon, 1999), the limited overall agricultural production of Havelock township and the fact that less than one third of the lots are marked by built environment transformation, suggest that farms which adopt intensive methods are limited in this cluster.

On a sociodemographic level, full-time and part-time farmers are significantly associated with this cluster (Table IXc). A more noticeable result is the fact that local and migrant residents are distributed in similar proportions within this group. As others have pointed out earlier (Brunet, 1980; Marié and Viard, 1988), the participation of urban-to-rural migrants in the maintenance of agricultural activities is undeniable. In what manner does this migrant population contribute to agricultural activity in Havelock township? For the lots where information could be obtained, 11 lots are cultivated by local farmers through rental agreements, while the migrant landowners themselves assume agricultural activities for the other nine lots. Moreover, on the upland farms (12), only one third of the migrant landowners undertake agricultural activities by themselves. Given that the larger part of landscape maintenance seems to be indirectly delegated to local farmers through rental agreements, the stability of the local farming population seems decisive in shaping future landscape trajectories, especially for these scenic, highly valued, upland locations.

When compared with the previous cluster, the second landscape trajectory group is also characterized by the maintenance of agricultural activities, but to a lesser degree. Overall, farming activities for these lots persist in the context of an agro-forested landscape dynamic (Table IXa). One would assume the relative stability of this lot's trajectory. Considering that full-time farmers account for only a small part (17%) of this group and that most of them (4/6) are aged 45 and over, this presumed stability could only be maintained with difficulty. The actual trajectory could possibly shift given the inherent scenic potential identified by the significantly large viewshed

observed (Table IXb). For lots where information could be obtained (24/35), more than a half of the residents are not from Havelock or adjacent municipalities. A closer examination of the newcomer's intentions and practices may eventually clarify their influence on this trajectory's direction.

The third cluster refers to lots characterized by advanced agricultural abandonment. Specific sociodemographic attributes are correlated to this cluster. These abandoned lots are settled in a greater proportion by urban-to-rural migrants and retired residents. For these residents, agricultural production seems to constitute a marginal occupation. Consequently, how do they contribute to agricultural abandonment? Data obtained on personal acquisition (12 of 16 lots) reveals that half of the residents purchased their property between 1960 and 1979, while the other half purchased after 1980. Therefore, it seems that while the first residents can be associated with the process of agricultural abandonment, the others, in similar proportions, purchased their lots during a later stage of this abandonment. More investigation is needed to better evaluate if migrants settled these lots with an irreversible farming abandonment trajectory already in progress or if they actually accelerated this process.

The fourth cluster is composed of former agricultural lots in transition. It results from agricultural-to-forest land use change as well as from transformations related to construction. These lots are characterized by new homes built since 1965 as well as the construction of farm and non-farming buildings (Table IXa). Construction results through the activities of "local entrepreneurs" (cattle abattoir, sawmill, etc.), through farm building enlargements or through the establishment of large hobby farms. While residents with small business occupations are more related to the first lot category

(local firms), professionals, for their part, are closely associated to the latter (large hobby farms). Residents who indicated Havelock township as their place of work are associated with the first two categories. All things considered, the changing vocation of these former agricultural lots occurs due to distinct dynamics evolving from the local population as well as from the migrant one. However, given the importance of urban-to-rural population moves, an increasing number of lands with low agricultural value may be subjected to new residential or hobby farm vocations, as is actually the case within some highly scenic (Domon, 1994; Lacasse, 1995) or amenity-rich areas (Dahms and Hallman, 1991; Dahms and McComb, 1999).

The last distinguishing trajectory refers to housing development lots. Despite the relatively small areas which characterize this particular residential settlement (Fig. 3.5), their overall impact on rural landscapes remains considerable as a consequence of their large number (117). A significantly higher percentages of these residences are occupied by salaried workers (Table IXc). This housing dynamic also appears to depend on the residential needs of a regional workforce given that residents working in Havelock township are less correlated to this group (Tab. IXc). In Quebec (Brunet, 1980) as elsewhere (Dahms, 1998), the increasing number of rural commuters suggests that commuting practices contribute to this "new settlement system" as described by Hart (1998).

Overall, some tendencies must be emphasized. While limited to confined areas, some urban-to-rural migrants are significantly associated with the agricultural abandonment trajectory. At the same time, in distinct ways and with less intensity, this population takes part in other landscape trajectories. Moreover, our results prevent us to point out



a clear-cut differentiation between the local and the migrant population when considering their respective influences on these previous trajectories (*“Significant persistence of agricultural activities”*; *“Moderate persistence of agricultural activities”*; *“Former agricultural lots in transition”*; *“Housing development lot”*). Do these results suggest that the relationship between social in-migration dynamics and local land use development (Paquette and Domon, 2001) is relatively independent?

Beyond the case of Havelock township, these landscape trajectories seem to correspond to complex phenomena linking social recomposition processes with large scale agricultural land use transformations observed in most western countries (Meeus et al., 1990; Domon et al., 1993; Simpson et al., 1994; Poudevigne and Allard, 1997). The multiple interactions observed between sociodemographic and agricultural dynamics (for example, the land rental agreements between newcomers and local farmers) as well as the time-lag that occurs between a given land ownership transition and the possible landscape trajectory re-positioning induced by this change, contributed to the complex nature of the phenomena involved. In this regard, this paper has attempted less to distinguish or explain clear landscape evolution profiles than to initiate the establishment of a framework of analysis enabling to explore the diversity and the complexity of the outlined landscape trajectories.

### **3.5 Conclusion**

This study has documented rural landscape developments within the context of a "Rural Renaissance".

Results suggest that distinct social recomposition manifestations are not uniformly distributed throughout the study area. Moreover, landscape contexts seem to constitute a determining factor in some urban migrants' relocation. It must be emphasized that such phenomena could only be revealed in a local study because, as we have shown, this spatially selective process takes place in specific landscape contexts at the lot scale. However, it does not stand for one all-encompassing process. The residential settlements of urban migrants in agricultural lowlands as well as their role in the maintenance of agricultural activities necessitates their consideration in the variety of situations observed. Otherwise, migrants are significantly associated with a specific landscape trajectory, namely, the agricultural abandonment trajectory. More investigation is needed to clarify the migrants' actual influence on this trajectory, which remains one of the most striking transformations to affect contemporary rural landscape configuration and appearance.

The relationship that exists between residential settlement patterns and landscape trajectories is characterized by an intricate network of both social and landscape dynamics. For example, the fact that urban migrants are significantly linked to both the "*Woodlot - closed view*" residential settlement pattern and the "*Advanced agricultural abandonment*" landscape trajectory does not in itself preclude a unique landscape development associated with urban migrants. Because a large proportion of urban migrants also take part in other landscape trajectories, the need for a more cautious interpretation is reiterated and prevents us from making simplified generalizations.

The persistent transformations present in rural landscapes as well as in rural populations are a specific characteristic of contemporary rural territories. Accordingly, considerable work needs to be done to assess the relationship dynamic that exists between these two changing entities. While many studies have focused on biophysical and political factors to explain agricultural landscape changes (Meeus et al., 1990; Baudry, 1993; Domon et al., 1993; Simpson et al., 1994; Poudevigne and Alard, 1997; O'Rourke, 1999), we have shown the necessity to broaden examinations of landscape dynamics to include other dimensions not sufficiently considered by traditional agricultural landscape issues. This research has shown the need for a closer investigation of the sociodemographic changes that seem to be linked to specific landscape developments.

In this respect, further research should explore the motivations directing the choice of rural destinations in the migrant population, their perceptions of larger rural landscape planning issues and their individual intentions with regard to land ownership and management. In a similar vein, the newcomers' farming methods (types of crops, forestry production, relations with local farmers in the land improvement process, etc.) and housing modifications (renovation, building material used, ornamental element, etc.) must be examined in more detail in order to evaluate their impact on local landscape changes.

From a rural landscape planning perspective, such a research goal is helpful to better identify and anticipate which rural areas are more susceptible to the pressures of development (e.g. scenic upland and visually potential settings) as well as those which are more vulnerable to farming decline (e.g. upland lots with low agricultural

value or valley locations with closing views). This information is crucial in order to formulate more suitable interventions to encourage rural redevelopment in conjunction with the maintenance of valued landscapes. As recognized elsewhere in southern Quebec (Paquette and Domon, 1999) as well as in Europe (Meeus, 1990; Kristensen, 1999), these planning concerns are critical for areas with marginal farming production. Given that within such areas rurality is no longer expressed exclusively through agriculture, but more and more through other dimensions such as the enjoyment of landscape aesthetics, it is necessary to rethink traditional rural planning and resource management development. As such, beyond the opportunities emerging from this rural demographic revival, new requirements occur with regard to future rural planning issues. To sustain such opportunities, it is essential to delineate a new management framework that encompasses a broader plurality of views while reaffirming the necessity of a multiple-use countryside for the benefit of both migrants and local residents (Stockdale et al, 2000).

## CHAPITRE 4

### **RURAL DOMESTIC LANDSCAPE CHANGES: A SURVEY OF THE RESIDENTIAL PRACTICES OF LOCAL AND MIGRANT POPULATIONS**

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Ce chapitre est accepté (mars 2001) avec corrections mineures pour fin de publication dans la revue *Landscape Research*. Il est actuellement en révision.

Paquette, S. et Domon, G., 2000b. Rural Domestic Landscape Changes: A Survey of the Residential Practices of Local and Migrant Populations, accepté pour publication dans la revue *Landscape Research*.

### **Abstract**

Along with the recomposition of rural communities, the increase in residential uses of the countryside appears a determining factor in landscape changes. The extent to which urban and non-farming migrants are settling rural places is creating a “rural renaissance”, characterized by a demographic revival in these areas. Even if many studies focus on rural landscapes, few empirical works have explored the residential practices that may ultimately affect these landscapes. Therefore, it is crucial to document these changes at a scale where they are the most expressive, namely, that of the domestic space. Based on *in situ* observations and sociodemographic information surveys, this study focuses on residential practices (home characteristics, exterior space and land use) within a clearly defined territory in southern Quebec. From the seven groups identified, four domestic landscape trajectories are revealed: “*the non-farming residential lot*”, “*the farming lot*”, “*the landscape aesthetic lot*” and “*the declining lot trajectories*”. Ultimately, this paper shows how domestic practices

shape the evolution of the rural landscapes and have an effect on their distinctiveness. It reveals also attitudes *vis-à-vis* rurality that uphold them.

#### **4.1 Introduction**

Rural landscapes have undergone drastic transformations during the last decades. Agricultural land use intensification has largely contributed to these changes (Meeus et al., 1990; Kristensen, 1999). In parallel with this evolution, the increase in the residential use of the countryside appears as another determining factor in changes to contemporary rural landscapes (Riley, 1993; Primdahl, 1999). As remarked by Lowenthal: "the countryside is becoming a place for living, not for making a living" (1997: 183). The accessibility and the extent to which former urban dwellers and non-farming migrants settle rural places prompts some scholars to proclaim a "rural renaissance", characterized by a demographic turnaround in these areas (Kayser, 1990). Moreover, the sociodemographic recomposition trends characterizing many rural communities in western countries do not appear to be decreasing, given the widespread attraction of rural settings and values. Most of the recent surveys undertaken in Quebec (Jolicoeur et al., 1999), France (Hervieu and Viard, 1996) and the United States (Willits and Luloff, 1995) support this tendency.

In southern Quebec, regional (Paquette and Domon, 1999) as well as local scale investigations (Paquette and Domon, 2000a) reveal a multi-faceted recomposition movement affecting rural communities. These demographic resettlement processes are not uniformly spread throughout the rural territory. As a result, some landscape

contexts appear a significant pull factor in the relocation of some migrant populations (Paquette and Domon, 2000a). Given the attractiveness of rural landscapes, it is crucial to show how these new rural populations, once in place, affect the qualities of these same landscapes. Despite the magnitude of these subsequent transformations, few empirical works have explored rural landscape dynamics from this perspective (Paquette and Domon, 2000a), especially the domestic uses that may affect these landscapes.

Are there some new practices that shape these domestic landscapes? How can they inform us about the ongoing rural landscape changes? Are some domestic practices and uses specific to particular resident profiles or closely associated with specific landscape contexts? A detailed analysis of the characteristics that shape rural landscapes at the domestic scale is necessary to more accurately assess rural landscape trajectories.

This manifold interest in documenting practices and uses associated with rural domestic landscapes stems from several elements. First, domestic built environments and their adjoining outdoor spaces stand for some of the most prominent elements that distinguish the various types of rural landscapes (Phipps et al., 1994; Archambault, 1995; Hart, 1998). More importantly, built elements are generally subjected to more rapid alterations in comparison to the more gradual changes associated with land use (e.g. land abandonment). As an example, in the specific case of nineteenth century farmstead conversion, Archambault (1995) observed that urban-to-rural migrants invest primarily in housing renovation or outdoor space



management before initiating farm or forest improvements. In addition, even though the works done by Marié and Viard in France (1988), Hart in the United States (1998) and Archambault in Quebec (1995) illustrate the merit of an investigation of residential scale practices, their documentation remains fragmented and unsystematic. An exploration of rural domestic landscapes is even more necessary considering that it shows evidence of change rather than a static portrait of a region. In this respect, some housing and private exterior space characteristics (maintenance, renovations, maturity of trees, etc.) have a specific temporal nature. Finally, domestic space is one of the sole areas where individuals can exert control and freedom of action on the landscape (Després, 1991). As such, it represents one of the most obvious manifestations of personal and group identity (Hummon, 1989; Abu-Ghazze, 2000). Domestic space also reflects the ways that residents interact with other people as well as with their surrounding environment. In this way, the physical characteristics of residential sites represent a “vehicle for differentiating symbolic boundaries, reinforcing privacy, domesticity, consumption, [and] social production [...]” (Salamon and Tornatore, 1994: 639).

This paper attempts to illustrate the scope and the nature of changes affecting rural landscapes from the perspective of the social recomposition that characterizes contemporary rural communities. It is necessary to document these changes at a scale where they are the most expressive, namely, that of the residential space. Given the evidence of residential settlement and landscape dynamics previously witnessed at the local scale (Paquette and Domon, 2000a), an even smaller scale exploration becomes

essential. Based on *in situ* observations, sociodemographic and residential history information surveys and the possibilities generated by multivariate analysis (Langlois et al., 1993; Zmyslony and Gagnon, 2000), this study constructs a detailed portrait of the various residential practices observed within a clearly defined territory. In this respect, it shows how these practices appear to be governed by the sociodemographic characteristics of the residents as well as by the landscape contexts under which they are carried out. In doing so, this paper ultimately aims to explore the domestic practices that shape the landscape's evolution as well as the attitudes *vis-à-vis* rurality that support them.

After a brief description of the study area and the methodological framework, classification analyses of the various residential practices are presented. In the discussion, special attention is given to the dynamic expression of these results as well as to new forms of interaction between people and the landscapes emerging in rural territories.

#### **4.2 Methodology**

The methodological framework consists of a detailed examination of the residential scale practices and uses within a clearly defined rural territory. Various empirical materials (*in situ* observations, interviews, analysis of local building permits, etc.) are used to document residential practices and the domestic landscape changes related to them. From such a diverse range of empirical material, it is possible to construct a detailed portrait of domestic landscape practices. To better characterize the context of

these emerging practices, sociodemographic profiles of the local residents and data relative to lot scale visual characteristics have also been collected. Multivariate analysis was used to discern significant relationships existing between the residential practices, their visual landscape contexts and their sociodemographic profiles.

#### 4.2.1 Study Area

Havelock Township, located in the southernmost corner of the province of Quebec (Canada) is approximately one hour's drive from downtown Montreal (Fig. 3.1). As depicted in previous studies of regional typological outlines (Paquette and Domon, 1999) and local residential settlement dynamics (Paquette and Domon, 2000a), this study area of 88 km<sup>2</sup> is characterized by in-depth transformations of an agricultural as well as a sociodemographic nature. From this perspective, Havelock Township is representative of the broader territorial dynamics occurring within many other rural municipalities in transition. As an indication of these changes, the demographic growth of Havelock Township increased by 21.2% between 1961 and 1991, even if its farming population decreased from 63,4% to 29.8% of the total population during this same period<sup>1</sup>. The new migrant population<sup>2</sup> accounts for up to 40% of the actual population of the township (Paquette and Domon, 2000a). Given that the settlement dynamics for a significant part of the migrant population are clearly related to specific landscape contexts (Paquette and Domon, 2000a), it is important to examine how the

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<sup>1</sup> Statistics Canada, 1961 Population census, Cat. 92-525; 1961 Census of agriculture, Province of Quebec, Part 2, Cat. 96-535; 1991 Census of agriculture, Agriculture profile of Quebec; 1991 Census of Canada, Profile of census divisions and subdivisions in Quebec, Part B, Cat. 95-326.

<sup>2</sup> For this paper, the distinction between local and migrant populations is based on the place of birth as well as information on the previous place of residence.

arrival of these migrants and their specific residential practices appear to transform the local landscape. The diversity of landscape features observed in this research area also adds considerable interest to this study and enables us to explore residential practices in a wide range of situations. The agricultural lowlands are concentrated in the northeastern part of the township (Fig. 3.2). These crop lands are surrounded by agro-forested upland areas with elevations ranging from 100 to 340 m. Locations on the summit of Covey Hill and the upper hillsides (Fig. 3.2) offer panoramic views of the region.

Havelock Township shows a predominantly scattered settlement pattern (811 individuals in 1996). While taking into consideration the presence of vacant lots (31) and the inaccessibility of particular locations (12), the resulting database includes a large sample of the population (254 of a total of 297 properties).

#### 4.2.2 Database Development

Between August and October 1998, all of the 254 residential settings retained for study were visited. Three main types of data were collected, namely, residential practices, visual analysis data as well as sociodemographic and residential history information.

##### a) Residential Practices

For the purpose of this paper, residential practices refer to the home's characteristics, the use of exterior residential space and to land use at the lot scale (Tab. X). A first

Table X: Details of residential practices documented including home characteristics, exterior space use and land use at the lot scale. Empirical materials and purposes related to each of them are identified.

Variables	Indicators	Empirical materials	Purposes
Home condition	excellent, good, poor	<i>in situ</i> observation	a, b
Exterior facing	brick, synthetic, wood, stone, other	<i>in situ</i> observation	a, b
Major renovation	present, absent	<i>in situ</i> observation building permits interviews	a,b
Home orientation	facing road, facing view	<i>in situ</i> observation	b
Building renovation	present, absent, no construction	<i>in situ</i> observation building permits interviews	a,b
Distance from the road	less then 5 m, 5-100 m, > 100 m	<i>in situ</i> observation	b
Boundary type	hedge, stone wall, wire fencing	<i>in situ</i> observation	b
Visual link to the road	direct, filtered, none	<i>in situ</i> observation	b
Lawn area <sup>1</sup>	> 80%, 50-80%, < 50%	<i>in situ</i> observation	b
Shrub area <sup>1</sup>	10-30%, < 10%, none	<i>in situ</i> observation	b
Flowers	abundant, frequent, few, absent	<i>in situ</i> observation	b
Flower bed area <sup>1</sup>	10-40%, < 10%, none	<i>in situ</i> observation	b
Flower bed development	recent, well-established	<i>in situ</i> observation	b
Vegetable garden area <sup>1</sup>	< 10%, none	<i>in situ</i> observation	b
Tree area <sup>1</sup>	> 50%, 10-50%, < 10%	<i>in situ</i> observation	b
Spatial distribution of trees	isolated, in rows, grouped, alongside woodlot, woodlot	<i>in situ</i> observation	b
Tree development	recent planting, mature planting	<i>in situ</i> observation	a, b
Property condition	excellent, good, poor	<i>in situ</i> observation	a, b
Ornamental elements	old farming implements, decorative stone walls, pond	<i>in situ</i> observation	b
Garden shed	present, absent	<i>in situ</i> observation	b
Area under forest cover (1997) <sup>2</sup>	< 1%, 1-49%, 50-80%, > 80%	aerial photographs	a
Area of abandoned land (1997) <sup>2</sup>	< 1%, 1-10%, > 10%	aerial photographs	a
Area under cultivation (1997) <sup>2</sup>	< 1%, 1-25%, > 25%	aerial photographs	a
Area under pasture (1997) <sup>2</sup>	< 1%, 1-10%, > 10%	aerial photographs	a

a) primarily indicative of temporal landscape dynamics

b) primarily indicative of spatial appropriation

<sup>1</sup> relative to the overall area of residential use

<sup>2</sup> relative to the overall lot area

set of indicators was outlined based on earlier residential landscape analysis (Langlois et al., 1993; Phipps et al., 1994; Archambault, 1995). Secondly, pre-survey *in situ* validations helped formulate the actual survey design to better reflect the residential landscape's diversity. The methodology underlying the selection of indicators emphasizes the way these attributes are indicative of small-scale domestic landscape changes as well as spatial appropriation.

The home characteristics (condition, exterior facing materials, orientation and distance from the road) were evaluated from *in situ* observations. Additional information on building renovation, as used by Halseth and Rosenberg (1990), was obtained from local building permits granted between 1992 and 1998. This information was subsequently validated through *in situ* observations.

The use of exterior space corresponds to a variety of temporary (flower, flower bed characteristic, vegetable garden, property maintenance, visual link to the road) and more permanent uses (lawn and shrub area; area of tree, their spatial distribution and age; ornamental element; boundary type; garden shed) that express spatial appropriation practices at the residential scale.

Although some indicators result from qualitative assessments (e.g. maintenance evaluation), the methodological framework helps restrict the variability of such evaluations. Therefore, in order to limit the extent of temporal variations, residential practices are revealed through several indicators collected through the evaluation of the same individual during a relatively short period.

Havelock Township's land use for 1997 was interpreted using 1: 15 000 black and white aerial photographs. The land use classification system included seven categories: forest, cultivation, pasture, orchard, abandoned land, marshland, and residential land. Using the IDRISI geographic analysis system (Clark Labs, 1997) and a digitalized cadastral map of Havelock Township, we then evaluated the extent of the dominant land use types (percent area under forest cover, cultivation, pasture and area of abandoned land) at the lot scale<sup>3</sup>.

#### b) Visual Analysis

Four categories of indicators derived from Jacobs et al. (1986) were used for visual analysis: width of the visual field, depth of the visual field (distance to the horizon), prevailing views and visual accessibility from other locations. To complete the visual analysis, topographical entities (summit, upper hillside, etc.) were also identified for each residential setting based on a terminology provided by the ministère de l'Environnement et de la Faune du Québec (Gerardin and Lachance, 1997).

#### c) Sociodemographic and Residential History Information

Derived in part from the work of Kayser (1990), the sociodemographic and residential history information (occupation, place of birth, previous place of residence, etc.) was collected during face-to-face interviews with Havelock residents. Information was successfully obtained for over 70% of the households (181 / 254). Interviews

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<sup>3</sup> In the case of small roadside lots, when the percentage area for all the dominant land use types corresponds to less than 1%, after cartographic validations, we assume that the lot's overall area is under residential land use.

completed and validated residential practices obtained from *in situ* observations or from the examination of construction permits. Informal discussions with residents also gave many insights into residential histories, household situations (eg.: unstable economic conditions) and the reasons for migrating to Havelock. This wealth of qualitative materials enabled us to situate our results within a broader perspective.

#### 4.2.3 Statistical Analyses

Based on the residential practices observed, the 181 lots where sociodemographic information was collected were classified using cluster analysis. Using SPAD software (v. 3.2), this analysis identified relatively homogeneous groups based on the distance between each pair of lots. Clusters are established from active indicators (residential practices). Illustrative variables (landscape contexts and the residents' sociodemographic profiles) are then projected onto multidimensional axes to reveal significant associations between the clusters and potential explanatory factors. For each variable within these clusters, the percentages that diverge significantly from the percentage of the whole population were calculated using a statistical test. Therefore, cluster percentages express the proportion of a variable present in a given group. For their part, the indicators' percentages reveal the relative proportion of a given variable within a cluster in comparison to the internal variability of this variable in the whole population. The higher a given indicator's percentage, the more that indicator is specific to a particular cluster and absent from the others.



### 4.3 Resulting Clusters of Residential Practices

Based on the home's characteristics, the use of exterior residential space and the land-use types collected at the lot scale, seven residential practice groups were obtained through cluster analysis, namely: "*Tree-covered residential lot*"; "*Adjacent road residential lot*"; "*Conventional farming lot*"; "*Well-kept agro-forested lot*"; "*Remote view-oriented lot*"; "*Neglected residential lot*" and "*Neglected agro-forested lot*" (Fig 4.1<sup>4</sup> and Table XI). Significantly associated sociodemographic profiles as well as some landscape contexts are described in the following paragraphs (Table XII and XIII).

#### *Cluster 1: Tree-covered residential lot*

The 28 lots included in this cluster (Fig. 4.1; Tab. XI) are characterized by an absence of farm buildings (85.7%) and few land-use types other than residential. As a result, nearly all these lots (26/28) are small roadside residential lots. The condition of the houses (75.0%) and properties (78.6%) is excellent for the majority of these lots. Trees cover between 10% to 50% (71.4%) or more than 50% (28.6%) of these lots. Most mature trees are clustered (89.3%) or situated close to adjacent woodlots (46.4%). Some lots (14.3%) are themselves considered woodlots. Houses are located between 5 to 100 m from the road and most of them (75.0%) have a filtered visual

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<sup>4</sup> The distribution of symbols in Figure 4.1 refers to the location of residential settings. A clustered distribution generally corresponds to small roadside building settlements while a dispersed distribution corresponds to large lot settlements.

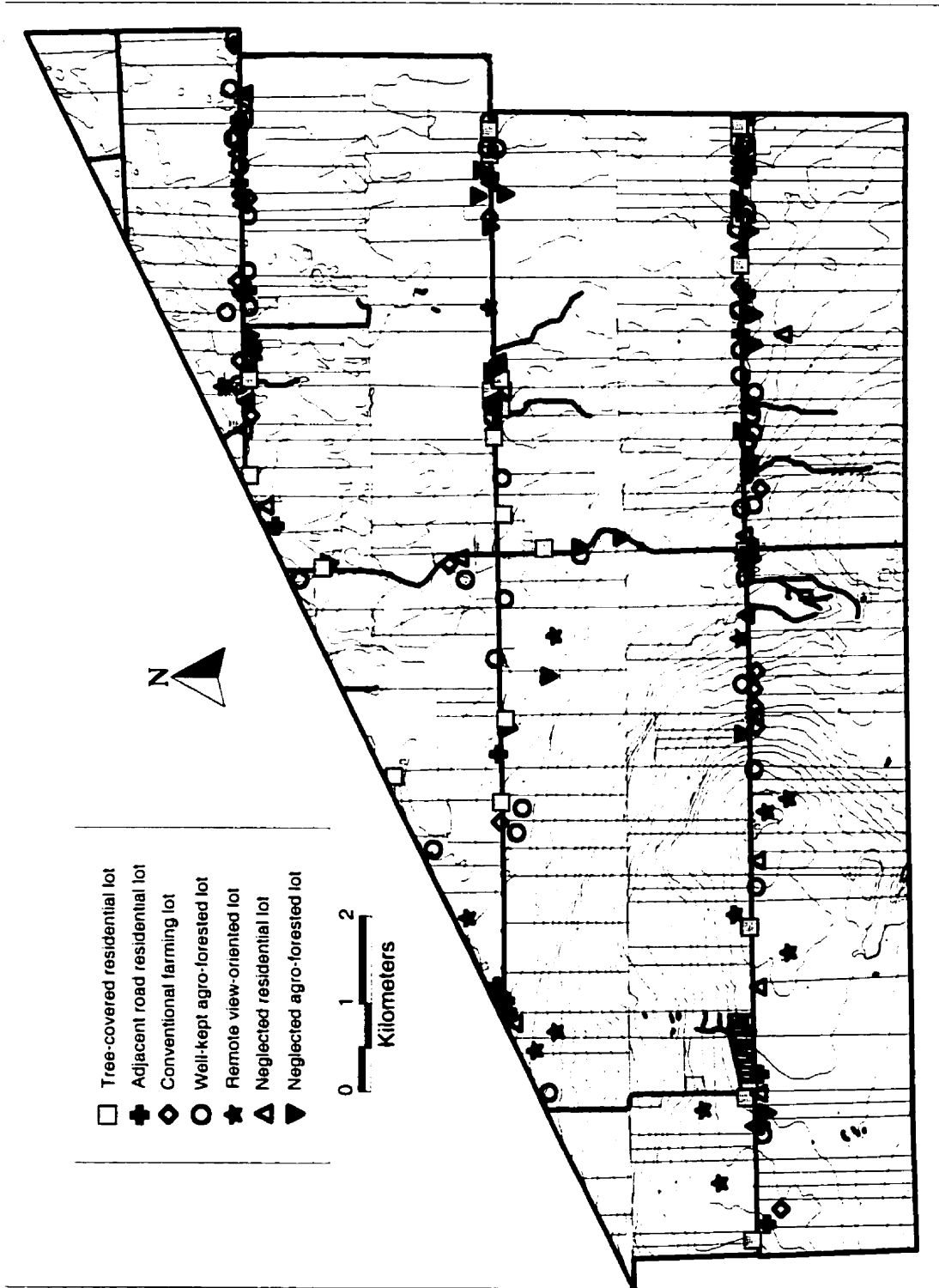


Figure 4.1: Residential practice clusters - Havelock township (N=181).

Table XI: Cluster analysis results derived from the residential practices observed at the lot scale showing percentages relative to the overall population (%GLO), clusters (%CL) and indicators (%IN) (P<0.05).

Residential practices indicators	Overall	Tree-covered		Road adj.		Conv. farming		Well-kept ag.		Remote view-		Neg. resident.		Neg. agro-for.	
	N=181	n=28		n=26		n=18		n=41		n=14		n=35		n=19	
	%GLO	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN
<b>Home condition</b>															
excellent	53.0	75.0	21.9	76.9	20.8	27.8	5.2	x	x	*100.0	*14.6	*25.7	*9.4	*10.5	*2.1
good	34.3	17.9	8.1	x	x	x	x	x	x	0.0	0.0	48.6	27.4	57.9	17.7
poor	12.2	x	x	0.0	0.0	x	x	x	x	x	x	25.7	40.9	31.6	27.3
<b>Exterior facing</b>															
brick	22.7	x	x	x	x	x	x	39.0	39.0	x	x	8.6	7.3	x	x
synthetic	29.8	x	x	x	x	x	x	x	x	7.1	1.9	x	x	x	x
wood	30.9	x	x	15.4	7.1	x	x	x	x	x	x	48.6	30.4	x	x
stone	12.7	0.0	0.0	*42.3	*47.8	x	x	x	x	x	x	x	x	x	x
other	2.2	x	x	x	x	11.1	50.0	x	x	x	x	x	x	x	x
<b>Major renovation</b>															
present	60.2	x	x	x	x	x	x	x	x	x	x	x	x	36.8	6.4
absent	39.8	x	x	x	x	x	x	x	x	x	x	x	x	63.2	16.7
<b>Home orientation</b>															
facing road	89.0	x	x	100.0	16.2	x	x	97.6	24.8	*14.3	*1.2	x	x	x	x
facing view	13.8	0.0	0.0	x	x	x	x	x	x	*78.6	*44.0	2.9	4.0	x	x
<b>Building renovation</b>															
present	19.9	3.6	2.8	x	x	38.9	19.4	*41.5	*47.2	x	x	5.7	5.6	x	x
absent	40.9	*10.7	*4.1	23.1	8.1	x	x	58.5	32.4	71.4	13.5	25.7	12.2	63.2	16.2
no construction	39.2	*85.7	*33.8	65.4	23.9	*5.6	*1.4	*0.0	*0.0	x	x	*68.6	*33.8	10.5	2.8
<b>Distance from the road</b>															
less than 5 m	4.4	x	x	19.2	62.5	x	x	x	x	x	x	x	x	x	x
between 5 to 100 m	75.1	*100.0	*20.6	x	x	x	x	x	x	*0.0	*0.0	88.6	22.8	x	x
more than 100 m	20.4	*0.0	*0.0	0.0	0.0	x	x	x	x	*100.0	*37.8	5.7	5.4	42.1	21.6
<b>Boundary type</b>															
hedge	22.7	*50.0	*34.2	x	x	x	x	x	x	0.0	0.0	x	x	0.0	0.0
stone wall	8.3	x	x	x	x	x	x	19.5	53.3	x	x	x	x	x	x
wire fencing	14.4	x	x	x	x	33.3	23.1	x	x	x	x	x	x	x	x
<b>Visual link to the road</b>															
direct	49.7	25.0	7.8	*92.3	*26.7	x	x	x	x	*7.1	*1.1	x	x	x	x
filtered	46.4	*75.0	*25.0	*7.7	*2.4	x	x	x	x	x	x	x	x	x	x
none	3.9	x	x	x	x	x	x	x	x	*50.0	*100.0	x	x	x	x
<b>Lawn area</b>															
more than 80%	68.5	x	x	84.6	17.7	x	x	x	x	x	x	x	x	*15.8	*2.4
between 50 - 80%	22.1	x	x	x	x	x	x	x	x	x	x	x	x	47.4	22.5
less than 50%	9.4	0.0	0.0	x	x	x	x	x	x	x	x	x	x	*36.8	*41.2
<b>Shrub area</b>															
between 10 - 30%	2.7	x	x	11.5	60.0	x	x	x	x	x	x	x	x	x	x
less than 10%	72.9	x	x	x	x	50.0	6.8	87.8	27.3	x	x	*48.6	*12.9	x	x
none	24.3	10.7	6.8	3.9	2.3	50.0	20.5	12.2	11.4	x	x	*51.4	*40.9	x	x
<b>Flowers</b>															
abundant	19.9	x	x	42.3	30.6	x	x	x	x	x	x	*0.0	*0.0	0.0	0.0
frequent	31.5	53.6	26.3	x	x	x	x	48.8	35.1	x	x	*2.9	*1.8	5.3	1.8
few	29.8	x	x	x	x	50.0	16.7	x	x	7.1	1.9	42.9	27.8	x	x
absent	18.8	0.0	0.0	0.0	0.0	x	x	*0.0	*0.0	x	x	*54.3	*55.9	47.4	26.5
<b>Flower bed area</b>															
between 10 - 40%	7.2	x	x	23.1	46.2	x	x	x	x	x	x	x	x	x	x
less than 10%	53.6	*82.1	*23.7	76.9	20.6	x	x	*90.2	*38.1	x	x	*5.7	*2.1	*5.3	*1.0
none	39.2	*10.7	*4.2	*0.0	*0.0	61.1	15.5	*4.9	*2.8	x	x	*94.3	*46.5	*94.7	*25.4
<b>Flower bed development</b>															
recent	22.7	x	x	38.5	24.4	x	x	39.0	39.0	x	x	*0.0	*0.0	0.0	0.0
well-established	28.7	x	x	50.0	25.0	x	x	x	x	57.1	15.4	*2.9	*1.9	5.3	1.9
<b>Vegetable garden area</b>															
less than 10%	30.4	x	x	x	x	x	x	*51.2	*38.2	x	x	x	x	10.5	3.6
none	66.9	x	x	x	x	x	x	46.4	15.7	x	x	x	x	x	x

Table XI (continued)

Residential practices indicators	Overall		Tree-covered		Road adj.		Conv. farming		Well-kept ag.		Remote view-		Neg. resident.		Neg. agro-for.		
	N=181		n=28		n=26		n=18		n=41		n=14		n=35		n=19		
	%GLO	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN
<b>Tree area</b>																	
more than 50%	8.3	*28.6	*53.3	x	x	x	x	x	x	x	x	x	x	x	x	x	x
between 10 - 50%	43.1	*71.4	*25.6	x	x	x	x	x	x	x	x	x	x	x	x	x	x
less than 10%	47.5	*0.0	*0.0	65.4	19.8	72.2	15.1	x	x	x	x	x	x	x	x	x	x
<b>Spatial distribution of trees</b>																	
isolated	76.2	x	x	x	x	x	x	87.8	26.1	x	x	x	x	x	x	57.9	8.0
in rows	38.1	x	x	x	x	x	x	x	x	x	x	x	x	x	x	15.8	4.4
grouped	54.7	*89.3	*25.3	x	x	33.3	6.1	x	x	x	x	34.3	12.1	x	x	x	x
alongside woodlot	19.9	*46.4	36.1	x	x	x	x	x	x	x	x	8.6	8.3	x	x	x	x
woodlot	4.4	14.3	50.0	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<b>Tree development</b>																	
recent planting	31.5	x	x	*65.4	*29.8	x	x	x	x	x	x	x	x	x	x	*0.0	*0.0
mature planting	68.5	89.3	20.2	*26.9	*5.7	x	x	80.5	26.6	x	x	54.3	15.3	x	x	x	x
<b>Property condition</b>																	
excellent	55.8	78.6	21.8	*92.3	*23.8	22.2	4.0	75.6	30.7	x	x	*28.6	*9.9	*0.0	*0.0	x	x
good	28.7	10.7	5.8	*3.9	*1.9	*66.7	*23.1	17.1	13.5	x	x	48.6	32.7	x	x	x	x
poor	14.9	x	x	x	x	x	x	x	x	x	x	x	x	x	x	*57.9	*40.7
<b>Ornamental elements</b>																	
old farming implements	11.6	x	x	x	x	x	x	22.0	42.9	x	x	x	x	x	x	x	x
decorative stone wall	8.8	x	x	26.9	43.8	x	x	x	x	x	x	0.0	0.0	x	x	x	x
pond	3.3	10.7	50.0	x	x	x	x	x	x	21.4	50.0	x	x	x	x	x	x
<b>Garden shed</b>																	
present	20.4	*50.0	*37.8	x	x	x	x	*0.0	*0.0	x	x	x	x	x	x	0.0	0.0
absent	79.6	x	x	x	x	x	x	*100.0	*28.5	x	x	x	x	x	x	100.0	13.2
<b>Area under forest cover (1997)</b>																	
< 1%	46.4	*89.3	*29.8	*88.5	*27.4	*0.0	*0.0	*12.2	*6.0	*0.0	*0.0	*88.6	*36.9	*0.0	*0.0	x	x
1% - 49%	14.4	x	x	0.0	0.0	*88.9	*61.5	x	x	x	x	0.0	0.0	0.0	0.0	x	x
50%-80%	30.4	*0.0	*0.0	11.5	5.5	11.1	3.6	*73.2	*54.6	57.1	14.6	*5.7	*3.6	52.6	18.2	x	x
> 80%	8.8	x	x	x	x	x	x	x	x	x	x	x	x	x	x	*47.4	*56.3
<b>Area of abandoned land (1997)</b>																	
< 1%	53.6	*89.3	*25.8	*92.3	*24.7	*11.1	*2.1	*14.6	*6.2	28.6	4.1	*91.4	*33.0	21.1	4.1	x	x
1% - 10%	35.4	*3.6	*1.6	*7.7	*3.1	x	x	*75.6	*48.4	x	x	*5.7	*3.1	57.9	17.2	x	x
> 10%	11.1	x	x	0.0	0.0	33.3	30.0	x	x	x	x	x	x	x	x	x	x
<b>Area under cultivation (1997)</b>																	
< 1%	53.6	*96.4	*27.8	*96.2	*25.8	*11.1	*2.1	*7.3	*3.1	21.4	3.1	*97.1	*35.1	*15.8	*3.1	x	x
1% - 25%	30.4	*0.0	*0.0	*0.0	*0.0	11.1	3.6	*73.2	*54.6	x	x	*2.9	*1.8	*79.0	*27.3	x	x
> 25%	16.0	3.6	3.5	x	x	*77.8	*48.3	x	x	x	x	*0.0	*0.0	x	x	x	x
<b>Area under pasture (1997)</b>																	
< 1%	57.5	*92.9	*25.0	*100.0	*25.0	*0.0	*0.0	*19.5	*7.7	x	x	*100.0	*33.7	*21.1	*3.9	x	x
1% - 10%	21.0	*0.0	*0.0	*0.0	*0.0	x	x	*43.9	*47.4	x	x	*0.0	*0.0	*68.4	*34.2	x	x
> 10%	21.6	7.1	5.1	*0.0	*0.0	*83.3	*38.5	36.6	38.5	x	x	*0.0	*0.0	x	x	x	x

(\*) P&lt;0,001

(x) non statistically significant

Table XII: Sociodemographic indicators associated with residential practice clusters showing percentages relative to the overall population (%GLO), clusters (%CL) and indicators (%IN) (P&lt;0.05).

Sociodemographic indicators	Overall	Tree-covered		Road adj.		Conv. farming		Well-kept ag.		Remote view-		Neg. resident.		Neg. agro-for.	
	N=181	n=28	n=28	n=26	n=26	n=18	n=18	n=41	n=41	n=14	n=14	n=35	n=35	n=19	n=19
	%GLO	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN
<b>Occupation</b>															
full-time farmer	9.9	0.0	0.0	x	x	x	x	19.5	44.4	x	x	x	x	26.3	27.8
part-time farmer	12.2	0.0	0.0	x	x	27.8	22.7	*29.3	*54.6	x	x	0.0	0.0	x	x
farm worker	3.3	x	x	11.5	50	x	x	x	x	x	x	x	x	x	x
small business	5.0	x	x	x	x	x	x	x	x	x	x	x	x	x	x
salaried worker	42.0	x	x	x	x	x	x	x	x	x	x	x	x	x	x
professional	8.3	x	x	x	x	x	x	x	x	35.7	33.3	0.0	0.0	x	x
retired	28.7	x	x	x	x	x	x	x	x	x	x	x	x	x	x
without earned income	1.7	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<b>Place of work</b>															
Havelock	26.5	7.1	4.2	x	x	x	x	39.0	33.3	x	x	14.3	10.4	x	x
adjacent municipalities	8.8	21.43	37.5	x	x	x	x	x	x	x	x	x	x	x	x
Montréal area	8.8	x	x	x	x	x	x	x	x	x	x	x	x	x	x
greater Montreal area	17.1	x	x	0.0	0.0	x	x	x	x	x	x	x	x	x	x
without fixed place of work	6.6	x	x	x	x	x	x	x	x	x	x	x	x	x	x
not applicable	27.6	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<b>Place of birth</b>															
Havelock	35.9	x	x	57.7	23.1	x	x	x	x	x	x	x	x	x	x
adjacent municipalities	8.3	x	x	19.2	33.3	x	x	x	x	x	x	x	x	x	x
Montréal area	6.1	x	x	x	x	x	x	x	x	x	x	x	x	x	x
greater Montreal area	23.2	x	x	7.7	4.8	x	x	x	x	x	x	40.0	33.3	x	x
other places	19.3	x	x	x	x	x	x	x	x	42.9	17.1	x	x	36.8	20
<b>Previous place of residence</b>															
Havelock	38.1	x	x	65.4	24.6	x	x	x	x	14.3	2.9	x	x	x	x
adjacent municipalities	6.6	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Montréal area	9.9	x	x	x	x	x	x	x	x	x	x	x	x	x	x
greater Montreal area	34.3	x	x	11.5	4.8	x	x	x	x	64.3	14.5	x	x	x	x
other places	5.5	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<b>Residential occupation type</b>															
permanent	85.6	x	x	100.0	16.8	x	x	x	x	*42.9	*3.9	x	x	x	x
weekly	3.3	x	x	x	x	x	x	x	x	x	x	x	x	x	x
seasonal	3.3	x	x	x	x	x	x	x	x	x	x	x	x	x	x
occasional	1.1	x	x	x	x	x	x	x	x	x	x	x	x	x	x
transitional (toward permanence)	2.8	x	x	x	x	x	x	x	x	x	x	x	x	x	x
non-resident	2.8	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<b>Age group</b>															
18-24 years	0.6	x	x	x	x	x	x	x	x	x	x	x	x	x	x
25-44 years	34.8	x	x	x	x	55.6	15.8	x	x	x	x	51.4	28.6	x	x
45-64 years	41.4	x	x	x	x	x	x	x	x	x	x	*17.1	*8.0	x	x
65 years and over	22.7	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<b>Family acquisition</b>															
present	37.6	x	x	*73.1	*27.9	x	x	x	x	x	x	22.9	11.8	x	x
absent	62.4	x	x	*26.9	*6.2	x	x	x	x	x	x	77.1	23.9	x	x
<b>Year of personal acquisition</b>															
before 1960	9.4	x	x	x	x	27.8	29.4	x	x	x	x	x	x	x	x
1960-69	7.2	x	x	x	x	x	x	14.6	46.2	x	x	x	x	x	x
1970-79	22.1	x	x	38.5	25	x	x	x	x	x	x	x	x	x	x
1980-89	24.9	x	x	x	x	x	x	x	x	x	x	x	x	x	x
1990 and after	26.0	x	x	7.7	4.3	x	x	x	x	x	x	*51.4	*38.3	x	x
<b>Relatives</b>															
present	55.8	x	x	*92.3	*23.8	x	x	x	x	28.6	4.0	x	x	31.6	5.9
absent	44.2	x	x	*7.7	*2.5	x	x	x	x	71.4	12.5	x	x	68.4	16.3

(\*) P&lt;0.001

(x) non statistically significant

Table XIII: Visual analysis indicators associated with residential practice clusters showing percentages relative to the overall population (%GLO), clusters (%CL) and indicators (%IN) (P<0.05).

Visual indicators	Overall	Tree-covered		Road adj.		Conv. farming		Well-kept ag.		Remote view-		Neg. resident.		Neg. agro-for.	
	N=181	n=28		n=26		n=18		n=41		n=14		n=35		n=19	
	%GLO	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN	%CL	%IN
<b>Visual field</b>															
open	60.2	*25.0	*6.4	80.8	19.3	x	x	x	x	x	x	x	x	x	x
filtered	13.3	x	x	x	x	x	x	x	x	x	x	x	x	x	x
closed	26.5	*57.1	*33.3	7.7	4.2	x	x	x	x	x	x	x	x	x	x
<b>Depth of the visual field</b>															
< 100 m	10.5	*35.7	*52.6	0.0	0.0	x	x	2.4	5.3	x	x	x	x	x	x
100 m. - 2 km	43.7	x	x	x	x	x	x	x	x	14.3	2.5	x	x	x	x
> 2 km	45.9	*17.9	*6.0	x	x	x	x	x	x	71.4	12.1	x	x	x	x
<b>Prevailing view</b>															
elevated	10.5	x	x	x	x	x	x	x	x	*57.1	*42.1	x	x	x	x
horizon	36.5	*10.7	*4.6	x	x	x	x	51.2	31.8	x	x	x	x	x	x
closed	51.9	*82.1	*24.5	x	x	x	x	x	x	21.4	3.2	x	x	x	x
<b>Topographical entity</b>															
summit	9.9	x	x	x	x	x	x	x	x	28.6	22.2	x	x	x	x
upper hillside	8.3	x	x	x	x	x	x	x	x	35.7	33.3	x	x	x	x
lower hillside	38.7	x	x	61.5	22.9	16.7	4.3	x	x	14.3	2.9	x	x	x	x
hillock	3.9	x	x	x	x	x	x	x	x	x	x	x	x	x	x
boulder	11.1	x	x	x	x	x	x	x	x	x	x	x	x	x	x
river terrace	11.1	x	x	x	x	x	x	x	x	x	x	x	x	x	x
small valley	7.7	17.86	35.71	x	x	x	x	0.0	0.0	x	x	x	x	x	x
plain	8.8	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<b>Visual accessibility</b>															
high	7.7	x	x	x	x	27.8	35.7	x	x	x	x	x	x	x	x
intermediary	24.9	7.1	4.4	x	x	x	x	36.6	33.3	x	x	x	x	x	x
low	58.6	75	19.81	x	x	x	x	x	x	28.6	3.8	x	x	x	x
none	8.8	x	x	x	x	x	x	0.0	0.0	*42.9	*37.5	x	x	x	x

(\*) P<0,001

(x) non statistically significant

link to it. Other characteristics of these lots include the presence of hedges (50.0%), flowers(53.6%), garden sheds (50.0%) and ponds (10.7%).

The profile of the residents is characteristic of a residential lot. None of these residents are farmers while a greater part of them (21.4%) work in neighbouring municipalities (Franklin, Hemmingford or Saint-Chrysostome) (Tab. XII).

*Cluster 2: Adjacent road residential lot*

As in the previous cluster, few lots (2/26) in this category have farm buildings or land use types other than residential. The condition of houses (76.9%) and properties (92.3%) is also excellent for a large majority of these lots (Tab. XI). All the houses face the road. A significantly higher proportion of these residences (19.2%) stands less than 5 m from the road while none of them are located more than 100 m from it. A direct visual link to the road characterizes most (92.3%) of these houses. The exterior house facing is significantly more often stone (42.3%) and less often wood (15.4%). The exterior space is dominated by lawn (84.6%), flowers (42.3%) and shrubs (11.5%). Flower bed areas are significantly large (23.1%) and well-established (50.0%). Decorative stone walls are observed in many lots (26.9%). The tree area is significantly smaller and most often a more recent planting (65.4%).

The sociodemographic profile of the residents associated with this cluster is characterized by local origins (Tab. XII). Significantly higher proportions of the residents are natives of Havelock (57.7%) or its adjacent municipalities (19.2%).

They indicate Havelock as their previous place of residence (65.4%), have relatives nearby (92.3%) and obtained lots through family acquisition (73.1%). All these residents live there on a permanent basis.

*Cluster 3: Conventional farming lot*

This cluster includes 18 lots characterized by agricultural land use (Tab. XI). A large majority of them have more than 25% of their acreage under cultivation (77.8%) and more than 10% under pasture (83.3%). A larger proportion of farm buildings in this cluster are renovated (38.9%). The exterior space of these lots is significantly characterized by few shrubs, flowers (50.0%) or trees. Only 27.8% of these lots have a house in excellent condition while a higher proportion (66.7%) show good property maintenance. Finally, wire fences are the predominant boundary element (33.3%).

Part-time farmers (27.8%), residents aged between 25-44 years (55.6%) and those who purchased lots before 1960 (27.8%) are significantly associated with this cluster (Tab. XII).

*Cluster 4: Well-kept agro-forested lot*

A significantly large proportion of these agro-forested lots (41) (Fig. 4.1) have up to 25% of their acreage under cultivation (73.2%), more than 10% of it under pasture (36.6%) and between 50 to 80% under forest cover (73.2%) (Tab. XI). Nearly all the houses face the road (97.6%), and a larger number of them have an exterior facing of bricks (39.0%). Farm buildings are present on all these lots, and a relatively high



proportion of them have been renovated (41.5%). The exterior space is characterized by up to 10% of the area covered by shrubs (87.8%). Flowers are generally frequent (48.8%), with flower beds (90.2%) more recently established. Vegetable gardens are present in a relatively higher number of lots (51.2%). Trees remain isolated (87.8%) and mature (80.5%). Old farming implements are a relatively common ornamental element (22.0%) for these lots while stone walls are largely used as boundary elements (19.5%). Properties are generally in excellent condition (75.6%).

Full-time (19.5%) and part-time (29.3%) farmers are significantly associated with this cluster (Tab. XII). A larger part of its residents work in Havelock (39.0%) and have purchased lots during the 1960's (14.6%).

*Cluster 5: Remote view-oriented lot*

The 14 lots included in this cluster have up to 80% of their acreage under forest cover (57.1%) as their defining characteristic. (Tab. XI). Houses are in excellent condition and stand more than 100 m from the road. A significantly higher proportion of them are not visible from the road (50.0%) and a large majority are view-oriented (78.6%). Synthetic materials are four times less significantly used (7.1%) as exterior facing. Farm buildings are mostly unrenovated (71.4%). A larger part of these lots are also characterized by the presence of mature flower beds (57.1%) and ponds (21.4%).

The sociodemographic profile of these residents is typical of migrant populations (Tab. XII). A higher percentage of them are native to outside regions (42.9%), have mentioned the greater Montreal area as their previous place of residence (64.3%), are

professionals (35.7%) and have no relatives in the Havelock region (71.4%). Moreover, a lesser proportion of these individuals are permanent residents (42.9%).

Given that a significantly important proportion of these lots are located on summits (28.6%) or upper hillside (35.7%) locations (Tab. XIII - Fig. 4.1), the landscape context of this cluster is quite distinct. This cluster is distinguished by elevated prevailing views (57.1%) and by a depth of visual field of more than 2 km (71.4%). No visual accessibility characterized 42.9% of these lots.

*Cluster 6: Neglected residential lot*

The 35 lots in this cluster represent another type of distinct residential lot (Tab. XI) considering that a major part of them have less than 1% of their lot's area under the dominant land use types (forest, cultivation, etc.). They are also characterized by few farm buildings (68.6%). These lots are distinguished by a significantly higher proportion of houses in poor condition (25.7%), a proportion that corresponds to more than 40% of the houses in this category (Tab. XI). Wood is the most used exterior facing material (42.3%). The fact that a significantly lower part of these houses are view-oriented (2.9%) is also a noteworthy result. The majority (88.6%) of these homes stand between 5 to 100 m from the road. The exterior space is characterized by an absence of shrubs (51.4%), flowers (54.3%), and by the presence of less mature trees (54.3%). Finally, the general condition of these properties is more often good (48.6%) than excellent (28.6%).

A high proportion of these residents are native to the Montreal region (40.0%), aged between 25 to 44 (51.4%), and have purchased their lots recently (1990 and later), mostly from individuals outside their family (77.1%) (Tab. XII). None of these residents are part-time farmers or professionals while a smaller part of them work in Havelock (14.3%). In addition to these characteristics, *in situ* observations and informal interviews suggest that most of these residents have poorer living conditions indicative of low income or unemployment situations.

*Cluster 7: Neglected agro-forested lot*

The agro-forested character of the 19 lots included in this cluster is revealed by the fact that a significantly larger proportion of them has more than 80% of their area under forest cover (47.4%). A maximum of 25% of their acreage is under cultivation (79.0%) and up to 10% under pasture (68.4%) (Tab. XI). A larger proportion of the houses in this cluster are in good (57.9%) or poor (31.6%) condition, while home or farm building renovations are relatively absent (63.2%). A significantly higher part of these homes stand more than 100 m from the road (42.1%). The exterior space is characterized by significantly smaller lawn areas and the absence of flowers (47.4%) and flower beds (94.7%). Moreover, a lower proportion of these lots has vegetable gardens (10.5%) and trees, either isolated (57.9%) or in rows (15.8%). Generally, these lots are in poor condition (57.9%).

The sociodemographic profile of the residents reveals (Tab. XII) a larger proportion of individuals who are native to other places (36.8%) and have no relatives in the

Havelock vicinity (68.4%). In addition, full-time farmers appear to be significantly correlated to this cluster (26.3%), although they represent only 27.8% of all the full-time farmers in the population sample.

#### 4.4 Discussion

Despite the variety of residential practices observed (Fig. 4.2), clustering analysis results reveal relatively well-defined portraits of rural domestic uses. From these portraits and the dominant tendencies in lot vocation (ex.: residential, agricultural) or evolution (ex.: revival, decline ), we can draw four domestic landscape trajectories (Fig. 4.2). Although not mutually exclusive, these trajectories significantly shape the landscape dynamic processes. They are designated as the “*Non-farming residential lot trajectory*”, the “*Farming lot trajectory*”, the “*Landscape aesthetic lot trajectory*” and the “*Declining lot trajectory*”.

##### *Non-farming residential lot trajectory*

The proliferation of small, roadside lots is one of the most drastic changes characterizing the evolution of current rural landscapes (Hart, 1998). In this paper, the “*Tree-covered*” and the “*Adjacent Road*” residential lot clusters greatly exemplify this trend. In contrast to traditional lot settlement patterns, given their frequent numerical occurrence (54/181) and their visual proximity to the road, the recent development (Paquette and Domon, 2000a) of these non-farming residential lots has greatly modified the visual appearance of the rural landscapes.



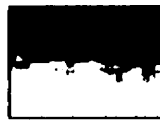




Residential practices	Sociodemographic profiles	Landscape contexts	Domestic landscape trajectories
<p><b>Tree-covered residential lot</b></p> 	<ul style="list-style-type: none"> <li>- Residential lot</li> <li>- Excellent condition</li> <li>- Abundant mature trees</li> <li>- Flared visual link to road</li> <li>- Frequent flowers</li> <li>- Garden shed</li> <li>- Abundant flowers and shrubs</li> <li>- Few trees</li> </ul>	<ul style="list-style-type: none"> <li>- No farmers</li> <li>- Residents work in adjacent municipality</li> <li>- Lot obtained through family acquisition</li> <li>- Permanent residents</li> <li>- Open visual field</li> <li>- Closed visual field</li> <li>- Low visual accessibility</li> </ul>	<p><b>Non-farming residential lot trajectory</b></p> <ul style="list-style-type: none"> <li>- High visual accessibility</li> <li>- Prevailing view of horizon</li> <li>- Panoramic view</li> <li>- No visual accessibility</li> </ul>
<p><b>Adjacent road residential lot</b></p> 	<ul style="list-style-type: none"> <li>- Residential lot</li> <li>- Excellent condition</li> <li>- House close to road</li> <li>- Direct visual link to road</li> <li>- Large lawn</li> <li>- Good overall condition</li> <li>- Abundant flowers and trees</li> <li>- Wire fence</li> </ul>	<ul style="list-style-type: none"> <li>- Part-time farmers</li> <li>- Aged 25-44</li> <li>- Lot purchased before 1980</li> <li>- Residents work in farm area</li> <li>- Full and part-time farmers</li> <li>- Native to outside area</li> </ul>	<p><b>Farming lot trajectory</b></p> <ul style="list-style-type: none"> <li>- Prevailing view of horizon</li> <li>- Panoramic view</li> <li>- No visual accessibility</li> </ul>
<p><b>Conventional farming lot</b></p> 	<ul style="list-style-type: none"> <li>- Crop and pasture land use</li> <li>- Renovated farm buildings</li> <li>- House facing road</li> <li>- House facing road</li> <li>- Renovated farm buildings</li> <li>- Frequent flowers and trees</li> <li>- Good overall condition</li> <li>- Old farming implements, stone walls</li> </ul>	<ul style="list-style-type: none"> <li>- Part-time farmers</li> <li>- Aged 25-44</li> <li>- Lot purchased before 1980</li> <li>- Residents work in farm area</li> <li>- Full and part-time farmers</li> <li>- Native to outside area</li> </ul>	<p><b>Farming lot trajectory</b></p> <ul style="list-style-type: none"> <li>- Prevailing view of horizon</li> <li>- Panoramic view</li> <li>- No visual accessibility</li> </ul>
<p><b>West-facing agro-forested lot</b></p> 	<ul style="list-style-type: none"> <li>- Forest land use</li> <li>- Excellent condition</li> <li>- Poor house condition</li> <li>- House facing view</li> <li>- Few synthetic materials</li> <li>- Farm buildings not renovated</li> <li>- Mature flower beds</li> <li>- Ponds</li> </ul>	<ul style="list-style-type: none"> <li>- From urban areas</li> <li>- Aged 25-44</li> <li>- Not farmers or professionals</li> <li>- No relatives</li> <li>- Few permanent residents</li> <li>- Summit location</li> <li>- Panoramic view</li> <li>- No visual accessibility</li> </ul>	<p><b>Landscaping and/or no lot trajectory</b></p> <ul style="list-style-type: none"> <li>- No significant context</li> <li>- No significant context</li> </ul>
<p><b>Remote view-oriented lot</b></p> 	<ul style="list-style-type: none"> <li>- Forest, crop and pasture land use</li> <li>- Few renovations</li> <li>- Absence of flowers</li> <li>- Smaller lawn, few vegetable gardens</li> <li>- Few trees in rows or isolated specimens</li> <li>- Poor overall condition</li> </ul>	<ul style="list-style-type: none"> <li>- From urban areas</li> <li>- Aged 25-44</li> <li>- Not farmers or professionals</li> <li>- No relatives</li> <li>- Full-time farmers</li> <li>- Purchased lot during 90 s from outside family</li> <li>- No significant context</li> </ul>	<p><b>Overgrown lot trajectory</b></p> <ul style="list-style-type: none"> <li>- No significant context</li> <li>- No significant context</li> </ul>
<p><b>Neglected residential lot</b></p> 	<ul style="list-style-type: none"> <li>- Forest, crop and pasture land use</li> <li>- Few renovations</li> <li>- Absence of flowers</li> <li>- Smaller lawn, few vegetable gardens</li> <li>- Few trees in rows or isolated specimens</li> <li>- Poor overall condition</li> </ul>	<ul style="list-style-type: none"> <li>- From urban areas</li> <li>- Aged 25-44</li> <li>- Not farmers or professionals</li> <li>- No relatives</li> <li>- Full-time farmers</li> <li>- Purchased lot during 90 s from outside family</li> <li>- No significant context</li> </ul>	<p><b>Overgrown lot trajectory</b></p> <ul style="list-style-type: none"> <li>- No significant context</li> <li>- No significant context</li> </ul>
<p><b>Neglected agro-forested lot</b></p> 	<ul style="list-style-type: none"> <li>- Forest, crop and pasture land use</li> <li>- Few renovations</li> <li>- Absence of flowers</li> <li>- Smaller lawn, few vegetable gardens</li> <li>- Few trees in rows or isolated specimens</li> <li>- Poor overall condition</li> </ul>	<ul style="list-style-type: none"> <li>- From urban areas</li> <li>- Aged 25-44</li> <li>- Not farmers or professionals</li> <li>- No relatives</li> <li>- Full-time farmers</li> <li>- Purchased lot during 90 s from outside family</li> <li>- No significant context</li> </ul>	<p><b>Overgrown lot trajectory</b></p> <ul style="list-style-type: none"> <li>- No significant context</li> <li>- No significant context</li> </ul>

Figure 4.2: Overview of the residential practice clusters, sociodemographic profiles, landscape contexts and resulting domestic landscape trajectories

These small residential lot clusters are characterized by homes located close to the road and excellent house and property maintenance, along with a large quantity of flowers. Moreover, they are distinguished by hedge boundaries and garden sheds (for the "*Tree-covered*" lot cluster) as well as by large lawn areas (for the "*Adjacent Road*" lot cluster). The exterior house facing for this cluster is typically other than wood. As remarked in other works, (Domon, 1994, Sullivan, 1994, Hart, 1998), these non-farming residential settings tend to introduce suburban dwelling models into rural landscapes. In this respect, the decline of traditional architectural characteristics (e.g.: wood facing) in rural construction as well as the standardization of building methods contributes to the loss of rural landscapes distinctiveness (Domon, 1994).

Despite these common features, the clusters discussed here remain distinct with regard to the importance and the maturity of trees. While one cluster is characterized by residential lots with few young trees, the other cluster includes lots with large areas of mature trees that occasionally form woodlots (Tab. XI). The quantity and the nature of the trees found on these lots (Tab. XI) seems to create differentiated landscape contexts (Tab. XIII) that are associated with particular resident profiles (Tab. XII).

On the one hand, the treeless "*Adjacent Road*" residential lots are characterized by an open visual field (Tab. XIII) which offers a direct visual link to the road (Tab. XI). More interestingly, the profile of the residents associated with these highly accessible domestic places in close proximity to the road show many traits characteristic of the

local population. In addition to their local origins, these long-time residents have strong links to their community with nearly all having relatives in the vicinity (Tab. XII). Therefore, the connection between the appearance of these residential lots and their residents profiles leads to their recognition as community-oriented domestic places.

On the other hand, the “*Tree-covered*” lots generate closed spaces with low visual accessibility (Tab. XIII). With regard to these domestic places, the trees provide greater privacy. Even if none of these residents are farmers, based on these characteristics, one would assume that they come from migrant population. However, our results show no significant association to either the local or migrant populations (Tab. XII). Local residents and migrants are associated to these lots in nearly similar proportions (46% vs 36% respectively). In this case, the proximity to nature and the need to retreat into more private and intimate domestic spaces seems to be shared by local as well as migrant residents. However, as earlier results suggest (Paquette and Domon, 2000a), when compared to the “*Adjacent Road*” lot cluster, we should expect that the presence of migrant residents, even if not in statistically significant proportions, does not seem a fortuitous occurrence.

#### *Farming lot trajectories*

The residential practices of both the “*Conventional farming lot*” and the “*Well-kept agro-forested lot*” clusters are obviously influenced by farming production. For these clusters, the proportion of improved areas for farming as well as the proportion of

farm buildings being renovated reaches some of the highest values (Tab. XI). The agricultural character of the "*Conventional farming lot*" cluster is even more accentuated by the large areas under cultivation and pasture (Tab. XI).

Other residential uses appear to distinguish these clusters more markedly. In fact, the ornamental practices observed in the "*Conventional farming lot*" cluster are minimal (particularly the presence of flowers, shrubs and trees), indeed even secondary compared with agricultural practices (Table XI). However, the overall property condition of these lots is good. For the "*Well-kept agro-forested lot*" cluster, residents have more interest in beautification activities and the appearance of their domestic places. The presence of shrubs, plantings and decorative elements as well as the persistence of traditional farming landmarks such as isolated mature trees and stone walls reflect this tendency.

Before assessing these domestic practices from a temporal dynamic perspective, it is essential to carry out a detailed examination of the sociodemographic profiles of the residents. At first glance, given that full-time and part-time farmers as well as residents who purchased their lots before or during the 1960's are significantly associated to these clusters, the results seem to have a more local character (Tab. XII). However, the sociodemographic profiles of these residents are more complex.

For example, in the "*Conventional farming lot*" cluster, when considering both the residents aged 25-44 and those who owned their lots before 1960, the largest proportion of these residents (8/13) refers to new family members that now have



farming activities or to retired farmers. All of these individuals are from Havelock Township. Another noteworthy result is the significant association between the “*Well-kept agro-forested lot*” cluster and residents who work in Havelock. A large proportion of these residents (13/16) are locals. More essential, however, is the fact that the sociodemographic profiles of both these clusters failed to show any statistically significant presence of the local population (Tab. XII). Moreover, a detailed examination of our nominative survey results shows that the proportions of local and migrant populations within these clusters are quite comparable (9/18 and 20/41 respectively).

Nevertheless, is it possible to distinguish a particular profile for residents carrying out less widespread domestic practices? When comparing the proportion of local versus migrant residents for lots where vegetable gardens (8 vs 13), decorative elements (4 vs 5) or stone walls (4 vs 4) are observed, both these residents appear to participate in similar domestic practices.

Rather than the origins of the residents, it is the extent of agricultural activities that seems a determining factor in the residential practices observed in the present clusters. As shown by areas under cultivation and pasture in the “*Conventional farming lot*” cluster, the more these farming activities seem important, the less ornamental residential practices are significant. In such a context, changes related to these conventional farmsteads are more inclined to affect farming operations (land use dynamics, farm building renewal, crop rotation, etc.) than specific domestic uses. Therefore, from a domestic scale perspective, these farming lots seem relatively

stable. In comparison, as illustrated by the “*Well-kept agro-forested lot*”, when the farming activities seem less productive, more energy is focused the appearance of the domestic space (e.g. flowers, shrubs, etc.). There is also more of a tendency to emphasize traditional rural landscape elements (e.g. stone walls, decorative elements and vegetable gardens).

#### *Landscape aesthetic lot trajectory*

These lots are characterized by values more related to the aesthetics of the landscape than its agricultural worth. Criteria such as views, proximity to nature and privacy create more typical residential spaces than uniquely agricultural lots.

In this context, the “*Remote view-oriented lot*” cluster illustrates a noteworthy trajectory even if it corresponds to a small sample of the whole population (14 lots). The conjunction of particular domestic practices with specific landscape contexts and resident’s profiles reveals evidence of the conversion of previously active farmsteads to “*landscape aesthetic*” residential settings.

One of the chief characteristics of these large forested lots is their undisputed residential vocation. In this context, the high level of home maintenance and the presence of elaborated yard landscaping (as revealed in well-established flower beds, ponds, etc.) is representative of this specific residential tendency. Moreover, remoteness of these residences as well as their visual inaccessibility accentuates the privacy of these dwellings. As observed elsewhere (Simon, 1995), this distance from the neighbourhood represents a new element of change in the landscape considering

that half the houses of the present cluster (7/14) were built after 1965. Another sign of the conversion of farms to residential areas is the fact that farm buildings are less frequently renovated even if some areas still remain under cultivation. To this end, a large amount of the farming activities are therefore accomplished through renting agreements with local farmers who do not have to use farm buildings (Paquette and Domon, 2000a).

In addition, all homes are view-oriented rather than facing the road, which also contributes to the "*landscape aesthetic*" nature of these residential settings. The nature of these views is also interesting. From their highest locations (summits or upper hillsides), these residential settings generally offer elevated views with a depth of visual field of over 2 km. Thus, these residential places, established within specific landscape contexts and kept apart from the surrounding rural community life, are evocative of the transformations of rural landscapes as places to live rather than only to farm. These findings reveal an ever-increasing contemplative attitude towards the rural landscape, or a tendency to perceive rural areas in terms of their landscape characteristics rather than their productivity (Hervieu and Viard, 1996).

These clearly distinguishable changes in attitudes and uses of rural domestic landscapes are some of the most obvious manifestations of the urban invasion of the countryside. The sociodemographic portrait of the residents significantly associated to this cluster currently supports this tendency. In fact, many of these residents' distinctive traits (previous place of residence in an urban setting, professional occupations, etc.) are commonly representative of the ongoing social recomposition

of many rural areas (Kayser, 1990; Dahms et Hallman, 1991; Thompson et Mitchell, 1998; Walmsley, 1998). In addition, the fact that most of these residents have no relatives in Havelock's surroundings strengthens the assumption supporting the presence of domestic practices that rely primarily on landscape aesthetics and their values rather than emphasizing the promotion of rural community ties. These changing attitudes add yet another dimension to our traditional definition of rurality.

The current rural domestic landscape trajectory is clearly contingent on the influx of a migrant population. While this movement could induce opportunities for rural development, the local uniqueness of domestic rural landscapes could also gradually tend to disappear (e.g. farm buildings lacking maintenance, intentional obstruction of views on formerly visually accessible farmsteads, etc.). The evolution of these domestic landscapes may well be determined by the magnitude and the nature of the transformations resulting from this process.

#### *Declining lot trajectory*

Despite the reviving nature of the landscape aesthetic trajectory, other lots show evidence of completely opposite tendencies. Even if the "*neglected residential*"<sup>5</sup> and "*agro-forested*" lot clusters correspond to distinct types of settlement (small residential vs large lots), both of them seem to be going in a similar direction, namely, following a declining trajectory. Many observations support this assertion.

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<sup>5</sup> These lots may also be related to the "*non-farming lot trajectory*". Based on the sociodemographic profile as well as the domestic practices observed, it appears more appropriate to include them in the discussion of the "*Declining lot trajectory*".

For residential lots as well as their agro-forested counterparts, poor (or less excellent) maintenance (with regard to the house and overall property) and the absence of ornamental vegetation (especially flowers) are common features. In addition to the dominance of the forest, the “*neglected agro-forested lots*” show a lesser proportion of home and outbuilding renovations. At the same time, traditional rural landmarks (such as isolated trees or rows of trees) tend to be less frequent. To varying degrees, all these elements are signs of a lot’s apparent decline.

Can some of these indicators explain the occurrence of this evolution? On the one hand, these processes are distributed throughout the study area, not only within a specific or well-defined sector. Although landscape contexts have been recognized as decisive factors with regard to some lot trajectories (i.e. landscape aesthetic trajectory) as well as to some residential settlement patterns (Paquette and Domon, 2000a), in this case, they do not represent a significant influential factor (Tab. XIII). However, view-oriented houses are significantly less frequent (Tab. XI) for at least one cluster (*neglected residential lot*). Considering that some of these residential settings are less related to views or aesthetic enjoyment, our results lead us to believe that some landscape related factors (e.g. the absence of views) could be indicative of a lot’s declining dynamics.

On the other hand, the sociodemographic profiles of residents associated with these clusters suggest more explicit processes. Accordingly, both these clusters seem to be intimately associated with migrant population flow. For the first cluster (*neglected residential lot*), the migrant population (21/35) is exemplified in the majority of

residents who are native to the Montreal area. For a non-negligible portion of those migrants, informal interviews suggest that many are low-income residents who left urban places in favour of lower cost rural housing in the hope of having better living conditions (Brunet, 1980). As recognized elsewhere (Fitchen, 1994), the fact that a significantly higher proportion of these migrants have settled in the township in the past few years (after 1990) suggests a high mobility existing among the rural poor, notably for younger individuals shown within the present cluster (half are aged 25-44). In comparison, the migrant residents (14/19) associated with the "*neglected agro-forested lots*" are mostly native to outside Havelock and have no relatives in the vicinity. While full-time farmers are significantly associated with this cluster, they only represent approximately a quarter of all the residents (5/19). Among these farmers, only a few are locals. From our field observations, it appears that most of these currently full-time farmers are established on marginal land that is less economically viable.

Notwithstanding that urban-to-rural migration research has given little attention to rural poverty issues (Fitchen, 1994; Hugo and Bell, 1998), this social group constitutes an important part of the overall social recomposition processes of rural communities. As shown by our results, this social dynamic has a clear manifestation in ongoing domestic rural landscape trajectories, especially within marginal rural areas where few alternative dynamics have taken over from agricultural decline.

#### **4.5 Domestic Landscape Trajectories: contrasting and convergent dynamics**

As shown from regional scale studies (Kayser, 1990; Paquette and Domon, 1999), social recomposition processes stand for one of the most dominant feature of actual rural communities. In the light of this case study, it is necessary to understand that changes affecting rural landscapes through such processes can only be highlighted from a detailed locally-based investigation. Such an investigation should be achieved at a scale where these processes are the most expressive, namely, at the lot scale. In this way, the need to characterize domestic practices becomes even more essential.

From the residential practice trajectories outlined, two distinct tendencies shape the ongoing dynamics of rural domestic landscapes. These tendencies, exemplified through contrasting as well as convergent processes, are more evident when underlying factors such as sociodemographic profiles and landscape context are taken into consideration

From this viewpoint, the contrasted processes (landscape aesthetic vs declining trajectories) constitute some of the most visible expressions of migrant relocation in rural areas. For the wealthier migrants, the acquisition of a picturesque rural property represents an opportunity for realising aspirations of a rural idyll (Swaffield and Fairweather, 1998). For the less fortunate ones, the purchase of a low-priced rural property seems to suggest the search for a refuge (Brunet, 1980; Hugo and Bell, 1998) away from unstable urban surroundings. In addition to the fact that these opposing domestic place trajectories represent the ones most significantly associated

with migrant population flow, they seem to take place within distinct landscape contexts as well. As earlier works suggest (Paquette and Domon, 2000a), the attractiveness of some landscape contexts appear to constitute a determining factor in some migrants' relocation. Here, the sharply contrasting proportion of view-oriented houses between the "*landscape aesthetic lot*" and the "*neglected residential lot*" is another clear indication of the role of the landscape context on domestic place trajectories, although its influence seems more determinant within the first lots' cluster. In this respect, these opposing domestic landscape trajectories emerge from the conjunction of both social and physical landscape dynamics.

Aside from the contrasting dynamics closely related to migrant flow, the domestic landscapes shaped through the farming lot trajectories occur as a result of the converging actions of both the local and the migrant populations. Regardless of a resident's origins, the magnitude of farming activities seems a more discriminating factor in domestic practices. More intensively managed farms show significantly less ornamental elements than less productive ones. While the participation of some urban-to-rural migrants in the maintenance of agricultural activities has been recognized (Paquette and Domon, 2000a), based on our results, the fine-scale residential practices adopted by these farming migrants do not appear to significantly shape distinct domestic places. These results illustrate the complex reality of contemporary farming dynamics that take place on marginal and less productive agricultural lands. In this context, contrary to all expectations, the most significant



domestic landscape manifestations associated with the local residents do not refer to large farming lots but rather to small residential “suburban type” lots.

In all, the domestic landscape changes associated with urban-to-rural migration processes are expressed through a diversity of forms. The “*landscape aesthetic*” and “*declining lot*” trajectories constitute the more expressive situations. To a lesser degree, the involvement of migrant residents seems related to farming as well as to some residential lot trajectories. While usually associated with landscape aesthetic motivations or residential lifestyle choices (Coppack, 1988; Halliday and Coombes, 1995; Swaffield and Fairweather, 1998; Walmsley et al., 1998), in this study, social recomposition processes appear to have more complex impact on rural domestic landscapes. From a landscape dynamic perspective, our study suggests that the migrants’ relocations in rural areas do not produce unique consequences such as a systematic rural gentrification movement. Although a number of these migrants are influenced by landscape aesthetics, many seem more worried about poor living conditions while others are involved to varying degrees with farm production.

The inherent complexity of these phenomena and their determining influence in the shaping of future rural landscapes either at the regional (Paquette and Domon, 1999), the local (Paquette and Domon, 2000a) or the domestic level prevent us from making simplified generalizations. In this perspective, similar research projects must be implemented in diverse rural areas. Such studies should explore the in-depth motivations expressed through social recomposition movements, especially those

associated with projected domestic practices as well as emerging group or personal identity claims.

## CHAPITRE 5

### **CHANGING RURALITIES, CHANGING LANDSCAPES: EXPLORING SOCIAL RECOMPOSITION THROUGH A MULTI-SCALE APPROACH**

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Ce chapitre a été soumis (février 2001) pour publication à la revue *Journal of Rural Studies*.

Paquette, S. et Domon, G., 2001. Changing Ruralities, Changing Landscapes: Exploring Social Recomposition Through a Multi-scale Approach, soumis pour publication.

**Abstract**

Along with a decline in farming population, agricultural restructuring leads to tremendous landscape changes. At the same time, many rural areas are paradoxically recording a significant demographic growth. Given the extent of rural territories experiencing such evolution, little attention has been given to the relationship between rural migration processes and landscape developments. Therefore, the varied rural dynamics resulting from these phenomena need closer investigation. Moreover, we have to explore these complex processes at a scale where they are the most evident. Taking advantage of findings derived from a previous multi-scale research approach, these processes are revealed through their regional, local and domestic scale manifestations.

The polymorphous nature of the rural areas, as shown by regional typological outlines, exhibits the increasing dissociation between agricultural and sociodemographic trajectories. From our local scale study, changes in lot occupation reveal new residential settlement patterns induced by the influx of migrants. Even

more interestingly, specific landscape characteristics seem a determining force shaping these in-migration flows. At the same time, these migratory streams have dissimilar influences on ongoing landscape dynamics. With the exception of confined agricultural abandonment trajectories, migrant relocation does not seem to affect singular, local scale land use development. However, it is significantly associated with specific domestic practices. More fundamentally, these results are indicative of new residents' identities in rural places and evoke specific values for the landscape's qualitative dimensions. From a planning perspective, this new discourse on rurality compels us to re-evaluate conventional planning methods, and encourage new rural development initiatives for the benefit of both locals and migrants.

### **5.1 Introduction**

Rural territories have experienced, and still experience, continuous transformations. As the countryside shifts from a place to farm to a place to live, labels such as "post-productivist" (Halfacree and Boyle, 1998), "post-industrial" (Jollivet, 1997) or even "post-rural" (Murdoch and Pratt, 1993) represent the many designations of this change. These rural changes are expressed through two dominant and concurrent phenomena. First, together with the farming population's decline, changing agricultural practices lead to tremendous rural landscape transformations. Along with the simultaneous intensification of farming production, the increase of agricultural abandonment on marginal farming areas leaves simultaneously an ever increasing number of lands to other functions. Second, in parallel with this phenomenon, many

rural areas paradoxically record a significant demographic growth essentially associated with the urban-to-rural turnaround.

Until now, significant academic contributions helped to reveal both agricultural landscape developments (Meeus et al., 1990; Baudry, 1993; Domon et al., 1993; Poudevigne et Allard, 1997) and rural migration processes (Fuguitt, 1985; Kayser, 1990; Kontuly, 1998; Dahms and McComb, 1999). However, little attention has been given to the relationships between these two intertwined processes. Given that rural areas are becoming residential places for an ever increasing number of in-migrants and, more importantly, that these migration streams seem intimately associated with specific representations of the countryside (Willits and Luloff, 1995; Hervieu and Viard, 1996; Halfacree and Boyle, 1998; Swaffield and Fairweather, 1998), the dynamic relationships existing between residential behaviour, landscape and rurality need closer attention.

For instance, even if some academics recognize landscape aesthetic motives as a potential explanatory factor for rural in-migration (e.g. Halliday and Coombes, 1995), how do local landscapes really act on migrant residential dynamics, and how do they induce distinguishing sociodemographic rural trajectories? At the same time, how does rural migration affect landscape development itself? Does the influx of new rural migrants accelerate rural landscape transformations or, conversely, help to maintain their current attributes? Overall, it is the importance of the landscape as a pivotal element of ongoing rural changes – i.e. the way it modulates social recomposition processes as well as being reconfigured through them – that must be better assessed.

Many authors view rural repopulation as an opportunity to develop and revitalize the countryside (Newby, 1990; Stockdale et al., 2000). Given that this development, from the perspective of an ever-increasing prevalence of rural consumption practices, is largely associated with the preservation and indeed the improvement of qualities of rural landscapes, these questions are all the more essential.

Given the empirical gap that still exists with regard to social recomposition and landscape development relationships, we need to explore the varied rural dynamics resulting from these phenomena. Moreover, we have to explore these complex processes at the scale where they are the most evident. Taking advantage of research findings derived from a previously multi-scale case study, this paper intends to reveal these processes through their regional, local and domestic scale manifestations. Considering its exploratory nature, it is necessary to understand that this approach does not attempt to identify underlying factors that could potentially explain such rural dynamics. Even if this approach ultimately pursues this purpose, it would rather initiate the establishment of a framework of analysis that may shed some light on the complex relationships between social recomposition processes and landscape dynamics.

To achieve such goals, the following section intends to show the manifestation of these relationships from three distinct perspectives (Fig. 5.1). Distinct typological outlines have established a preliminary portrait of the trajectories and actual profiles of rural municipalities at the regional-scale (southern Quebec). This large-scale dynamics characterization was necessary to show the dominant tendencies of the

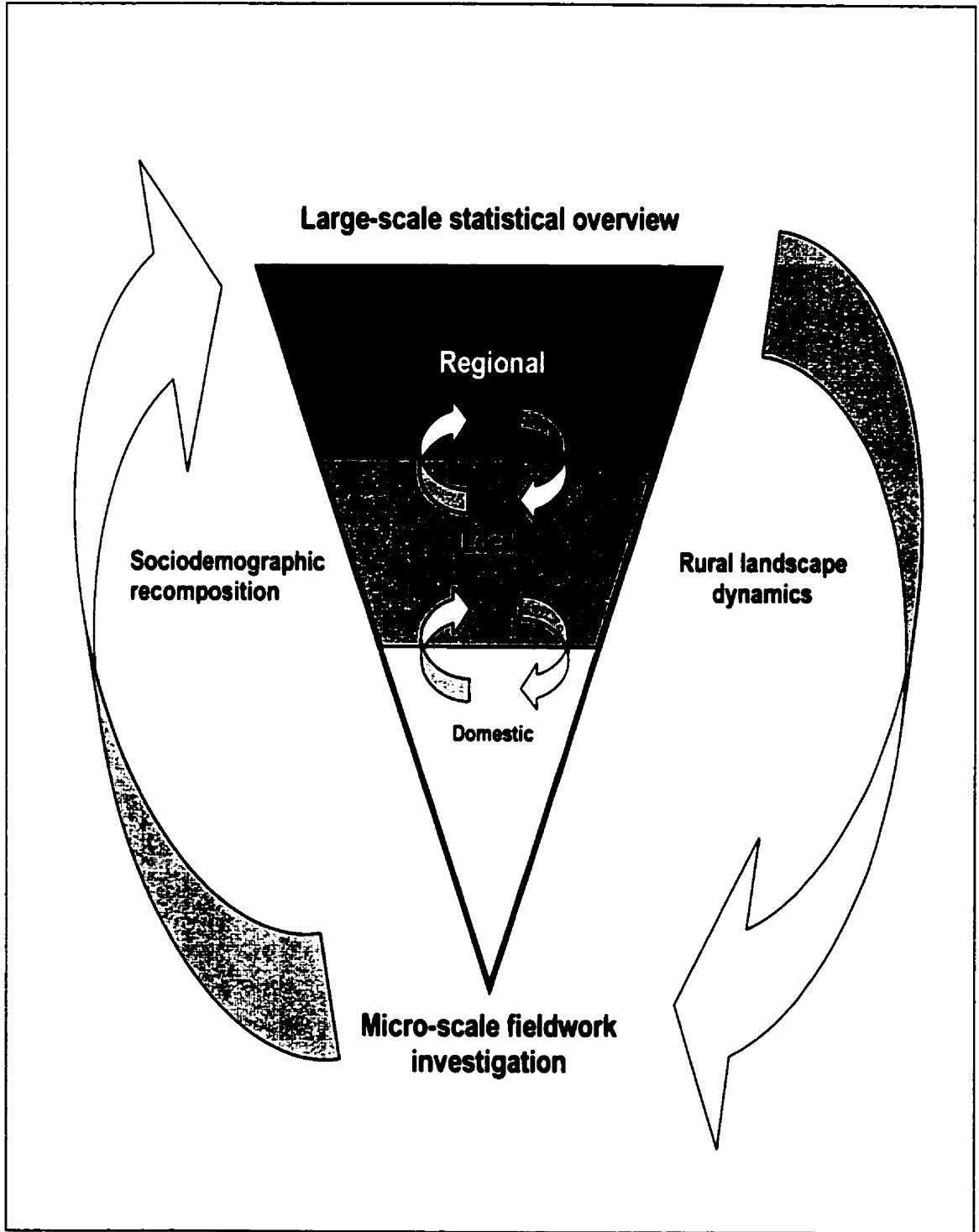


Figure 5.1: Multiple-scale research design



processes involved, their diversity as well as their specific spatial expression. Given the new residential settlements uncovered from this overall portrait, a local-scale evaluation of how landscape contexts seem a determining force driving the sociodemographic evolution of rural communities was done through a detailed analysis of the settlement dynamics of a clearly defined territory. At the same time, this case study has explored how these sociodemographic changes contribute, conversely, to specific landscape transformations. Beyond these local phenomena, the effort to characterize changes affecting rural landscapes through rural recomposition processes need to be complemented by an investigation of the residential practices. This domestic-scale investigation becomes even more essential given that such changes have to be documented at a scale where their manifestation is the most expressive, that is to say the lot scale. After an overview of the dominant trends related to each level of analysis, the third section endeavours to establish relationships between processes singled out at the regional, the local and the domestic scales. The implications of these results are discussed in the fourth section through the trends likely to shape future rural areas, namely those related to demographic evolution and landscape dynamics as well as rural community changes. The paper ends with an indication of future research directions.

## **5.2 Rural Recomposition and Landscape Dynamics: a multi-scale perspective**

As mentioned before, the methodological strategy is based on three complementary analyses derived from as many differentiated scales, namely: the regional, the local and the domestic scales (Fig. 5.1). Based on a previously initiated research (Paquette

and Domon, 1999; 2000a; 2000b), this section briefly describes the specific methodology and provides an overview of the major findings for each analysis level (Tab. XIV).

### 5.2.1 The Evolution of Rural Municipalities in Southern Quebec: a regional overview

Social recomposition leads to changes in rural areas in southern Quebec, as elsewhere in western countries (Fuguitt, 1985; Kayser, 1990; Robinson, 1990; Beesley, 1991; Jean, 1997). Focusing on agricultural and sociodemographic dynamics better situates the current evolution of rural municipalities, the extent and the diversity of the dynamic phenomena, as well as revealing their spatial patterns. Documenting this evolution also helps to identify potential local situations requiring a more detailed examination, such as rural municipalities in transition characterized by uncertain dynamics.

#### 5.2.1.1 Study Area and Database Development: a regional-scale study framework

Located at the southern limit of the province of Quebec (Canada), the study area (6 300 km<sup>2</sup>) is composed of 108 municipalities within six Regional County Municipalities (RCM) (Fig. 2.1). The interest in this region lies in the diversity of the population's structure as well as its biophysical characteristics (Saint Lawrence Lowlands and Appalachian Plateau Uplands).

Major agricultural and sociodemographic data available from Canadian censuses of 1961 and 1991 was collected for each municipal subdivision. Information related to

Table XIV: Typological outlines and dominant trends resulting from the regional, local and domestic scale studies.

REGIONAL <sup>1</sup>	LOCAL <sup>2</sup>	DOMESTIC <sup>3</sup>
<b>A. Study areas</b>		
Southern Quebec - 108 municipalities (6 300 km <sup>2</sup> )	Havelock Township (88 km <sup>2</sup> )	Havelock Township (88 km <sup>2</sup> )
<b>B. Resulting typologies</b>		
<p><b>1. Agricultural trajectories (1961-91)</b></p> <ul style="list-style-type: none"> <li>• Advanced agricultural intensification</li> <li>• Moderated agricultural intensification (H)</li> <li>• Marked agricultural extensification</li> <li>• Regressing agriculture</li> </ul> <p><b>2. Resulting agricultural profiles (1991)</b></p> <ul style="list-style-type: none"> <li>• Vegetable crop intensive farming</li> <li>• Cereal crop intensive farming</li> <li>• Moderately intensive farming</li> <li>• Extensive cattle farming</li> <li>• Marginalized farming (H)</li> </ul> <p><b>3. Sociodemographic profiles (1991)</b></p> <ul style="list-style-type: none"> <li>• Predominantly agricultural rural municipalities</li> <li>• Rural farming municipalities in transition (H)</li> <li>• Periurban rural municipalities</li> <li>• Small mutating industrial centres</li> <li>• Traditional rural amenity municipalities</li> <li>• High-class rural amenity municipalities</li> <li>• Marginalized agricultural rural municipality</li> </ul>	<p><b>4. Residential settlement patterns (1998)</b></p> <ul style="list-style-type: none"> <li>• Woodlot – closed view*</li> <li>• Upper hillside – panoramic view*</li> <li>• Agricultural lowland – limited view</li> <li>• Lower hillside – potential view**</li> </ul> <p><b>5. Landscape trajectories (1968-97)</b></p> <ul style="list-style-type: none"> <li>• Significant persistence of agricultural activities</li> <li>• Moderate persistence of agricultural activities</li> <li>• Advanced agricultural abandonment*</li> <li>• Former agricultural lots in transition</li> <li>• Residential development lots</li> </ul>	<p><b>6. Residential practices (1998)</b></p> <ul style="list-style-type: none"> <li>• Tree-covered residential lot</li> <li>• Adjacent road residential lot**</li> <li>• Conventional farming lot</li> <li>• Well-kept agro-forested lot</li> <li>• Remote view-oriented lot*</li> <li>• Neglected residential lot*</li> <li>• Neglected agro-forested lot*</li> </ul> <p><b>7. Domestic landscape trajectories</b></p> <ul style="list-style-type: none"> <li>• Landscape aesthetic lot trajectory*</li> <li>• Declining lot trajectory*</li> <li>• Farming lot trajectory</li> <li>• Non-farming residential lot trajectory</li> </ul>
<b>C. Dominant trends</b>		
<ul style="list-style-type: none"> <li>• Divide of the agricultural territory</li> <li>• Diversity of the sociodemographic profiles of rural municipalities (agricultural, periurban and amenity rural areas)</li> <li>• Dissociation between agricultural trajectories and demographic dynamics</li> </ul>	<ul style="list-style-type: none"> <li>• Spatially selective sociodemographic recomposition</li> <li>• Landscape as a determining factor of relocalization</li> <li>• Agricultural abandonment associated to migrant population</li> <li>• Complex landscape trajectories</li> </ul>	<ul style="list-style-type: none"> <li>• Contrasting landscape trajectories (aesthetic and declining) associated to migrant population</li> <li>• Convergent farming lot trajectories associated to both migrant and local population</li> </ul>

<sup>1</sup> Paquette and Domon (1999); <sup>2</sup> Paquette and Domon (2000a); <sup>3</sup> Paquette and Domon (2000b)

\* Associated to migrant population attributes on the basis of cluster analysis; \*\* Associated to local population attributes on the basis of cluster analysis. (H) Clusters including Havelock Township into the regional typological outlines.

land property values (1991) for different land use categories were also considered. Based on these data and on the possibilities offer by multivariate analyses, this first regional outline puts forward typologies that enabled the identification of agricultural trajectories (1961-91), agricultural profiles (1991) and current sociodemographic profiles (1991).

#### 5.2.1.2 Regional-scale Agricultural Trajectories and Sociodemographic Profiles: some dominant trends

The extent of agricultural transformations, their distinct spatial manifestations, and the great diversity of sociospatial situations are the most significant features in the recent development of southern Quebec's rural areas (Paquette and Domon, 1999).

From the four agricultural trajectories (1961-91) identified (Tab XIV-B1), two main results should be pointed out. At first, agricultural intensification and agricultural regression showed very distinct spatial patterns. On the one hand, agricultural intensification trajectories, marked primarily by an increase in the proportion of cultivated lands, are confined to the Saint Lawrence Lowlands area. On the other hand, extensification processes and regressing agriculture (i.e. number of farms dropping; no increase in cultivated areas, mainly those used for corn) are concentrated within the less productive Appalachian Plateau Uplands. This sharp territorial divide is accentuated given the resulting agricultural profiles (1991) of these municipalities (Tab. XIV-B2). Average farm capital and income as well as the importance of land under cultivation contributed to distinguish significantly different spatial situations between municipalities experiencing intensive production and those

characterized by a marginal farming. Biophysical attributes appear a determining factor underlying this dual land use dynamic in southern Quebec (Paquette and Domon, 1997; Pan et al., 1999) as elsewhere in western countries (Meeus et al., 1990; Simpson et al., 1994). The extent of the farming decline is another dominant tendency revealed through this analysis. For the whole study area, the proportion of the farm population fell by two-thirds during the last three decades and corresponds to only 14% of the whole rural population in 1991. These results suggest that traditional farming activities are no longer predominant within a large part of the rural territory. Contemporary ruralities are consequently not defined exclusively through agricultural activities (Jollivet, 1988; Jean, 1989; Murdoch and Pratt, 1993; Marsden, 1995).

This situation is exemplified by the diversity of the sociodemographic profiles of southern Quebec's rural municipalities (Paquette and Domon, 1999). From the seven profiles recognized (Tab. XIV-B3), three main situations were unveiled: the agricultural rural area, the periurban rural area, and the rural amenity area.

- *Agricultural rural area.* As previously stated, agricultural activities were spread out within highly spatially selective dynamics. Even for the municipalities where agriculture is predominant, its weight, from a sociodemographic perspective, has greatly declined. In fact, nearly 75% of the active population within these municipalities have income from another source (Paquette and Domon, 1999: 291). Although the farming imprint is still perceptible in land use, agricultural vocations are no longer exclusive.

- *Periurban rural area.* While traditionally confined close to larger urban agglomerations, the current periurban development now penetrates well within the “truly” rural area (Lucy and Philips, 1997). In the study area, results suggest that the rapid demographic growth associated with such development clearly spreads out around small regional urban centres (Paquette and Domon, 1999). Although this periurban area presents a continuum of situations regarding population density, socioprofessional profile and residential land value, it constitutes an incontestable expression of the current social changes experienced by rural communities in southern Quebec.
- *Rural amenity area.* Land occupation for the purpose of seasonal recreational activities (e.g. second-home development) is another recurring quality of many rural municipalities. Moreover, this profile characterizes some municipal entities that have none of the usual recreational appeals (i.e. open water, ski resorts). Even more significantly, the importance of second-home owners, shown by land values attributable to cottages, is no longer negligible in traditional agricultural municipalities. As observed elsewhere (Brunger et al., 1991), second home development diffuses through larger rural areas, including the traditional farming territory.

This examination of the agricultural trajectories and their sociodemographic profiles suggests that new residential settlement dynamics emerge throughout southern Quebec's rural area as elsewhere (Marié and Viard, 1988; Brunger et al., 1991; Theobald et al, 1996). The increasing dissociation between agricultural and demographic trajectories clearly supports this assertion. In this instance, the

demographic growth of municipalities that experience a simultaneous regression in agriculture represents the most striking manifestation of these dynamics. For those municipalities excluded from the “intensive farming belt”, the complex relationships between rural recomposition, residential settlement and landscape dynamics need closer investigation.

### 5.2.2 Rural Recomposition and Landscape Dynamics: some local evidence

Given the population growth of municipalities affected by a decline in farming as well as the diffusion and extent of second-home development throughout larger areas, including traditionally agricultural territories, the exploration of the potential role of landscape contexts in guiding new residential settlement dynamics becomes necessary. Many large-scale urban-to-rural migration surveys have acknowledged scenery (Halliday and Coombes, 1995) or “scenic amenity” (Bryant et al., 1982; Coppack, 1988) as important factors of attraction in explaining moves to rural destinations. Other studies have reported the spatially selective nature of such processes (Gorton et al., 1998: 217). But few works allow finer scale empirical evidence (Riebsame et al. 1996; Theobald et al., 1996) of the interaction between landscape contexts and social recomposition movements. Such knowledge becomes even more essential given the empirical gap that exists regarding the impact of these sociodemographic changes on the landscape itself.

From a detailed analysis of the settlement dynamics of each lot within a clearly defined territory, the methodological strategy developed attempts to shed light on these complex relationships. Based on *in situ* observations, land use change analysis

as well as sociodemographic and residential history information surveys, it aims to identify residential settlement patterns and local land use and built environment transformations (hereafter referred to as landscape trajectories).

#### 5.2.2.1 Study Area and Database Development: a local-scale study framework

Havelock Township (88 km<sup>2</sup>), located in the southernmost corner of the province of Quebec (Canada) is approximately one hour's drive from downtown Montreal (Fig. 3.1). As demonstrated in previous typological outlines, this area is representative of a larger group of rural municipalities characterized by transitional phenomena of an agricultural as well as a sociodemographic nature (Tab. XIV-B). As an indication of this transitional character, Havelock township shows a demographic growth of 21.2% between 1961 and 1991, even if the farming population decreased from 63,4% to 29.8% of the total population during this same period (Paquette and Domon, 2000a). The landscape diversity of this study area enables us to explore residential settlement patterns in a wide assortment of situations. Agricultural lowlands are surrounded by agro-forested upland areas with an elevation ranging from 100 to 340 m. Many locations on the summit and the upper hillsides offer panoramic views of the region.

To characterize residential settlement patterns at the lot scale according to the different landscape contexts and the landscape trajectories involved, three main types of data were collected: visual analysis data and landscape trajectory data as well as sociodemographic and residential history data.

- *Visual analysis data.* The landscape context of each lot was characterized by the following indicators: width of the visual field, depth of the visual field, prevailing



views, visual accessibility from other locations, viewshed (potential view) and topographical entities (summit, hillside, plain, etc.).

- *Landscape trajectory data.* For each lot, the most dominant land use changes (1968-1997) and built environment transformations were evaluated using aerial photographs, fieldwork observations and comparative cartographic examinations.
- *Sociodemographic and residential history data.* During face-to-face interviews, data relative to place of birth, previous place of residence, occupation, place of work, age group, year of lot acquisition and the presence of relatives were, among others, successfully obtained for over 70% of the households (181 / 254). To help interpret these data from a broader perspective, open-ended questions on the motives for urban-to-rural migration as well as residential preference were also introduced.

Using cluster analysis, two sets of analysis were conducted. To evaluate how landscape contexts affect residential settlement patterns, significant relationships between the different landscape contexts identified for each lot and the information regarding profiles of the lots' residents were pointed out. Another cluster analysis allowed us to distinguish landscape trajectories at the scale of each lot.

#### 5.2.2.2 Residential Settlement Patterns

From the four landscape contexts identified ("*Woodlot-closed view*"; "*Upper hillside-panoramic view*"; "*Agricultural lowland-limited view*"; "*Lower hillside-potential view*") for Havelock Township (Tab. XIV-B4), results have shown that the

population does not spread uniformly throughout the distinct landscape contexts. Significant differences are shown between each of them. Moreover, some well-recognized sociodemographic characteristics associated with rural migration movements (Kayser, 1990; Beesley, 1991; Dahms et Hallman, 1991; Thompson et Mitchell, 1998; Walmsley, 1998) are significantly correlated to specific landscape contexts. Thus, urban background, professional occupation and age group (45-64) are highly associated to “*Woodlot - closed view*” and “*Upper hillside - panoramic view*” landscape contexts. Therefore, specific landscape attributes sustain selective rural migration flows, and act distinctively on the overall recomposition process. However, these significant tendencies do not represent the exclusive way in which these rural migration phenomena occur. For instance, the urban migrant relocation within farming lowlands is another manifestation of the rural recomposition’s multifaceted processes. These differentiated residential settlement patterns associated with urban-to-rural migrants suggest new residents’ relations to space. Our exploration of the migrants’ discourses reinforces this assertion. As observed elsewhere (Hervieu and Viard, 1996; Lowenthal, 1997), informal interviews suggest that the peacefulness, the naturalness and values associated with rural places represent specific migrants’ conceptions of the countryside.

#### 5.2.2.3 Landscape Trajectories

The five landscape trajectories outlined (Tab. XIV-B5) identify very distinct ways in which the lots evolve. These evolutions range from the persistence of farming activities to agricultural abandonment and include transformations such as housing development or hobby farm conversion as well. Although limited to a specific area,

only the “*Advanced agricultural abandonment*” trajectory is significantly associated with urban migrants (Paquette and Domon, 2000a). However, while half of these residents can be associated with the process of agricultural abandonment (i.e. purchased their lots between 1960 and 1979), the other half acquired their lots as this abandonment was already in progress (after 1980). This population simultaneously takes part in other landscape trajectories in distinct ways and with less intensity. The participation of many urban migrants in the maintenance of agricultural activities is a clear illustration of the complex nature of these landscape dynamics. For example, while some migrant landowners’ lots are cultivated by local farmers through rental agreements, agricultural activities on other lots are assumed by the migrant landowners themselves. Therefore, our results prevent us to point out a clear-cut differentiation between the migrant and the local population when considering their respective influences on these landscape trajectories.

A large part of this complexity may be related to the distinct time-lags within which these processes evolved (i.e. sociodemographic changes and land use dynamics). For instance, built elements are generally subjected to more rapid alterations in comparison to the more gradual changes associated with land use (e.g. land abandonment). To better situate the impact of the selective residential settlements previously observed on rural landscapes, a closer investigation is required. It should be undertaken at a scale where these processes are the most expressive, namely, at the domestic scale.

### 5.2.3. Rural Landscape Changes: a domestic-scale survey

Given the attractiveness of rural landscapes and the magnitude of the in-migration movement, it is crucial to show how the new rural populations, once in place, affect the qualities of the landscape itself (Paquette and Domon, 2000b). A characterization of the residential practices becomes even more essential given that domestic space is one of the sole areas where individuals can exert control on the landscape (Després, 1991). Domestic space also reflects personal identity (Hummon, 1989; Abu-Ghazze, 2000), and the ways that residents interact with other people as well as with their surrounding environment. Ultimately, this investigation shows how domestic practices shape the evolution of the rural landscape. It reveals also attitudes *vis-à-vis* rurality that uphold them.

#### 5.2.3.1 Study Area and Database Development: a domestic-scale study framework

Within the previously defined territory (Havelock Township), this domestic-scale study has constructed a detailed portrait of the residential practices (181 lots) observed from various empirical materials (*in situ* observations, interviews, analysis of local building permits, etc.). The methodology underlying the selection of indicators emphasizes the way these attributes are indicative of small-scale domestic landscape changes as well as spatial appropriation. Residential practices refer to the home's characteristics, the use of exterior residential space and to land use at the lot scale.

- *Home characteristics.* Fieldwork observations have allowed the evaluation of home conditions and exterior facing materials as well as the home's orientation (facing view or road) and its distance from the road. Additional information on building renovation was obtained through local building permits.
- *Use of exterior space.* Corresponds to the presence of temporary (flower, vegetable garden, property maintenance, visual links to the road) and more permanent domestic uses and management of space (lawn and shrub area; tree areas, their spatial distribution and age; ornamental elements; type of boundaries; garden sheds).
- *Land use.* The percentage of the lot's area occupied by the dominant land use types (1997) as interpreted at the scale of each lot using aerial photographs.

To characterize the context of these practices, we take advantage of the sociodemographic and residential history information and the visual analysis data already collected at the lot scale (section 5.2.2.1). Then, multivariate analysis is used to discern significant relationships existing between these residential practices, their visual landscape contexts and the profiles of their occupants.

#### 5.2.3.2 Domestic Landscape Trajectories

Seven residential practice clusters are identified (Tab. XIV-B6). From these clusters, the dominant tendencies revealed through the lot's vocation (ex.: residential, agricultural) or its specific evolution (ex.: revival, decline), enable us to distinguish four domestic landscape trajectories (Tab. XIV-B7). While the first two are

significantly associated with very distinct migration phenomena and landscape context characteristics (i.e. "*Landscape aesthetic lot*" and "*Declining lot*" trajectories), others result from the converging actions of both the local and the migrant populations ("*Farming lot*" and "*Non-farming residential lot*" trajectories).

- *Landscape aesthetic lot trajectory.* The conjunction of particular domestic practices (home maintenance; yard landscaping; home remoteness) with specific landscape contexts (highest locations, panoramic views) and their resident's profiles (urban background, professionals) characterized this "*Landscape aesthetic*" trajectory. Criteria such as views, proximity to nature and privacy are evocative of the transformations of rural landscapes as places to live rather than only to farm. Paradoxically, beyond these contemplative attitudes towards rural landscapes, some residential practices (e.g. abandoned farm buildings, obstruction of views on formerly visually accessible farmsteads through the reforestation of lot fronts) tend to accelerate the loss of local landscape distinctiveness.
- *Declining lot trajectory.* In contrast, poor maintenance, fewer home and outbuilding renovations, the absence of ornamental vegetation and the lack of traditional rural elements (isolated trees or rows of trees) are signs of a lot's decline. While less related to views, these residential settings are intimately associated with migrant populations from urban backgrounds which settled in the township over the past few years (after 1990). In contrast to the previous lot trajectory, informal interviews suggest that these less affluent migrants are mobile "refugees" (Brunet, 1980; Fitchen, 1994) seeking lower cost rural housing.

- *Farming lot trajectory.* The imprints of domestic farming are still perceptible but are no longer exclusively associated with the traditional local farmer. Moreover, both migrant and local residents are associated with this trajectory. Rather than the origins of its residents, it is the extent of agricultural activities that seems a determining factor in the residential practices observed. The less these farming activities seem important, the more there is a tendency to emphasize domestic beautification practices (flowers, shrubs, etc.) and traditional farming landmarks (stone walls, isolated mature trees).
- *Non-farming lot trajectory.* Given their number and their visual proximity, these non-farming residential lots have greatly modified rural landscapes by introducing suburban dwelling models into rural areas. Such a development is another example of the ongoing loss of the local landscape's uniqueness. This trajectory tends to be implemented by local and, to a lesser extent, by migrant residents.

The first two trajectories ("*Landscape aesthetic lot*" and "*Declining lot*"), taking place within quite distinct landscape contexts, stand for the most perceptible domestic landscape changes associated with urban-to-rural migration. As a result, these opposing trajectories emerge from the conjunction of both social and physical landscape dynamics. Overall, while usually associated with landscape aesthetic motivations or residential lifestyle choices (Coppack, 1988; Halliday and Coombes, 1995; Swaffield and Fairweather, 1998; Walmsley et al., 1998), our results suggest that the migrants' relocation in rural areas do not produce unique consequences such as a systematic rural gentrification movement. They also give insight regarding the

various underlying motives of migration as well as their multifarious impact on domestic-scale landscape dynamics.

For now, bearing in mind these results derive from a case study and call for further investigations, the manifestations of these processes through several scales need closer examination.

### **5.3 Regional, Local and Domestic Dynamics Relationships**

Beyond the recognition of diverse phenomena expressed through the regional, the local and the domestic scales, it is necessary to critically examine the way these processes are apparent at distinct spatial scales. This first section stresses the local and domestic scale interactions. This cross-scale examination reveals the distinct facets of a given phenomenon as well as their complex overlaps. Then, we proceed to show how these fine-scale insights consequently shed light on larger scale territorial dynamics (Fig. 5.1).

#### **5.3.1. Local and Domestic Level Cross-examination**

Many authors have already recognized the multifarious expressions of the rural in-migration (Kayser, 1990; Halfacree and Boyle, 1998). When considered from a landscape dynamics perspective, some rural migration manifestations require special attention, particularly those emerging within specific landscape contexts as well as the way others are involved with agricultural development.

Rural migrations have regularly been related to landscape aesthetic motives (Halliday and Coombes, 1995; Swaffield and Fairweather, 1998), but more often through large



scale surveys. Our results let more finer-scale processes and changes become visible. They first reveal, at the lot scale, distinct migrants' residential settlements patterns (Paquette and Domon, 2000a) related to specific landscape contexts. Moreover, these migrant relocations introduced, via residential practices (Tab. XIV-B6), specific domestic landscape trajectories (Paquette and Domon, 2000b). For instance, the evolution of the upland lots settled by migrants exemplified the shift from farming to residential functions where contemplative attitudes towards the landscape are promoted. These domestic practices are expressed through home beautification (high level of home maintenance; elaborated yard landscaping), the enhancement of privacy and the proximity of nature (remoteness of the home; visual inaccessibility from the road) as well as aesthetic consumption values (view-oriented house).

Even if more in-depth investigations are required to better situate migrants motivations, these results at the local scale are evocative of how new social discourses of the rural (Boyle and Halfacree, 1998) support specific residential location patterns as well as distinct uses and visible imprints on the domestic scale landscape. More fundamentally, they reveal how more than ever the countryside is defined through its valued landscape characteristics (Hervieu and Viard, 1996) in comparison to its traditional agricultural representations. However, these rural in-migration manifestations do not stand for one all-encompassing process; other forms of social recomposition still coexist. The transformations they induce are not always as perceptible, and refer to more complex phenomena. Migrant settlement within agricultural lowlands, and their role on agricultural landscape evolution greatly exemplifies such phenomena.

To better situate this process, let us first examine the local landscape trajectories identified (Tab. XIV-B5). As stated previously (section 5.2.2.3), only the “*Advanced agricultural abandonment*” trajectory is significantly associated with urban migrants. This trajectory is nevertheless confined to a limited area (16 lots). This single result does not by itself suggest that a migrant’s lot occupancy creates instantaneous farming abandonment. Such a statement is even more plausible given that a proportion of migrants settled during a later stage of this abandonment. Beyond this specific situation, we have shown that migrants also settle into agricultural lowlands (Tab. XIV-B4). Even more interestingly, they also appear to participate in the maintenance of agricultural activities with local population (Tab. XIV-B5). Fieldwork observations indicate that some migrants actually cultivate their land. For others, agricultural activities persist with the collaboration of local farmers. Compared to lots cultivated by migrants, a similar proportion is cultivated by local farmers through rental agreements. Moreover, for the lots where information could be obtained (20), this informal cooperation between migrants and local farmers is more widespread on uplands (9/12) than in lowlands (2/8). Could these distinct spatial patterns inform us about distinct motivations between upland versus lowland migrant landowners? More fundamentally, given that many indications of agricultural persistence are observed in parallel with in-migration settlements, do they suggest a relative dissociation between residential dynamics and land use development?

Answers could be partially formulated through in-depth examinations of local landscape trajectories (Tab. XIV-B5), and their relationships with residential practices (Tab. XIV-B6). Three specific examples help to illustrate these complex

processes. On the one hand, the fact that migrants are involved in a wide range of local landscape trajectories (Tab. XIV-B5) prevents a clear-cut differentiation between the migrant and the local population when considering their respective influences on these trajectories. On the other hand, more specific findings are inferred through a comparative examination of local landscape trajectories and domestic practices. In fact, for lots where the “*Advanced agricultural abandonment*” trajectory was identified at the local scale (Tab. XIV-B5), only a quarter of them results, at the domestic scale, in the “*Neglected agro-forested lot*”, while half (6/12) were associated with the “*Well-kept agro-forested lot*” or “*Remote view-oriented lot*” (Tab. XIV-B6) trajectories. Thus, signs of abandoned-land use dynamics observed at the local level are not always associated with a corresponding decline at the residential practice level. Conversely, for the “*Remote view-oriented lots*” identified at the domestic scale, more than 64% of them (9/14) take part in the maintenance of agricultural activities at the local scale. In this instance, it is necessary to add that these migrant landowners' lots are cultivated through rental agreements with local farmers. This example indicates that evidence of the landscape aesthetic domestic trajectory could coexist with the persistence of agricultural development. All things considered, these results suggest that rural in-migration seems to affect local land use dynamics less than the evolution of domestic practices. Therefore, domestic changes and local land use developments appear to result from relatively independent processes. More gradual local agricultural changes should evolve together with more rapid and visible transformations in residential practices. In this context, the time-lag between these processes and the way in which certain agricultural activities persist need more in-depth investigation.

### 5.3.2 Regional, Local and Domestic Cross-scales Trends

As shown previously (Paquette and Domon, 1999), regional scale dynamics are characterized by an increasing dissociation between agricultural and sociodemographic trajectories. More interestingly, our local case study suggests a similar dissociation. In fact, rural in-migration dynamics and local land use development appear as relatively independent processes. With the exception of a limited number of lots shaped by an agricultural abandonment dynamic, farming activities persist even on lots settled by migrants. From this viewpoint, the landowners' sociodemographic profiles do not seem to be a determining factor with regard to local landscape trajectories. As recognized before at both the local (Paquette and Domon, 1997; Pan et al., 1999) and regional scales (Meeus et al., 1990; Paquette and Domon, 1999), biophysical attributes (e.g. surface deposits, topography) are more significantly associated with land use changes. From a biophysical perspective, it could be argued that as long as land merits farming, there is always someone willing to improve it, whether local or migrant landowner. Therefore, considering the extent of occupational changes involved with rural recomposition, an ever increasing number of lots should be cultivated through rental agreements (Primdahl, 1999: 145). One must question the durability of such agricultural dynamics. Would the combined effect of in-migration growth and the decline in farming population ultimately create an irreversible imbalance between the proportions of farming and non-farming residents? Below which threshold of farming population might this agricultural dynamic be disturbed? This equilibrium appears vulnerable since we have noted

during our fieldwork that, in some cases, a single farming producer may rent lands on up to ten different landowners' lots.

And yet, migrants seem to induce smaller-scale changes. Their characterization is essential because these changes reflect migrant identity and unveil their meanings of rurality. Our micro-level investigation reveals two opposing trajectories associated with migrant relocation (Tab. XIV-B7). For instance, the case of urban professionals settling in the highest locations with panoramic views creates singular domestic settings. Such a trajectory exemplifies how the search for the "rural idyll" associated with aesthetic values, peacefulness, quietness as well as naturalness (Swaffield and Fairweather, 1998) seems to have found expression in specific residential practices. For other migrants, rural areas are associated with quite distinct aspirations. For the less affluent and mobile urban migrants (Brunet, 1980; Fitchen, 1994), the attractiveness of low-cost rural property seems to represent a more suitable hypothesis. Despite the reviving nature of some migrant moves, an even greater number (Hugo and Bell, 1998) is nevertheless associated with the declining lot trajectories. Behind the "rational" decision-making that appears to be associated with such migrant moves, could other forms of the "rural idyll" discourse subsist? Contrary to all expectations, rural recomposition no longer seems to be synonymous with a single gentrification process or rural renaissance. These previous examples are the most visible and contrasting expressions of a more complex and multifarious social recomposition phenomena. Even if a large-scale statistical portrait helps to point out dominant tendencies, these distinct social recomposition dynamics could

hardly be documented, nor could their conjunction with singular landscape contexts be revealed without a micro-level based investigation.

This multi-scale approach sheds light on a wide assortment of social recomposition manifestations at the regional, local and domestic scales. Among this diversity, it could be useful to point out the dominant tendencies suspected of shaping future rural changes. We will also explore how these trends confront rural citizens with competing representations of the countryside as well as how they challenge conventional approaches to planning.

#### **5.4 Towards ongoing rural changes**

Rural areas have experienced continuous transformations. Social recomposition contributes to these changes in many ways. This section distinguishes three concurrent and intertwined trends that appear to determine the future of rural areas, namely those related to demographic evolution, landscape dynamics and changes in the rural community. This exercise allows us to better situate and anticipate planning issues likely to confront rural population in the next decades.

##### **i) Demographic evolution trends**

Since the 1960's, many areas have experienced rural demographic growth (Fuguitt, 1985; Kayser, 1990; Robinson, 1990). Even if distinct turnaround, reversal and rebound episodes have been identified (Joseph et al., 1988; Kayser, 1992; Fuguitt et al., 1998; Johnson, 1998), the increase in rural population no longer seems an ephemeral situation. The most documented migration flows are those of second-home

owners and the elderly, followed by commuting (Clout, 1986; Jean, 1989; Dahms and McComb, 1999). Commuting might become more important given current labour restructuring (job deconcentration, part-time work, etc.). In the case of the elderly, many reasons suggest an increase of its influence in the future. As reported by Kontuly (1998: 66), "the ageing of the population [means] a growing pool of potential migrants". The shift of many "Baby Boomers" from an economically active to inactive status could well lead to an imminent intensification of migrations due to retirement. For now, no single theory is able to explain the redistribution of this rural population (Champion, 1998; Kontuly, 1998; Dahms and McComb, 1999). Rather, a combination of factors are recognized as supporting elements in this demographic growth. Among others, the improvement of transportation (road networks) and communication (telecommuting) infrastructures and their ability to influence residential preferences, the changes in collectively shared environmental attitudes, or better economic conditions for an increasing amount of future retirees, all indicate a probable increase in rural recomposition trends.

#### ii) Landscape Dynamic Trends

In southern Quebec (Paquette and Domon, 1997; 1999; Pan et al., 1999), as elsewhere in many western countries (Meeus et al., 1990; Simpson et al., 1994), the decline in agricultural land use is concentrated on uplands characterized by uneven relief and morainic deposits. These areas simultaneously offer one of the most valued residential settings for in-migration moves. Like forest and agriculture over the last two centuries, the landscape may now represent a "resource" that contributes to the redistribution of population and rural redevelopment (Domon, 1997). However, the

landscape can not be reduced to a single resource, nor can its influence on planning issues be similar to traditional resource management. As opposed to the aforementioned, new "landscape consumption" interests proceed from particular social constructions grounded in various values (aesthetic, environmental, cultural) which change over time and space (Tremblay et Poullaouec-Gonidec, 2000). Yet, in fact, in light of our study, some rural in-migration flows are selectively associated with specific landscape contexts. In this sense, one can assume that the rural landscape is close to what Hirsch (1975; quoted by Newby, 1990: 633; see also Murdoch and Day, 1998: 190) calls a "positional good", the enjoyment of which depends upon its scarcity.

In fact, while it provides an opportunity for re-appropriation by in-migrants, agricultural regression creates a paradoxical reforestation and landscape homogenization process. For instance, forest cover areas have increased by nearly 30% in Havelock Township between 1968 and 1992. More than 58% of this growth is a result of pasture-to-forest land use change. Therefore, the inevitable reforestation of vast stretches of land induced by agricultural restructuring limits the diversity of the "landscape resource" since it narrows the range of aesthetic and valued experiences. However, as Hunziker reports (1995: 401), such an evolution may induce quite distinct responses depending if one is a local or a migrant. While the former appears to associated fallow land with a "loss of feeling at home", the latter more positively interprets it as a "gain of naturalness". Beyond these observations, this reforestation and its resulting eventual scarcity of "open landscapes" remains a well-founded tendency. At another level, the action of the migrants themselves,



through their own domestic-scale practices (section 5.2.3.2), could also enhance the loss in distinctiveness of rural landscapes.

All these observations call for the need to better understand landscape dynamics and their related planning issues. Within the context of rural repopulation, such issues inevitably refer to new rural community debates.

### iii) Community Changes and Rural Planning Challenges

As Halfacree and Boyle note (1998:10), some rural in-migration streams tend to be closely linked to the “hegemonic success of idyll-type social representations of the rural [...]”. Moreover, these representations tend to introduce new local power balances within rural community. In a highly perceptive study, Halfacree and Boyle illustrate the nature and origin of these emerging struggles:

[...] the migrant's experienced reality of the rural environment is often perceived to be at odds with their representational blueprint. Such dissonance is reflected in an increasing number of disputes between farmers and incomers unhappy with the sights, sounds and smells of the countryside (1998: 11).

For some, the relative importance of migration influx within a rural community may be indicative of specific socio-political trajectories. Thus, the predominance of migrant residents over long-standing residents could well reflect the prevalence of preservationist attitudes over developmental ones (Marsden, 1995). From this socio-political perspective, rural changes could be typified by the “shift from an agricultural veto to an in-migrant dominated preservationist veto” (Halfacree and Boyle, 1998:11). Behind this voluntary dichotomous portrait, more complex social polarization could prevail. From the examination of some landscape appropriation

practices in Quebec, Tremblay and Poullaouec-Gonidec (2000) suggest that an “aesthetic community” evolves over time according to the way this community attaches importance to a given space. In this context, the migrant-local dichotomy may not exactly mirror the polarization leading to the construction of such networks. For instance, migrants associated with “conventional farming” practices and those associated with “landscape aesthetic consumption” practices (section 5.2.3.2) may project views of the rural landscape at odds with one another. As shown in Havelock Township (Paquette and Domon, 2000a; 2000b) and elsewhere (Allan and Mooney, 1998), this is all the more plausible since these social groups are no longer homogeneous. Thus, how would rural recomposition shape new local socio-politic conditions? Under which circumstances and in which manner (e.g. through political actions, local associative groups, etc.) could a given social group, albeit a minority (such as migrants), influence the way the countryside is perceived? How do these perceptions reflect values that may ultimately challenge and override existing rural planning strategies and programs?

Otherwise, many researchers agree that rural repopulation gives rise to new opportunities as well as new threats for housing, demographic and economic conditions (Newby, 1990; Stockdale et al., 2000). Even more importantly, this repopulation makes new demands with regard to future rural planning (Paquette and Domon, 2000c). The increasing diversity of aspirations resulting from social recomposition questions traditional land (and landscape) planning methods (e.g. farming and forestry development). In southern Quebec, new rural development initiatives integrating landscape dimensions have confirmed the necessity for

multiple-use resource planning. Moreover, they have enhanced the adherence and the cohesion of individuals formerly advocating divergent views (Paquette and Domon, 2000c). In order to manage rural changes (Newby, 1990), many researchers conclude that rural development must be grounded more on a selected set of priorities and guidelines reflecting both local interests and innovative approaches, and less on one all-inclusive "top-down" strategy prescribed for every rural community. Through such a development, rural residents are invited to clarify what kind of landscapes (and communities) they want to redefine, indeed even reinvent (Domon and Paquette, 1999), for the benefit of both migrant and local residents (Stockdale et al, 2000). In this way, migrants have to be aware "of their own role in changing the rural, through social and/or physical change" (Halfacree and Boyle, 1998: 11).

### **5.5 Conclusion**

At the regional, local as well as domestic scale, this exploratory study divulges specific trends regarding social recomposition and landscape dynamics relationships.

First, regional typological outlines indicate the polymorphous nature of contemporary rural areas. Moreover, they exhibit the increasing dissociation between agricultural and sociodemographic trajectories. The paradoxical demographic growth of some rural municipalities showing regressing agriculture exemplifies this tendency.

Second, changes in lot occupation documented within the Havelock Township case study reveal new residential settlement patterns induced by the influx of migrants.

Even more interesting, some of these in-migration flows appear significantly associated with specific landscape contexts. Although it does not stand for one all-

encompassing process, some landscape characteristics attractiveness seems a determining force shaping the social recomposition of rural communities. Third, from the local to domestic analysis level, rural in-migration proves to have dissimilar influences on ongoing landscape dynamics. With the exception of confined agricultural abandonment trajectories, migrant relocation does not prove to imprint singular landscape changes at the local scale. In contrast, results reveal that migrants are significantly associated to specific domestic practices once in place. These results suggest a relative dissociation between social in-migration dynamics and local land use development. As well, they point out the indisputable necessity for micro-level investigations. More fundamentally, the observed phenomena are indicative of new residents' identities in rural places and evoke specific values for the landscape's qualitative dimensions. From a planning perspective, these new discourses on rurality compel us to re-evaluate traditional planning methods, and encourage new rural development initiatives.

From a methodological point of view, this study has attempted more to initiate the establishment of a framework of analysis enabling the exploration of the diversity and the complexity of social recomposition and landscape dynamics relationships than to explain the processes involved. Given its exploratory character, this study paves the way for further research directions. Beyond the recognition of multi-level manifestations of both social and landscape dynamics, it is crucial now to better understand how they emerge and which combination of factors seem to support them.

Since landscape attractiveness appears significantly associated with particular in-migration moves, more in-depth investigations of underlying motives for migration

are required (Halliday and Coombes, 1995). Many researchers stress the need for an analysis of rural discourse and emphasize its heuristic nature in unveiling rural migratory processes (Boyle and Halfacree, 1998). For example, during interviews with migrants, an analysis of the language used may reveal specific conceptions (or misconceptions) of naturalness (Domon and Paquette, 1999) indicative of preservationist attitudes. In this case, narratives are especially helpful in revealing how specific social representations appear to shape distinct images of the rural landscape for both migrants and locals, and how landscape consumption based images may compete with and/or influence more everyday and deep-rooted images (Lowenthal, 1997). For landscape planning, such analysis is helpful in anticipating occurrences of social polarization and creating innovative strategies able to reconcile the divergent views expressed by distinct social networks.

Ultimately, it is the relative influence of the landscape (in both physical and symbolic forms) as a driving force in social recomposition that must be evaluated. Such an evaluation must be conducted from both spatial and temporal perspectives. As shown in our case study, landscape attractiveness contributes to shape spatially selective recomposition processes. More investigation is needed to document the spatial recurrence of this process. At the same time, we have to evaluate how such manifestations could present themselves within distinct time-lags from one region to the other. As a symbolic form, the landscape refers to an ever-changing set of culturally constructed meanings (Poullaouec-Gonidec, 1994; Poullaouec-Gonidec and Domon, 1999). In this context, it is necessary to emphasize the way collective representations and symbolic emblems of rural landscape such as the old (pastoral,

picturesque, etc.) as well as the novel (e.g. new environmental values – Tremblay and Poullaouec-Gonidec, 2000), persist or change over time to better understand contemporary attitudes.

In addition to an analysis of motivations, a detailed examination of smaller-scale practices needs to be pursued. Documenting practices is essential because they reflect both conscious and unconscious motives (Lewis, 1979). From our study, we may assume that some domestic practices result from non-verbalized motives, even unconscious decision-making. When explaining their residential relocation choices, respondents rarely identify the landscape (or scenery) as a potential factor, even in situation where their domestic practices (e.g. view-oriented house) reflect obvious landscape aesthetic values. Thus, a comparative analysis of the residents' practices and motivations enables us to better assess the gap that still exists between discernible practices and their discourse. As well, such analysis may help to anticipate future landscape transformations by identifying latent changes, namely, potential practices expressed through discourse and aspirations. In parallel with domestically based investigations, an analysis of this kind may also contribute to a better understanding of local land use dynamics. It could help to clarify the role of migrants, local landowners and tenants with respect to agricultural activities by distinguishing between their respective intentions as well as real participation in these activities. This empirical material could allow us to show how informal collaborations between migrant landowners and local tenant farmers contribute to a spontaneous social convergence for the benefit of landscape attributes maintenance. Conversely, it could also better define when and where farming practices are

vulnerable to eventual agricultural abandonment. This knowledge would help to guide further landscape planning recommendations.

## RÉFÉRENCES

Abu-Ghazze, T. M., 2000. Environmental Messages in Multiple-Family Housing: Territory and Personalization, *Landscape Research*, 25: 97-115.

Allan, J. et Mooney, E., 1998. Migration into Rural Communities: Questioning the Language of Counterurbanisation. In Boyle, P. et Halfacree, K. (Eds.) *Migration into Rural Areas: Theories and Issues*, John Wiley & Sons, Chichester, pp. 280-302.

Allanson, P. et Moxey, A., 1996. Agricultural Land Use Change in England and Wales, 1892-1992, *Journal of Environmental Planning and Management*, 39: 243-254.

Archambault, L., 1995. *Les fermes centenaires du canton de Brome comme exemple de mutation des paysages agro-forestiers du champ urbain de Montréal*, Travail dirigé présenté en vue de l'obtention du grade de M.Sc.A., Faculté de l'aménagement, Université de Montréal.

Baudry, J., 1993. Landscape Dynamics and Farming Systems: Problems of Relating Patterns and Predicting Ecological Changes. In Bunce, R. G. H., Ryszkowski, L. et Paoletti, M. G. (Eds.) *Landscape Ecology and Agroecosystems*, Lewis Publishers, Boca Raton, pp. 21-40.

Beesley, K. B., 1988. Living in the Urban Field. In P. M. Coppack, L. H. Russwurm et C. R. Bryant (Eds.) *Essays on Canadian Urban Process and Form III: The Urban Field*, Department of Geography Publication Series No. 30, University of Waterloo, Waterloo, pp. 131-156.

Beesley, K. B. (Ed.), 1991. *Rural and Urban Fringe Studies in Canada*. Geographical Monographs, vol. 21, Atkinson College, York University, North York.



Berque, A., 1990. *Médiances, de milieux en paysages*. Reclus, Montpellier.

Bertrand, G., 1978. Le Paysage entre la Nature et la Société, *Revue Géographique des Pyrénées et du Sud-Ouest*, 49: 239-258.

Bloch, M., 1995. Devenir le paysage. La clarté pour les Zafimaniry. In *Paysage au pluriel. Pour une approche ethnologique des paysages*, Éditions de la Maison des sciences de l'homme, Paris, pp. 89-102.

Bouchard, A. et Domon, G., 1997. The Transformations of the Natural Landscapes of the Haut-Saint-Laurent (Québec) and their Implications on Future Resource Management, *Landscape and Urban Planning*, 37: 99-107.

Bourrassa, S. C., 1991. *The Aesthetic of Landscape*. Belhaven Press, London and New York.

Bowers, J. K. et Cheshire, P., 1983. *Agriculture, the Countryside and Land Use. An Economic Critique*. Methuen, London and New-York.

Bowles, R. T. et Beesley, K. B., 1991. Quality of Life, Migration to the Countryside and Rural Community Growth. In K. B. Beesley (Ed.) *Rural and Urban Fringe Studies in Canada*, Geographical monographs No. 21, Atkinson College - York University, North York, Ontario, pp. 45-66.

Boyle, P. et Halfacree, K., 1998. Migration into Rural Areas: A Collective Behaviour Framework. In Boyle, P. et Halfacree, K. (Eds.) *Migration into Rural Areas: Theories and Issues*, John Wiley & Sons, Chichester, pp. 303-316.

British Columbia Forest Service, 1981. *Forest Landscape Handbook*, Information Services Branch, Ministry of Forests, Province of British Columbia.

Brunet, Y., 1980. L'exode urbain, essai de classification de la population exurbaine des Cantons de l'Est, *Canadian Geographer*, 24, 385-405.

Brunger, A. G., Bowles, R. T. et Wurtele, S., 1991. Patterns of Fringe Community: Post World War 2 Settlement near Peterborough, Ontario. In K. B. Beesley (Ed.) *Rural and Urban Fringe Studies in Canada*, Geographical monographs No. 21, Atkinson College - York University, North York, Ontario, pp. 183-207.

Bryant, C. R., Russwurm, L. H. et McLennan, A. G., 1982. *The City's Countryside: Land and its Management in the Rural-Urban Fringe*. Longman, London.

Bureau, L., 1977. Des paysages, des idées, des hommes: le projet collectif de Charlevoix, *Cahiers de géographie du Québec*, 21: 187-220.

Cadiou, N. et Luginbühl, Y., 1995. Modèles et représentations du paysage en Normandie-Maine. In *Paysage au pluriel. Pour une approche ethnologique des paysages*, Éditions de la Maison des sciences de l'homme, Paris, pp. 19-34.

Canevet, C., 1992. La Dynamique des Espaces Ruraux en Bretagne. In Hérin, R. (Ed.) *Géographie sociale: Quelles campagnes pour demain?*, Centre de Publications de l'Université de Caen, Angers, pp. 483-495.

Champion, T., 1998. Studying Counterurbanisation and the Rural Population Turnaround. In Boyle, P. et Halfacree, K. (Eds.) *Migration into Rural Areas: Theories and Issues*, John Wiley & Sons, Chichester, pp. 21-40.

Clark Labs for Cartographic Technology and Geographic Analysis, 1997. *Idrisi Geographic Analysis System*, version 2.0, Worcester, USA.

Clout, H., 1986. Population Changes in Rural Britain: a Review, *Espace, Populations et Sociétés*, 3: 19-32.

Coeterier, J. F., 1994. Non-agricultural Use of the Countryside in the Netherlands: What is Local Opinion, *Landscape and Urban Planning*, 29: 55-69.

Coppack, P. M., 1988. The role of amenity. In Coppack, P. M., Russwurm, L. H. et Bryant, C. R. (Eds.) *Essays on Canadian Urban Process and Form III: The Urban Field*, Department of Geography Publication Series No. 30, University of Waterloo, Waterloo, pp. 41-55.

Dahms, F., 1998. Settlement Evolution in the Arena Society in the Urban Field, *Journal of Rural Studies*, 14: 299-320.

Dahms, F. et Hallman, B., 1991. Population Change, Economic Activity and Amenity Landscapes at the Outer Edge of the Urban Fringe. In K. B. Beesley (Ed.) *Rural and Urban Fringe Studies in Canada*, Geographical monographs No. 21, Atkinson College - York University, North York, Ontario, pp. 67-90.

Dahms, F. et McComb, J., 1999. 'Counterurbanization', Interaction and Functional Change in a Rural Amenity Area - a Canadian Example, *Journal of Rural Studies*, 15: 129-146.

Daniel, T. C. et Vining, J., 1983. Methodological Issues in the Assessment of Landscape Quality. In Altman, I. et Wohlwill, J. F. (Dir.) *Behavior and the Natural Environment*, Plenum Press, New York and London, pp. 39-84.

Deslauriers, P., Marois, C. et Bryant, C., 1991. Les processus agissant sur l'agriculture péri-urbaine montréalaise depuis 1980. In K. B. Beesley (Ed.) *Rural and Urban Fringe Studies in Canada*, Geographical monographs No. 21, Atkinson College - York University, North York, Ontario, pp. 211-238.

Després, C., 1991. The Meaning of Home: Literature Review and Directions for Future Research and Theoretical Development, *Journal of Architecture and Planning Research*, 8: 96-115.

Domon, G., 1994. La transformation du contexte d'exploitation et l'avenir des paysages agro-forestiers du sud du Québec, *Trames*, 9: 13-19.

Domon, G., 1997. Mise en valeur des paysages et petites collectivités: enjeux et perspectives, *Actes du Symposium sur la ruralité et le développement des petites collectivités*, Chaire en développement des petites collectivités, UQAT, pp. 110-116.

Domon, G. et Falardeau, J. (Eds.), 1995. *Méthodes et réalisations de l'écologie du paysage pour l'aménagement du territoire*. IVe congrès de la Société canadienne d'écologie et d'aménagement du paysage, Université Laval, Polyscience Publications Inc.

Domon, G. et Paquette, S., 1999. Les zones rurales du sud du Québec: territoires de mouvance, territoires à reconstruire. In Poullaouec-Gonidec, P., Gariépy, M. et Lassus, B. (Eds.) *Le paysage: territoire d'intentions*, Harmattan, Montréal et Paris, pp. 55-78.

Domon, G., Bouchard, A. et Gariépy, M., 1993. The Dynamics of the Forest Landscape of Haut-Saint-Laurent (Québec, Canada): Interactions between Biophysical Factors, Perceptions and Policy, *Landscape and Urban Planning*, 25: 53-74.

Domon, G., Beaudet, G. et Lacasse, O., 1997. Les méthodes de caractérisation des paysages: revue des approches visuelles, éco-géographiques et spatio-temporelles. Rapport de recherche, Chaire en paysage et environnement.

- Domon, G., Beudet, G. et Joly, M., 2000. *Évolution du territoire laurentidien: Caractérisation et gestion des paysages*. Isabelle Quentin éditeur, St-Hyacinthe (Québec) et Paris.
- Donadieu, P., 1998. *Campagnes Urbaines*. Actes Sud / École Nationale Supérieure du Paysage, Arles, France.
- Dubot, F. et Lizet, B., 1995. Pour une ethnologie du paysage. In *Paysage au pluriel. Pour une approche ethnologique des paysages*, Éditions de la Maison des sciences de l'homme, Paris, pp. 225-240.
- Fitchen, J. M., 1994. Residential Mobility Among the Rural Poor, *Rural Sociology*, 59: 416-436.
- Forman, R. T. T. et Godron, M., 1986. *Landscape Ecology*. John Wiley & Sons, New York et Toronto.
- Fortin, G., 1971. *La fin d'un règne*. Hurtubise HMH, Montréal.
- Fortin, G., 1988. Quelques réflexions sur un séminaire. *Recherches sociographiques*, 29: 455-460.
- Frémont, A., 1974. Recherches sur l'espace vécu, *Espace géographique*, 3: 231-238.
- Friedland, W. H., 1982. The End of Rural Society and the Future of Rural Sociology, *Rural Sociology*, 47: 589-608.
- Fuguitt, G. V., 1985. The Nonmetropolitan Turnaround, *Annual Review of Sociology*, 11: 259-280.
- Fuguitt, G. V., Beale, C. L., Fulton, J. A. et Gibson, R. M., 1998. Recent Trends in Nonmetropolitan Cities and Villages: From the Turnaround, Through Reversal, to the

Rebound. In Schwarzweller, H. K. et Mullan, B. P. (Eds.) *Research in Rural Sociology and Development: Focus on Migration*, Vol. 7, Stamford (Ct) and London (England), Jai Press Inc, pp. 1-21.

George, P. (Ed.), 1970. *Dictionnaire de la Géographie*. PUF, Paris.

Gerardin, V. et Lachance, Y., 1997. *Vers une gestion intégrée des bassins versants. Atlas du cadre écologique de référence du bassin versant de la rivière Saint-Charles, Québec, Canada*. Min. de l'Environnement et de la Faune du Québec - Min. de l'Environnement du Canada.

Gorton, M., White, J. et Chaston, I., 1998. Counterurbanisation, Fragmentation and the Paradox of the Rural Idyll. In Boyle, P. et Halfacree, K. (Eds.) *Migration into Rural Areas: Theories and Issues*, John Wiley & Sons, Chichester, pp. 215-235.

Halfacree, K. et Boyle, P. 1998. Migration, Rurality and The Post-Productivist Countryside. In Boyle, P. et Halfacree, K. (Eds.) *Migration into Rural Areas: Theories and Issues*, John Wiley & Sons, Chichester, pp. 1-20.

Halliday, J. et Coombes, M., 1995. In Search of Counterurbanisation: Some Evidence from Devon on the Relationship between Patterns of Migration and Motivation, *Journal of Rural Studies*, 11: 433-446.

Halseth, G. et Rosenberg, M., 1990. Conversion of Recreational Residences: A Case Study of Its Measurement and Management, *Canadian Journal of Regional Science*, 13: 99-115.

Hansen, N. M., 1973. *The Future of Nonmetropolitan America: Studies in the Reversal of Rural and Small Town Population Decline*. Lexington Books, Lexington (Massachusetts) et Toronto.

Hart, J. F., 1998. *The Rural Landscape*. The Johns Hopkins University Press, Baltimore and London.

Hervieu, B. et Viard, J., 1996. *Au bonheur des campagnes (et des provinces)*. Éditions de l'Aube, La Tour d'Aigues, France.

Hugo, G. et Bell, M., 1998. The Hypothesis of Welfare-led Migration to Rural Areas: The Australian Case. In Bowle, P. et Halfacree, K. (Eds.) *Migration into Rural Areas: Theories and Issues*, John Wiley & Sons, Chichester, pp. 107-133.

Hummon, D. M., 1989. House, Home, and Identity in Contemporary American Culture. In Low, S. M. et Chambers, E. (Eds.) *Housing, Culture, and Design: A Comparative Perspective*, University of Pennsylvania Press, Philadelphia, pp. 207-228.

Hunziker, M., 1995. The Spontaneous Reafforestation in Abandoned Agricultural Lands: Perception and Aesthetic Assessment by Locals and Tourists, *Landscape and Urban Planning*, 31: 399-410.

Jacobs, P., Gaudreau, R. et Lalonde, G., 1986. *Méthode d'analyse visuelle pour l'intégration des infrastructures de transport*. Ministère des Transports, Service de l'Environnement.

Jean, B., 1989. La question rurale: la ruralité et sa sociologie, *Recherches sociologiques*, 20: 287-309.

Jean, B., 1991. La ruralité québécoise contemporaine: principaux éléments de spécificité et de différenciation. In Vachon, B. (Ed.) *Le Québec rural dans tout ses états*, Boréal, Montréal, pp. 81-105.

Jean, B., 1992. Les espaces ruraux en mutation: vers une typologie des dynamiques rurales. In Hérin, R. (Ed.) *Géographie sociale: Quelles campagnes pour demain?*, Centre de Publications de l'Université de Caen, Angers, pp. 497-506.

Jean, B., 1997. *Territoires d'avenir: Pour une sociologie de la ruralité*. Presses de l'Université du Québec, Québec.

Johnson, K. M., 1998. Renewed Population Growth in Rural America. In Schwarzweller, H. K. et Mullan, B. P. (Eds.) *Research in Rural Sociology and Development: Focus on Migration*, Vol. 7, Stamford (Ct) and London (England), Jai Press Inc, pp. 23-45.

Jolicoeur et al., 1999. Étude des comportements et attitudes des québécois à l'égard de la ruralité et des produits du terroir. *Symposium international sur l'économie des terroirs*, Solidarité Rurale du Québec, Trois-Rivières.

Jollivet, M. (Ed.), 1974. *Les Collectivités Rurales Française, Tome II: Sociétés Paysannes ou Lutte de Classes au Village*. Armand Colin, Paris.

Jollivet, M., 1988. Du paysan à l'agriculteur: le changement social dans le monde rural. In Mendras, H. et Verret, M. (Eds.) *Les champs de la sociologie française*, Armand Colin, Paris, pp. 49-61.

Jollivet, M. (Ed.), 1997. *Vers un rural postindustriel: rural et environnement dans huit pays européens*. L'Harmattan, Paris et Montréal.

Joseph, A. E., Keddie, P. D. et Smit, B., 1988. Unravelling the Population Turnaround in Rural Canada, *Canadian Geographer*, 32: 17-30.

Kayser, B., 1990. *La Renaissance Rurale: Sociologie des campagnes du monde occidental*. Armand Collin, Paris.



Kayser, B. (Ed.), 1993. *Naissance de nouvelles campagnes*. Datar/Éditions de l'aube, Marseille.

Kayser, B. et Bontron, J.-C., 1992. La renaissance rurale à l'épreuve du recensement de 1990. In Hérin, R. (Ed.) *Géographie sociale: Quelles campagnes pour demain?*, Centre de Publications de l'Université de Caen, Angers, pp. 397-404.

Kontuly, T., 1998. Contrasting the Counterurbanisation Experience in European Nations. In Boyle, P. et Halfacree, K. (Eds.) *Migration into Rural Areas: Theories and Issues*, John Wiley & Sons, Chichester, pp. 61-78.

Kristensen, S. P., 1999. Agricultural Land Use and Landscape Changes in Rostrup, Denmark: Processes of Intensification and Extensification, *Landscape and Urban Planning*, 46: 117-123.

Lacasse, O., 1995. *L'amorce du projet de paysage local. Étude de cas: Saint-Étienne-de-Bolton*. Mémoire présenté en vue de l'obtention du grade de M.Sc.A., Faculté de l'Aménagement, Université de Montréal.

Lacoste, Y., 1995. À quoi sert le paysage? Qu'est-ce qu'un beau paysage? In Roger, A. (Dir.) *La théorie du paysage en France 1974-1994*, Champ Vallon, Seyssel, pp. 42-73.

Laframboise, Y., 1999. *Circuits pittoresques du Québec: paysage, architecture, histoire*. Éditions de l'Homme, Montréal.

Langlois, A., Phipps, M. et Leroux, D., 1993. L'analyse des paysages ethnoculturels de l'Ontario de l'Est et du Pontiac (Québec) par l'analyse des correspondances, *Cahiers de Géographie du Québec*, 37: 539-551.

Lefebvre, H., 1970. *Du rural à l'urbain*. Anthropos, Paris.

Lenclud, G., 1995. Ethnologie et paysage. In *Paysage au pluriel. Pour une approche ethnologique des paysages*, Éditions de la Maison des sciences de l'homme, Paris, pp. 3-17.

Lewis, P. F., 1979. Axioms for Reading the Landscape: Some Guides to the American Scene. In Meinig, D. W. (Ed.) *The Interpretation of Ordinary Landscapes: Geographical Essays*, Oxford University Press, New York, pp. 11-32.

Lowenthal, D., 1997. European Landscape Transformations: The Rural Residue. In Groth, P. et Bressi, T. W. (Eds.) *Understanding Ordinary Landscapes*, Yale University Press, New Haven and London., pp. 180-188.

Lucy, W. H. et Phillips, D. L., 1997. The Post-suburban Era Comes to Richmond: City Decline, Suburban Transition, and Exurban Growth, *Landscape and Urban Planning*, 36: 259-275.

Marié, M. et Viard, J., 1988. *La campagne inventée*. Actes Sud, Arles, France.

Marsden, T., 1995. Beyond Agriculture? Regulating the New Rural Spaces, *Journal of Rural Studies*, 11: 285-296.

Mathieu, N., 1996. Rural et urbain: unité et diversité dans les évolutions des modes d'habiter. In Jollivet, M. et Eizner, N. (Eds.) *L'Europe et ses campagnes*, Presses de la fondation nationale des sciences politiques, Paris, pp. 187-213.

Meeus, J. H. A., Wijermans, M. P. et Vroom, M. P., 1990. Agricultural Landscape in Europe and their Transformation, *Landscape and Urban Planning*, 18: 289-352.

Mendras, H., 1984. *La Fin des Paysans, suivi d'une réflexion sur la fin des paysans: vingt ans après*. Actes Sud, Paris.

- Mougenot, C., 1986. Les populations rurales: évolutions et perceptions en Wallonie. *Espace, Populations et Sociétés*, 3: 11-18.
- Murdoch, J. et Pratt, C. A., 1993. Rural Studies: Modernism, Postmodernism and the 'Post-rural', *Journal of Rural Studies*, 9: 441-427.
- Murdoch, J. et Day, G., 1998. Middle Class Mobility, Rural Communities and the Politics of Exclusion. In Boyle, P. et Halfacree, K. (Eds.) *Migration into Rural Areas: Theories and Issues*, John Wiley & Sons, Chichester, pp. 186-199.
- Naveh, Z. et Lieberman, A. S., 1984. *Landscape Ecology: Theory and Application*. Springer-Verlag, New-York.
- Newby, H., 1990. Revitalizing the Countryside: the Opportunities and Pitfalls of Counter-urban Trends, *Journal of Royal Society of Arts*, 138: 630-636.
- Northwood Geoscience Ltd., 1996. *Vertical Mapper*, version 1.5, Nepean, Ontario.
- O'Rourke, E., 1999. The Causse Méjan: Changing Relationships between Agriculture, Environment and Society within a French National Park, *Landscape Research*, 24: 141-166.
- Pan, D., Domon, G., de Blois, S. et Bouchard, A., 1999. Temporal (1958-1993) and Spatial Patterns of Land Use Changes in Haut-Saint-Laurent (Québec, Canada) and their Relation to Landscape Physical Attributes, *Landscape Ecology*, 14: 35-52.
- Paquette, S. et Domon, G., 1997. The Transformation of the Agroforestry Landscape in Nineteenth Century: a Case Study in Southern Québec (Canada), *Landscape and Urban Planning*, 37: 197-209.
- Paquette, S. et Domon, G., 1999. Agricultural Trajectories (1961-1991), Resulting Agricultural Profiles and Current Sociodemographic Profiles of Rural Communities

in Southern Québec (Canada): A Typological Outline, *Journal of Rural Studies*, 15: 279-295.

Paquette, S. et Domon, G., 2000a. Trends in Rural Landscape Development and Sociodemographic Recomposition in Southern Quebec (Canada), *Landscape and Urban Planning*, sous presse.

Paquette, S. et Domon, G., 2000b. Rural Domestic Landscape Changes: A Survey of the Residential Practices of Local and Migrant Populations, accepté pour publication dans la revue *Landscape Research*.

Paquette, S. et Domon, G., 2000c. Le paysage comme agent de recomposition des communautés rurales du sud du Québec: nouvelles opportunités, nouvelles exigences. In Carrier, M. et Côté, S. (Eds.) *Gouvernance et territoires ruraux: Éléments d'un débat sur la responsabilité du développement*, Presses de l'Université du Québec, Québec, pp. 189-222.

Paquette, S. et Domon, G., 2001. Changing Ruralities, Changing Landscapes: Exploring Social Recomposition Through a Multi-scale Approach, soumis pour publication.

Phipps, M., Langlois, A. et Jiang, W., 1994. Les marqueurs de l'identité ethno-linguistique dans les paysages ruraux: L'Ontario de l'est et le Pontiac (Québec), *Canadian Geographer*, 38: 61-75.

Poudevigne, I. et Alard, D., 1997. Landscape and Agricultural Patterns in Rural Areas: a Case Study in the Brionne Basin, Normandy, France, *Journal of Environmental Management*, 50: 335-349.

Poullaouec-Gonidec, P., 1994. Esthétique des paysages de la modernité, *Trames*, 9: 29-34.

Poullaouec-Gonidec, P., Martin, P.-L. et Epstein, J.-A., 1993. *Trois regards sur le village de Verchères: Essai de caractérisation du paysage*, rapport de recherche préparé pour le ministère de la Culture et des Communications du Québec, Université de Montréal.

Poullaouec-Gonidec, P. et Domon, G., 1999. Nature et contribution du suivi de l'évolution des paysages: le cas du SMVP (Système de monitoring visuel des paysages). In *Prévoir l'avenir: les évaluations d'impacts pour un nouveau siècle*, Les actes du 4<sup>ème</sup> Colloque international des spécialistes francophones en évaluation d'impacts. Secrétariat francophone de l'Association internationale pour l'évaluation d'impacts, University of Strathclyde, Glasgow, Écosse, pp. 213-234.

Poullaouec-Gonidec, P., Gariépy, M. et Lassus, B. (Eds.), 1999. *Le paysage: territoire d'intentions*. Harmattan, Montréal et Paris.

Primdahl, J., 1999. Agricultural Landscapes as Places of Production and for Living in Owner's Versus Producer's Decision Making and Implications for Planning, *Landscape and Urban Planning*, 46: 143-150.

Raffestin, C., 1977. Paysage et Territorialité, *Cahiers de Géographie de Québec*, 21: 123-134.

Raveneau, J., 1977. Analyse morphologique, classification et protection des paysages: le cas de Charlevoix, *Cahiers de géographie du Québec*, 21: 135-186.

Relph, E., 1976. *Place and Placelessness*. Pion limited, London.

Riebsame, W. E., Gosnell, H. et Theobald, D. M., 1996. Land Use and Landscape Change in the Colorado Mountains. 1. Theory, Scale, and Pattern. *Mountain Research Development*, 16: 395-405.

- Riley, R. R., 1993. Thoughts on the New Rural Landscape, *Places*, 8: 84-89.
- Robinson, G. M., 1990. *Conflict and Change in the Countryside: Rural Society, Economy and Planning in the Developed World*. Belhaven Press, London and New York.
- Roger, A., 1994. Histoire d'une passion théorique ou Comment on devient un Raboliot du Paysage. In Berque, A. (Dir.) *Cinq propositions pour une théorie du paysage*, Champ Vallon, Seyssel, pp. 107-123.
- Roger, A. (Ed.), 1995. *La Théorie du Paysage en France (1974-1994)*. Champ Vallon, Seyssel.
- Rougerie, G. et Beroutchachvili, N., 1991. *Géosystèmes et Paysages, Bilan et méthodes*. Armand Colin, Paris.
- Ryan, R. L., 1998. Local Perceptions and Values for a Midwestern River Corridor. *Landscape and Urban Planning*, 42: 225-237.
- Salamon, S. et Tornatore, J. B., 1994. Territory Contested Through Property in a Midwestern Post-Agricultural Community, *Rural Sociology*, 59: 636-654.
- Sanguin, A. L., 1981. La géographie humaniste ou l'approche phénoménologique des lieux, des paysages et des espaces, *Annales de Géographie*, 501: 560-587.
- Schein, R. H., 1997. The Place of Landscape: A Conceptual Framework for Interpreting an American Scene, *Annals of the Association of American Geographers*, 87: 660-680.
- Shumway, J. M. et Davis, J. A., 1996. Nonmetropolitan Population Change in the Mountain West: 1970-1995, *Rural Sociology*, 61: 513-529.

Simon, J.-F., 1994. Rurbanisation et paysage: Le cas de Plouzané (Finistère). In *Paysage au pluriel: Pour une approche ethnologique des paysages*, Éditions de la Maison des sciences de l'homme, Paris, pp. 115-122.

Simpson, J. W., Boerner, R. E. J., Demers, M. N., Berns, L. A., Artigas, F. J. et Silva, A., 1994. Forty-eight Years of Landscape Change on Two Contiguous Ohio Landscapes, *Landscape Ecology*, 9: 261-270.

Smardon, R. C., 1986. Review of Agency Methodology for Visual Project Analysis. In Smardon, R. C., Palmer, J. F. et Felleman, J. P. (Eds.) *Foundations for Visual Project Analysis*, John Wiley & Sons, New-York, pp. 141-166.

Stockdale, A., Findlay, A. et Short, D., 2000. The Repopulation of Rural Scotland: Opportunity and Threat, *Journal of Rural Studies*, 16: 243-257.

Sullivan, W. C., 1994. Perceptions of the Rural-urban Fringe: Citizen Preferences for Natural and Developed Settings. *Landscape and Urban Planning*, 29: 85-101.

Swaffield, S. et Fairweather, J., 1998. In Search of Arcadia: The Persistence of the Rural Idyll in New Zealand Rural Subdivisions, *Journal of Environmental Planning and Management*, 41: 111-127.

Theobald, D. M., Gosnell, H. et Riebsame, W. E., 1996. Land Use and Landscape Change in the Colorado Mountains. 2. A Case Study of the East River Valley, *Mountain Research Development*, 16: 407-418.

Thomas, J. K., Howell, F. M., Wang, G. et Albrecht, D. E., 1996. Visualizing Trends in the Structure of US Agriculture, 1982 to 1992, *Rural Sociology*, 61: 349-374.

Thomson, L. M. et Mitchell, C. J. A., 1996. Counterurbanization in Waterloo Region: The Lure of the Countryside. In Filion, P., Bunting, T. et Curtis, K. (Eds.) *The*

*Dynamics of the Dispersed City: Geographic and Planning Perspectives on Waterloo Region*, Department of Geography publications series No. 47, Waterloo, pp. 303-328.

Thomson, L. M. et Mitchell, C. J. A., 1998. Residents of the Urban Field: A Study of Wilmot Township, Ontario, Canada, *Journal of Rural Studies*, 14: 185-201.

Tremblay, F. et Poullaouec-Gonidec, P., 2000. Contre le tout paysage: pour des émergences et ... des oublis, Cahier du CELAT, Université Laval, Québec, sous presse.

Troughton, M. J., 1983. Exurban Development and Land Transformation: the Case of Ontario, *Landscape Planning*, 10: 335-354.

Tuan, Y.-F., 1974. *Topophilia: a Study of Environmental Perception, Attitudes, and Values*. Englewood Cliffs, New Jersey: Prentice-Hall.

Vachon, B., 1986. Le peuplement des régions rurales du Québec face aux phénomènes de dénatalité et de désurbanisation, *Espace, Populations et Sociétés*, 3: 85-94.

Vachon, B., 1995. La mutation des espaces ruraux: nouvelles réalités, nouveau mode d'emploi. In Côté, S., Klein, J.-L. et Proulx, M.-U. (Eds.) *Et les régions qui perdent...?*, Université du Québec à Rimouski (GRIDEQ), Rimouski, pp. 357-377.

Villeneuve, L., 1999. *Paysage, mythe et territorialité: Charlevoix au XIXe siècle: pour une nouvelle approche du paysage*. Presses de l'Université Laval, Sainte-Foy, Québec.

Vos, H. et Meekes, H., 1999. Trends in European Cultural Landscape Development: Perspectives for a Sustainable Future, *Landscape and Urban Planning*, 46: 3-14.



Walmsley, D. J., Epps, W. R. et Duncan, C. J., 1998. Migration to the New South Wales North Coast 1986-1991: Lifestyle Motivated Counterurbanisation, *Geoforum*, 29: 105-118.

Willits, F. K. et Luloff, A. E., 1995. Urban Residents' Views of Rurality and Contacts with Rural Places, *Rural Sociology*, 60: 454-466.

Yu, K., 1995. Cultural Variations in Landscape Preference: Comparisons among Chinese Sub-groups and Western Design Experts, *Landscape and Urban Planning*, 32: 107-126.

Zmyslony, J. et Gagnon, D., 2000. Path Analysis of Spatial Predictors of Front-yard Landscape in an Anthropogenic Environment, *Landscape Ecology*, 15: 357-371.

Zube, E. H., Sell, J. L. et Taylor, J. G., 1982. Landscape Perception, Research, Application and Theory, *Landscape Planning*, 9: 1-35.