

TELEVISION NETWORK COVERAGE IN  
RURAL CANADA COMPARED WITH  
THAT IN THE  
CENSUS METROPOLITAN AREAS

G.D. Cormack

Rural Communications Program  
Department of Communications

28 August, 1978

QUEEN  
P  
92  
.C2  
C674  
1978

P  
92  
G2  
C674

TELEVISION NETWORK COVERAGE IN  
RURAL CANADA COMPARED WITH  
THAT IN THE  
CENSUS METROPOLITAN AREAS

G.D. Cormack

Rural Communications Program  
Department of Communications

28 August, 1978

Industry Canada  
LIBRARY  
JUL 23 1998  
BIBLIOTHÈQUE  
Industrie Canada

COMMUNICATIONS CANADA  
MAY 28 1979  
LIBRARY - BIBLIOTHÈQUE

TABLE OF CONTENTS

	<u>PAGE</u>
EXECUTIVE SUMMARY . . . . .	i
INTRODUCTION . . . . .	1
RESULTS:	
1. The Rural/City TV GAP . . . . .	3
2. Cable TV in Rural Canada . . . . .	5
APPENDIX 1 -- The Rural Population . . . . .	19

LIST OF TABLES

TABLE 1	Availability of English-Language Canadian TV in Rural Canada . . . . .	6
TABLE 2	Availability of French-Language Canadian TV in Rural Canada . . . . .	7
TABLE 3	Availability of American TV in Rural Canada . . . . .	8
TABLE 4	Availability of TV in Rural Canada . . . . .	9
TABLE 5	Availability of TV in Census Metropolitan Areas . . . . .	10
TABLE 6	Availability of TV in the Large Cities Relative to Rural Areas . . . . .	11
TABLE 7	1976 Census Data . . . . .	20

LIST OF FIGURES

FIGURE 1	Availability of English-Language Canadian TV in Rural Canada . . . . .	12
FIGURE 2	Availability of French-Language Canadian TV in Rural Canada . . . . .	13
FIGURE 3	Availability of American TV in Rural Canada . . . . .	14
FIGURE 4	Availability of TV in Rural Canada . . . . .	15
FIGURE 5	The Canadian/Rural City TV GAP . . . . .	16
FIGURE 6	The Percentage of the Rural Population Within CATV licensed Areas . . . . .	17
FIGURE 7	Provincial Distribution of Rural Population . . . . .	21
FIGURE 8	DOC Rural Study Area . . . . .	22

EXECUTIVE SUMMARY

*THE AVERAGE RURAL RESIDENT IN CANADA HAS ACCESS TO ONE-THIRD  
THE NUMBER OF CHANNELS OF HIS LARGE - CITY COUNTERPART.*

The approximately six million people in rural Canada have access to an average of 3.85 channels of distinctly different TV programming whereas the approximately twelve million people in Canada's large cities enjoy 12.6 channels. This rural/city TV availability ratio for American channels is even larger, being 1/6.3. For French-language Canadian networks, the ratio is 1/2.8 and for English-language Canadian networks the ratio is 1/2.6.

The percentage of rural people in each province that are within licensed CATV areas varies from 0.1% in Saskatchewan to 31.1% in British Columbia *with the Canada-wide average for the percent of rural people that have access to CATV being 10.7%*, (whereas 82% of urban households had access to CATV in late 1976). The date of validity for CATV and off-air coverage data compiled in the present report was spring, 1978.

## INTRODUCTION

This report is a condensation and comparison of the data presented in two other reports, one on TV availability in rural Canada\* and a second on TV availability in the Census Metropolitan Areas\*\*. The definition of a distinctly different channel is as used in these preceding reports and the purpose of the present document is to point out, quantitatively, how few channels of TV are available to rural residents relative to city dwellers in Canada.

The study was made from the point of view of a TV viewer; in other words the concern was with the number of distinctly different choices of program available to the viewer, regardless of whether the signals were available off-air or from a CATV connection. Off-air coverage areas were defined by the B contours and CATV coverage was all households in licensed areas. Availability of two or more CBC English stations on a CATV system was interpreted as one distinctly different signal or channel. All other networks (TVA, Global, PBS, NBC, CTV, etc.,) were treated similarly except for independent U.S. stations, which were each considered as having distinctly different programming. Alpha-numeric, local origination and part-time education channels were counted but only to a total maximum of three.

There has been no study done, prior to the Simon Fraser contract, referenced on this page, that has revealed the penetration (or lack of it!) of CATV into the rural portions of Canada. The primary purpose of

---

\* Telecommunications Research Group, Simon Fraser University. The Extent of Television Network Coverage in Rural Canada. Report done under contract with the Rural Communications Program, Department of Communications, Ottawa.

\*\* G.D. Cormack and L.T. Mougeot. The Availability of Television in the Census Metropolitan Areas. August 1978 report from the Rural Communications Program, Department of Communications, Ottawa.

the present report is to compare the rural penetration results with the corresponding data for the large cities and to point out both the large size of the rural/city TV gap and the insignificant role that CATV has in rural Canada.

RESULTS

1. THE RURAL/CITY TV GAP:

Tables 1 to 4 give the distribution function, on a per province basis, of the availability of TV in rural Canada for respectively: i) English-language Canadian TV, ii) French-language Canadian TV, iii) American TV, and iv) TV in total. The data given is for the percentage of the rural inhabitants in each province that can receive 0,1,2,etc., channels of distinctly different programming. The make-up of the rural population considered throughout this report is given in some detail in Appendix 1. Table 5 provides the same type of data as shown in Tables 1 to 4 but this time for the residents in Canada's Census Metropolitan Areas (all cities with populations over 100,000). Comparison of the data on the average number of channels available in the CMA's and in the rural regions is given in Table 6. It is well known that fewer channels are available in the rural areas of Canada but this table actually provides the magnitude of the rural/city TV GAP that exists. The disparity of coverage in the rural areas relative to the CMA's is relatively independent of language for Canadian networks (TV GAP = 2.6 for English-language broadcasts and TV GAP = 2.8 for French-language broadcasts). The next entry in this table, a TV GAP value of 6.3 for U.S. networks is simply a characteristic of today's Canadian society. Specifically the people in the cities want and pay for, through CATV subscriptions, the importation of U.S. TV signals. The final entry in Table 6 is probably the one of greatest value insofar as the DOC Rural Communications Program is concerned. A TV GAP of 3.3 tells us that the average large-city dweller has access to 3.3 times more channels of distinctly different TV programs than his disadvantaged rural counterpart.

A more revealing portrayal of the data given in Tables 1 to 4 is given in Figures 1 to 4. Here we can see, at a glance, many interesting characteristics. In Figure 1, for example, only B.C. has a



distribution function that is typical of the Canada-wide distribution function. Also, Saskatchewan and Quebec have the largest populations that have access to NO English-language Canadian TV. Also, all provinces except Alberta and Saskatchewan have spikes at the top of the distribution function (which are no doubt due to the existence of rural CATV systems in the other provinces).

Figure 2 shows the leading role that Quebec plays in distributing French-language TV and the poor coverage that exists in rural Saskatchewan and Newfoundland. The neighbour-effect of Quebec on Ontario and New Brunswick is also apparent.

The availability of U.S. TV throughout rural Canada is given in Figure 3. Here we note again the absence of a spike on the Saskatchewan function. Also note the interesting situation that far more rural Canadians can receive multiple U.S. TV networks than can receive only one. This situation exists for all provinces, even B.C., but excepting Saskatchewan. The fact, however, does remain that 77.4% of rural Canadians have no U.S. TV available whatsoever.

Figure 4, which shows the availability of TV channels, regardless of language or national source, is of a remarkably similar shape to Figure 1 in the report "The Availability of Television in the Census Metropolitan Areas". Thus, this west-to-east portrayal of the availability of channels to rural residents mimics the west-to-east availability of channels to residents in large cities. The significant difference is only one of scale and this point must be emphasized.

*THE AVERAGE RURAL RESIDENT HAS ACCESS TO ONE-THIRD  
THE NUMBER OF CHANNELS OF HIS LARGE-CITY COUNTERPART!*

The distribution function for each component (CMA and rural) that



underlies this ratio of one-third is given in Figure 5. This is a bar graph that is drawn from the data in the last row of both Tables 4 and 5. In passing, it should be noted that if we consider not average number of channels, but rather the most common number (the maximum of the distribution functions), the rural/city TV GAP becomes  $15/2 = 7.5$ , an even more alarming ratio than the 3.3 obtained by considering average values! Therefore one conclusion is that the 3.3 factor is realistic and is not an over-statement of the fact --

*THE AVERAGE RURAL RESIDENT HAS ACCESS TO ONE-THIRD  
THE NUMBER OF CHANNELS OF HIS CITY COUNTERPART!*

## 2. CABLE TV IN RURAL CANADA

The number of the people in the rural portion of every census division of each province, who are living within licensed CATV areas, is given in tabular form in the Simon Fraser report, "The Extent of Television Network Coverage in Rural Canada". Although the fine geographical detail of this data is of use for many purposes, the per province penetration is of greatest interest for the present report. Figure 6 presents this provincial data in bar graph form (based on Table 45 of the SFU report). Although recent data is not available on the percentage of people who are inside of licensed CATV areas in CMA's, an estimate of 90 to 95% would be realistic. In any case, 82% of urban households had access to CATV in late 1976. The fact that only 10.7% of rural Canadians had access to CATV is indicative of one of the many reasons why the rural/city TV gap is as large as it is.

Province	No. of Rural People	Average number of distinctly different channels available	Percentage of rural people having access to 0, 1, . . . , 14 distinctly different channels														
			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
B.C.	576,348	2.5	7.3	16.8	33.2	16.8	17.1	6.1	2.8	-	-						
ALTA.	499,214	2.2	7.2	15.4	28.7	47.7	1.0	.01	-	-							
SASK	449,903	1.5	10.2	33.4	56.4	-	-										
MAN	333,915	2.1	7.7	15.6	36.0	38.3	0.6	1.7	-	-							
ONT	1,674,050	3.6	1.2	8.3	23.2	22.6	14.8	14.2	11.6	1.3	2.9	-	-				
QUE	1,492,390	1.1	35.1	22.6	38.2	1.8	2.4	-	-								
NB	357,966	1.8	2.0	34.5	54.8	3.1	5.6	-	-								
NS	382,643	2.2	0.7	4.0	84.0	2.3	7.9	1.1	-								
PEI	86,972	2.0	7.1	9.8	71.6	-	11.4	-	-								
NFLD.	278,367	1.8	4.6	23.7	63.9	1.0	6.8	-	-								
CANADA	6,131,768	2.2	11.8	17.4	39.6	14.5	7.6	4.6	3.4	0.4	0.8	-	-				

TABLE 1

Availability of English-Language Canadian TV in Rural Canada

Province	No. of Rural People	Average No. of Stations Available	Percentage of Rural People Having Access to 0, 1, . . . . , 14 Distinctly Different Stations													
			0	1	2	3	4	5	6	7	8	9	10	11	12	13
B.C.	567,348	0.3	74.0	26.0	-	-										
Alberta	499,214	0.3	70.9	29.0	-	-										
Saskatchewan	449,903	0.1	91.3	8.7	-	-										
Manitoba	333,915	0.5	53.5	46.5	-	-										
Ontario	1,674,050	0.8	26.0	68.9	3.3	1.8	-	-								
Quebec	1,492,390	2.2	2.0	24.4	34.5	32.4	3.8	2.2	0.6	-	-					
New Brunswick	357,966	0.8	22.1	76.9	1.0	-	-									
Nova Scotia	382,643	0.5	51.7	48.3	-	-										
P.E.I.	86,972	0.3	70.2	29.8	-	-										
Nfld.	278,367	0.1	94.4	5.6	-	-										
Canada	6,131,768	0.9	39.8	41.0	9.4	8.4	0.9	0.5	0.2	-	-					

TABLE 2

Availability of French-Language Canadian TV in Rural Canada

Province	No. of Rural People	Average No. of Stations Available	Percentage of Rural People Having Access to 0, 1, . . . . , 14 Distinctly Different Stations													
			0	1	2	3	4	5	6	7	8	9	10	11	12	13
B.C.	576,348	1.5	45.8	23.8	0.8	6.6	10.3	12.7	-	-						
Alberta	499,214	.1	97.7	-	0.5	-	1.8	-	-							
Saskatchewan	499,903	0	99.9	0.1	-	-										
Manitoba	333,915	.2	93.7	0.6	4.0	-	1.7	-	-							
Ontario	1,674,050	1.1	69.5	3.1	6.9	5.8	3.9	5.8	2.5	2.4	-	-				
Quebec	1,492,390	.7	74.6	4.4	5.9	8.7	6.4	-	-							
New Brunswick	357,966	.7	78.9	-	1.1	15.3	4.7	-	-							
Nova Scotia	382,643	.3	88.2	-	2.3	9.4	-	-								
P.E.I.	86,972	.2	88.6	-	11.4	-	-									
Nfld.	278,367	.2	92.2	-	7.0	0.8	-	-								
Canada	6,131,768	.7	77.4	4.2	4.3	5.8	4.1	2.8	0.7	0.7	-					

TABLE 3

Availability of American TV in Rural Canada

Province	No. of Rural People	Average No. of Stations Available	Percentage of Rural People Having Access to 0, 1, ..., 14 Distinctly Different Stations														
			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
B.C.	576,348	4.3	7.0	14.6	27.0	5.6	4.8	10.7	2.6	4.3	6.2	4.4	8.2	4.7	-	-	-
Alberta	499,214	2.6	6.6	13.5	27.1	28.9	21.1	0.4	0.3	1.4	0.5	-	-	-	-	-	-
Saskatchewan	449,903	1.6	10.1	33.1	48.4	8.4	-	-	-	-	-	-	-	-	-	-	-
Manitoba	333,915	2.8	7.4	14.1	33.4	4.3	34	1.1	3.8	-	-	-	1.7	-	-	-	-
Ontario	1,674,050	5.5	1.1	5.8	9.7	16.8	15.5	9.1	8	10.4	5.1	4.1	6.2	3.6	.1	1.6	2.9
Quebec	1,492,390	4.0	1.4	16.3	19.1	7.4	18.9	14.3	4	4.9	6.9	4.9	.3	.9	.4	.3	-
N.B.	357,966	3.2	.5	4.2	40.2	34.0	0.03	9.0	2.9	1.7	6.7	.8	-	-	-	-	-
N.S.	382,643	3.0	.6	2.7	49.4	35.4	-	0.6	0.5	2.9	6.6	1.1	-	-	-	-	-
P.E.I.	86,972	2.5	6.6	5.6	63.3	13.1	-	-	-	11.4	-	-	-	-	-	-	-
Nfld.	278,367	2.0	4.6	23.2	60.0	4.4	-	0.2	6.8	0.8	-	-	-	-	-	-	-
Canada	6,131,768	3.85	3.3	12.8	26.5	14.7	12.9	7.7	4.2	5.0	4.5	2.9	2.7	1.6	0.1	0.5	0.8

TABLE 4

Availability of TV in Rural Canada

No. of People in CMA's	Type of Channels	Average No. of Distinctly Different Channels Available	Percent of CMA People Having Access to 0, 1, ..., 15 Distinctly Different Channels															
			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
12,798,380	Eng.-Canadian	5.8	-	-	5.2	23.8	7.1	17.1	8.9	6.2	1.1	30.5	-	-	-	-	-	-
"	Fr.-Canadian	2.5	2.1	64.2	1.2	4.1	1.0	1.3	26.1	-	-	-	-	-	-	-	-	-
"	U.S.	4.4	-	-	3.5	8.2	41.8	44.5	-	-	19.3	-	-	-	-	-	-	-
"	Total	12.6	-	-	-	-	-	-	1.1	-	4.2	2.2	8.2	21.4	1.9	25.4	5.1	30.5

TABLE 5

Availability of TV in Census Metropolitan Areas

TYPE OF CHANNELS	AVERAGE NUMBER OF DISTINCTLY DIFFERENT CHANNELS AVAILABLE		"TV GAP"*
	IN RURAL CANADA	IN CMA'S	
ENGLISH-CANADIAN	2.2	5.8	2.6 times
FRENCH -CANADIAN	0.9	2.5	2.8 times
U.S.	0.7	4.4	6.3 times
TOTAL	3.85	12.6	3.3 times

\* The TV GAP is the number of channels available in the CMA'S relative to those available in rural Canada and is a parameter that can be interpreted as the difference in levels of service provided to the two constituencies.

TABLE 6

Availability of TV in the Large Cities Relative to Rural Areas



Number of  
Distinctly  
Different  
Channels

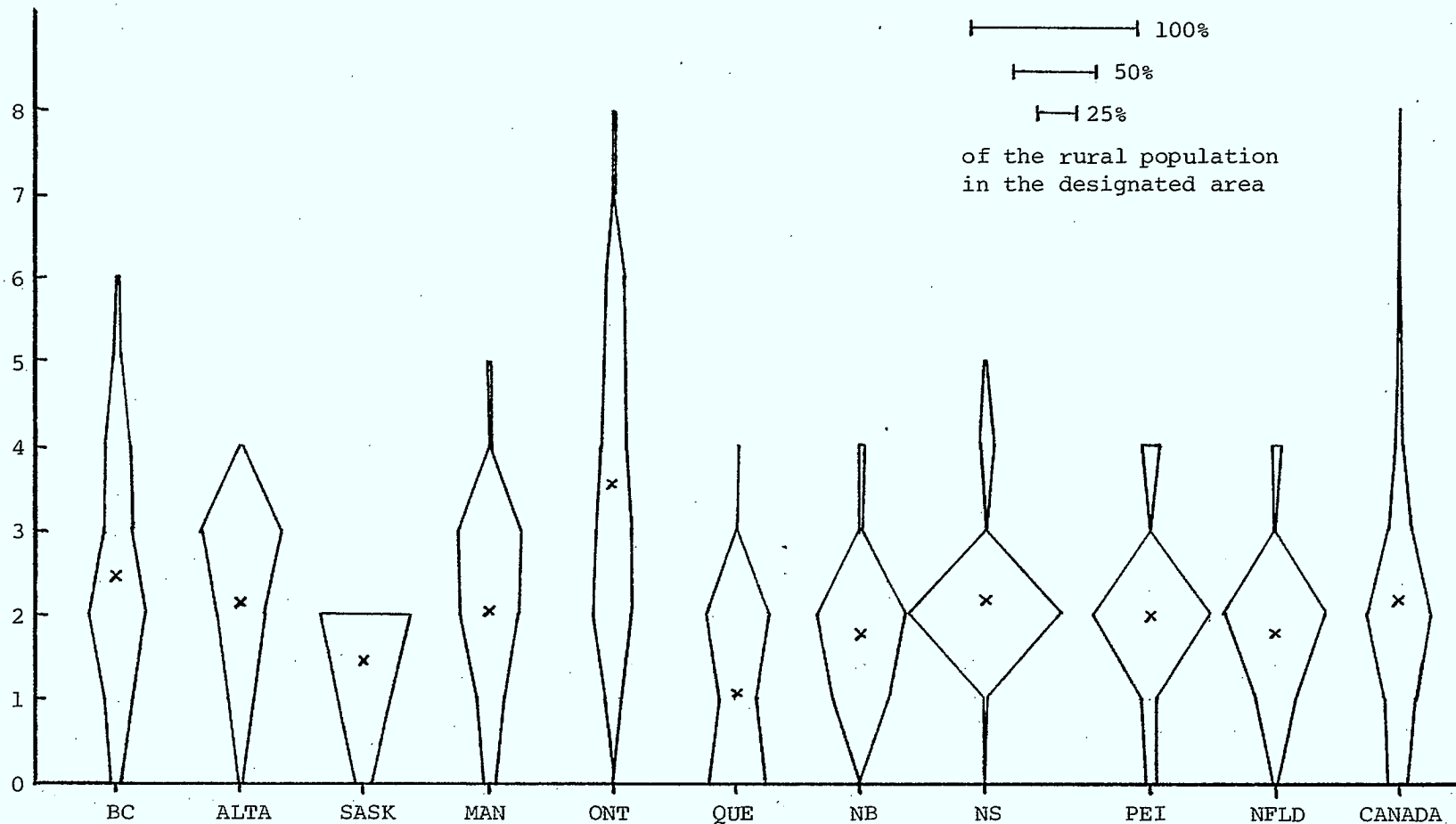


FIGURE 1: Availability of English-Language Canadian TV in Rural Canada

(The x's denote the average for the rural portion of each province)

Number of  
Distinctly  
Different  
Channels

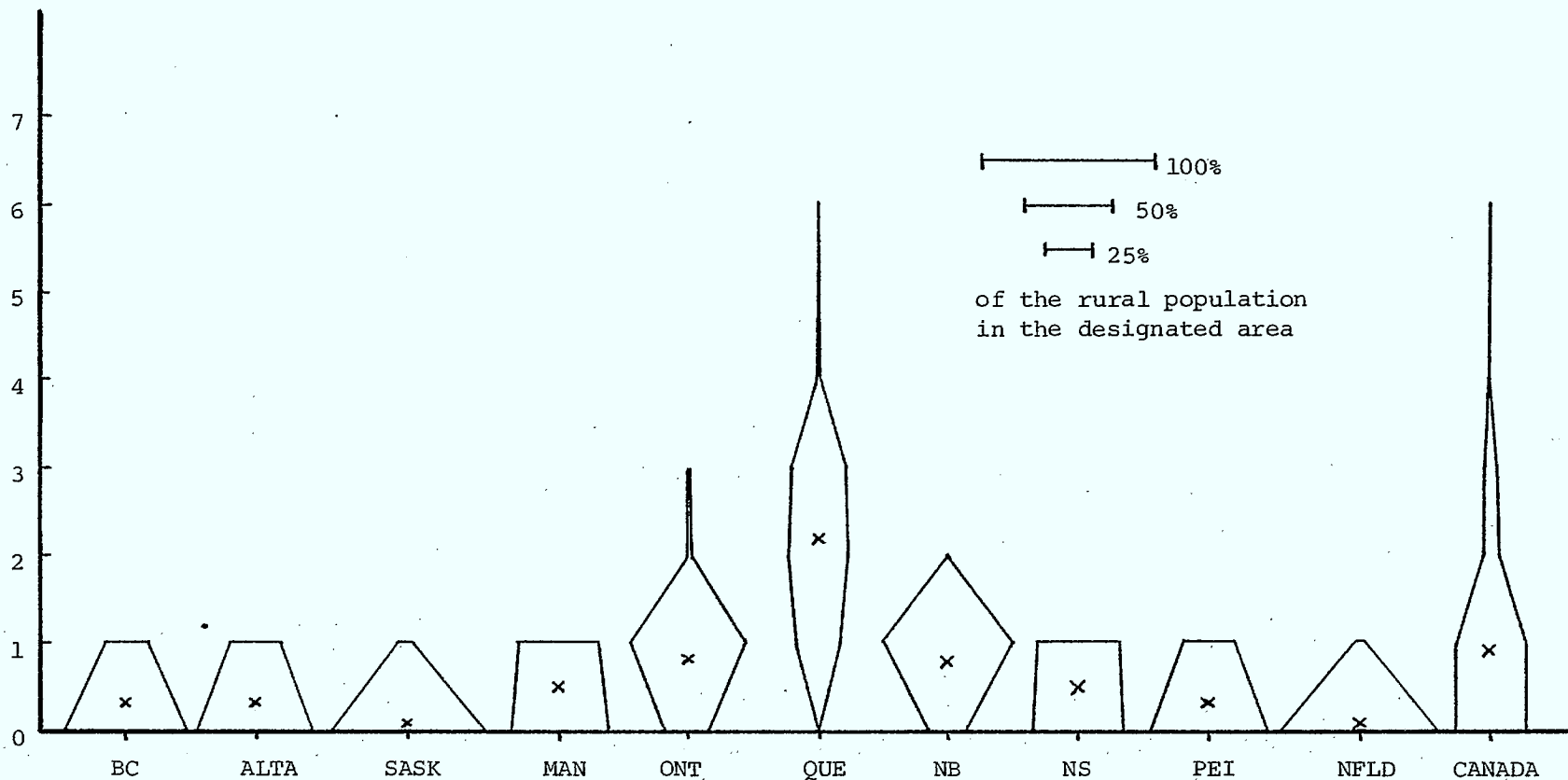


FIGURE 2: Availability of French-Language Canadian TV in Rural Canada

(The x's denote the average for the rural portion of each province)

Number of  
Distinctly  
Different  
Stations

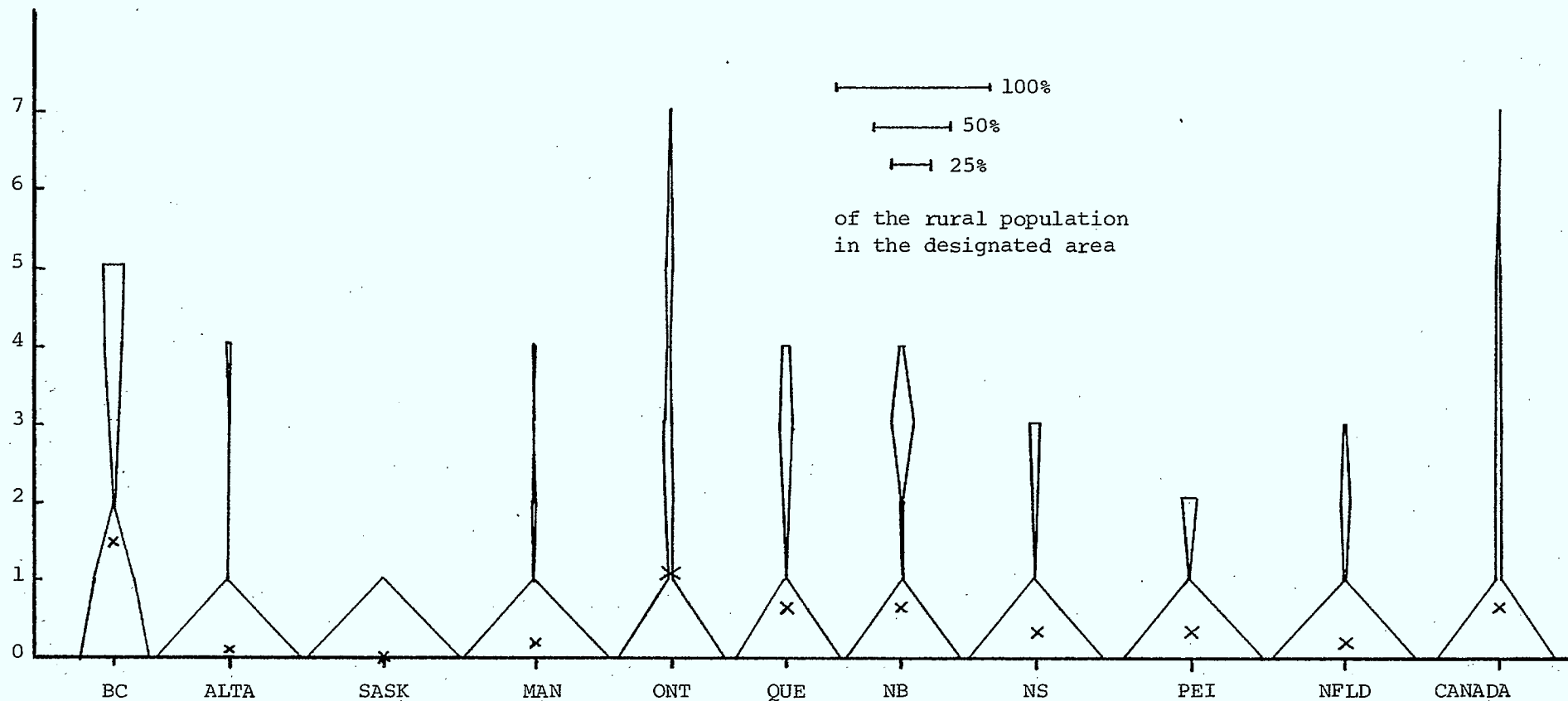


FIGURE 3: Availability of American TV in Rural Canada

(The x's denote the average for the rural portion of each province)

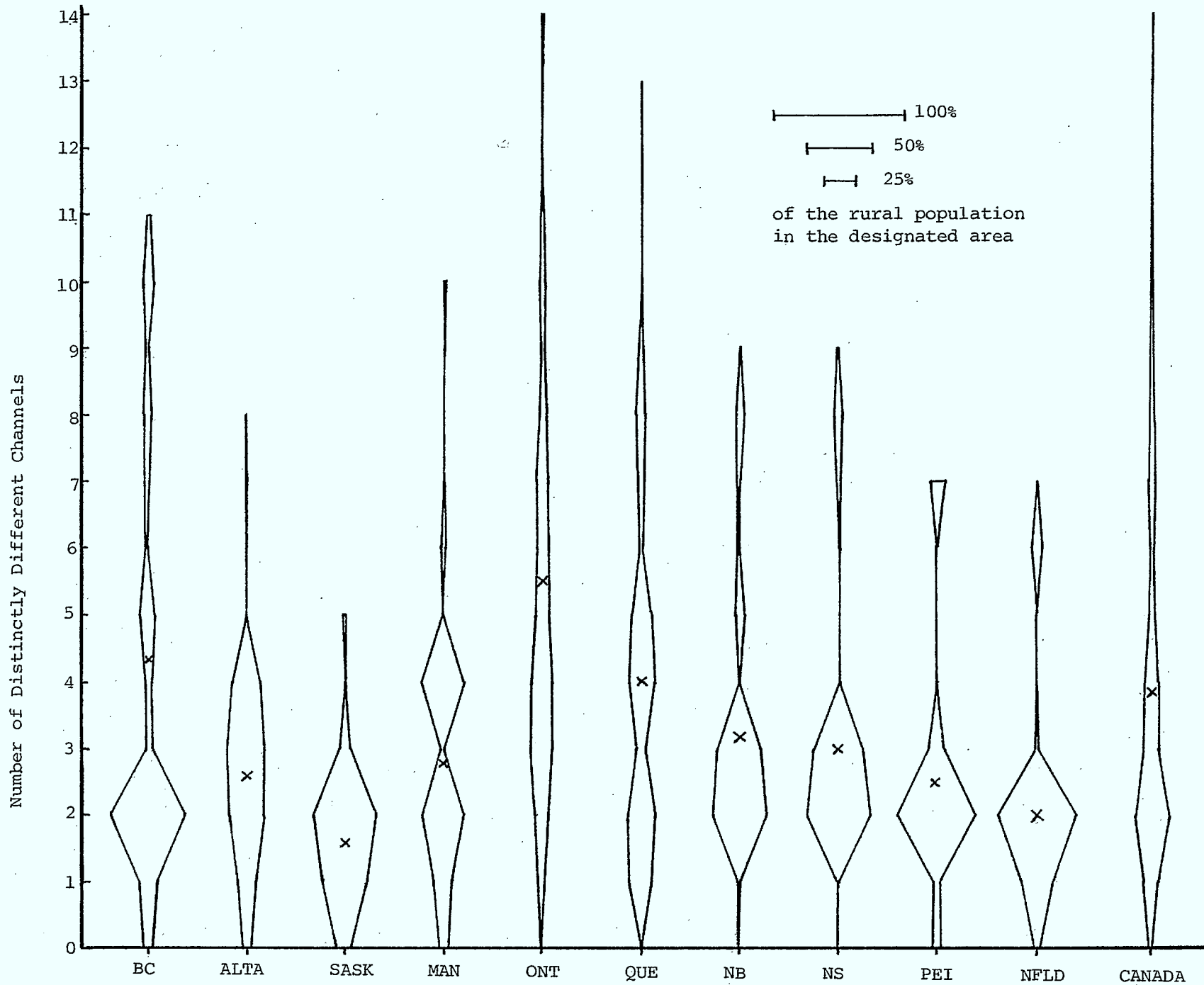


FIGURE 4: Availability of TV in Rural Canada

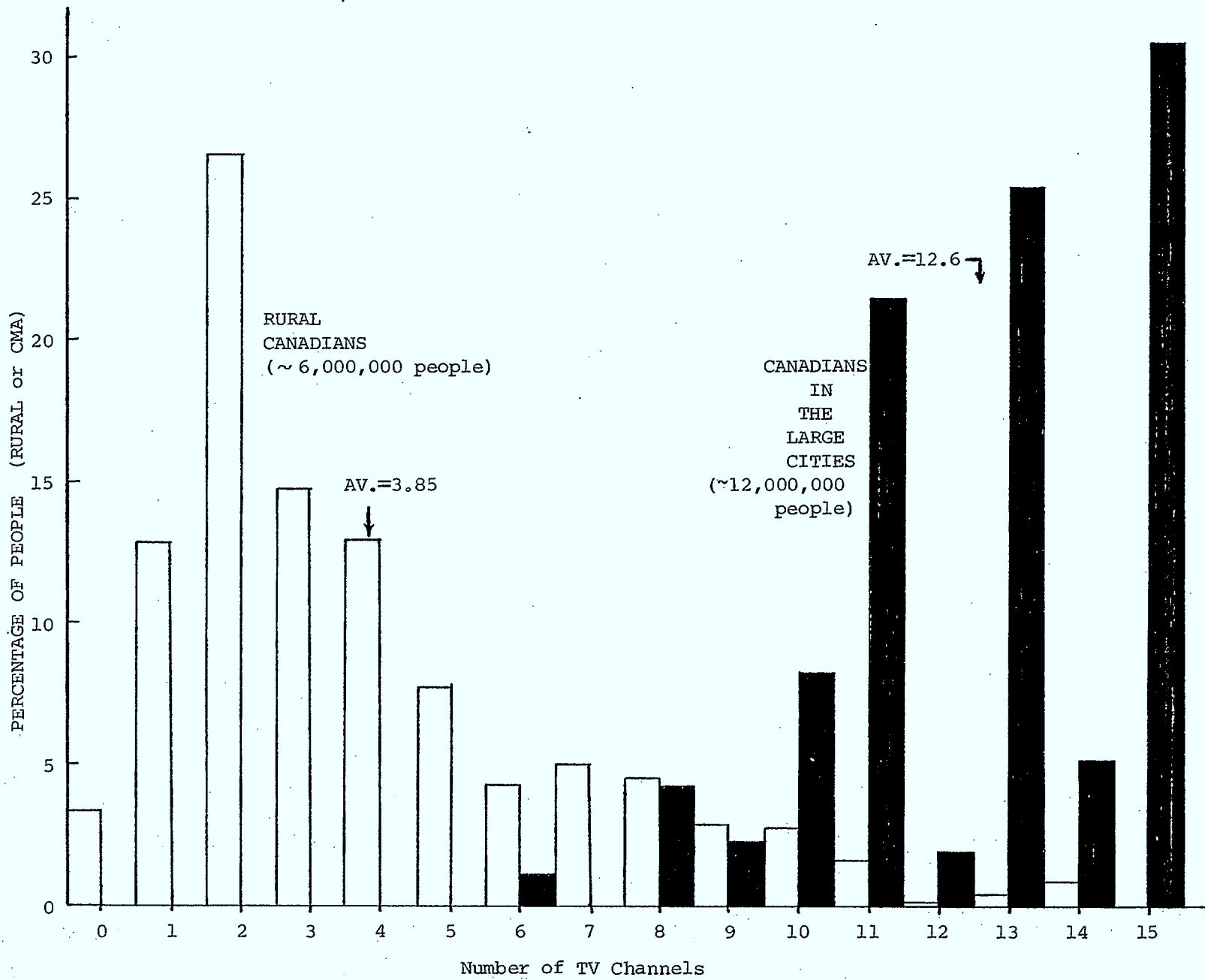


FIGURE 5: The Canadian Rural/City TV GAP

Percentage  
of  
Rural  
Population

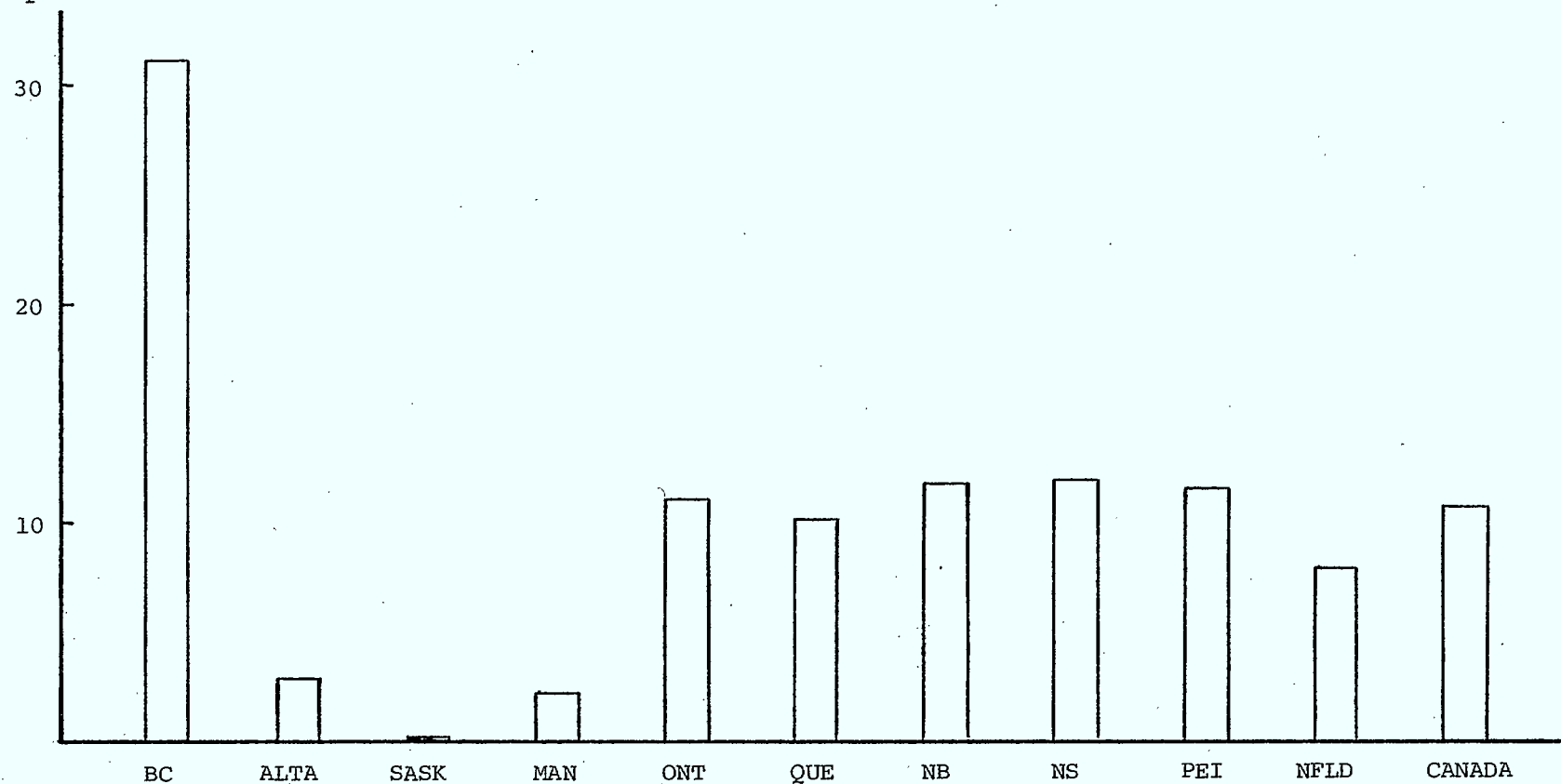


FIGURE 6: The Percentage of the Rural Population within  
CATV Licensed Areas.

APPENDIX 1



THE RURAL POPULATION

In order to make the present report and the two preceding reports as commensurate as possible with the aims of the Rural Communications Program and to remove any subjective aspects from the definition of the rural population, it was decided at an early stage that a "hard definition" for the rural population should be adopted. This definition is that which was used by Statistics Canada for describing the non-urban population in the 1976 Census with three changes. These are: i) deletion of all persons in the territories, ii) deletion of all persons residing in enumeration areas having a population density less than one person per square mile, and iii) addition of all persons residing in incorporated settlements (and designated by Statistics Canada as urban residents) having a total population of between 1000 and 2500.

The result of applying the above definition to the 1976 Census data is given in Table 7. The reader is cautioned that the word rural in this table and for that matter, throughout this report, does not have the normal meaning implied in Statistics Canada publications but rather has the meaning, given in the preceding paragraph, of that portion of Canada, and of Canada's population, that is of prime concern in the Rural Communications Program.

The relative significance of the size of the rural population in each province is evident from Figure 7. Loosely speaking, there are four regions with approximately equal rural populations: the Atlantic provinces, Quebec, Ontario, and the prairie provinces. B.C. has about half the number of rural residents of these other four regions.

Finally, the provincial maps of the rural study area compiled by Simon Fraser University, using the above definition of rural, have been combined into a rural study area map which is given in Figure 8.

PROVINCE	NUMBER OF PEOPLE IN REMOTE AREAS ( $\rho < 1$ )	NUMBER OF PEOPLE IN SMALL SETTLE- MENTS ( $\rho > 1, N < 1000$ )	NUMBER OF PEOPLE IN VILLAGES ( $1000 < N < 2500$ )	TOTAL RURAL POPULATION	TOTAL POPULATION	PERCENT RURAL
NFLD	6,716	221,518	56,849	278,367	557,725	49.9%
P.E.I.	0	74,350	12,622	86,972	118,229	73.6
N.S.	1,094	364,889	17,754	382,643	828,571	46.2
N.B.	1,520	321,312	36,654	357,966	677,250	52.9
QUE.	8,862	1,292,827	199,563	1,492,390	6,234,445	23.9
ONT.	14,559	1,541,215	132,835	1,674,050	8,264,465	20.3
MAN.	6,892	298,447	35,468	333,915	1,021,506	32.7
SASK.	15,770	394,222	55,681	449,903	921,323	48.8
ALTA.	23,811	434,606	64,608	499,214	1,838,037	27.2
B.C.	41,967	527,531	48,817	576,348	2,466,608	23.4
YUK.	4,154	4,371	0	4,371	21,836	20.0
NWT.	828	20,564	4,203	24,767	42,609	58.1
CANADA	126,173	5,495,852	665,054	6,160,906	22,992,604	26.8%
CANADA excluding territories	121,191	5,470,917	660,851	6,131,768	22,928,159	26.7%

TABLE 7, 1976 CENSUS DATA.  $\rho$  = density in people / sq. mile  
N = population of a settlement

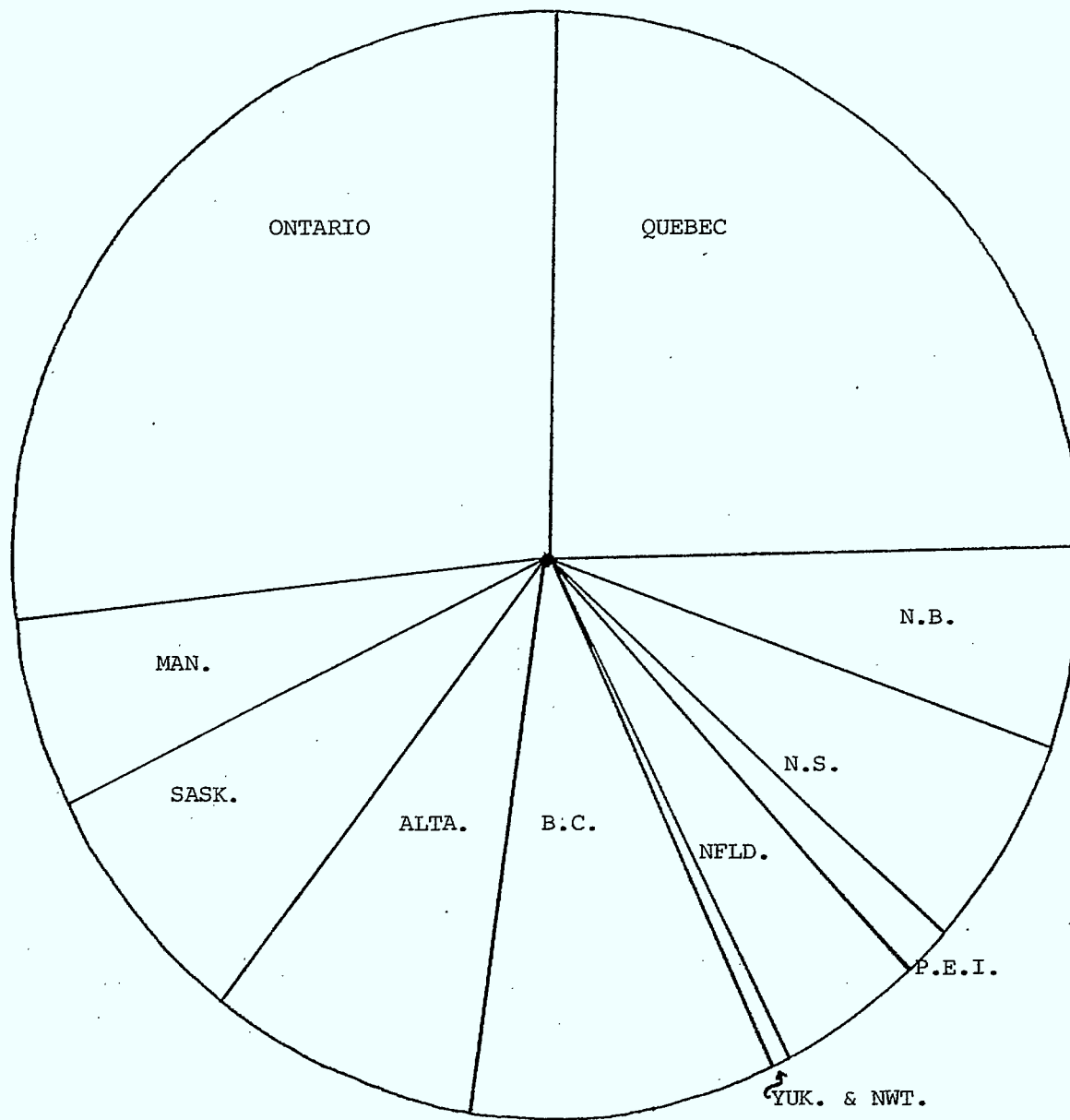


FIGURE 7: Provincial Distribution of Rural Population

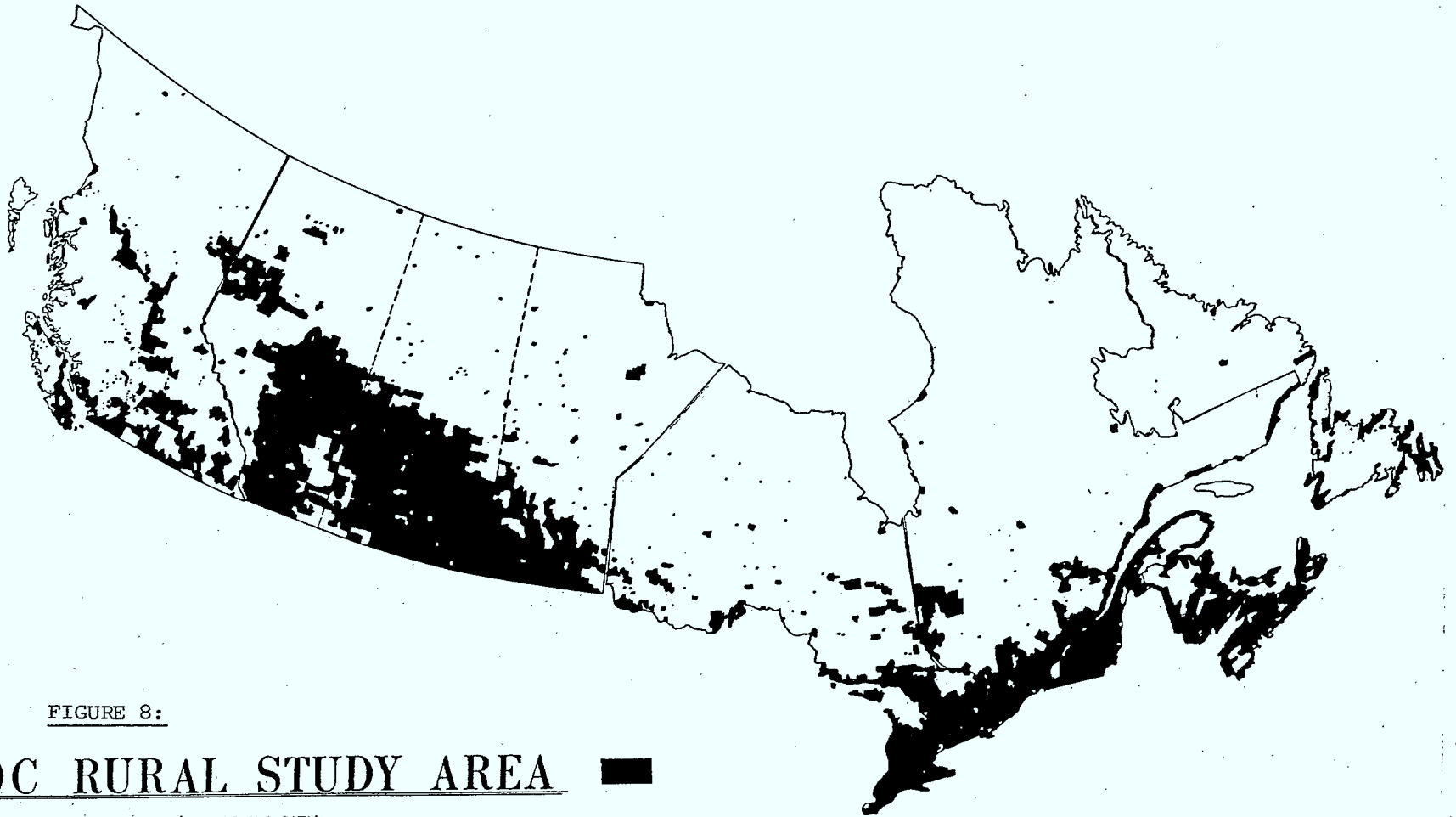


FIGURE 8:

DOC RURAL STUDY AREA ■

(1976 CENSUS DATA)



