



Research Paper

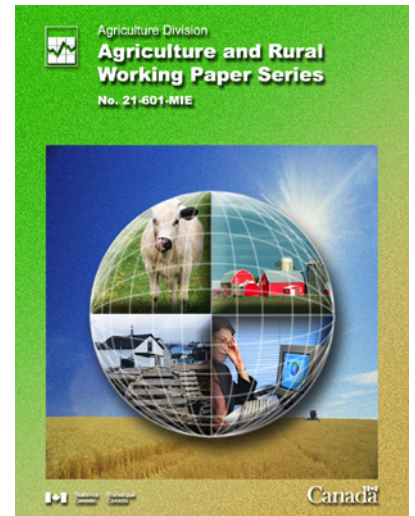
Definitions of “Rural”

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The responsibility of the analysis and interpretation of the results is that of the author and not of Statistics Canada.



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Note of appreciation

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Abstract

Several definitions of “rural” are available for national and provincial analysis using the databases at Statistics Canada. We compare six in this paper. Each definition emphasizes different criteria (population size, density, context) and has different associated thresholds. The size of the territorial units (building blocks) from which each definition is constructed also varies.

As a result, an analyst’s choice of “rural” definition matters. Different definitions generate a different number of “rural” people. Even if the number of “rural” people is the same, different people will be classified as “rural” within each definition. In general, each definition provides a similar analytical conclusion (e.g., rural people have lower employment rates and lower incomes than the Canadian average) but the level of each characteristic differs for each definition of rural.

We recommend, therefore, that analysts consider the scale of a “rural” issue – whether it is local, community or regional – before selecting a definition. This will influence the type of territorial unit upon which to focus the analysis and the appropriate definition to use.

We also encourage analysts to consider which geographic dimensions are most relevant to the issue at hand – population size, population density, labour market or settlement context – and then choose a definition that incorporates these dimensions.

Rather than using one of the existing definitions, one option available to the analyst is to assign one (or more) “degrees of rurality” to each territorial unit. This may be specific to a policy debate or sub-national issue. Another option is to cross-classify two definitions of rural in order to focus on a specific sub-sector of the rural population.

Our recommendation

We strongly suggest that the appropriate definition should be determined by the question being addressed; however, if we were to recommend one definition as a starting-point or benchmark for understanding Canada’s rural population, it would be the **“rural and small town”** definition. This is the population living in towns and municipalities outside the commuting zone of larger urban centres (i.e. outside the commuting zone of centres with population of 10,000 or more).

Table of Contents

Abstract	1
Table of Contents	2
1.0 Introduction	4
1.1 Research Design.....	4
2.0 Six Alternative Definitions of “Rural”	6
2.1 Building Blocks for Classifying a Geographic Space as Rural	6
2.2 Census “Rural Areas”	8
2.3 “Rural and Small Town” (RST).....	8
2.3.1 “Metropolitan Area and Census Agglomeration Influenced Zones”(MIZ).....	9
2.4 OECD Definitions of “Rural”	10
2.4.1 OECD “Rural Communities”	11
2.4.2 OECD “Predominantly Rural Regions”	12
2.5 “Non-Metropolitan Regions” (modified Beale codes).....	12
2.6 “Rural” Postal Codes	14
2.7 Discussion and Summary.....	15
3.0 Definition Matters	18
3.1 Size of “Rural” Population Varies	18
3.2 Different Definitions Classify Different People as “Rural”	21
3.2.1 Examples of Population Overlap and Non-Overlap.....	21
3.2.2 Population Overlap Summary	24
3.3 Differences in Socio-Economic Characteristics.....	24
3.3.1 Examples of Differences among Census “Rural” and RST Populations.....	25
3.3.2 Characteristics of “Rural” Populations Vary in Cross-Tabulations	27
3.3.3 Summary of Indicator Levels for the Six Definitions	29
4.0 Recommendations for Selecting a Definition of “Rural”	30
4.1 Taking into Account the Geographic Scale of the “Rural” Issue	30
4.2 Taking into Account the Geographic Dimensions of the “Rural” Issue.....	31
4.3 Other Options.....	32
4.3.1 Assigning “Degrees of Rurality”.....	32
4.3.2 Cross-Classifying Two Definitions.....	33
5.0 Summary and Conclusions	34
References	36

List of Figures

Figure 1: Building Blocks for Classifying Geographic Space as “Rural” at Statistics Canada.....	7
Figure 2: OECD Territorial Scheme for “Rural” Data Analysis.....	11
Figure 3: Canada’s “Rural” Population Ranges from 22 percent to 38 percent.....	18
Figure 4: Population Overlap of Census “Rural Areas” and “Rural and Small Town,” Canada, 1996.....	21
Figure 5: Population Overlap of Census “Rural Areas” and OECD “Predominantly Rural Regions,” Canada, 1996.....	22
Figure 6: Population Overlap of “Rural and Small Town” and OECD “Predominantly Rural Regions,” Canada, 1996.....	23
Figure 7: Average Family Income for Census “Rural Areas” and “Rural and Small Town” Populations, Canada, 1996.....	26
Figure 8: Incidence of Low Income for Census “Rural Areas” and “Rural and Small Town” Populations, Canada, 1996.....	26
Figure 9: Percent Commuting (across at least one municipal boundary), Census “Rural Areas” and “Rural and Small Town” Populations, Canada, 1996.....	27
Figure 10: Four Populations that Result from the Cross-Classification of the Census “Rural Areas” and RST Definitions.....	34

List of Tables

Table 1: “Modified Beale Codes” for Canadian Non-Metropolitan Analysis Metropolitan Regions.....	13
Table 2: Alternative Definitions of Rural.....	17
Table 3: Rank of Provinces/Territories from Highest Share (1) to Lowest Share (13) of Canada’s “Rural” Population for each definition of rural.....	19
Table 4: Summary of Results of Cross-Tabulation of RST and Non-Metropolitan Regions Populations in Ontario and Quebec.....	20
Table 5: Degree of Overlap of Alternative Definitions of “Rural,” Canada, 1996.....	24

Appendices

The appendices listed below are now available on Statistics Canada’s Web Site (<http://www.statcan.ca>). From the *Our products and services* page, choose *Research papers (free)*, then *Agriculture*.

Appendix A – History of Changes to the Definition of “Urban Area” and “Rural Area”

Appendix B – Maps of Alternative Definitions of Rural

Appendix C – One View of the Dimensions of “Rurality”

Appendix D – “Rural” Population by Definition for Canada, the Provinces and Territories

Appendix E – Population Overlap of Rural Definitions for Canada, the Provinces and Territories

Appendix F – Indicator Results for Cross-Tabulated Definitions

Appendix G – Indicator Tables by Definition for Canada

Appendix H – OECD Community and Regional Codes for Canada, 1996

Appendix I – Revised “Beale codes” for non-metropolitan analysis in Canada

1.0 Introduction

Rural policy analysts often start with the question, “*What is the size of the rural population?*” We suggest that an appropriate response is, “*The answer depends upon the issue you are addressing. Why are you asking?*”

An answer to this second question is important because several alternative definitions of “rural” are available for national and provincial level policy analysis in Canada. The challenge is to decide which definition to use.

The following are examples of definitions that researchers have used to delineate the “rural” population within the databases at Statistics Canada:

- Census “rural areas”
- “Rural and small town” (RST) and “metropolitan area and census agglomeration influenced zones” (MIZ)
- OECD¹ “rural communities”
- OECD “predominantly rural regions”
- “Non-metropolitan regions” (modified Beale codes)
- “Rural” postal codes

Our objective, in this paper, is to provide information on the overlap and differences among these six alternatives so that analysts can make more informed choices about which definition(s) to use.

1.1 Research Design

We begin by describing and comparing the building blocks, geographic criteria and rural/urban thresholds of the six definitions listed above.

We then ask – “*Does it matter which definition is used for rural research and policy analysis?*” We answer this question in three parts:

<p>Central question: <i>Does definition matter?</i></p>
--

- **Size of “rural” population:** We compare the size of the “rural” population of Canada, the provinces and territories that results using each definition.
- **Population overlap:** We determine the extent to which the alternative definitions overlap the same population. We do this by grouping the selected definitions into twelve pairs, matching each definition of “rural” with the other alternatives,² and

¹ The Organisation for Economic Co-operation and Development (OECD) has 29 member countries. See <<http://www.oecd.org>> for more information, including a list of member countries.

² It was not possible to “pair” the “rural” postal code definition with the two OECD definitions or the “non-metropolitan regions” definition due to limitations of the database and the inexact match between postal code areas and standard census geography.

cross-tabulating the “rural” populations captured by the definitions in each pair at the Canada and provincial/territorial levels.

- **Socio-economic indicator results:** We compare several key socio-economic indicator results for the six definitions nationally. We also compare the results when these indicators are applied to the overlapping and non-overlapping populations produced by the above cross-tabulations at the Canada level.

Based on the results of this research, *What are our recommendations for analysts who are faced with the decision of which definition of “rural” to use?* We turn to this question at the end of the paper and propose a strategy for selecting a definition of “rural” based on the scale and geographic dimensions of the issue at hand. We also describe two other options. Rather than using one of the existing definitions of “rural,” an analyst could:

- assign *degrees of rurality* to territorial units that are specific to a policy debate or sub-national development issue,
- *cross-classify* two definitions.

Data source: The data presented throughout this paper are from custom tabulations of Statistics Canada’s 1996 Census of Population, long questionnaire, private household population. Canada’s private household population includes individuals who occupy private dwellings. Foreign residents and institutional residents are excluded.

2.0 Six Alternative Definitions of “Rural”

Much has been written on the concept of “rural.” The treatises of alternative views are numerous and varied. One of the longstanding debates concerns whether “rural” is a *geographical concept*, a location with identifiable boundaries on a map, or whether it is a *social representation*, a community of interest, a culture and way of life.³

This paper focuses on geographical classifications of “rural.” Within geographic spheres, there are also numerous definitions and debates concerning the meaning of “rural.” Is “rural” a geographic form, distinct from “urban,” that can be identified using measures such as population size or population density in a given area? Is “rural-urban” a continuum defined by functional relationships between people and space? To what extent is the regional context a determining factor when “rural” boundaries are drawn?

In this section, we first describe the geographic “building blocks” and then compare the distinguishing features of six alternative definitions of “rural.”

2.1 Building Blocks for Classifying a Geographic Space as Rural

Geographic analysis of survey data is limited, to a certain extent, by the organization of records within a database. Within the census database, for example, analysts have the choice of retrieving data for a number of standard territorial units (see Statistics Canada, 1999a: 171, for more details). Each territorial unit may be considered a “building block” for classifying geographic space. Since we are focussing on geographical classifications of “rural,” individuals are classified as rural if they live in a territorial unit that is classified as rural.⁴

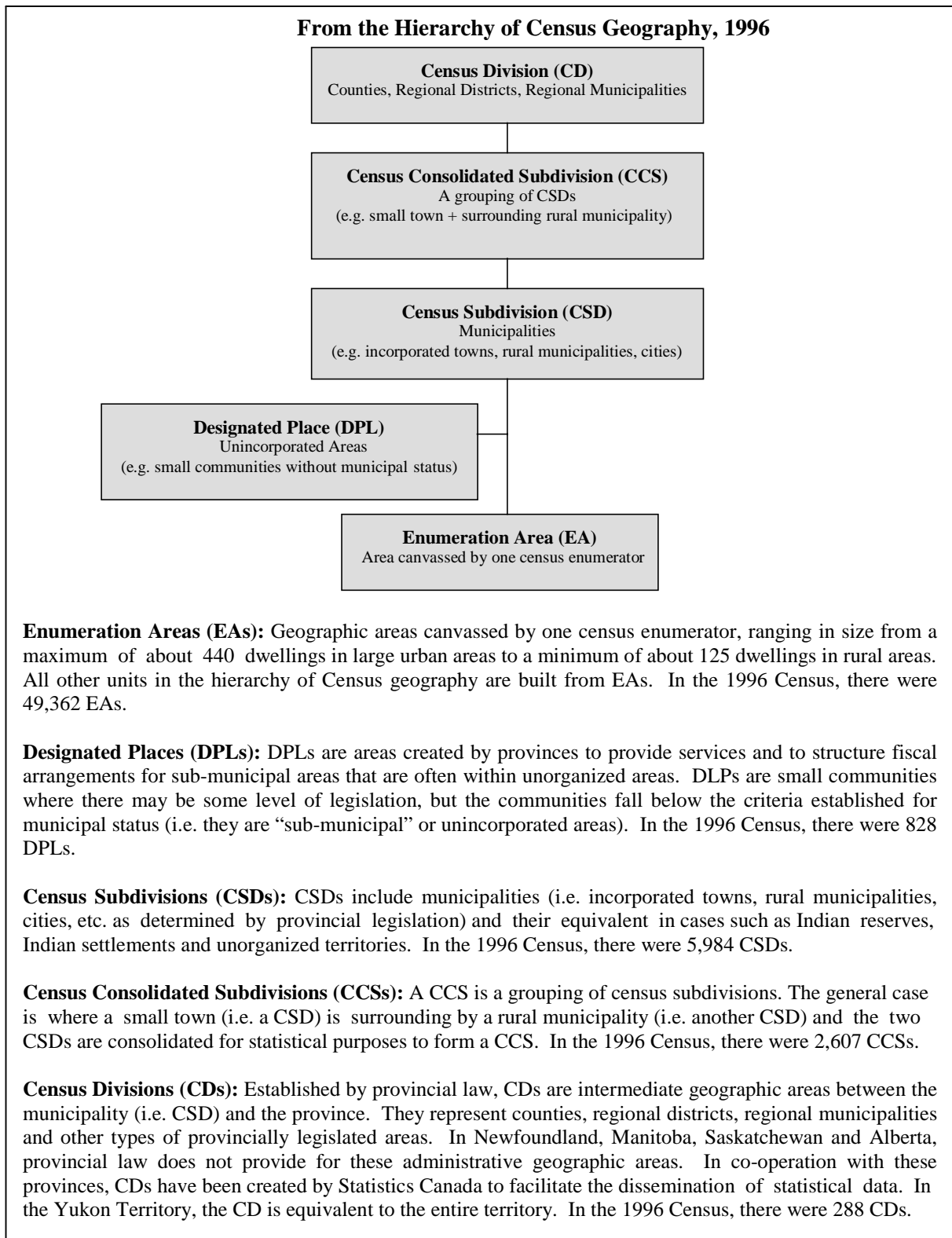
All but one of the definitions summarized below are constructed using territorial units from the hierarchy of census geography. The smallest of these territorial units or building blocks is the group of households that is enumerated by one census enumerator – an *enumeration area* (EA) (see Figure 1). EAs may be grouped into *designated places* (DPLs), which are small, unincorporated communities, or *census sub-divisions* (CSDs), which are incorporated towns and municipalities. CSDs may be grouped into *census consolidated subdivisions* (CCSs). In general, a CCS combines a smaller, more urban CSD (small town or village) with a surrounding, larger, more rural CSD to provide a broader context for a town or municipality. One important larger building block is the *census division* (CD), which is, for example, a county in eastern Canada.

As the building blocks become larger, the geographical scale expands from “neighbourhood” to “community” to “region.”

³ See, for example, Halfacree (1993) and Shucksmith (1994) for a summary of this debate and a presentation of the arguments in support of “rural” as social representation.

⁴ In this paper, our focus is the designation of geographic space as “rural”. The same building blocks may be used for other designations of geographic space – such as tourism-destination communities or environmentally-sensitive areas or manufacturing-dependent regions, etc.

Figure 1: Building Blocks for Classifying Geographic Space as “Rural” at Statistics Canada



Source: Statistics Canada. (1999a).

2.2 Census “Rural Areas”

The 1996 census dictionary defines “rural areas” as “*sparsely populated lands lying outside urban areas*” (Statistics Canada, 1999a: 226). Urban areas are delineated mainly through the analysis of population size and density at the CSD, DPL and EA levels.⁵ They have minimum populations of 1,000 and population densities of 400 or more people per square kilometre, based on the previous census population counts. For a complete list of urban area delineation rules, see Statistics Canada (1999a: 230).

As the residual of urban areas, “rural areas” include the population living *outside* places of 1,000 people or more or *outside* places with densities of 400 or more people per square kilometre. Taken together, rural and urban areas cover all of Canada.

Census “Rural Areas”

- **Population size:** Population living *outside* places of 1,000 people or more OR
- **Population density:** Population living *outside* places with densities of 400 or more people per square kilometre.
- **Building blocks:** EAs

Statistics Canada has published data on rural and urban areas since the first Census of Canada in 1871, four years after Confederation. Census data using the current definitions of rural and urban areas are available back to 1961. See Appendix A for a history of this definition back to 1931.

2.3 “Rural and Small Town” (RST)

“Rural and Small Town” (RST)

- **Labour market context:** Population outside the commuting zone of larger urban centres (of 10,000 or more).
- **Population size/density:** Urban areas with populations less than 10,000 are included in RST together with rural areas if they are outside the main commuting zones of larger urban centres (of 10,000 or more).
- **Building blocks:** CSDs

Rural and small town (RST) refers to the population living outside the commuting zones of larger urban centres – specifically, outside Census Metropolitan Areas (CMAs) and Census Agglomerations (CAs) (Mendelson and Bollman, 1998).

CMAs and CAs contain large “urban areas” (known as urban cores) together with neighbouring CSDs (municipalities) that have a high degree of social and economic integration with the urban core. The degree to which a particular CSD is socially and economically integrated with the urban core is measured mainly by commuter flows, tabulated using place of work data from the census.⁶

⁵ To a limited degree, *distance* and *land usage* are also factors in the delineation of urban areas. Areas not meeting standard thresholds, for example, are designated “urban” when:

- the distance by road between two urban areas is less than 2 kilometres, or
- the difference in land area between the containing CSD (or DPL) and the land area of the contained urban population concentration is less than 10 square kilometres,
- the area in question is a commercial/industrial district, railway yard, park, airport or cemetery that was designated urban in a previous census (Statistics Canada, 1999a:230).

⁶ McNiven, Puderer and Janes (2000) provide a detailed discussion of the concept of commuter flows, outlining the reasons it can be used as a measure of economic and social integration and the rationale behind Statistics Canada’s use of this measure for the delineation of CMAs and CAs.

A CMA has an urban core population of at least 100,000, and includes all neighbouring CSDs (municipalities) where:

- 50% or more of the employed labour force living in the CSD commutes to work in the urban core, or
- 25% or more of the employed labour force working in the CSD commutes to work from the urban core.

The same commuting flow thresholds apply in the delineation of CAs. The only difference is that the urban core of a CA is smaller, between 10,000 - 99,999 people. Some CSDs that do not meet the commuting flow thresholds are included to ensure spatial contiguity and/or historical comparability of CMAs and CAs.

The designation of CMAs and CAs is reviewed after each Census. New places may be designated as urban cores and/or commuting patterns may change causing new municipalities to be included in the commuting zones of CMAs or CAs. For complete details on the rules used to delineate CMAs and CAs, see Statistics Canada, 1999a: 183-190.

RST is the non-CMA/CA population. The boundaries separating RST from CMA/CA distinguish populations with less access to the labour markets of larger urban centres from those with greater access. Because this definition is based on commuter flow thresholds, it is particularly useful for labour market analysis. At the same time, its application is not limited to labour market issues. In broader terms, commuter flows proxy “access” of a population to services such as, health and education facilities, financial institutions, shopping centres, cultural centres and sports facilities. They reflect the relative influence of an “urban centre” on a “rural area” (McNiven, Puderer, and Janes, 2000).

Census data for CMA/CAs and the residual RST population (i.e. the non-CMA/CA population) are available back to 1941 using the particular CMA/CA boundaries of each census year. See Mendelson and Bollman (1998) for an analysis of RST population trends, 1966 to 1996, including an explanation of the impact of CMA/CA boundary changes during this time period for Canada, the provinces and territories.

2.3.1 “Metropolitan Area and Census Agglomeration Influenced Zones”(MIZ)

MIZ is a recent refinement or extension of the CMA/CA/RST concept, developed by Statistics Canada’s Geography Division “to better show the effects of metropolitan accessibility on non-metropolitan areas” (Mendelson, Murphy and Puderer, 2000). This classification system is applied at the CSD level and disaggregates RST (or non-CMA/CA) Canada into four sub-groups⁷ based on size of commuting flows:

⁷ For the dissemination of 2001 census data, the Geography Division at Statistics Canada has developed a new Statistical Area Classification (SAC) that incorporates the MIZ concept. SAC classifies CSDs according to whether they are part of a CMA, a CA, one of the four MIZ sub-groups (strong MIZ, moderate MIZ, weak MIZ, no MIZ), or the territories (i.e., non-CMA/CA census subdivisions in Nunavut, the Northwest Territories and Yukon Territory).

- **Strong MIZ:** 30% or more of the employed labour force living in the CSD work in *any* CMA/CA urban core.
- **Moderate MIZ:** at least 5% but less than 30% of the employed labour force living in the CSD work in *any* CMA/CA urban core.
- **Weak MIZ:** more than 0% but less than 5% of the employed labour force living in the CSD works in *any* CMA/CA urban core.
- **No MIZ:** includes all CSDs that have a small employed labour force (less than 40 people), as well as any CSD that has no commuters to a CMA/CA urban core (i.e. none of the employed labour force living in the municipality works in *any* CMA/CA urban core).

MIZ commuting flows, like those used in the delineation of CMAs and CAs, are calculated using place of work data from the census. In contrast to CMA/CA delineation, however, MIZ recognizes the possibility of *multiple centres of attraction*. Flows of commuters from a municipality in RST Canada to employment in *any* larger urban centre (of 10,000 or more) are combined to determine the degree of influence (strong, moderate, weak or no influence) that one or more larger urban centres have on that municipality (Rambeau and Todd, 2000:3).

Metropolitan Area and Census Agglomeration Influenced Zones (MIZ)

- **Labour market context:** MIZ disaggregates the RST population into four sub-groups based on the size of commuting flows to *any* larger urban centre (of 10,000 or more)
- **Building blocks:** CSDs

For more information on MIZ methodology, see Rambeau and Todd (2000) and McNiven, Puderer and Janes (2000).

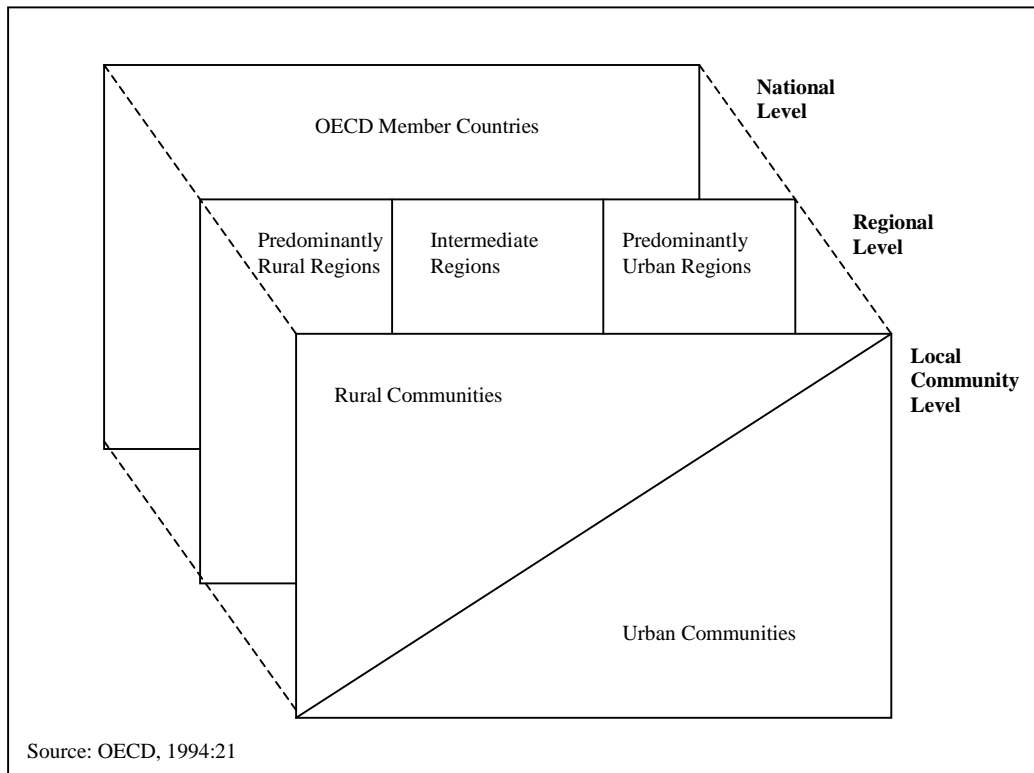
2.4 OECD Definitions of “Rural”

The OECD definitions are part of a territorial scheme for the collection of internationally comparable “rural” data. They were developed for the Rural Indicators Project, an initiative of the OECD Rural Development Programme, launched in 1991 to support analysis and co-operation on rural development across the OECD membership (OECD 1994; OECD, 1996a; OECD, 1996b).

The OECD scheme distinguishes between two levels of geography within nations: a *local community level* and a *regional level* (see Figure 2). Local communities are defined as basic administrative units or small statistical areas. They are classified as *either rural or urban*. Regions are defined as larger administrative units or functional areas, reflecting the “wider context in which rural development takes place” (OECD, 1994: 20). They are described only as being *more or less rural*. According to OECD research, local and regional administrations

generally focus on “rural” issues at the local community level, whereas national and supra-national administrations tend to design and implement “rural” initiatives at the regional level. Both levels are included in the territorial scheme of the Rural Indicators Project because they are viewed as essential for the accurate description of complex rural problems in diverse national and regional contexts (OECD, 1994:21).

Figure 2: OECD Territorial Scheme for “Rural” Data Analysis



2.4.1 OECD “Rural Communities”

The OECD uses a threshold of 150 inhabitants per square kilometre to identify “rural communities.”⁸ This definition is applied in Canada at the level of the census consolidated subdivision (CCS). Thus, all CCSs with population densities below 150 inhabitants per square kilometre are classified as “rural communities.” This includes individuals living in

the countryside, towns and small cities (inside and outside the commuting zone of larger urban centres).

OECD “Rural Communities”

- **Population density:** Population in communities with densities less than 150 people per square kilometre.
- **Building blocks:** CCSs

Before setting its “rural/urban” threshold at 150 inhabitants per square kilometre, the

⁸ The only exception is Japan, where the OECD applies a population density threshold of 500 inhabitants per square kilometre to distinguish between “rural communities” and “urban communities.”

OECD analysed existing thresholds and settlement patterns within Member countries. A review of “national distributions of local communities by density class showed that for most countries changing the threshold to 100 or 200 inhabitants per square kilometre would not lead to major changes in the share of rural population” (OECD, 1994:24).

2.4.2 OECD “Predominantly Rural Regions”

The OECD distinguishes between three types of regions depending on the share of population living in “rural communities:”

- **Predominantly rural regions:** more than 50% of the population lives in a “rural community,”
- **Intermediate regions:** between 15% and 50% of the population lives in a “rural community,”
- **Predominantly urban regions:** less than 15% of the population lives in a “rural community.”⁹

This definition is applied in Canada at the level of the census division (CD).

OECD “Predominantly Rural Regions”

- **Settlement context:** Population in regions where more than 50 percent of the people live in an OECD “rural community.”
- **Building blocks:** CDs

To recognize diversity in “predominantly rural regions,” Statistics Canada has identified three sub-groups using a Beale Code approach: those “adjacent to metropolitan centres,”¹⁰ “not adjacent to metropolitan centres,”¹¹ and “northern regions,”¹².

For more information on the OECD territorial scheme and definitions of rural, see OECD (1994). For a list of the OECD community and regional codes for Canadian CCSs and CDs in 1996, see Appendix H.

2.5 “Non-Metropolitan Regions” (modified Beale codes)

This American classification system was adapted for Canadian non-metropolitan analysis by Ehrensaft (1990). The original codes were developed by Calvin Beale at the United States Department of Agriculture in 1975 and are often referred to as “Beale codes.” Ehrensaft’s “modified Beale codes” (see Table 1) are applied in Canada to census divisions (CDs).

In this classification system, settlement context is as important as population size and density. Two dimensions of “non-metropolitan” settlement context are emphasized:

- adjacency (or lack of adjacency) to a metropolitan area, and

⁹ There are four exceptions. The following CDs are coded “predominantly urban” even though, in each case, more than 15% of residents live in a “rural community”:

- Regional Municipality of Hamilton-Wentworth (includes city of Hamilton, Ontario),
- Middlesex County (includes city of London, Ontario),
- Alberta Census Division No.11 (includes city of Edmonton),
- Capital Regional District (includes the city of Victoria, British Columbia).

¹⁰ See Table 1, codes 4,6,8.

¹¹ See Table 1, codes 5,7,9.

¹² See Table 1, code 10.

- the type of settlement that predominates the local demography (i.e. small cities, small towns, or rural settlements).

Table 1: “Modified Beale Codes” for Canadian Non-Metropolitan Analysis

Metropolitan Regions

Major metropolitan:
Central and fringe census divisions (CDs) of urban settlements of 1 million or more people
Code 0 – Central CDs of urban settlements of 1 million or more people
Code 1 – Fringe CDs of urban settlements of 1 million or more people

Mid-sized metropolitan:
Code 2 – CDs containing urban settlements of 250,000 to 999,999 people

Smaller metropolitan:
Code 3 – CDs containing urban settlements of 50,000 to 249,999 people

Non- Metropolitan Regions

Non-metropolitan small city zone:
Non-metropolitan CDs containing urban settlements of 20,000-49,999 people
Code 4 – adjacent to a metropolitan area
Code 5 – not adjacent to a metropolitan area

Small town zone:
Non-metropolitan CDs containing urban settlements of 2,500 to 19,999 people
Code 6 – adjacent to a metropolitan area
Code 7 – not adjacent to a metropolitan area

Predominantly rural:
Non-metropolitan CDs containing no urban settlements (i.e., no places of 2,500 or more people)
Code 8 – adjacent to a metropolitan area
Code 9 – not adjacent to a metropolitan area

Northern hinterland:
Code 10 – CDs that are entirely or in major part north of the following parallels by region: Newfoundland, 50th; Quebec and Ontario, 49th; Manitoba, 53rd; Saskatchewan, Alberta, and British Columbia, 54th; and all of the Yukon, Northwest Territories, and Nunavut

Sources: Ehrensaft (1990) and Ehrensaft and Beeman (1992).

“Metropolitan regions” (also referred to by Ehrensaft as “metropolitan areas”) are CDs containing Canada’s “major urban settlements” (of 50,000 or more people). “Urban settlements” are defined as places with populations of 2,500 or more (following the American concept of “urban”¹³).

Metropolitan regions are subdivided into three groups based on urban settlement size: *major metropolitan* (urban populations of 1 million or more), *mid-sized metropolitan* (urban populations of 250,000 to 999,999) and *smaller metropolitan* (urban populations of 50,000 to 249,999). In the case of major metropolitan regions (1 million residents or more), a separate

¹³ See Weiss, Ratcliffe and Torrieri (1993) for more details on American geographic concepts.

**“Non-Metropolitan Regions”
(Ehrensaft’s “Beale codes”)**

- **Settlement context:** Population living outside regions with major urban settlements of 50,000 or more people. Non-metropolitan areas are subdivided into three groups based on settlement type, and a fourth based on location in the North. The groups based on settlement type are further divided into “metropolitan adjacent” and “not adjacent” categories.
- **Population size:** Non-metropolitan regions include urban settlements with populations of less than 50,000 people and areas with no urban settlements (where “urban settlements” are defined as places with a population of 2,500 or more).
- **Building blocks:** CDs

code is assigned depending on whether a CD is central or more peripheral within the metropolitan area (see Table 1). Non-metropolitan regions – those not forming all or part of a metropolitan region – are subdivided into three groups based on the type of settlements they contain (i.e. non-metropolitan small city zone, small town zone and predominantly rural) and a fourth based on location in the North. The first three non-metropolitan groups are further divided into “metropolitan adjacent” and “not adjacent” categories (see Table 1).

Researchers in Statistics Canada’s Micro-economic Analysis Division recently attempted to replicate Ehrensaft’s eleven

codes for analysis of the changing geography of Canada’s manufacturing sector, 1976 to 1997; however, they encountered several difficulties because of the lack of documentation describing the original classification process. They also found that many of Ehrensaft’s non-metropolitan categories included only a small number of manufacturing plants, which would have resulted in the suppression of some results in order to preserve confidentiality. To overcome these difficulties, they modified Ehrensaft’s codes, collapsing the original eleven categories into six. Then they replicated the modified codes for Canada’s census divisions, for each census year, 1976 to 1996.

Ehrensaft’s original codes have been used for several research initiatives at Statistics Canada, including the identification of adjacent, non-adjacent and northern regions within OECD “predominantly rural regions” (discussed earlier in Section 2.4.2). They will continue to be used by Statistics Canada’s Research and Rural Data Section, where comparability with previously published results is an issue. However, we recommend that future researchers use the modified classification system, based on six codes, because this system has the distinct advantages of being internally consistent and replicable over time.

The cross-tabulations in the data appendices of this paper are based on the original eleven codes. Please refer to Appendix I for more information on the modified six-code system.

2.6 “Rural” Postal Codes

A “rural” postal code denotes an area where there are no letter carriers – residents go to the post office or the corner postal box to pick-up their mail. A zero (0) in the second position of the postal code identifies a “rural” postal code. As a group, postal codes with “0” in the second position are also referred to as “rural” forward sortation areas (or “rural” FSAs).

“Rural” postal codes are not explicitly attached to dwellings as are civic addresses. These routes straddle several enumeration areas, often crossing boundaries of standard geographic

areas such as municipalities (CSDs), groupings of municipalities (CCSs), counties, regional districts and/or regional municipalities (CDs).¹⁴

This paper uses data from the 1996 Census of Population for analysis of population overlap and socio-economic indicator results. For this reason, we have used the 1996 postal code boundaries for our analysis. It is important to note that Canada Post has made numerous changes to the postal code system since 1996. For example, “0” is no longer used in the second position of postal codes in New Brunswick or most of Quebec. Thus, using the second character of the postal code as an indicator of a “rural” area will not be possible in all provinces in the future.¹⁵

“Rural” Postal Codes

- **Rural route delivery area:** Areas serviced by rural route mail delivery from a post office or postal station. “0” in the second position of a postal code denotes a “rural” postal code (also referred to as a “rural” forward sortation area (“rural” FSA)).
- **Building blocks:** Canada Post geography

For more information on “rural” postal codes refer to Statistics Canada (1999b).

2.7 Discussion and Summary

For national level analysis in Canada, at least six alternative definitions of “rural” are available. Each definition emphasizes different geographic criteria such as population size, population density, labour market context or settlement context and has different associated thresholds (see Table 2).

The criteria used to classify geographic space as “rural” in the census “rural areas,” OECD “rural communities,” and OECD “predominantly rural regions” definitions are measures of geographic *form* – population size and/or population density in a given area. In the case of the “rural and small town” definition and its disaggregation into metropolitan influenced zones, *functional* criteria take precedence – specifically, the degree of integration with a larger urban centre. In this definition, commuting flows are used as the measure of integration. The “non-metropolitan regions” (Beale) definition considers *function* (i.e. is a region part of a major urban settlement zone) and *form* (i.e. the disaggregation of non-metropolitan regions into sub-groups based on population size). The “rural” postal code definition stands alone – being based solely on the Canada Post delivery mode type.

¹⁴ Statistics Canada (1999b) maintains a “Postal Code Conversion File” to convert postal code geography to the standard Statistics Canada geographic hierarchy of census subdivisions, census divisions and provinces. Users of postal code data should be aware that calculating provincial population counts by grouping “rural” and “urban” postal codes (or “rural” and “urban” FSAs) will not necessarily yield the same counts published in other census publications. This is because all households providing a postal code with the same FSA are grouped to calculate population-count totals for the reported FSA. These include all FSAs considered valid even though they may be one province away from the respondent’s usual place of residence (see Statistics Canada, 1997, for more details).

¹⁵ We have included the postal code option in this paper because it may remain a useful classification in some provinces. In addition, this classification has been used in recent research and thus our discussion tries to put this research into perspective.

Designation of geographic space as “rural” occurs at different levels in the hierarchy of Census geography depending on the definition used (see Table 2: building blocks). The level at which geographic space is classified as “rural” has implications for the application of each definition:

- *Census “rural areas”* are built from **EAs** (enumeration areas), which makes this definition particularly useful for considering very localized issues.
- *“Rural and small town” (RST)* and *MIZ* are built from **CSDs** (towns and municipalities). With these building blocks, they are useful for considering community-level issues, such as school location and municipal services.

However, RST (and MIZ) also provide an aggregation of individuals in a similar type of labour market in the sense that all RST residents live in the countryside or in small towns outside the commuting zone of larger urban centres.

- *OECD “rural communities”* are built from **CCSs** (groups of municipalities), which makes them relevant for issues that require broader definitions of community.
- *OECD “predominantly rural regions”* and *Beale “non-metropolitan regions”* are applied at the level of the **CD** (region). They are likely to be most useful for understanding regional level issues, such as economic development and labour market issues¹⁶.
- The *“rural” postal code* definition is useful for analysing databases with postal code designations where comparisons need to be made to other information that has been tabulated by postal codes.

See Maps 1-5, in Appendix B, for illustrations of five of the six definitions applied at the Canada level at the time of the 1996 Census of Population.

¹⁶ If analysts prefer a metro versus non-metro disaggregation, one option would be to classify Census Metropolitan Areas (CMAs) as “metro” and to classify non-CMA areas as “non-metro”. CMAs are centres with an urban core of 100,000 or more persons plus all the neighbouring municipalities where 50 percent or more of the workforce commutes to the urban core (for details of the delineation, see Statistics Canada (1999a)). CMAs use CSDs as building blocks.

Table 2: Alternative Definitions of Rural

Definition	Main criteria, thresholds and building blocks
Census “rural areas”	<p>Population size: Population living <i>outside</i> places of 1,000 people or more; <i>OR</i> Population density: Population living <i>outside</i> places with densities of 400 or more people per square kilometre.</p> <p>Building blocks: EAs</p>
<p>“Rural and small town” (RST)</p> <p>Metropolitan area and census agglomeration Influenced Zones (MIZ)</p>	<p>Labour market context: Population living <i>outside</i> the commuting zone of larger urban centres (of 10,000 or more).</p> <p>Population size/density: Urban areas with populations less than 10,000 are included in RST together with rural areas if they are outside the main commuting zones of larger urban centres</p> <p>Labour market context: MIZ disaggregates the RST population into four sub-groups based on the size of commuting flows to <i>any</i> larger urban centre (of 10,000 or more)</p> <p>Building blocks: CSDs (for RST and MIZ)</p>
OECD “rural communities”	<p>Population density: Population in communities with densities less than 150 people per square kilometre.</p> <p>Building blocks: CCSs</p>
OECD “predominantly rural regions”	<p>Settlement context: Population in regions where more than 50 percent of the people live in an OECD “rural community.”</p> <p>Building blocks: CDs</p>
<p>“Non-metropolitan regions” (Ehrensaft’s “Beale codes”)</p>	<p>Settlement context: Population living outside of regions with major urban settlements of 50,000 or more people. Non-metropolitan regions are subdivided into three groups based on settlement type, and a fourth based on location in the North. The groups based on settlement type are further divided into “metropolitan adjacent” and “not adjacent” categories.</p> <p>Population size: Non-metropolitan regions include urban settlements with populations of less than 50,000 people and areas with no urban settlements (where “urban settlements” are defined as places with a population of 2,500 or more).</p> <p>Building blocks: CDs</p>
“Rural” postal codes	<p>Rural route delivery area: Areas serviced by rural route mail delivery from a post office or postal station. “0” in the second position of a postal code denotes a “rural” postal code (also referred to as a “rural” forward sortation area (rural FSA)).</p> <p>Building blocks: Canada Post geography.</p>

Sources: Statistics Canada (1999a); Mendleson and Bollman (1998); McNiven, Puderer and Janes (2000); OECD (1994); Ehrensaft (1990); Ehrensaft and Beeman (1992); Statistics Canada (1999b).

3.0 Definition Matters

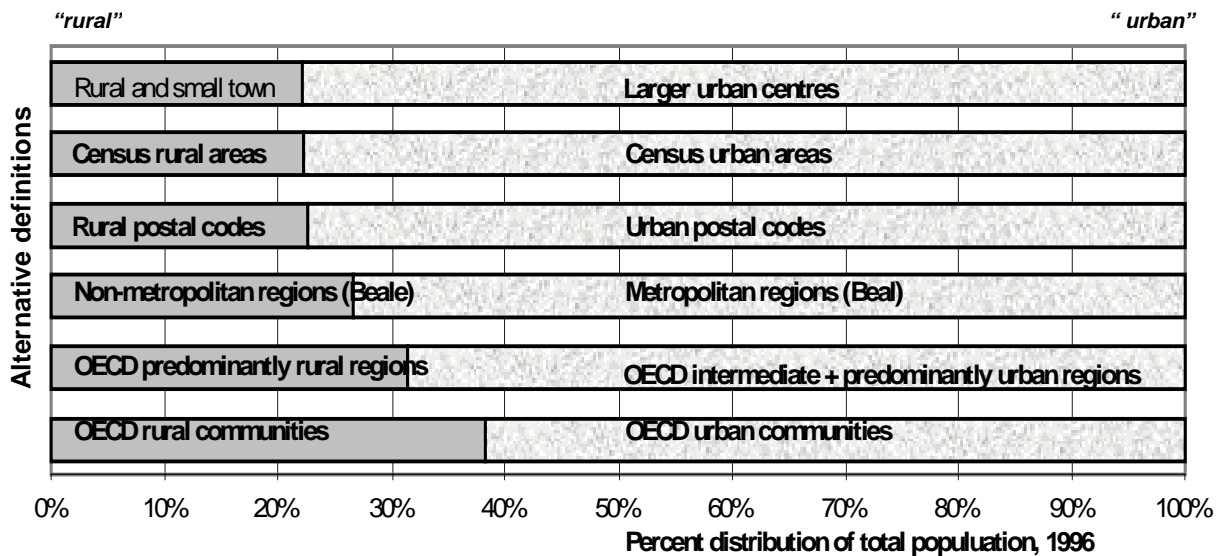
The six definitions of “rural” differ in terms of criteria, thresholds and size of building blocks. How do these differences impact the results of “rural” research? What are the implications for “rural” policy analysis? *Does definition matter?*

3.1 Size of “Rural” Population Varies

Nationally

First, definition matters because the size of Canada’s “rural” population differs according to the definition chosen. Depending on the definition chosen, Canada’s “rural” population may vary between 22% and 38% of Canada’s total population (Figure 3). At the low end of this range, the RST and census “rural areas” definitions classify approximately 22% or 6.3 million people as “rural.” At the high end, the OECD “rural communities” definition captures approximately 38% or 10.8 million people. The difference between the share of Canada’s population that is “rural” according to the RST definition and that of the OECD “rural communities” is a difference of 16 percentage points or 4.6 million people (see Figure 3 and Appendix D).

Figure 3: Canada’s “Rural” Population Ranges from 22 percent to 38 percent, 1996



Source: Statistics Canada. 1996 Census of Population, private household population, custom tabulation. See text for explanation of each definition of rural.

Provincially

Substantial differences in the size of the “rural” population by definition are also evident by province/territory. The largest percentage point difference is in the Yukon, where the OECD “rural communities” and “predominantly rural regions” definitions, as well as the “non-metropolitan regions” definition, capture 100% of the population (30,000 people) and the

RST definition captures only 28.3% (8,485). The largest numeric difference is in Ontario, where the OECD “rural communities” definition captures 3.1 million people (28.9% of the population) in contrast to the RST and “non-metropolitan regions” definition that captures only 1.6 million people (14.8% of the population) (see Appendix D).

The rank of provinces and territories, from highest to lowest share of “rural” population in Canada, also varies by definition. Ontario, for example, ranks first (i.e. has the highest share of Canada’s “rural” population) and Quebec ranks second according to all definitions except the “non-metropolitan regions” definition, which ranks Quebec first and Ontario second. Differences in building blocks, criteria and thresholds, therefore, reveal different patterns in the distribution of Canada’s rural population within provinces (see Table 3).

Table 3: Rank of Provinces/Territories from Highest Share (1) to Lowest Share (13) of Canada’s “Rural” Population for each definition of rural

	Census rural areas		Rural and small town		OECD rural communities		OECD predominantly rural regions		Non-metropolitan (Beale)		Rural postal codes	
	Share	Rank	Share	Rank	Share	Rank	Share	Rank	Share	Rank	Share	Rank
Ontario	28.2	1	25.1	1	28.3	1	23.8	1	20.7	2	27.2	1
Quebec	24.2	2	24.9	2	19.7	2	19.1	2	28.0	1	25.9	2
British Columbia	10.5	3	9.1	4	13.6	3	17.5	3	14.3	3	8.3	4
Alberta	8.5	4	10.7	3	11.8	4	10.0	4	7.6	4	8.8	3
Nova Scotia	6.5	5	5.5	8	6.2	5	6.3	5	5.8	7	5.9	6
New Brunswick	5.9	6	5.6	7	5.4	7	6.3	5	4.4	8	5.3	7
Saskatchewan	5.6	7	6.7	5	5.5	6	5.9	6	6.9	5	6.7	5
Manitoba	4.8	8	5.7	6	4.4	8	5.4	7	6.3	6	5.0	8
Newfoundland and Labrador	3.8	9	4.8	9	3.5	9	3.3	8	3.9	9	4.9	9
Prince Edward Island	1.2	10	1.0	10	0.8	10	1.5	9	0.8	10	1.1	10
Northwest Territories	0.3	11	0.3	12	0.4	11	0.4	10	0.5	11	0.3	12
Nunavut	0.3	11	0.4	11	0.2	13	0.3	11	0.3	13	0.4	11
Yukon	0.2	12	0.1	13	0.3	12	0.3	11	0.4	12	0.1	13
CANADA	100.0		100.0		100.0		100.0		100.0		100.0	

Source: Statistics Canada. 1996 Census of Population, private household population, custom tabulation. See Appendix D for corresponding population counts.

The provincial data in Appendix E help clarify these differences. Appendix E, Table E8, for example, shows the results of the cross-tabulation of the RST and “non-metropolitan regions” definitions for Ontario and Quebec. A summary is presented below in Table 4.

Table 4 illustrates that in comparison to Ontario:

- (a) more RST residents in Quebec live within the boundaries of a non-metropolitan region;
- (b) more CA residents in Quebec live in non-metropolitan regions;
- (c) more CMA residents in Quebec live in non-metropolitan regions.

In other words, compared to Ontario, more of Quebec's RST population lives outside regions containing major urban settlements of 50,000 or more people. More of Quebec's CA population lives in CAs of 10,000-49,999 (rather than CAs of 50,000-99,999). More people in Quebec, who live in the commuting zones of larger urban centres with populations of 100,000 or more, live in census divisions that do not have major urban settlements of 50,000 or more people. Consequently, although Ontario has a slightly higher RST population (ranking first in Canada), Quebec has a higher number of residents in non-metropolitan regions (ranking first in Canada).

Table 4: Summary of Results of Cross-Tabulation of RST and Non-Metropolitan Regions Populations in Ontario and Quebec

	Quebec			Ontario		
	Metropolitan Regions	Non-metropolitan Regions	All Regions	Metropolitan Regions	Non-metropolitan Regions	All Regions
	(codes 0-3)	(codes 4-10)		(codes 0-3)	(codes 4-10)	
CMA	4,465,375	147,060	4,612,435	7,429,580	116,265	7,545,860
CA	254,675	575,680	830,355	1,063,045	422,495	1,485,545
RST	164,310	1,401,025	1,565,335	546,115	1,027,525	1,573,655
Total	4,884,360	2,123,770	7,008,130	9,038,755	1,566,295	10,605,060

Source: Statistics Canada, 1996 Census of Population, private household population, custom tabulation.

3.2 Different Definitions Classify Different People as “Rural”

3.2.1 Examples of Population Overlap and Non-Overlap

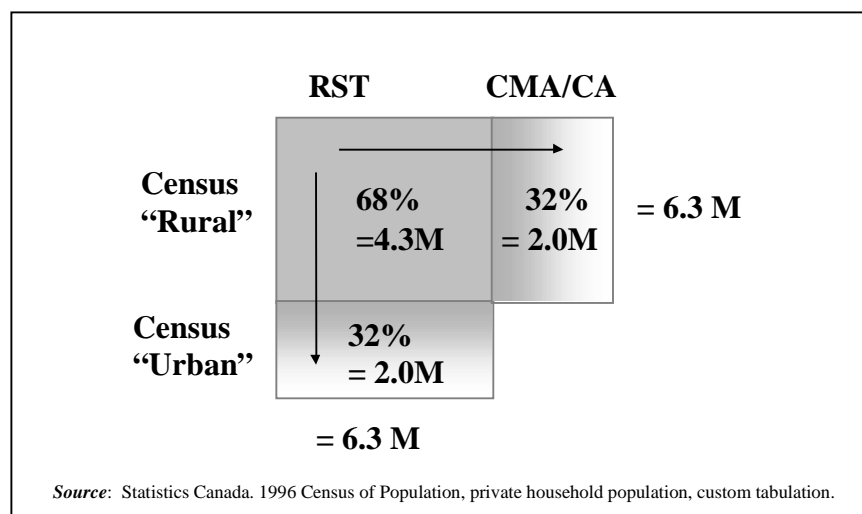
Census “Rural Areas” and “Rural and Small Town”

The second reason definition matters is that different definitions of “rural” classify different people as “rural.” For example, both the census “rural areas” and RST definitions classify approximately 6.3 million people or 22% of Canada’s total population as “rural” (see Figure 3 and Appendix D). However, the cross-tabulation of these “rural” populations (see Figure 4 and Appendix E, Table E1) shows:

- **Census “Rural”:** Only 68% of Canada’s census “rural area” population resides in RST areas. The other 32% lives within the boundaries of a CMA/CA.
- **RST:** Only 68% of Canada’s RST population resides in census “rural areas.” The other 32% lives in areas classified as census “urban.”
- **Overlapping population:** 4.3 million people are “rural” by both definitions.
- **Non-Overlapping populations:** 2.0 million people are census “rural” and living within the boundaries of a CMA/CA. Also, 2.0 million people are RST and living in census “urban areas.”

The people in the “overlapping” group live in the countryside (i.e., in areas with low population size or density) outside the main commuting zone of a larger urban centre. They are both *census “rural” and RST*. The people who are *census “rural” and CMA/CA* live in the countryside within the main commuting zone of a larger urban centre. Those who are *RST and census “urban”* live in small towns (1,000 to 9,999) outside the main commuting zone of larger urban centres.

Figure 4: Population Overlap of Census “Rural Areas” and “Rural and Small Town,” Canada, 1996



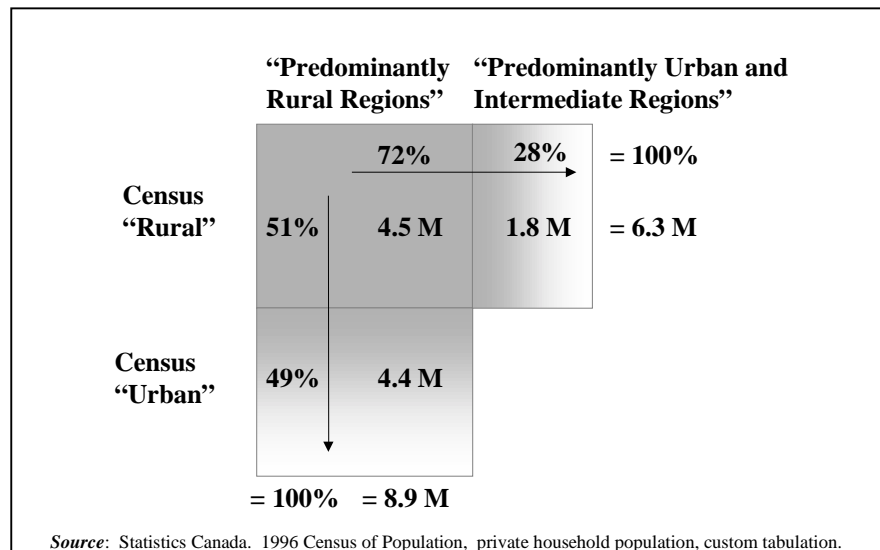
Census “Rural” and OECD “Predominantly Rural Regions”

The cross-tabulation of the census “rural area” population with that of OECD “predominantly rural regions” (see Figure 5 and Appendix E, Table E3) shows the following:

- **Census “Rural”:** 72% of Canada’s census “rural area” population resides in “predominantly rural regions.” The other 28% lives in “predominantly urban” and “intermediate” regions.
- **OECD “Predominantly Rural”:** Only 51% of Canada’s “predominantly rural” population resides in census “rural areas.” The other 49% lives in areas classified as census “urban.”
- **Overlapping population:** 4.5 million people are “rural” by both definitions.
- **Non-Overlapping populations:** 1.8 million people are census “rural” and living in “predominantly urban” and “intermediate” regions. As well, 4.4 million people are “predominantly rural” and living in census “urban areas.”

The people in the “overlapping” group live in the countryside in regions where more than 50% of the population lives in communities with population densities of less than 150 people per square kilometre (i.e., in regions dominated by lower density communities). The people who are *census “rural” and “predominantly urban/intermediate”* live in the countryside of regions dominated by communities with higher population densities. Those who are *“predominantly rural” and census “urban”* live in small towns in regions dominated by lower density communities.

Figure 5: Population Overlap of Census “Rural Areas” and OECD “Predominantly Rural Regions,” Canada, 1996



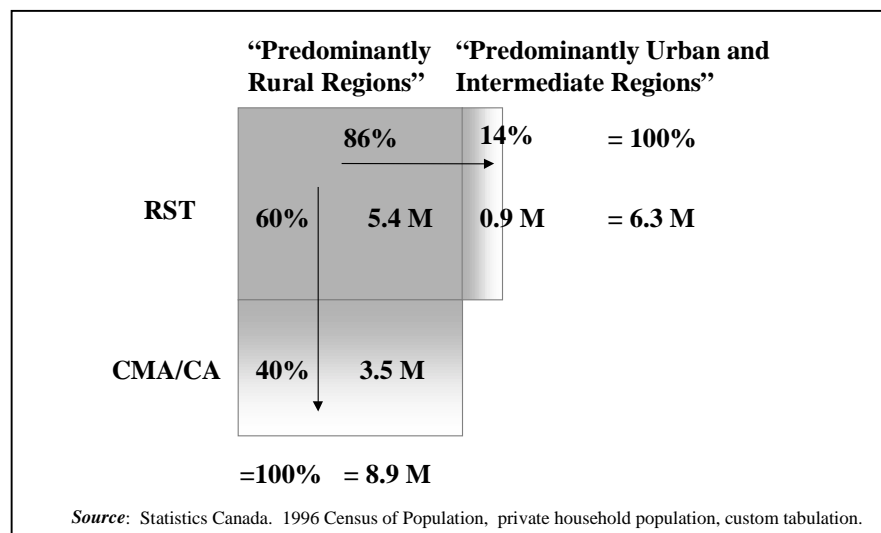
“Rural and Small Town” and OECD “Predominantly Rural Regions”

The cross-tabulation of the RST population with that of OECD “predominantly rural regions” (see Figure 6 and Appendix E, Table E7) shows the following:

- **RST:** 86% of Canada’s RST population lives in “predominantly rural regions.” The other 14% lives in “predominantly urban” and “intermediate” regions.
- **OECD “Predominantly Rural”:** Only 60% of the OECD “predominantly rural” population resides in RST areas. The other 40% lives within the commuting zone of a larger urban centre (i.e., within the boundaries of a CMA or CA).
- **Overlapping population:** 5.4 million people are “rural” by both definitions.
- **Non-Overlapping populations:** Just less than a million people are RST and living in OECD “predominantly urban” and “intermediate” regions. On the other hand, 3.5 million people are OECD “predominantly rural” and living within the boundaries of a CMA/CA.

People in the “overlapping” group live in communities outside the main commuting zone of a larger urban centre, in regions dominated by lower density communities. People classified as *RST and OECD “predominantly urban/intermediate”* also live in communities outside the main commuting zone of a larger urban centre, but in regions dominated by communities with population densities of 150 people per square kilometre or greater. Those in the *OECD “predominantly rural” and CMA/CA* group live in communities within the main commuting zone of larger urban centres and in regions dominated by lower density communities.

Figure 6: Population Overlap of “Rural and Small Town” and OECD “Predominantly Rural Regions,” Canada, 1996



3.2.2 Population Overlap Summary

Three examples of population overlap and non-overlap among the selected definitions of “rural” at the Canada level are presented above. Detailed national and provincial/territorial results of the cross-tabulations of all six definitions are presented in the supporting tables found in Appendix E.

A summary of the population overlap results at the Canada level for the six definitions is presented in Table 5 (below). In the census “rural areas” row, we see that 68% of the census “rural area” population is also “rural and small town” and, in the “rural and small town” row, we see that 68% of the “rural and small town” population is also census “rural.” In some cases, only about one-half of the rural population in one definition is “rural” in the other definition. For example, in the OECD “predominantly rural regions” row, we see that only 51% of the “predominantly rural” population lives in census “rural areas” (i.e., outside centres of 1,000 or more) and thus 49% lives in centres of 1,000 or more.

Table 5: Degree of Overlap of Alternative Definitions of “Rural,” Canada, 1996

	Census rural areas	Rural and small town	OECD rural communities	OECD predominantly rural regions	Non-metropolitan regions (Beale)	Rural postal codes
Reading across: For all individuals with this "row" definition of "rural," what percent also has the column definition of "rural"?						
Census rural areas	100	68	92	72	64	74
Rural and small town	68	100	99.6	86	80	80
OECD rural communities	54	58	100	78	65	.
OECD predominantly rural regions	51	60	95	100	79	.
Non-metropolitan regions (Beale)	53	66	92	92	100	.
Rural postal codes	72	78	.	.	.	100

Source: Statistics Canada. 1996 Census of Population, private household population, custom tabulation.

Note: The symbol (.) indicates that the figure is *not available*. See footnote 2 for explanation.

See Appendix E for detailed results of the cross-tabulation of populations by definitions of "rural" for Canada, the provinces and territories.

3.3 Differences in Socio-Economic Characteristics

The cross-tabulations in the previous section illustrate that different definitions of “rural” classify different people as “rural.” At the national level, each cross-tabulation resulted in an “overlapping” population group (i.e., “rural” by both definitions) and two “non-overlapping” population groups (i.e., “rural” by one definition and not the other) of various sizes.

What difference do the “non-overlapping” populations make in socio-economic research? To answer this question, we ran a set of socio-economic indicators against the “overlapping” and “non-overlapping” populations. We found substantial differences as illustrated by the examples that follow.

3.3.1 Examples of Differences among Census “Rural” and RST Populations

Figures 7, 8 and 9, illustrate differences among the “overlapping” and “non-overlapping” census “rural area” and RST populations for the following indicators:

- average income of economic families¹⁷;
- incidence of low income¹⁸;
- percent commuting.¹⁹

The population that is “*rural*” by both definitions (i.e., living in the countryside outside the main commuting zone of a larger urban centre) has:

- an average family income that is substantially lower than the Canadian average and that of the populations that are “rural” by only one of the two definitions;
- an incidence of low income that is lower than the census “urban”/RST group and the Canada level figure but considerably higher than those in the census “rural”/CMACA group;
- a commuting rate that is considerably higher than those in small towns outside the main commuting zones of larger urban centres and higher than the Canada level figure but lower than the commuting rate among people who live in the countryside of larger urban centres.

The population that is RST and census “urban” (i.e. living in small towns of 1,000 to 9,999 people outside the main commuting zone of larger urban centres) has:

- a lower average family income than the population in the countryside of CMAs and CAs and Canada as a whole, but a higher average family income than the population living in the countryside outside the main commuting zones of larger urban centres;
- an incidence of low income that is lower than the Canada level figure but high in comparison to the other two “rural” groups;
- a very low commuting rate (almost 70% of employed persons in small towns outside the main commuting zones of larger urban centres live and work in the same municipality).

¹⁷ The term “economic family” refers to a group of two or more persons who live in the same dwelling and are related to each other by blood, marriage, common-law or adoption (Statistics Canada, 1999a:125).

¹⁸ The “incidence of low income” refers to the share of persons in economic families and unattached individuals, ages 15+, who are living below Statistics Canada’s measure of low income (i.e., below the relevant low income cut-off or LICO). LICOs are based on income, family size, expenditure patterns and size of community. See Statistics Canada (1999a) for a complete definition and list of LICOs for 1995. LICOs are lower in small urban regions and rural areas because cost of living tends to be lower in these areas. For this reason, incidence of low income, regardless of the definition used, tends to be lower in “rural” compared to Canada as a whole.

¹⁹ “Percent commuting” refers to the percent of employed persons, ages 25-54, who commute to work across a municipal boundary (i.e., percent who work in a different municipality (CSD) than the one they live in).

The population that is *census “rural” and CMA/CA* (i.e. living in the countryside within the main commuting zone of a larger urban centre) has:

- a high average family income compared to the other two “rural” groups, substantially higher than the Canadian average;
- a low incidence of low income compared to the other two “rural” groups and the Canada level figure;
- a high commuting rate compared to the other two “rural” groups and the Canada level figure.

Figure 7: Average Family Income for Census “Rural Areas” and “Rural and Small Town” Populations, Canada, 1996

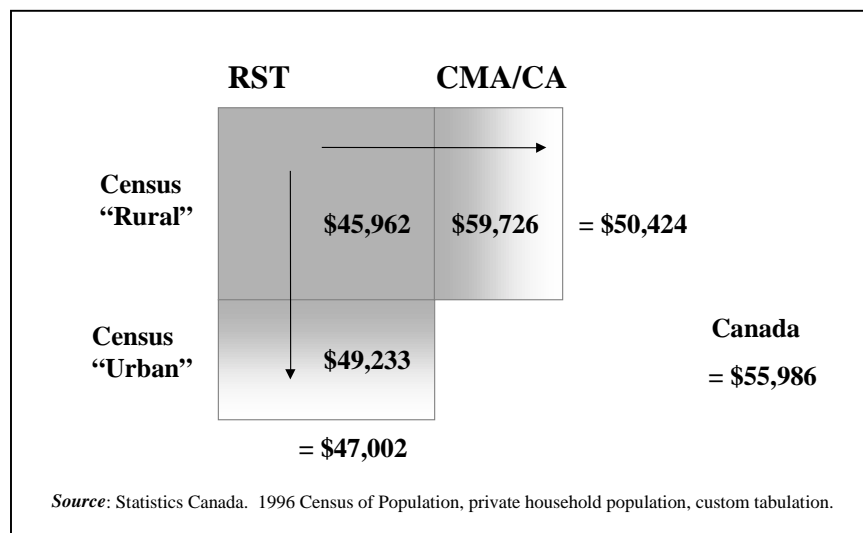


Figure 8: Incidence of Low Income for Census “Rural Areas” and “Rural and Small Town” Populations, Canada, 1996

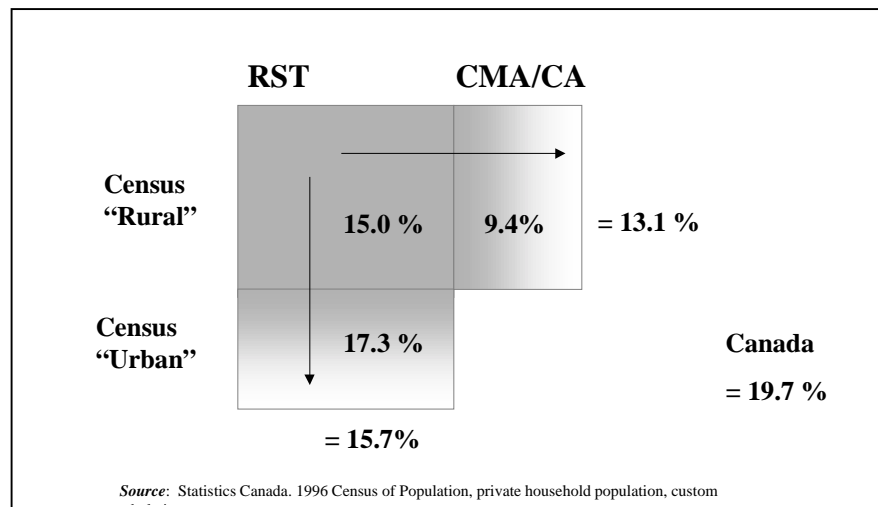
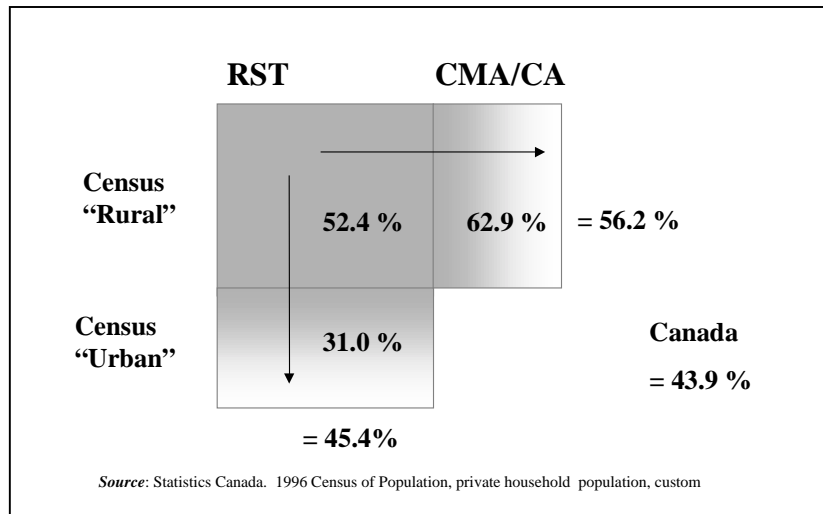


Figure 9: Percent Commuting (across at least one municipal boundary), Census “Rural Areas” and “Rural and Small Town” Populations, Canada, 1996



3.3.2 Characteristics of “Rural” Populations Vary in Cross-Tabulations

The above indicator results demonstrate that definition matters when it comes to a choice between the census “rural areas” and RST definitions. While these definitions share a population base of approximately 4.3 million people, each includes an additional 2.0 million people with socio-economic characteristics that are very different from each other and in comparison to Canada level results. Results for nine indicators for each of the “overlapping” and “non-overlapping” populations associated with the cross-tabulation of the six alternative definitions are presented in Appendix F. These results provide further support for the conclusion that all definitions of “rural” are not the same -- *definition matters*.

The following are highlights from the 1996 Census data presented in Appendix F:

Employment rate (ages 25-54)²⁰

- Employment rates of populations that are “rural” by two definitions are consistently lower than the Canada rate and those of populations that are “rural” by only one definition.

Average income of economic families

- In all cases but one, populations that are “rural” by two definitions have lower average family incomes than populations that are “rural” by only one definition.

²⁰ Employed population in private households, ages 25-54, divided by the total population in private households, ages 25-54, expressed as a percent.

Incidence of low income

- Just over half of the populations that are “rural” by two definitions have an incidence of low income of 16%. This value is well below the Canada level (20%), which can be explained in part because the low income cut-offs, which are used to calculate incidence of low income, are lower in rural areas (see footnote 17 above).

Old age dependency ratio²¹

- Half of the populations that are “rural” by two definitions have an old age dependency ratio of 19%, which is higher than the Canadian old age dependency ratio (17%).
- Populations in small towns outside the commuting zones of larger urban centres (i.e. “*RST and census urban*”) have the highest old age dependency ratio (22%) compared to all other groups (rural/rural, rural/urban, urban/urban).

Child dependency ratio

- All of the populations that are “rural” by two definitions have a child dependency ratio in the range of 34% to 35%, higher than the Canadian child dependency ratio (31%).

Place of work of employed persons (ages 25-54)

In populations that are “rural” by two definitions:

- A much higher proportion of workers work from home, 11% to 17%, compared to 7% nationally. A higher rate of “at home workers” is expected, at least in part, because farming is concentrated in these areas and most farmers work from home.
- There is considerable variation in the proportion of workers who commute to work across at least one municipal (i.e., CSD) boundary, from 40% to 56%, compared to 44% nationally.
- The proportion of workers, who commute across a regional (i.e., CD) boundary to work, ranges from 15% to 19%, compared to 17% nationally.

Persons (ages 25-54) with some post-secondary education

- In all rural groups (i.e., all populations that are “rural” by at least one definition), the proportion of individuals, ages 25-54, with some post-secondary education, is lower than the national average (62%).

²¹ Population, ages 65 and over, as a percent of the population, ages 15-64.

Experienced labour force²² in manufacturing industries

- In populations that are “rural” by two definitions, there is little variation in the proportion of the experienced labour force in manufacturing industries (13% to 14%) and all values are very close to the national average (14%).

3.3.3 Summary of Indicator Levels for the Six Definitions

As illustrated above, different people with different socio-economic characteristics are included in each definition of “rural.” It is not surprising, therefore, that the characteristics of individuals are different for each definition of “rural.” A table summarizing indicator levels by definition of “rural” for the population in private households, Canada, 1996, is presented in Appendix G as well as a series of graphs comparing the results.

In general, each definition provides a similar analytical conclusion (e.g., rural people have lower employment rates and lower incomes than the Canadian average) but the level of each characteristic differs for each definition of “rural.” Highlights are as follows:

- each “rural” definition shows an employment rate lower than the Canadian average, but the rate differs for each definition of “rural” (Appendix G, Figure G1);
- each “rural” definition shows an average income for economic families lower than the Canadian average, but the level differs for each definition of “rural” (Appendix G, Figure G2);
- each “rural” definition shows the proportion of families with incomes below the low income cut-off being less than the Canadian average, but the rate varies for each definition of “rural” (Appendix G, Figure G3);
- each “rural” definition (except census “rural areas”) shows a higher old age dependency ratio compared to the Canadian average, but the ratio varies for each definition of “rural” (Appendix G, Figure G4);
- each “rural” definition shows a higher child dependency ratio than the Canadian average, but the ratio varies for each definition of “rural” (Appendix G, Figure G5);
- each “rural” definition has a different proportion who commute across municipal boundaries, where not surprisingly the rate is highest for individuals classified with the smallest building blocks (Appendix G, Figure G6);
- each “rural” definition has a lower share of individuals with some post-secondary education compared to the Canadian average, but the rate varies among the definitions of “rural” (Appendix G, Figure G7); and
- only four of the “rural” definitions show a lower proportion of the workforce to be working in the manufacturing sector, compared to the Canadian average (Appendix G, Figure G8).

²² The term “experienced labour force” refers to persons who worked since January 1, 1995, and who were employed or unemployed in the reference week of the 1996 Census of Population.

4.0 Recommendations for Selecting a Definition of “Rural”

We have compared several alternative definitions of “rural” and illustrated that each definition is different. The challenge for analysts is to determine which definition to use.

As a first step, we recommend returning to the question, “*Why are you asking about “rural”?*” and then deciding the “best fit” between the issue at hand and the options for classifying “rural” populations. This requires consideration of the *scale* and *geographic dimensions* of the “rural” issue under consideration.

4.1 Taking into Account the Geographic Scale of the “Rural” Issue

The six definitions in this study differ in terms of the size of their building blocks and scale at which they are applied. The census “rural areas” definition, as described in section 2, has the smallest building blocks (EAs), which makes it useful for analysis at a very local (i.e., neighbourhood) level. RST is built from municipalities (CSDs), and OECD “rural communities” are built from groups of municipalities (CCSs). The “community-scale” of these building blocks makes these definitions particularly useful for analysis of community-level issues. On the other hand, the OECD “predominantly rural regions” and “non-metropolitan regions” definitions are built from regional blocks (CDs), which makes them less useful for local level analysis and more useful for regional level analysis.

We recommend, therefore, that analysts consider whether a “rural” issue is primarily local, community or regional before searching for the number of rural individuals. This will influence the type of territorial unit upon which to focus the analysis and the appropriate definition to use.

- **Policy issues with a local or community focus**

Examples of issues with a local focus might include the availability of day care services, the quality of schools, the availability of fire protection services or the quality of the groundwater.²³

For these issues, we suggest that analysts consider small territorial units as the units of analysis. For example, groupings of EAs may be appropriate and thus, at a national or provincial-level, the census “rural areas” definition could be used.

Alternatively, towns or municipalities may be appropriate and, at the national level, groupings of CSDs would be appropriate. Thus, the “rural and small town” definition and the OECD “rural community” definitions would be appropriate aggregations.

²³ In each of our examples, other geographical scales may also be appropriate. For example, sometimes the quality of groundwater is a very localized issue but in other cases, the whole aquifer or the whole river system may be the appropriate scale of analysis.

- **Policy issues with a regional focus**

Today, most labour market issues are considered at a “functional” or regional level because the labour force is relatively mobile within a commuter shed.²⁴ This includes questions of economic diversification, labour force training and skills upgrading and promoting business starts.

Other issues require a relatively high population concentration in order to achieve economies of scale to provide the service – heart surgery or professional sports teams are two examples.

For these issues, we suggest that analysts consider larger geographical units:

- One option is using counties, regional districts, and regional municipalities (i.e., CDs) as the building block and thus groupings of similar CDs would provide national level information for individuals in similar types of labour markets. Thus, the OECD “predominantly rural regions” or the “non-metropolitan regions” (Beale) may be appropriate for rural policy analysis.
- Another option is represented by the “rural and small town” (RST) definition, which refers to all individuals outside the commuting zone of centres of 10,000 or more population. In this sense, all members of the RST population live in a “similar” type of labour market. Thus groupings of individuals within RST would provide national level information on individuals in a similar type of labour market.
- The OECD Territorial Database uses “regions” within each member country as the unit of analysis (OECD, 1994). The OECD focuses on economic development – thus, “regions” are the appropriate unit of analysis. For analysis of rural economic development, the OECD adds together all “predominantly rural regions.”

4.2 Taking into Account the Geographic Dimensions of the “Rural” Issue

The six definitions in this study emphasize different dimensions of what it means to be “rural” in a geographic sense. The definitions combine different criteria, including population size, population density, labour market and settlement context and Canada Post delivery mode type, and have different associated thresholds. In addition to considering the scale of a “rural” issue, therefore, it is also important to consider its geographic dimensions before choosing a definition.

Are one or more of the above variables and associated thresholds relevant to the issue at hand? If the answer is “no,” see the section on “other options” below. If the answer is “yes,” Which variable, threshold or combination of variables and thresholds is most important? Which definition incorporates these dimensions?

²⁴A commuter shed is the area from which a workforce commutes to a (central) workplace.

For example, if the issue is “**employment opportunities for rural youth,**” the most important dimension may be labour market context. A priority may be to choose a definition like RST/MIZ that allows differentiation of the needs of “rural youth” who live within the commuting distance of a large urban centre from those who are outside this area. Population size and density may also be important considerations. Census “rural areas” could be used in combination with RST (see “other options” below) to facilitate comparison between employment characteristics of rural youth in small towns and those in the countryside (inside and/or outside the main commuting zone of larger urban centres).

If the issue is “**access to health care services,**” then settlement context may be an important consideration. The “non-metropolitan regions” definition could be used to distinguish between the health care services needs of non-metropolitan residents who are in close proximity to a metropolitan area from those who are not.

In the case of “**rural telecommunications,**” the cost of providing service increases with distance from an urban centre (until the availability of satellite technology eliminates the need for communication linkages on the ground). The RST definition could be used to distinguish between municipalities that are within the commuting zone of larger urban centres from those that are not. At the same time, the cost-effectiveness of providing rural telecommunication services varies depending on the population size and density of a community. Consequently, census “rural areas” may also be a useful definition for the analysis of rural telecommunication services.

4.3 Other Options

4.3.1 Assigning “Degrees of Rurality”

Rather than using one of the existing definitions, one option available to the analyst is to assign one (or more) “degrees of rurality” to each territorial unit. An analyst would first pick the most appropriate size of building block and then make an assignment of criteria and thresholds that is specific to a policy debate or a sub-national development issue. Building blocks with similar characteristics would be added together for national and provincial level analysis.

Various parameters or measures of rurality may be considered using this method:

- **Distance** (or perhaps analytically, the price of distance)

For analysis of rural issues, physical distance (or the price to travel this distance) is the issue. Examples include the distance to an elementary school, the distance to a heart treatment centre or the distance that metro tourists need to travel to visit a rural tourism site.

- **Density** (population per square kilometre in the territorial unit)

- Population size or density in the **milieu** (e.g. region) where the territorial unit is situated

For example, a community with a given set of distance and density parameters will have different opportunities depending upon the population size and the population density of the region in which the community is located.

- **Other parameters** of the milieu of the region (however defined) in which the territorial unit is located.

A community with a given set of distance and density parameters will have different opportunities if it has a tourism site or if it is located in a region with a post-secondary educational facility.

For the argument for “distance” and “density” to measure “degree of rurality”, see the note in the Appendix C.

4.3.2 Cross-Classifying Two Definitions²⁵

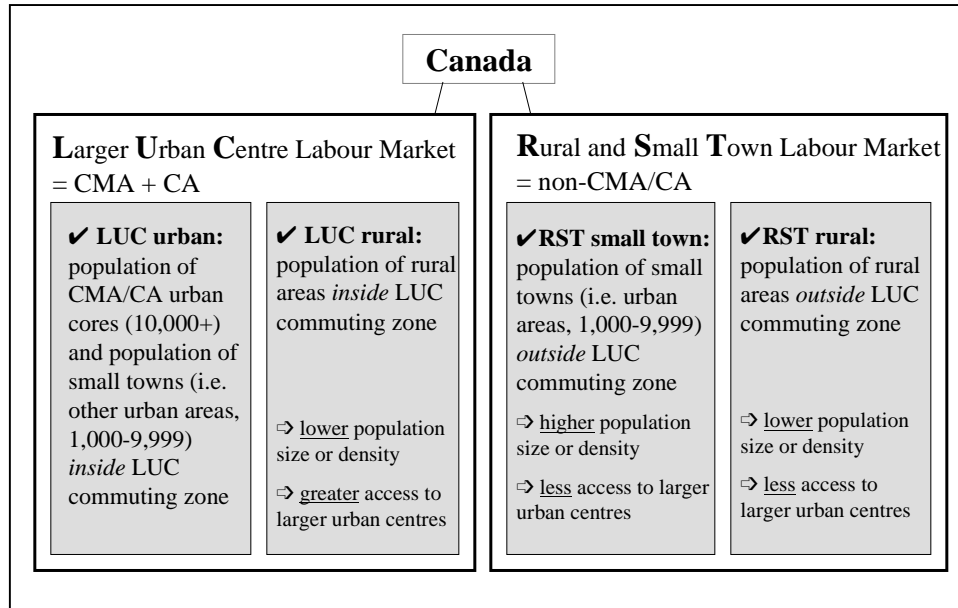
Rather than using only one of the existing “rural” definitions, another option is to cross-classify two definitions of “rural.” For example, when we cross-classify census “rural areas” by RST, we obtain four groups of individuals. Two of these groups are within a larger urban centre (LUC) labour market and two are within a rural and small town (RST) labour market (see Figure 10):

- **LUC urban** (i.e. census “urban” and CMA/CA): These individuals live in the urban core of larger urban centres (with a population of 10,000 or more) or in small towns (1,000 to 9,999) within the commuting zone of larger urban centres.
- **LUC rural** (i.e. census “rural” and CMA/CA): These individuals live in the countryside within the commuting zones of larger urban centres.
- **RST small town** (i.e. census “urban” and RST): These individuals live in small towns (1,000 to 9,999) outside the commuting zone of larger urban centres.
- **RST rural** (i.e. census “rural” and RST): These individuals live in the countryside outside the commuting zone of larger urban centres.

As demonstrated in earlier sections, the characteristics of individuals in each of these groups are very different. Thus, for some analytic purposes, analysts may want to focus on a certain sub-sector of the rural population.

²⁵ See Mendelson (2001) and Mendelson, Murphy and Puderer (2000) for a discussion of the advantages of cross-classifying geographies in socio-economic analysis, including examples of the cross-classification of census “rural areas” and MIZ.

Figure 10: Four Populations that Result from the Cross-Classification of the Census “Rural Areas” and RST Definitions



5.0 Summary and Conclusions

Several definitions of “rural” are available for national and provincial analysis using the databases at Statistics Canada. Definitions differ in terms of criteria (population size, density, context) and associated thresholds. The size of their building blocks (i.e., territorial units from which they are constructed) also varies.

As a result, an analyst’s choice of “rural” definition matters. Different definitions generate a different number of “rural” people. Even if the number of “rural” people is the same, different people will be classified as “rural” within each definition. In general, each definition provides a similar analytical conclusion (e.g., rural people have lower employment rates and lower incomes than the Canadian average) but the level of each characteristic differs for each definition of “rural.”

We recommend, therefore, that analysts first consider the geographic scale and dimensions of a “rural” issue and then select the definition with the “best fit.” Alternatively, an analyst may want to consider classifying the milieu in which a person lives according to numerous measures of “rurality”. To understand “rurality,” each territorial unit could be assigned one or more “degrees of rurality” and then added together for provincial or national level analysis. Another option available to analysts is to cross-classify two definitions of “rural” in order to focus on a specific sub-sector of the rural population.

Our recommendation

A number of reviewers requested that we recommend a benchmark terminology for research purposes. They argued that if most analysts used one generally-accepted or commonly-understood benchmark, this would facilitate the comparison of results among research reports. In addition, each analyst would be encouraged to supplement their research with a definition specifically applicable to the issue being addressed.

We strongly suggest that the appropriate definition should be determined by the question being addressed; however, if we were to recommend one definition as a starting-point or benchmark for understanding Canada's rural population, it would be the **“rural and small town”** definition. This is the population living in towns and municipalities (CSDs) outside the commuting zone of larger urban centres (i.e. the non-CMA/CA population).

We prefer this definition for three reasons:

- 1) each building block (i.e. each CSD) is relatively small – it approximates a “community” and many rural issues are community-level issues;
- 2) each building block is assigned according to a “functional” criteria – specifically, the degree of integration with a larger urban centre – that is a suitable proxy for many rural issues such as the access to health care, the access to education facilities, the access to government services, etc. (Government of Canada, 1998). Commuting flows are used as the measure of integration – and commuting flows are highly, although not perfectly, correlated with the other measures of integration (such as shopping patterns or access to major health facilities, etc.); and
- 3) the “statistical area classification” proposed by Statistics Canada has developed a disaggregation of “rural and small town” according to “metropolitan influenced zones” (see footnote 7) that fine tunes the degree of integration and the degree of access of rural populations to larger urban centres.

References

- Baldwin, John R. and W. Mark Brown with Tara Vinodrai (forthcoming) "Dynamics of the Canadian Manufacturing Sector in Metropolitan and Rural Regions," **Research Paper Series, Analytical Studies Branch, no. 169** (Ottawa: Statistics Canada).
- Bollman, Ray D. and Brian Biggs (1992) "Rural and small town Canada: an overview." Chapter 1 in Ray D. Bollman (ed.) **Rural and Small Town Canada** (Toronto: Thompson Educational Publishing).
- Ehrensaft, Philip and Jennifer Beeman (1992) "Distance and Diversity in Nonmetropolitan Economies." Chapter 9 in Ray D. Bollman (ed.) **Rural and Small Town Canada** (Toronto: Thompson Educational Publishing).
- Ehrensaft, Philip (1990) **Policy Codes for Rural Policy Analysis: A Preliminary Report** (Montréal: L'Université du Québec à Montréal).
- Fuller, A.M., Derek Cook and John Fitzsimons (1992) **Alternative Frameworks for Rural Data** (Ottawa: Statistics Canada, Agriculture and Rural Working Paper #14, Catalogue no. 21-6010MPE14200).
- Government of Canada (1995) **Rural Canada: A Profile** (Ottawa: Government of Canada).
- Government of Canada (1998) **Rural Dialogue** (Ottawa: Government of Canada).
- Halfacree, K.H. (1993) "Locality and Social Representation: Space, Discourse and Alternative Definitions of Rural," **Journal of Rural Studies**. Vol.9, No.1, pp.23-37.
- McGranahan, D. (et al) (1986) **Social and Economic Characteristics of the Population of Metro and Nonmetro Counties, 1970-80**. Economics Research Service, Rural Development Research Report No. 58. Washington: USDA.
- McNiven, Chuck, Henry Puderer and Darryl Janes (2000) **Census Metropolitan Area and Census Agglomeration Influenced Zones (MIZ)** (Ottawa: Statistics Canada, Geography Working Paper Series No. 2000-2, Catalogue no. 92F0138).
- McNiven, Chuck and Henry Puderer (2000) **Delineation of Canada's North: An Examination of the North-South Relationship in Canada** (Ottawa: Statistics Canada, Geography Working Paper Series, No. 2000-3, Cat. No. 92F0138).
- Mendelson, Robert (2001) **Geographic Structures As Census Variables: Using Geography to Analyse Social and Economic Processes** (Ottawa: Statistics Canada, Geography Working Paper Series, No. 2001-1, Catalogue no. 92F0138).
- Mendelson, Robert and Ray D. Bollman (1998) **Rural and Small Town Population is Growing in the 1990s** (Ottawa: Statistics Canada, Agriculture and Rural Working Paper, No. 36, Catalogue no. 21-601-MPE98036).

Mendelson, Robert, Peter Murphy and Henry Puderer (2000) “Census Metropolitan and Census Agglomeration Influenced Zones (MIZ) and the North: A Review of the Differences in Socio-Economic Characteristics in Rural and Small Town Canada,” paper presented at the 12th Annual National Rural Policy Conference, New Rural Economy: Options and Choices, Alfred, Ontario, October 11-14, 2000.

OECD (1994) **Creating Rural Indicators for Shaping Territorial Policies** (Paris: OECD).

OECD (1996a) **Better Policies for Rural Development** (Paris: OECD).

OECD (1996b) **Territorial Indicators of Employment: Focusing on Rural Development** (Paris: OECD).

Rambeau, Sheila and Kathleen Todd (2000) **Census Metropolitan Area and Census Agglomeration Influenced Zones (MIZ) with Census Data** (Ottawa: Statistics Canada, Geography Working Paper Series No. 2000-1, Catalogue no. 92F0138).

Ricketts, Thomas, Karen D. Johnson-Webb, Patricia Taylor (1998) **Definitions of Rural: A Handbook for Health Policy Makers and Researchers**. A technical issues paper prepared for the Federal Office of Rural Health Policy, Health Resources and Services Administration, US DHHS.

Shucksmith, Mark (1994) “Conceptualising Post-Industrial Rurality.” In Section IV of John M. Bryden (ed.) **Towards Sustainable Rural Communities: The Guelph Seminar Series** (Guelph: University of Guelph).

Statistics Canada (1997) **Postal Code Counts User’s Guide: Population and Dwelling Counts** (1996 Census). (Ottawa: Statistics Canada, Catalogue no. 92F0086XCB).

Statistics Canada (1999a) **1996 Census Dictionary** (Ottawa: Statistics Canada, Catalogue no. 92-351).

Statistics Canada (1999b) **Postal Code Conversion File - June 2000 Postal Codes – Reference Guide** (Ottawa: Statistics Canada).

Weiss, Carolyn, Micheal Ratcliffe and Nancy Torrieri (1993) **A Comparison of Census Geographic Areas of Canada and the United States** (Ottawa: Statistics Canada, Geography Working Papers Series No. 1993-1, Catalogue no. 92F0138).

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