

URBANISM IN A REGIONAL CONTEXT  
with special reference to NORTHWESTERN NEW BRUNSWICK

A Thesis

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by

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## ABSTRACT

This study is based both on library research made at the University of Manitoba and a field survey conducted by the author with the Community Planning Branch of the New Brunswick Department of Municipal Affairs in Northwestern New Brunswick during the summer of 1969. It may be regarded as a heuristic attempt to find throughout the literature on planning, the tools of analysis and planning that may be best adapted to that area of New Brunswick.

In order to achieve this goal, the author first examines the region from the point of view of the chronologic formation of settlement patterns, and the present form of the settlement of the area. In Northwestern New Brunswick, this settlement pattern possesses a rural character with all its advantages and challenges. The region is then re-examined as a planning field; homogeneous and polarized characteristics are pointed out, releasing the total region as it exists in 1970. An indefinite projection of the region is then attempted with the application of the concept of "villages-centres" as polarized centers for the "ville-fédération", possible form of the future region. The last finding of the research is that of an adequate structure to devise for the implementation of a programme regarding the new form to be taken by that area in Northwestern New Brunswick.

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## INTRODUCTION

Gaston Bardet has defined "urbanism" in the following terms: "Présentement, l'urbanisme désigne l'aménagement du sol à toutes les échelles, l'étude de toutes les formes de localisations humaines sur la terre."<sup>1</sup> Land and settlement are therefore the central core to consider in urbanism, even though the ways of coping with them may be different.

The main objective of the present research is to select methods of coping with land use and settlement within a region defined by the Community Planning Branch of the Department of Municipal Affairs of New Brunswick, and called the Madawaska Planning District. This region, shown on Map I, is located in the Northwestern part of the Province of New Brunswick: it includes all of Madawaska County and the parishes of Drummond, Denmark and Grand Falls in Victoria County. In a latter part of the research, the method by which the boundary was arrived at will be outlined.

Essentially, the main issue of this present study will be to identify problems and assets related to the settlement of the region, and with the use of experiences and theories that have evolved elsewhere, do a synthesis of the problems for the Madawaska Planning District. The basic motive for this objective resides in the fact that each community of a region cannot be planned separately: In the

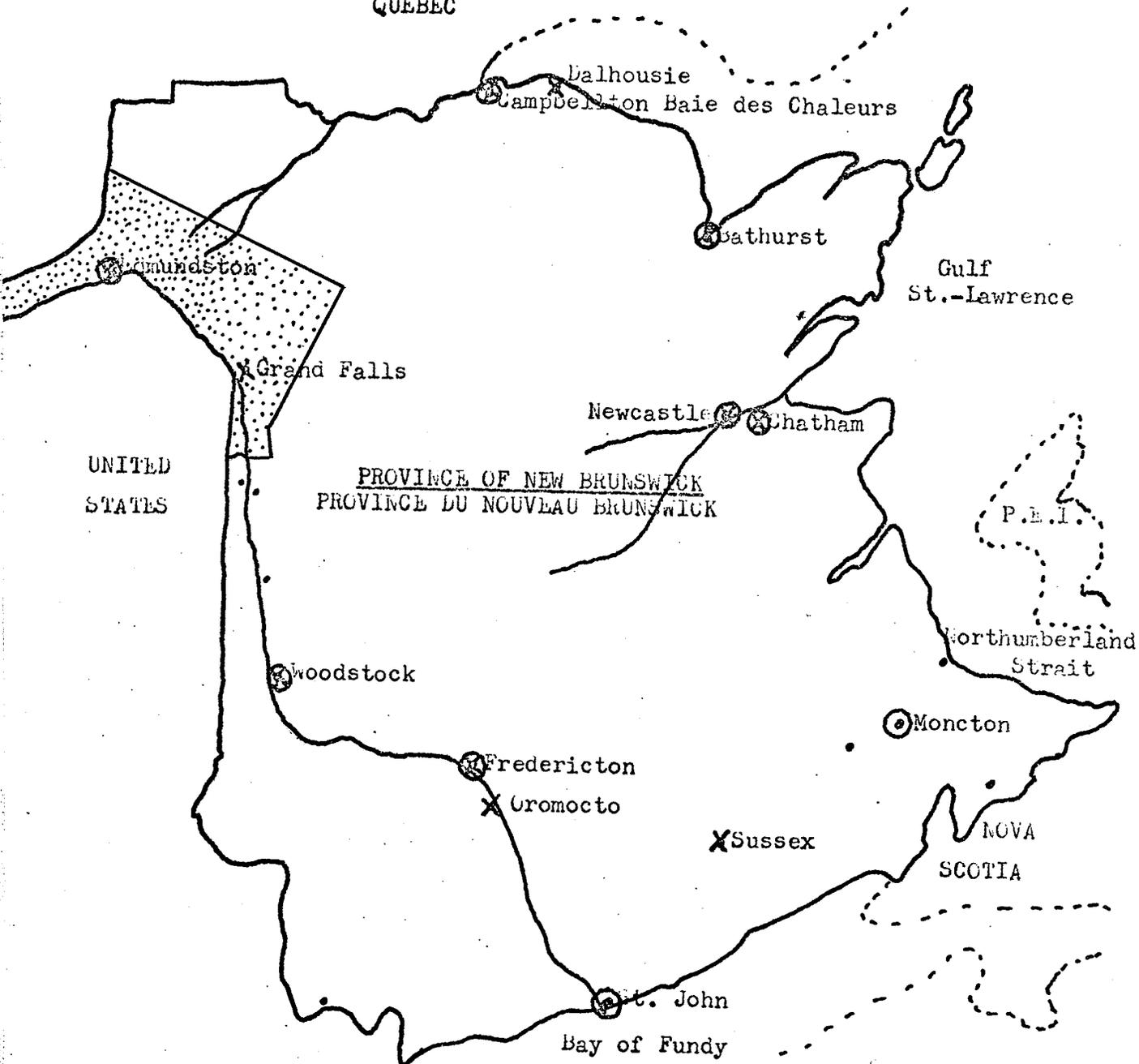
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<sup>1</sup> BARDET, Gaston, L'Urbanisme, Paris, Que Sais-Je, Presses Universitaires de France, 1967, p. 27.

MAP I

THE MADAWASKA PLANNING DISTRICT

QUEBEC



- LEGEND:
- Primary Wholesale Centres
  - ⊗ Secondary Wholesale Centres & Complete Shopping Centres
  - ✕ Partial Shopping Centres
  - Full Convenience Centres
  - ▨ The Madawaska Planning District

Madawaska Planning District, there are over ten incorporated villages and towns in need of planning; but it is virtually impossible to deal with them separately. An alternative must therefore be attempted at the regional level.

This study will first seek to define the settlement patterns of the region and identify the challenges and assets that may be related to them. In a second chapter, the present regional structure of the region will be identified with the application of pertinent research methods. The third chapter will introduce measures that have been used in other areas and the application of these measures to the Madawaska Planning District. Finally, there will be an examination of the form that should characterize the plan and the administrative structure in order to cope with the problems of the region.

## CHAPTER I

### A CHANGING REGION - THE MADAWASKA PLANNING DISTRICT

Before coping with the problems of planning within any region, it is essential to know the area's assets; the challenges that may arise in its development; and the aspects that give the region its distinctive personality. These factors will determine how planning principles will be applied to make the Madawaska Planning District the field, the instrument and the growth factor of future planning endeavours in Northwestern New Brunswick. The first chapter will therefore look at the settlement patterns of the region as well as the more general facets of the development of the area. The settlement patterns, being the major aspect of the study, will constitute the first area of concern. Then, the main problems related to the settlement patterns will be pointed out, and finally, there will be a brief appraisal of the assets which may become the major growth factors of any future development: namely, the resources and the forces that unite the settlements of the region.

#### 1. STUDY OF THE SETTLEMENT PATTERN

The settlement itself may first be looked at historically, and then from the point of view of the present geographic identification of population agglomerations.

## HISTORY OF THE SETTLEMENT

Gaston Bardet set the terms of reference of any study of the chronology of the settlement patterns, as they may be related to planning, by saying:

Il va sans dire qu'il ne faut pas chercher à faire l'histoire des agglomérations; mais la connaissant à fond, il faut en tirer les faits qui permettent d'éclairer l'état présent ou futur de la ville ou de la région; tous les autres sont inutiles.<sup>2</sup>

An examination of the motives and the spirit of the people who settled the Madawaska Planning District may shed some light on the present state of the region: this is why some key documents on the history of the area were scrutinized to extract information relevant to the development of the settlement.

"Les historiens ont retracé l'existence d'un poste français à Grand Sault (Grand Falls) dès 1753, mais son histoire moderne commença en 1791 quand le gouverneur Thomas Carleton y établit un poste militaire".<sup>3</sup> Practically speaking, European settlers first arrived in the Northwestern part of New Brunswick around these dates.

In June 1785, the Governor of New Brunswick approved the settlement of Acadians in the area which is today located between Edmundston and St.-Léonard:

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2 BARDET, Gaston, Mission de l'Urbanisme, Paris, Editions Ouvrières, 1952, p. 54.

3 LAGACE, Anita, Grand-Sault Hier et Aujourd'hui, 1946, p.31.

The new settlers picked out their lots and began clearing them. While some of them chose to settle close to the south bank, others established their homes a bit below this temporary settlement, and still others on the banks of the Green River. Four families settled on the north bank of the Saint-John, Louis and Michel Mercure picking lots near the Indian Village (today, Iroquois), and Olivier and Pierre Cyr chose lots on the Iroquois River.<sup>4</sup>

The "Mazerolle Grant" was issued on October 1, 1790: the "Thibodeau Grant" in 1794. These concessions, illustrated by Map II were subdivided into river lots of 200 acres with a frontage of 60 rods. Map II also shows the 1872 grant to people from Denmark.

The first church was built in the middle of the colony at the present site of St.-Basile, in 1793:

As if encouraged by the sense of progress and permanency suggested by the church, new houses were built on all sides. The Church had been built on Lot # 23 on the north east shore of the St. John, reserved for public use by the consent of Executive Council of New Brunswick... in answer to a request of the people of Madawaska.<sup>5</sup>

The settlement then spread to the east as far as St.-Léonard and toward the west to Fort Kent, and this on both sides of the river.

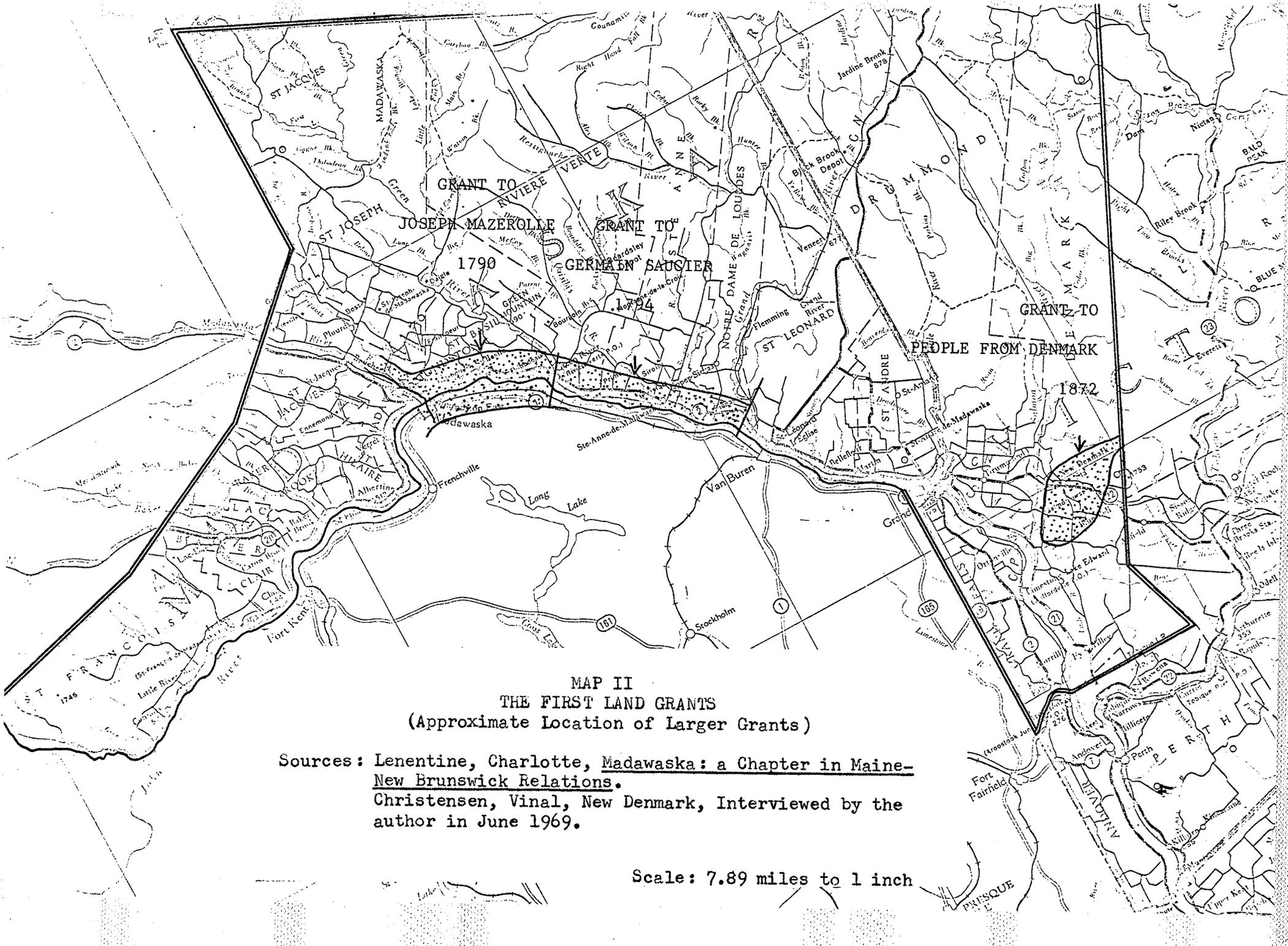
It must be noted that, until 1843 when the Webster-Ashburton treaty was signed, the Acadians settled freely on both sides of the St. John River:

The settlement at Madawaska was a community separate and nearly isolated from the world beyond Grand Falls to the south and Lac Témiscouata to the north. In the final decision, Madawaskans themselves were given very little consideration. No plebiscite was ever held. The Americans had no particular interest in acquiring Madawaska as such. Nor did the British

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<sup>4</sup> LÉVENTINE, Charlotte, Madawaska: A Chapter in Maine-New Brunswick Relations, Fredericton, M.A. Thesis, University of New Brunswick, 1955, p. 17.

<sup>5</sup> Ibid., p. 24.



MAP II  
 THE FIRST LAND GRANTS  
 (Approximate Location of Larger Grants)

Sources: Lenentine, Charlotte, Madawaska: a Chapter in Maine-New Brunswick Relations.  
 Christensen, Vinal, New Denmark, Interviewed by the author in June 1969.

Scale: 7.89 miles to 1 inch

weep much over losing a portion of the settlement.<sup>6</sup>

The treaty divided the colony into two parts, with the result that a large number of Acadians are still living along the St. John River in the State of Maine.

Before 1812, the settlement had spread out along the Grande Rivière into the present parish of Ste.-Anne, into the "Charitaqua" region, and soon little villages grew up at Grand Platin, St.-Hilaire, La Décharge (Later Fort Kent), St.-François d'Assise, St.-François Xavier, St.- Charles, St.-Léonard and St.-Jacques.

The early flour mills were water driven and the first seems to have been at St.-Basile, where it was built by Paul Poirier. Others soon appeared at St.-David, Grande-Isle, Grande Rivière,<sup>7</sup> and Violet Brook, as well as St.-François and Chataqua.

The turning point in the growth of any settlement seems to have been the arrival of a parish priest and the erection of a church that would give birth to new parishes. Map III shows the dates when churches appeared in different settlements of the area. The people of the region were very religious, and the building of churches with a resident priest was a sign of prosperity which, in relation to the other settlements in the area, proved to be true. As shown earlier for St.-Basile, the building of the church marked a turning point that encouraged the growth of the villages and towns of the area. These villages even though they were not incorporated as such, were in fact the centers for all the religious parish that extended spatially as far as what the people still call "les conces-

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<sup>6</sup> LENENTINE, Charlotte, Madawaska: a Chapter in Maine-New Brunswick Relations, Fredericton, M.A. Thesis, University of New Brunswick, 1955, p. ii.

<sup>7</sup> Ibid., p. 43.



sions". Demographic growth did not always mean growth of the economic base, however, and Lenentine relates the severe difficulties that the land settlers had to go through. The suitability of the land for agriculture, (as will be seen later) is not consistent throughout the settled area, and many difficulties are recounted by historians.

By the turn of the nineteenth century, following the Napoleonic wars, Britain turned toward America for lumber sources. Lumbering operations appeared in the Lac Baker area and gave birth to a further expansion of the settlement of the land. Around Grand Falls, the land was settled first by the discharged British soldiers, and in the 1860's by Irish people who came to Canada following the great crisis of 1838. Around 1870, Danes arrived along the Saint John River below Grand Falls and settled the New Denmark area.<sup>8</sup>

In the 1880's the St.-André and Drummond area became the last part of the oecumene of the region to receive new settlers. A group of French Canadians from Kamouraska County in the Province of Quebec were granted lots in the area just north of Grand Falls.

From that time on, urbanization trends started to set in with the coming of the railroad and other modern facilities, including mainly the industrialization of the wood industry. In 1882, the Murchie lumber mill initiated the growth of Edmundston, now the largest settlement in the region. In 1911, the mill was purchased by Fraser Companies Limited, and in 1918, it made its entry into the pulp industry.<sup>9</sup> Still today, this industry is the dominant function

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8 Interview with Vinal Christensen, New Denmark, June, 1969.

9 ALBERT, Julie, Madawaska Centennial, 1969, p. 88.

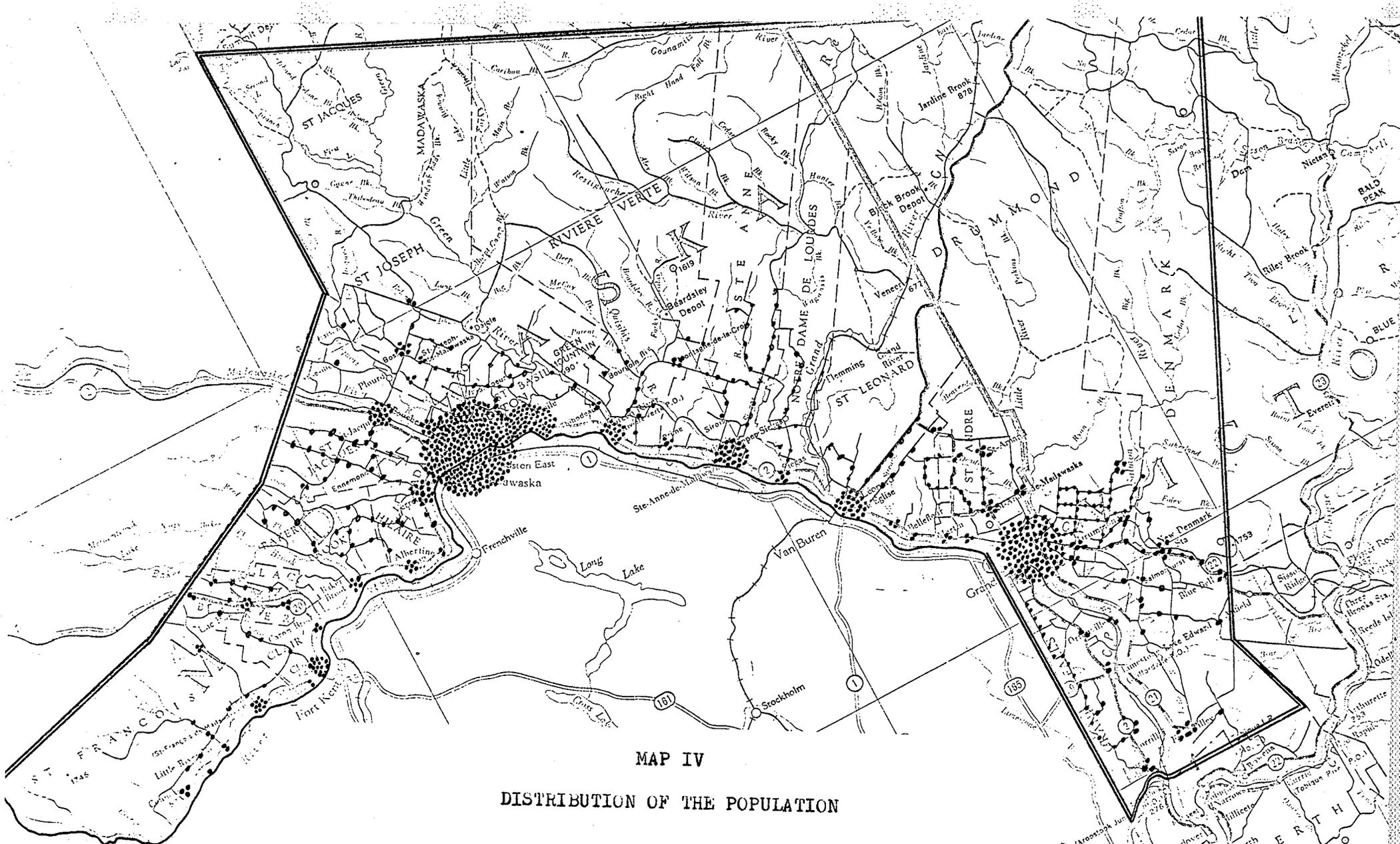
of Edmundston. The agricultural industry which has surrounded Grand Falls, apart from the lumber mills that have come and gone through the years, has made it grow into a prosperous agricultural center.

Other settlements in the region have lived essentially from agriculture and forestry. The spatial importance of more dense settlements, (as opposed to the open country), has manifested itself, as seen earlier, by their becoming religious and commercial centers for their surrounding parish.

## 2. THE CHALLENGES OF THE MADAWASKA PLANNING DISTRICT RELATED TO THE SETTLEMENT PATTERNS

### THE SETTLEMENT PATTERN

The population is somewhat evenly distributed throughout the settled portion of the district. Map IV shows the general form of the settlements throughout the district. A total of 48,000 people live in this ribbon of land, 90 miles long, having a width varying between one and twelve miles. Only two settlements account for a population in excess of 2,000; those are Edmundston (12,517) and Grand Falls (4,158). St.-Basile, St.-Léonard and Ste.-Anne de Madawaska all account for more than 1,000 population. Seven more locations appear in the ranks with a population of 500 people or more: St.-Jacques, Verret, Rivière Verte, Iroquois, Clair, La Côte du Sault and St.-François. Another 21,000 people live in the 65 more modest settlements found in the region or have their home located along the roads that separate these numerous settlements. In seven parishes throughout the region we find more than one third of the population of the parish living



MAP IV

DISTRIBUTION OF THE POPULATION

One dot to 50 persons

Source: 1966 Census

Scale: 7.89 miles to 1 inch

outside any form of agglomerated settlement: these parishes are Baker Brook, St.-Hilaire, St.-Joseph, Ste.-Anne, Notre-Dame de Lourdes, Denmark and Drummond. These parishes constitute the ones with a small urban population where the oecumene has in the past expanded around agriculture as the main resource activity. The list of all settlements with a population of 50 or more at the time of the 1966 Census is shown in Appendix I.

The list of present challenges of the settlement patterns of the Madawaska Planning District may be grouped under three categories of phenomena: out-migration, the economic potential of more remote settlements and the lack of cohesion between the settlements at the regional level. Those may be directly or indirectly related to the settlement itself, but, as we shall see, have a close relationship to the way in which the development of the area will evolve.

#### OUT-MIGRATION, ITS NATURE AND EFFECTS

The main characteristic resulting from out-migration is that it deprives the region of the younger, better educated, more ambitious people.<sup>10</sup> As soon as they reach a modest level of education, the younger people cannot find jobs fitted to their knowledge within their village. They must then leave for the larger towns of the region or leave the region altogether.

Areas that are the most affected by this phenomenon of out-

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<sup>10</sup> HAHN, Alan J., Planning in Rural Areas, Journal of the American Institute of Planners, vol. XXVI, no.1, p. 45.

migration seems to be those which are more remote from larger centers such as Edmundston or Grand Falls. It was impossible to produce cohort survival results for all the parishes of the region. For that reason, two parishes were selected: Ste.-Anne, halfway between Edmundston and St.-Léonard, where the Acadians settled some 200 years ago; and the parish of Drummond near Grand Falls. Figures I and II illustrate the extent of out-migration estimated for age groups of the population pyramid of these parishes between 1961 and 1966.

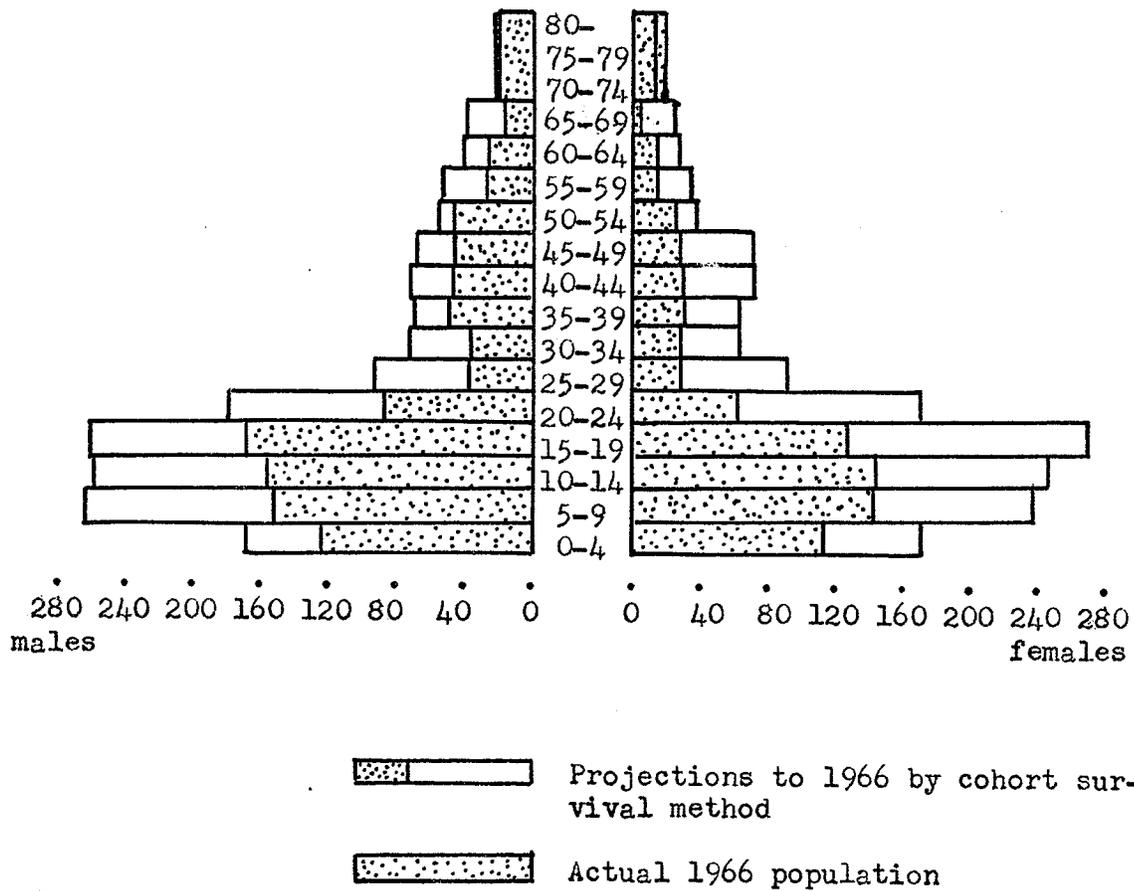
In the parish of Ste.-Anne, the situation really seems to be in a critical state: out-migration was registered for all age groups except for people above 70 years of age. In the parish of Drummond, the problem is less serious even though, as in all other parts of the region, out-migration trends are dominant. The positive number of children between the ages of 0 and 5 would seem to reflect the fact that young married couples tend to establish in the area.

For the total region, the cohort survival results could not be calculated with accuracy; according to estimates, it is nevertheless expected that 1,000 such young couples or couples with children younger than 5 years of age would have left the region between 1961 and 1966. In the same period, nearly 4,500 people are expected to have left the region.

The effects of out-migration are multiple. Lack of potential leadership, ageing of the population pyramid and the reduction of the tax base are among the more serious.

In certain communities, leaders will still be available for a few years, but no young people are staying to take over... "espe-

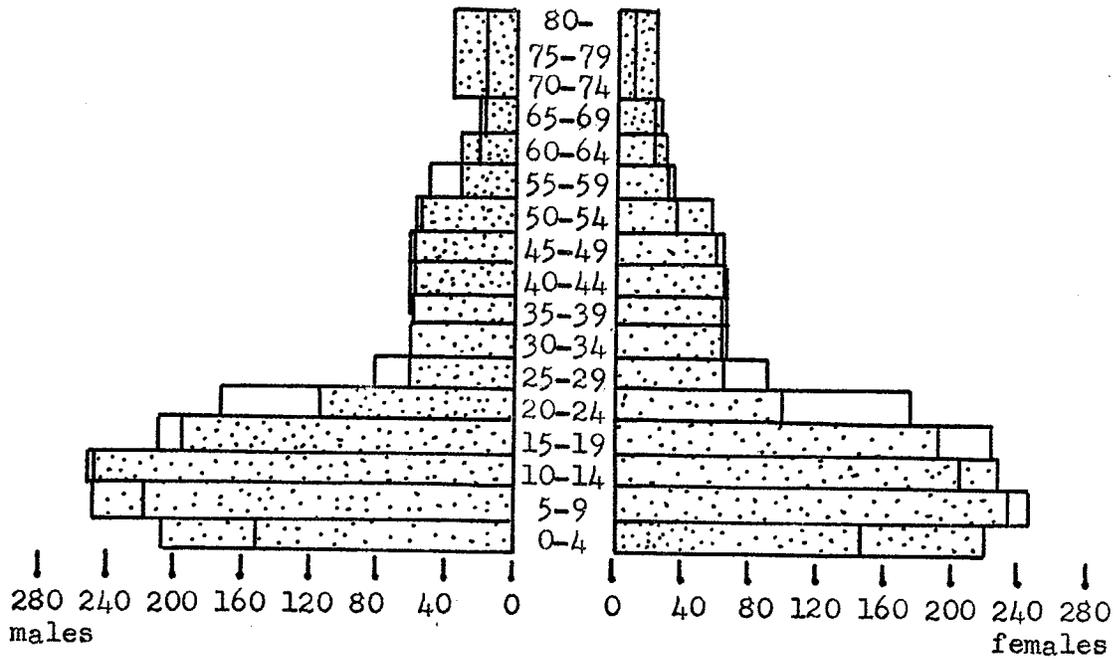
FIGURE I  
 POPULATION PYRAMID  
 PARISH OF STE.-ANNE

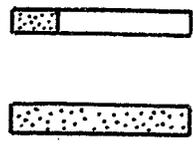


Calculations were made using 1961 and 1966 data of the Census of Canada.

FIGURE II

POPULATION PYRAMID  
PARISH OF DRUMMOND




 Projections to 1966 by cohort survival method  

 Actual 1966 population

Calculations were made using 1961 and 1966 data of the Census of Canada.

cially leadership with important technical and professional skill".<sup>11</sup>

The departure of these younger people brings the threat of social disintegration observed by Pierre-Yves Pépin in the southern part of New Brunswick:

Le phénomène de désintégration sociale semble les atteindre dans l'arrière-pays, à Harcourt en particulier. Ce secteur est aussi favorable à la désintégration sociale des Acadiens comme par exemple à Adamsville.<sup>12</sup>

The more remote the area of the region, the more extreme the problem of out-migration seems to be.

In 1967, a study was made of the population living in rural areas of the maritime provinces. In this study, Pépin attempts to define the situation of poverty as it exists in areas relatively distant and isolated from larger cities; areas where the oecumene has reached its maximum size, and in some cases, is receding following the obsolescence of the economic base, archaic form of agriculture or fishing, giving way to more successful enterprises located elsewhere. These characteristics might be those of certain parts of the Madawaska Planning District such as those parts of the parishes which show a large emigration.

Besides an eventual lack of leadership, the next thing to fear is expressed by Pépin: "Avec le départ massif des jeunes procréateurs on peut craindre, à brève échéance, une forte diminution de

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<sup>11</sup> HAHN, Alan J., Planning in Rural Areas, Journal of the American Institute of Planners, vol. XXXVI, no. 1, p. 45.

<sup>12</sup> PEPIN, Pierre-Yves, Milieux, Genres de vie ruraux et pauvreté dans les Maritimes, Ottawa, Projet no. 15002 de l'ARDA, Imprimeur de la Reine et Contrôleur de la papeterie, 1967, p. 27.

la natalité et un vieillissement de la population.<sup>13</sup>

The imminent result, sufficiently tested by Pépin, is therefore the ageing of people available for the labour force. Entrepreneurs of new industries become less interested in the labour force of more remote areas.

This strong exodus, accompanied by threats of social disintegration, may also result in the expansion of the tax base of the settlements affected.

#### ECONOMIC POTENTIALS OF NON URBAN SETTLEMENTS

Alan Hahn has suggested that "the combination of a dispersed population and relatively small numbers raises costs while preventing economies of scale."<sup>14</sup> It has earlier been made clear that the population of the Madawaska Planning District provides these characteristics of dispersal and low density. The result has been the taking over by the Provincial Government of responsibilities usually assumed by a local unit of government. The Local Service Districts, corresponding to the area of parishes of the region falling outside of villages, cities and towns, are in fact at present administered by the Provincial Planning Board, rather than being under the responsibility of local people. This has resulted from too much dis-

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13 PÉPIN, Pierre-Yves, Milieux, Genres de vie ruraux et pauvreté dans les Maritimes, Ottawa, Projet no. 15002 de l'ARDA, Imprimeur de la Reine et Contrôleur de la papeterie, 1967, p. 27.

14 HAHN, Alan J., Planning in Rural Areas, Journal of the American Institute of Planners, vol. XXXVI, no. 1, p. 45.

persal of the population and communities all over the area.

These conditions are further compromised by the slim potential for agriculture of all areas except the parishes of St.-André, Drummond, Denmark and Grand Falls. The general situation of the condition of the land and its suitability for agriculture throughout the region west of St.-Léonard is adequately summarized in the following statement by Retson and l'Écuyer:

Due to steep slopes in conjunction with excessive stoniness, poor drainage, rocks exposure, and thin soils, the highland region (with the exception of certain areas in the southern Madawaska Highland) are of very little value agriculturally ...Current data would probably indicate some decline in cleared land in the upper part of the county and some increase in St.-André Parish.<sup>15</sup>

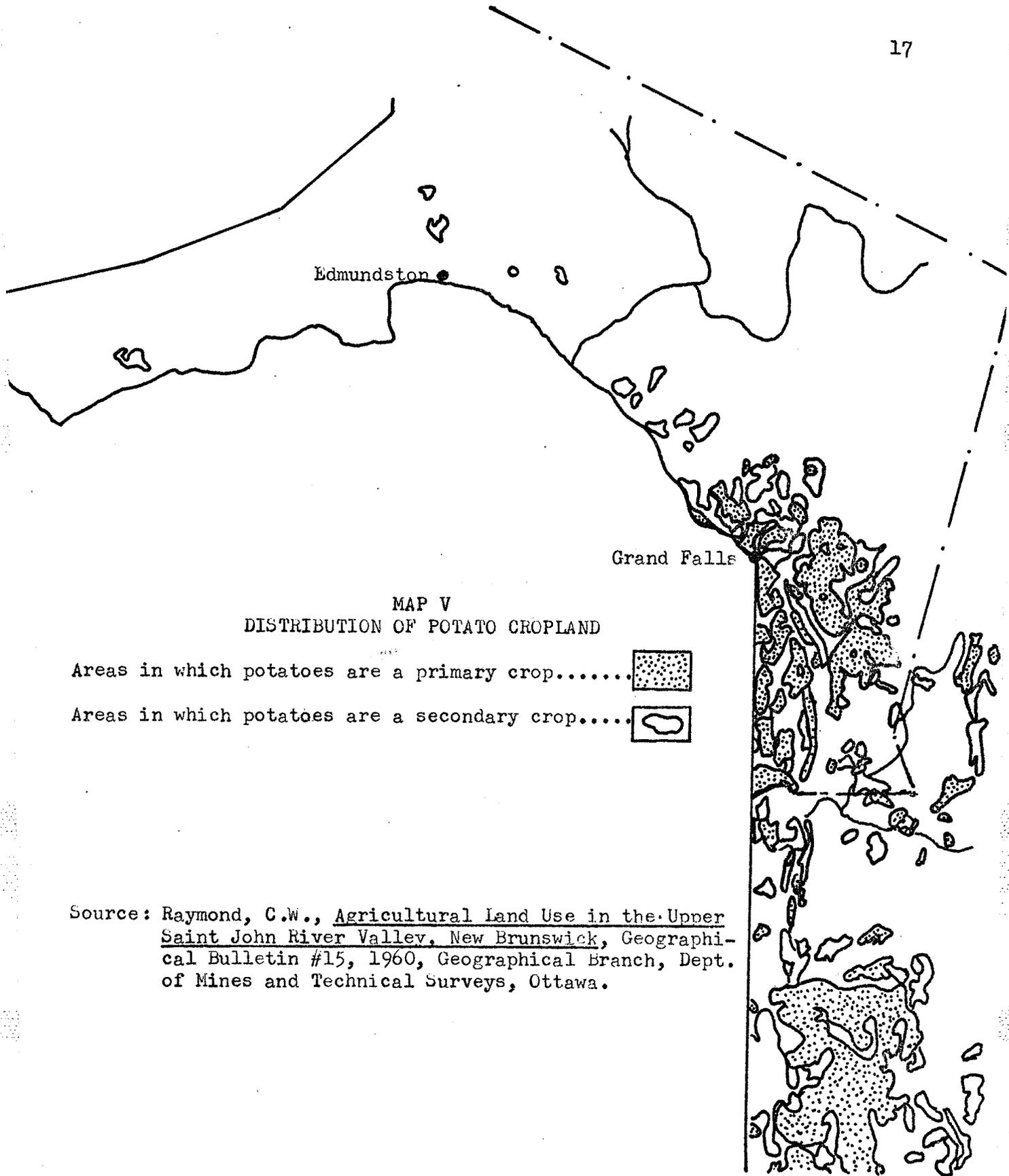
Regarding the larger area of the region and of the potato belt extending to the south as far as Woodstock, C.W. Raymond produced a land class map which is reproduced here as Map V. He provides the following explanation:

The summary land class map of the area shows the varying quality of the farmland, and indicates that the main potato growing area coincides with the best quality farmland. On poorer quality farmland outside these areas, farming is marginal or on a subsistence basis. More of this farmland is likely to be abandoned in the future, with forestry as a possible land use.<sup>16</sup>

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15 RETSON, C.G. and L'ÉCUYER, P.R., A Study of Rural Problems in Madawaska County, N.B., Ottawa, Economic Development, Canada Department of Agriculture, 1963, p. 19.

16 RAYMOND, C.W., Agriculture Land Use in the Upper Saint John River Valley, New Brunswick, Geographical Bulletin no. 15, 1960, Geographical Branch, Department of Mines and Technical Surveys, Ottawa, 1960, p. 65.



MAP V  
DISTRIBUTION OF POTATO CROPLAND

- Areas in which potatoes are a primary crop..... [dotted box]
- Areas in which potatoes are a secondary crop..... [outline box]

Source: Raymond, C.W., Agricultural Land Use in the Upper Saint John River Valley, New Brunswick, Geographical Bulletin #15, 1960, Geographical Branch, Dept. of Mines and Technical Surveys, Ottawa.

These words are rather conclusive in regard to agriculture: only those areas which are presently in use for potato cropland seem to have any potential in sustaining a population. Except for the area just around Grand Falls, the solution, unlike those recommended in other areas of the country, does not lie in land consolidation but in more adequate wood based industries.

Edmundston, as will be shown later has the potential to offer the services essential for industrial development; however, the City has now reached its boundaries and little space is left for industrial locations. This seems to be related to the slight overspill of industries that, since 1950 has occurred in the more modest settlements of the area. Similar observations could be made about Grand Falls.

#### THE REGIONAL INFRASTRUCTURE

An examination of the internal structure of the region may be conducted in two parts: first by looking at the remote areas which are threatened by socio-economic desintegration; then at the more central areas with their growth of industrial activity.

As pointed out earlier, the local organization in more remote areas of the Madawaska Planning District is becoming inadequate. The phenomenon may be described by the following statement on regions of Quebec and the Atlantic Provinces, resulting from the departure of potential replacements for leadership:

...in these regions, not only has the cohesiveness of traditional structures been diminished but linkages with larger centers and administrative units have not developed

sufficiently for alternative organizations to fully assume the function now ineffectively executed by local organizations.<sup>17</sup>

There are apparently some links missing between the lower part of the hierarchy of settlements and the more central ones. More serious yet is the fact that even though the small settlements are removed from more central areas, no administrative structure has evolved to fill the gaps. Gaston Bârdet describes the situation in the following words:

Les conurbations, les métropoles, voire les villes secondaires, ne représentent plus que des masses sans âme, les quartiers ont perdu la cohésion nécessaire au développement de l'esprit communautaire; les ruraux isolés dans leurs hameaux ou leurs trop petits villages n'ont pas encore compris la nécessité de s'unir dans de nouvelles unités de proches.<sup>18</sup>

Part of the challenge exists, therefore, in the gaps within the administrative structure, so that there is no controlled development of those areas which are not at present incorporated as villages, towns or city.

The isolation of these numerous settlements adds to the difficulties of the central governments when they try to solve the settlements' problems; but the solution is no longer to be found in their individual incorporation as municipalities. Dickinson deplures the formidable number of local government units existing throughout the United States by stating that:

They no longer conform to the social and economic relations

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17 TREMBLAY, Marc-Adélarde et al., ed., Rural Canada in Transition, Ottawa, Agricultural Economics Research Council of Canada, p. 95.

18 BARDET, Gaston, Mission de l'Urbanisme, Paris, Editions Ouvrières, 1952, p. 493.

and functioning of rural society... The belief that the persistence of these tens of thousands of such local units is a factor in mounting taxation has further stimulated the movement of studying, improving and reorganizing local governments all over the United States.<sup>19</sup>

It is useless to seek for individual solutions to the mounting problems of these innumerable rural settlements which are spread throughout the area, and this is particularly true at a time when "gasoline powered tractors, artificial fertilizer, the use of modern hospitals and schools permit no autonomy for the contemporary village."<sup>20</sup>

The challenge at the other extreme of this rural-urban complex that makes up the region, is to be found in the growth of industries. Table I gives an idea of the geographic distribution of new industries that have started in the Madawaska Planning District since 1950, and which were still existing when this survey was made by C.R.A.N.O. (Comité Régional pour l'Aménagement du Nord-Ouest). Besides Edmundston and Grand Falls, Rivière Verte, St.-François, St.-Léonard and St.-Basile were the only settlements to count, prior to 1950, industries that were still existing at the time of the C.R.A.N.O. industrial survey. St.-François and St.-Léonard have seen new industries added to their list. The industrial era has for the first time made its appearance in Clair and St.-Jacques, within a twenty miles radius from Edmundston; and in Drummond and St.-André, not more than ten miles from the center of Grand Falls. The results

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<sup>19</sup> DICKINSON, Robert E., City and Region, London, Routledge & Kegan Paul Ltd., 1966, p. 102.

<sup>20</sup> HALPERN, J.M., The Changing Village Community, Englewood Cliffs, N.J., Modernization of Traditional Societies Series, Prentice-Hall Inc., 1967, p. 43.

TABLE I

## NEW INDUSTRIES SINCE 1950 STILL IN OPERATION

	Agriculture		Forestry		Other Secondary	
	New Firms	Total employees	New Firms	Total employees	New Firms	Total employees*
Edmundston	4 (34)**	126	0	3295	8 (428)	490
Grand Falls	5 (90)	114	5 (31)	31	6 (155)	193
Clair	0	0	1 (10)	10	1 (4)	4
St.-François	1 (20)	20	0	36	1 (29)	29
St.-Léonard	1 (4)	4	0	1	0	0
St.-Jacques	0	0	0	0	1 (2)	2
Drummond	0	0	0	0	1 (2)	2
St.-André	1 (3)	3	0	0	0	0
Others	0	0	0	2	0	2

\* The total number of Employees is for all industries regardless of the time firms started operating.

\*\* New job opportunities created since 1950.

Source: C.R.A.N.O., Industrial Survey, Madawaska and Northern Victoria, 1966.

of the survey reveals again the prominent position of Edmundston and Grand Falls in the economy of the region. Edmundston holds the first place for forestry based industries and also for "other secondary" industries; and is just above Grand Falls for agricultural products. Within the last twenty years, however, the number of industries based on agriculture and forestry has favored Grand Falls more than Edmundston, but the latter still stands first in the increase of "other secondary" industries.

The regional infrastructure shows poor linkages between the different settlements of the region, and this is even more pronounced among the smallest settlements. The overwhelming numbers of new opportunities offered within the region over the last twenty years are to be found in Edmundston and Grand Falls. A modest number of employment opportunities are offered in St.-François, Clair, St.-Léonard, St.-Jacques, Drummond and St.-André.

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## CHAPTER 2

### THE REGIONAL STRUCTURE

Before going into the details of the Madawaska Planning District, it would be à propos to examine closely the concept of "region" as it relates to planning.

Charles Abrams lists nine types of region which the planner might encounter when considering urbanism:

1. An already defined jurisdictional unit such as a county, state or province.
2. A large metropolitan complex like London and New York, or the Chicago region containing one thousand disparate governments.
3. A group of smaller municipalities, a solution to whose common problems is sought by creating an integrating regional plan.
4. Two or more states, cities or other bodies voluntarily delegating some powers over common problems (water, port, sewage, parks, housing, etc.) to an autonomous body formed specially for these purposes.
5. A section of a country whose physiographical features make regional planning desirable.
6. An international waterway, form of communication, or power governed by two or more countries.
7. A new city whose expansion will necessarily affect the surrounding area.
8. An existing city with undeveloped land stirring at its periphery.
9. A number of rural areas concerned with flood control, water, transportation, or some other common problem.<sup>21</sup>

All these classifications may be summarized in the five categories suggested by a Resources for the Future Staff Study submitted to the United Nations; they are:

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<sup>21</sup> WENTWORTH Eldredge, H., ed., Taming Megalopolis, New York, Anchor Books, Doubleday & Company, Inc, Garden City, 1967, p. 1031.

1. Single-purpose or limited purpose region where the intensive development of a specific natural resource is involved.
2. Frontier region, usually consisting of a virgin or low-density territory.
3. Depressed region, where the levels of living lie below the national standards.
4. Metropolitan region and hinterland.
5. Economic region or political jurisdiction established under a nation wide plan of regionalization.<sup>22</sup>

The Madawaska Planning District has some of the characteristics of both the third and fifth categories listed above: as seen earlier, the region has a depressed character which needs planning if healthy development is to occur; also, it is obviously a region where national, or at least provincial, policies for development are prominent: namely the present endeavour for tackling at the regional level problems of planning, and the setting up of C.R.A.N.O., an agency responsible for promoting economic and social development in the region.

Because of these characteristics, the Madawaska Planning District is of special interest to planners:

What is important is the recognition that special problems beset these areas; that they fall outside the existing pattern of city regions and thus outside the main stream of economic progress; and that only a small proportion of the country's population will reside in them.<sup>23</sup>

This region may now be examined for its unique characteristics.

The elements making up a region may however be viewed through the glasses of polarization or homogeneity:

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<sup>22</sup> RESOURCES FOR THE FUTURE STAFF STUDY, Design for a World-wide Study of Regional Development, United Nations, The John Hapkin Press, Baltimore, Md., 21218, p. 4.

<sup>23</sup> FRIEDMAN, John, Regional Development and Planning, a Reader, Cambridge, Mass., The Massachusetts Institute of Technology, 1965, p. 515.

The sets of descriptive data- eg. production, consumption, labour forces - define homogeneous regions. The relatives- eg. trade between two towns, traffic circulation, financial flows <sup>24</sup> link different poles and help define polarized regions.

The objective of this chapter will be to gather the elements that, combined, will describe the Madawaska Planning District, as it exists today.

### 1. HOMOGENEOUS CHARACTERISTICS UNIFYING THE REGION

In the Madawaska Planning District, a threefold set of homogeneous characteristics seem to constitute the linking elements between the communities that will be seen in this section of this chapter: they are the cultural entity, the remain of counties, and the use of natural resources.

#### THE CULTURAL AND INSTITUTIONAL ENTITY OF THE POPULATION

Following is a statement dealing at first with the characteristics of the province's overall population distribution, then with the structure in the Madawaska Planning District: "One important fact has been the resurgence of the French-speaking portion of the population, which is concentrated along the northern and eastern shores."<sup>25</sup> The strong concentration of ethnic groups within definite parts of the province has resulted in different entities of socio-economic life

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<sup>24</sup> BOUDEVILLE, J.-R., Problems of Regional Economic Planning, Edimburg, The University Press, 1966, p. 24.

<sup>25</sup> MAC NUTT, Steward, New Brunswick and its People, Fredericton, A.W.Trueman, ed., 1967, p. 44.

and institutions. Map VI illustrates the steep demarcation of the existence of population of French origin in the region. The line may be drawn below Grand Falls, and the percentage of the population above this town and all over the region provides a striking evidence of the homogeneity in the ethnicity of the population.

Table II brings another element to the analysis of the cultural entity of the population over most of the region. The low percentage of Roman Catholic population in the parish of Denmark is explained by the overwhelming proportion of Danes who belong to the Protestant faith. The parish of Grand Falls is the only area where the religious data does not match the ethnic characteristics. Even though only 20% of the population is of French origin, 95 percent are Roman Catholic. This fact is explained by the origin of the population as outlined in Chapter I: Most residents in the parish, south of the town of Grand Falls, are Irish and Catholics. Except for the civil parishes of Grand Falls and Denmark, the population is nearly all Roman Catholic and of French origin.

This cultural entity appears now as possibly the best aspect of the homogeneity of the region to be used in setting up a structure for meeting the challenges in developing the region. Dickinson has described the need for building on this cultural entity:

...if a region be regarded as a geographical association of human space relationships, then while such a region may be defined from many points of view, as an area with, for example, the same type of farming, the same type of industrial structure, the same type of culture or language, the chief factor in the integration of the life and organization of society into such regional associations remains the settlement center, be it the village, the town or the great



TABLE II  
ROMAN CATHOLIC POPULATION

Civil Parishes	Catholic population	Total population	Percentage Catholics
Madawaska	13,370	14,212	94.0
Grand Falls	5,730	5,817	98.0
Ste.-Anne	2,874	3,132	91.5
St.-Basile	3,211	3,374	95.5
St.-Jacques	2,072	2,354	88.0
St.-Léonard	2,803	2,757	100.0
Baker Brook	1,101	1,263	87.0
Rivière Verte	1,774	1,760	100.0
St.-André	1,340	2,593	67.5
Clair	1,083	1,164	93.0
St.-François	1,398	1,481	94.0
St.-Joseph	1,094	1,098	100.0
Denmark	485	1,749	27.8
Lac Baker	938	978	96.0
Notre-Dame de Lourdes	505	565	89.5
St.-Hilaire	582	533	100.0
Drummond	2,499	2,967	84.0

Source: 1966 Census, & Bishop of Edmundston.

city.<sup>26</sup>

Conscious of this regional entity of social groups, the Provincial Department of Agriculture, under A.R.D.A., has set up C.R.A.N.O. (Comité Régional pour l'Aménagement du Nord-Ouest) to use methods of social animation with the intention of promoting Regional Development in that area of the province. The area of jurisdiction of C.R.A.N.O. consists of all of Madawaska County, together with the parishes of Drummond and the town of Grand Falls in Victoria County. That area corresponded to the geographic distribution of the population of French origin.

The difficulty that has to be faced now is that by delimiting the region by means of the cultural entity criterion alone, Grand Falls would be deprived of its threshold sales level. This matter will be further explored in a latter part of the Chapter.

Even though the social entity constitutes the principal element linking the region, the eastern boundary will have to be extended in virtue of Dickinson's claim that:

it is essential to realize that in this sense (integration of society) a region is a geographical area with a considerable measure of unity in its activities, services, and organization. It is, in other words, an area of common living.<sup>27</sup>

From the point of view of economic activities and services, Grand Falls must be included with the area of its threshold sales level, even though its natural area of influence to the south is anglopho-

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<sup>26</sup> DICKINSON, Robert E., City Region and Regionalism, London, Kegan Paul, Trench, Trubner & Co Ltd., 1947, p.11.

<sup>27</sup> DICKINSON, Robert E., City and Region, London, Routledge & Kegan Paul Ltd., 1966, p. 5.

ne, and does not share the cultural basis found in the core of the region.

Following a drastic change in the municipal structure of the Province of New Brunswick, which became effective on January 1, 1967, counties were desintegrated and responsibilities such as justice, education, health and social welfare were transferred to the provincial government. Previous to that, the area of the Madawaska Planning District had evolved into two counties: Edmundston was the capital of Madawaska county, while the town of Grand Falls, the parish with the same name, and the parishes of Drummond and Denmark were part of Victoria county. The present region simply brings the addition of these three parishes to the previous Madawaska county.

Even though institutions (as shall be seen in a latter part of this Chapter) provide social links at the parish level, little evidence of institutional entity is found at the level of the Madawaska Planning District. A short survey of the region revealed to the author that only two institutions grouped the population on a comparatively large scale: these are C.R.A.N.O., whose boundaries corresponded very closely to these of the Planning District, and the Roman Catholic Diocese of Edmundston whose boundaries extended east and north as far as St.-Jean Baptiste de Restigouche and to the south as far as Perth-Andover.

#### THE NATURAL RESOURCES

The potential for any development in the Madawaska Planning District is very closely related to the natural resources. Friedman

makes the following statement which strongly stresses the nature of the economic base of a region such as the one under consideration, as compared to metropolitan areas:

The conditions that most metropolitan areas in the United States offer today for the location of activities are, to a large degree, equivalent. Except for first-stage resource users - such as lumber and mill operations, manufacturers of certain construction materials, and petroleum refining industries, - the bulk of American manufacturing and services is free to locate almost anywhere.<sup>28</sup>

The location of settlements in a region such as the Madawaska Planning District must be conditioned to the location of natural resources, and the number of people that these resources can support without the threat of disappearing because of too intensive a use.

The homogeneity of the use of natural resources in the Madawaska Planning District is closely related to the locations of natural resources throughout the province. Map VII shows this distribution of resource bases throughout New Brunswick.

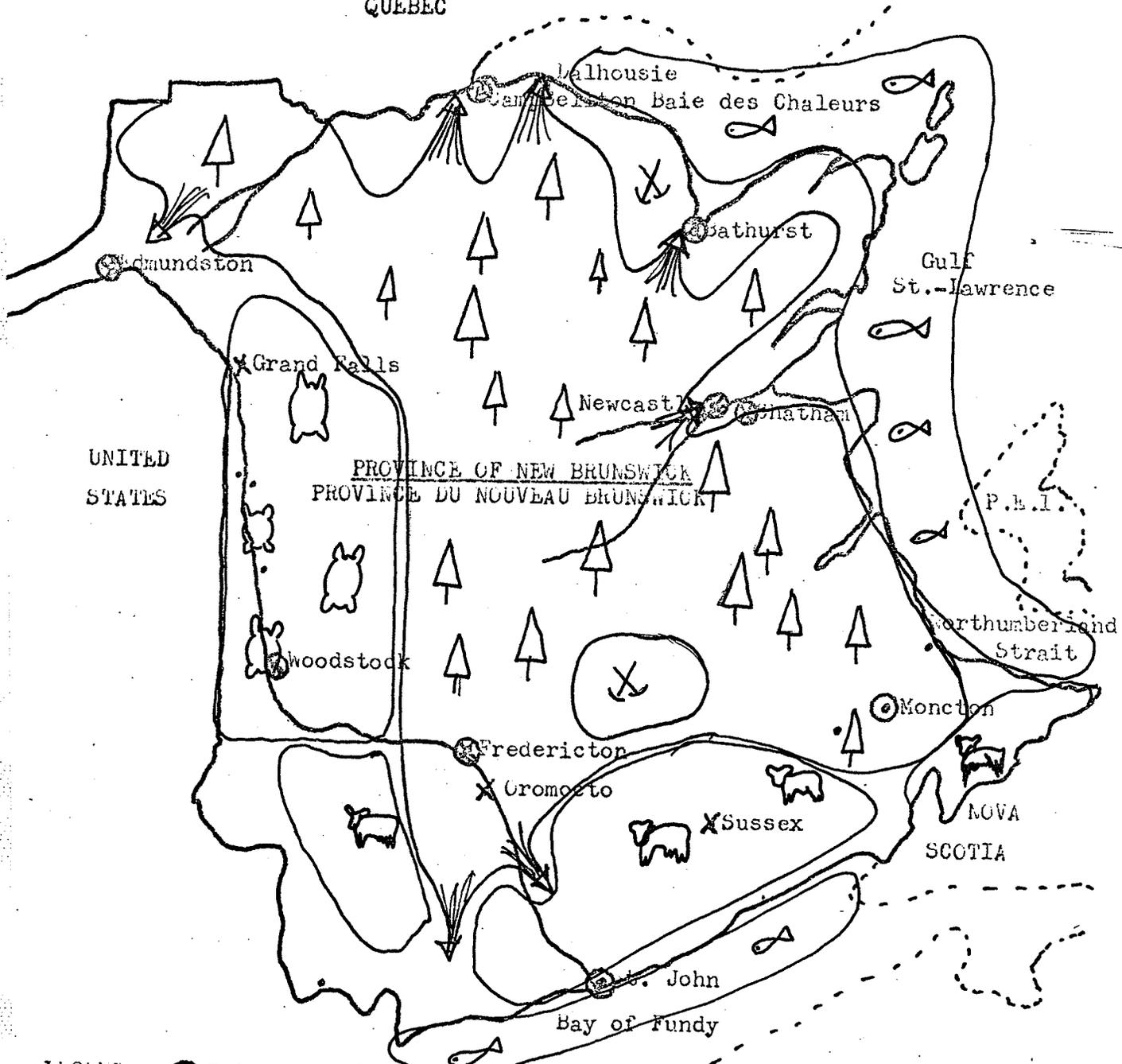
Forests cover the central portion of the area and are readily accessible to pulp mills and other mills located around the edge of the province. Agriculture forms a ribbon along the western and southern portion along the river basins while fishing appears along the southern and eastern coasts, as well as along the eastern coast of the north. Throughout the settled area, mainly the periphery of the province, archaic forms of agriculture that are no longer viable, maintain the mark of the settlers. Modernization of the fishing and

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<sup>28</sup> FRIEDMAN, John, Regional Development in Post-Industrial Society, Journal of the American Institute of Planners, vol. XXX, no. 2, May 1964, p. 85.

MAP VII

DISTRIBUTION OF NATURAL RESOURCES IN NEW BRUNSWICK  
 QUEBEC



LEGEND:

- Primary Wholesale Centres
- ⊗ Secondary Wholesale Centres & Complete Shopping Centres
- ✕ Partial Shopping Centres
- Full Convenience Centres

- 🐟 Commercial Fishing
- 🌲 Forest Areas
- ⚙️ Mining
- 🐑 Potato Farming
- 🐄 Dairy Farming
- 🪚 Pulp & Paper Mills

lumbering industries have resulted in greater centralization of activity and services, thereby reducing the economic base of the settlement that were built to depend on them.

In this context, the region being studied contains part of both the forested area of the province, and of the potato belt which extends from St.-Léonard down to below Woodstock. The use of these resources, homogenous in their nature, involves a high degree of polarization of activity in the two main centers of the area. Edmundston's dominant function is as a center of the forest industries; it is the center of the "catchment basin" for the pulp mill. This catchment basin extends as far as Kedgwick, halfway between Edmundston and Campbellton, and to the southeast beyond Grand Falls as far as Plaster Rock.

The potato belt represents the only resource base overlapping Edmundston's catchment basin. Seventy five percent of all potato farms in New Brunswick are concentrated in the potato belt as illustrated in Map VII. Economically, it is better to consider the belt as an entity rather than to subdivide it. From the physical point of view, there is a gap in the use of the land for agricultural purposes. This situation is explained by the very low density of potato cropland shown just between Grand Falls and Perth-Andover on Map V. When the region to the south and east of Grand Falls is examined there may be seen to be a real physical separation between the use of land within the Madawaska Planning District and its use in the rest of the province.

The potential for economic growth in the region depends on

both agricultural and forest industries. The potential for agriculture becomes increasingly centered around Grand Falls, as illustrated previously. Wood operations, since approximately 1950, have become more pronounced in the Northern Highland, the area just north of the string of settlements located in non-agricultural areas. The major reasons for this growth in wood operations are said by Retson and L'Ecuyer to be because of the purchases of additional woodlands and improved management on existing stands.

Reduced operations were generally attributed to the fact that farm woodlots had been overcut and depleted. A number of farms in the "no change" category also indicated that their woodlands had been heavily cut over and output had been negligible during the past ten years.<sup>29</sup>

However, improved management of these woodlots could continue to sustain growth in the future.

Except for the potato belt, the resource base of more remote settlements seems to be rather slight.

It may be said that not only is there a strong ethnic and religious entity which includes the major portion of the population, and which is recognized by the Department of Agriculture with its C.R.A.N.O., but that with minor changes the economic polarization of forest and agriculture industries, each with its own center, provides two other significant entities contributing to the homogeneity of the region.

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<sup>29</sup> RETSON, G.C. and L'ECUYER, P.R., A Study of Rural Problems in Madawaska County, N.B., Ottawa, Economic Development, Canada Department of Agriculture, 1963, p. 25.

## CENTRIPETAL FORCES

Centripetal forces refer to those factors which concentrate certain categories of activities into a limited number of settlements. The identification of the forces helps to explain how polarization may eventually occur among homogeneous elements.

From the point of view of potential within the Madawaska Planning District, if trends of the movement of the last 20 years were to be extended into the future, one would find a strong concentration of government services in the two largest settlements of the area, and a slight decentralization of industrial endeavours in small centers with the largest industrial growth in Edmundston and Grand-Falls.

Table I has already stressed the strong concentration of industries in two centers. Aware of this fact, and of the central position of these settlements, the provincial government has located in Grand Falls and Edmundston nearly all the personnel of its regional administrative offices.

So far, the facts suggest a certain socio-economic well-being in some of the larger settlements of the region and a degree of depression in the less viable parts of the region. The next task consists of identifying the present structure of the region to seek the essential elements that may be used to make the region of tomorrow.

## 2. POLARIZED CHARACTERS OF THE REGION

Polarization is related to the hierarchy of cities, towns and villages. It is therefore an abstract concept whereby the existence of central places of relative importance are identified. Boudeville uses it to define economic spaces<sup>30</sup>. Bardet applies the concept to geographic elements and builds the "ville-fédération"; but essentially, polarization may be used to connote the physical orientation of a number of elements around nodes. Following an analysis of centers of communities, various aspects of polarization as they may apply to the Madawaska Planning District will be studied.

### CENTERS OF COMMUNITIES

J.H. Kolb has studied the changing nature of this "rurban community" earlier identified by Galpin (as will be seen later). The results of this survey of communities in three counties of the State of Wisconsin has shed some light on the nature of influence that different sizes of settlements in the area had on their surrounding population. The major points of convergence of any importance in his study were the church, the schools, the local government and retail services; these aspects will now be examined in relationship to the Madawaska Planning District.

THE CHURCH- According to Kolb's study, in open country neighborhoods, the church appeared as the center for most of the life of the

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<sup>30</sup> BOUDEVILLE, J.-R., Problems of Regional Economic Planning, Edimburg, The University Press, 1966, p. 9.

community. The intensity of the importance of the church decreased near villages and was of much less importance in larger towns of the area studied.<sup>31</sup>

In French Canada, the importance of the church in rural communities reflects a similar pattern, and the clergy have had a strong influence on the population and the social life of their parishioners:

From the very beginning, the curé was, and to a considerable extent has continued to be, 'the natural protector and the natural representative' of the habitants in French Canada.<sup>32</sup>

The situation is similar in the life of the Acadian community. When Pépin described the social disintegration of the population of more remote areas following the departure of a great portion of the population, he added the following statement regarding the importance of the church in those rural communities: "Les Acadiens sont bien mieux protégés par leur puissante structure paroissiale qui réunit tout à la fois religion, ethnie, langue et occupation professionnelle."<sup>33</sup> This strong cultural heritage has therefore allowed the Acadian and French Canadian community to remain solid when other groups would have disintegrated.

When the time came earlier in this century to divide the

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31 KOLB, J.H., Emergent Rural Communities, Madison, 1959, p. 117.

32 TREMBLAY, Marc-Adélarde et al., Rural Canada in Transition, Ottawa, Agricultural Economics Research Council of Canada, p. 80.

33 PEPIN, Pierre-Yves, Milieux, Genres de vie ruraux et Pauvreté dans les Maritimes, Ottawa, Projet no. 15002 de l'ARDA, Imprimeur de la Reine et Contrôleur de la papeterie, 1967, p. 27.

territory of the region into civil parishes for electing representatives to the municipality of the county, the boundaries of religious parishes were used as a criteria; and still today, religious parishes correspond closely to the civil ones. Table II illustrated how closely the total number of people in a parish compares with the number of Roman Catholics. Table III shows the number of churches found in each civil parish, as well as the average number of parishioners in each. Civil parishes with only one church may still be considered as strong communities from the point of view of social entity: these are St.-Basile, Ste.-Anne de Madawaska, Drummond, St.-Jacques, Rivière Verte, St.-André, Baker Brook, St.-Joseph, Clair, Lac Baker, St.-Hilaire and Notre-Dame de Lourdes. Above 2,000 people, we may consider the parish within a first class; above 500, the community formed by the parish could still be considered as a neighbourhood; but below this, such as is the case for Denmark, the community would fall into the category of hamlet. One must remember, however, that Denmark's population is for the most part Protestant and that other criteria will have to be devised to measure the strength of the community.

It must be remembered that in the case of parishes of French origin, the church and the average size of parishes represent the size of the communities extending beyond the villages where the churches are located, and this is true in the Madawaska Planning District as well. According to the principles submitted by Kolb,<sup>33b</sup> the importance of the church as the center of social life would be less intensive in Grand Falls and Edmundston where, furthermore, there are a larger number of churches.

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<sup>33b</sup> KOLB, J.H. *Emergent Rural Communities*, Madison, 1959.

TABLE III

AVERAGE NUMBER OF PERSONS SERVED PER CHURCH  
IN THE MADAWASKA PLANNING DISTRICT

Civil Parishes	Number of Churches in parish	Catholic Population per church
Madawaska	3	4,453
St.-Basile	1	3,211
Ste.-Anne	1	2,874
Drummond	1	2,499
Grand Falls	3	1,976
St.-Jacques	1	2,072
Rivière Verte	1	1,774
St.-Léonard	2	1,401
St.-André	1	1,340
Baker Brook	1	1,101
St.-Joseph	1	1,094
Clair	1	1,083
Lac Baker	1	938
St.-François	2	699
St.-Hilaire	1	582
Notre-Dame de Lourdes	1	505
Denmark	2	242

Source: Bishop of Edmundston

THE SCHOOLS- Map VIII illustrates the distribution of schools throughout the region. The centers where "post secondary" is shown also have the facilities of secondary and primary education: only Edmundston and St.-Basile have such facilities at the post secondary level. Secondary education is available in twelve locations within the region, while schools giving only the primary are found more overwhelmingly just around the City of Edmundston which definitely performs the function of an education center for secondary level: students from St.-Hilaire, Verret, St.-Jacques, Plourde, St.-Joseph and Inouois apparently depend on Edmundston for their secondary education. Similarly, Grand Falls appears to be a central point for surrounding communities where only the primary level of education is available. Near St.-Léonard, Siegas is the only community which did not provide schooling at the secondary level.

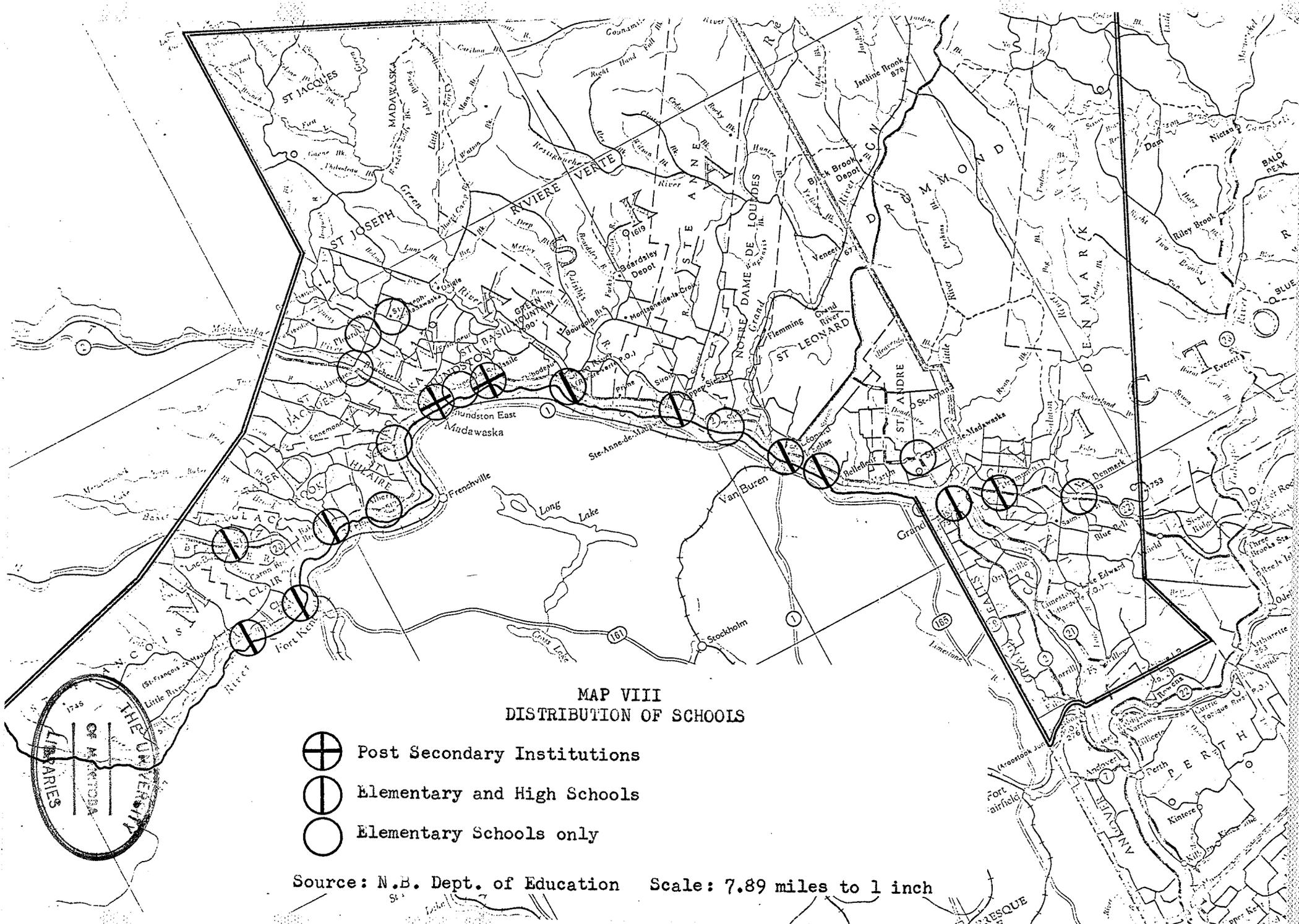
The study that Kolb did of Oregon in Dane county illustrates a clean sweep of neighbourhoods within what he termed a "town-country community area", and this because of the integration of schools at a central location:

There was complete integration of both elementary and secondary schools, with transportation of all pupils to the village center, and no neighbourhoods in the area had enough other contacts or institutions to persist.<sup>34</sup>

This has not been the situation of the Madawaska Planning District yet, since, as seen earlier, numerous neighbourhoods are still remaining aloof in spite of the provision of education in regional schools. For future programs, this reality of the importance

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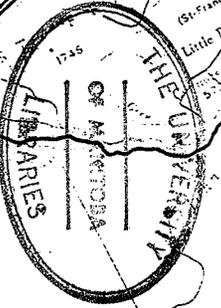
34 KOLB, J.H., Emergent Rural Communities, Madison, 1959, p.64.



MAP VIII  
DISTRIBUTION OF SCHOOLS

- ⊕ Post Secondary Institutions
- ⊖ Elementary and High Schools
- Elementary Schools only

Source: N.B. Dept. of Education      Scale: 7.89 miles to 1 inch



of the school for long range integration of larger communities should be remembered, since it will likely become the best alternative for the church as a community center and as a source of new attachments for the population that will have been educated in a more central location of the region.

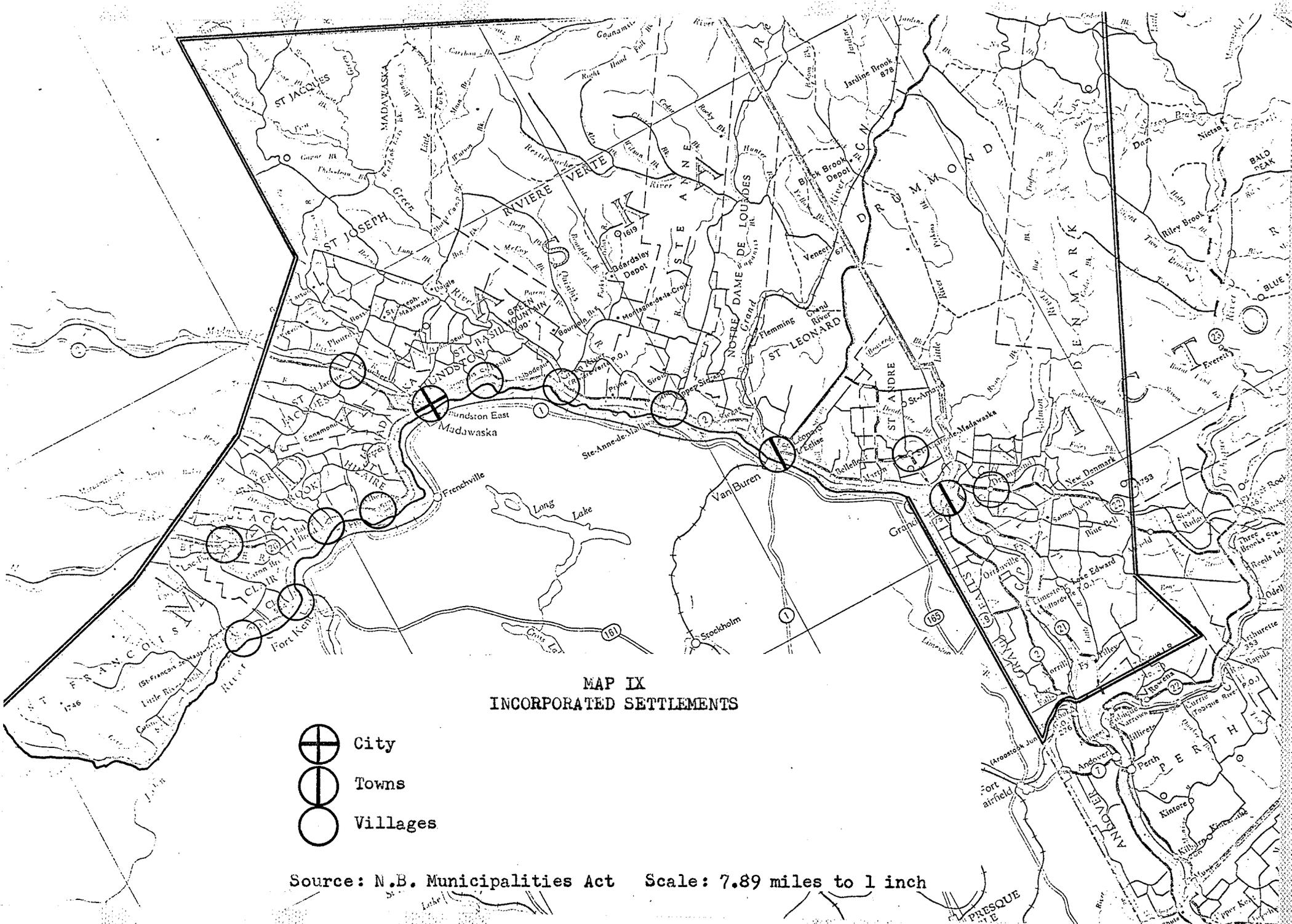
**LOCAL GOVERNMENT-** Local government units represent the heritage of communities and, as pointed out by Kolb, will be the last social institution to conform to changing group patterns.<sup>35</sup>

In the region, municipalities are distributed in the way shown on Map IX. Edmundston is the only city in the region which counts two towns, Grand Falls and St.-Léonard. Appendix II contains the reasons for incorporation of Villages, administered by a council, and of Local Service Districts presently administered by the Provincial Planning Board. With the implementation of the act on Planning Districts, the Local Service Districts covering the area of parishes would disappear in favour of the Planning District, in matters relating to "planning", but would continue to perform the other functions for which they have been incorporated.

These - the church, the schools, the local government - are the institutions which constitute the communities. They must be respected during any changes that will occur in the regional structure of the future: they must be, singly or as a whole, the starting points for any changes that will have to be introduced into the regional structure.

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<sup>35</sup> KOLB, J.H., Emergent Rural Communities, Madison, 1959, p.134.



MAP IX  
INCORPORATED SETTLEMENTS

-  City
-  Towns
-  Villages

Source: N.B. Municipalities Act      Scale: 7.89 miles to 1 inch

Thus far, the homogeneous aspects of the region have been in the limelight; but already, some trends towards the polarization of smaller communities about a limited number of centers may be identified. In the section that follows, the central place theory and related theories will be studied, and then related to the Madawaska Planning District.

#### IMPORTANCE AND NATURE OF CENTRAL FUNCTIONS

In his studies of the parameters of community life, Kolb has given some attention to the retail distribution of groceries; however, this activity is certainly not sufficient in itself as an indicator of community patterns. It is therefore desirable to add more recent findings on the hierarchy of retail services, before a more complete study of central functions may be made on the last section of the Chapter.

The best single factor theory known to date for determining the place of different settlements in an organized manner is the "central place theory". It was formulated in 1933 by Walter Christaller, and generalized by August Lösch in 1954.<sup>36</sup> More recent developments allow us to assign to centers various degrees of importance, based on the minimum size of population required for the goods of a given center to be sold, or the "threshold sales level".<sup>37</sup> Different goods

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<sup>36</sup> BERRY, J.L. Brian & GARRISON, William L., Recent Development in Central Place Theory, Papers and proceedings Regional Science Association, 4, 1958, pp. 108-109.

<sup>37</sup> Ibid., p. 111.

have different threshold sales level. There is a tendency for the suppliers of goods having a relatively larger threshold sales level to locate together in settlements that have a larger population, or are accessible for a larger territory. This is why we find centers with various degrees of importance in this hierarchical system of central places. "A" level centers provide certain goods that are not provided in "B", "C" and "D" level centers, and therefore, have for threshold sales the whole area covered by these centers. "B" level centers provide certain goods that are not provided by "C" and "D", and therefore the threshold sales level for these goods extends into the territory of "C" and "D" centers, and so forth down to "D" level centers.<sup>38</sup>

In practice, further developments have been brought to this theory: the application to New Brunswick and the Madawaska Planning District will now be explored in more depth.

#### APPLICATION OF CENTRAL PLACE THEORIES TO NEW BRUNSWICK AND THE MADAWASKA PLANNING DISTRICT

In January 1968, the Geographical Branch of the Department of Energy, Mines and Resources completed a study of Urban Centers in New Brunswick. Trade centers were classified using the Borchert-Adams Classification<sup>39</sup>. The results of this survey, shown in Table IV, was

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<sup>38</sup> BERRY, J.L. Brian & GARRISON, William L., Recent Development in Central Place Theory, Papers and Proceedings Regional Science Association, 4, 1958, pp. 111-120.

<sup>39</sup> BORCHERT, J.R. & ADAMS, R.B., Trade Centers and Trade Areas of the Upper Midwest, The University of Minnesota, 1963.

TABLE IV  
 CLASSIFICATION OF MAJOR TRADE CENTERS  
 IN NEW BRUNSWICK

Type of Center	Center	Population
Primary Wholesale Retail Center	Moncton	45,847
	Saint John	101,192
Secondary Wholesale Retail Center	Fredericton	22,460
Complete Shopping Center	Bathurst	15,256
	Campbellton	10,175
	Chatham	8,136
	Edmundston	12,512
	Newcastle	5,911
	Woodstock	4,442
Partial Shopping Center	Dalhousie	6,107
	Grand Falls	4,158
	Oromocto	14,112
	Sussex	3,607
Full Convenience Center	Perth-Andover	1,710
	Bath	671
	Petitcodiac	1,038
	Sackville	3,186
	St. Stephen	3,285
	Shediac	2,134

Source: Adams, J.L.G., Urban Centers in New Brunswick, Ottawa, Department of Energy, Mines and Resources, 1968, p. 32.

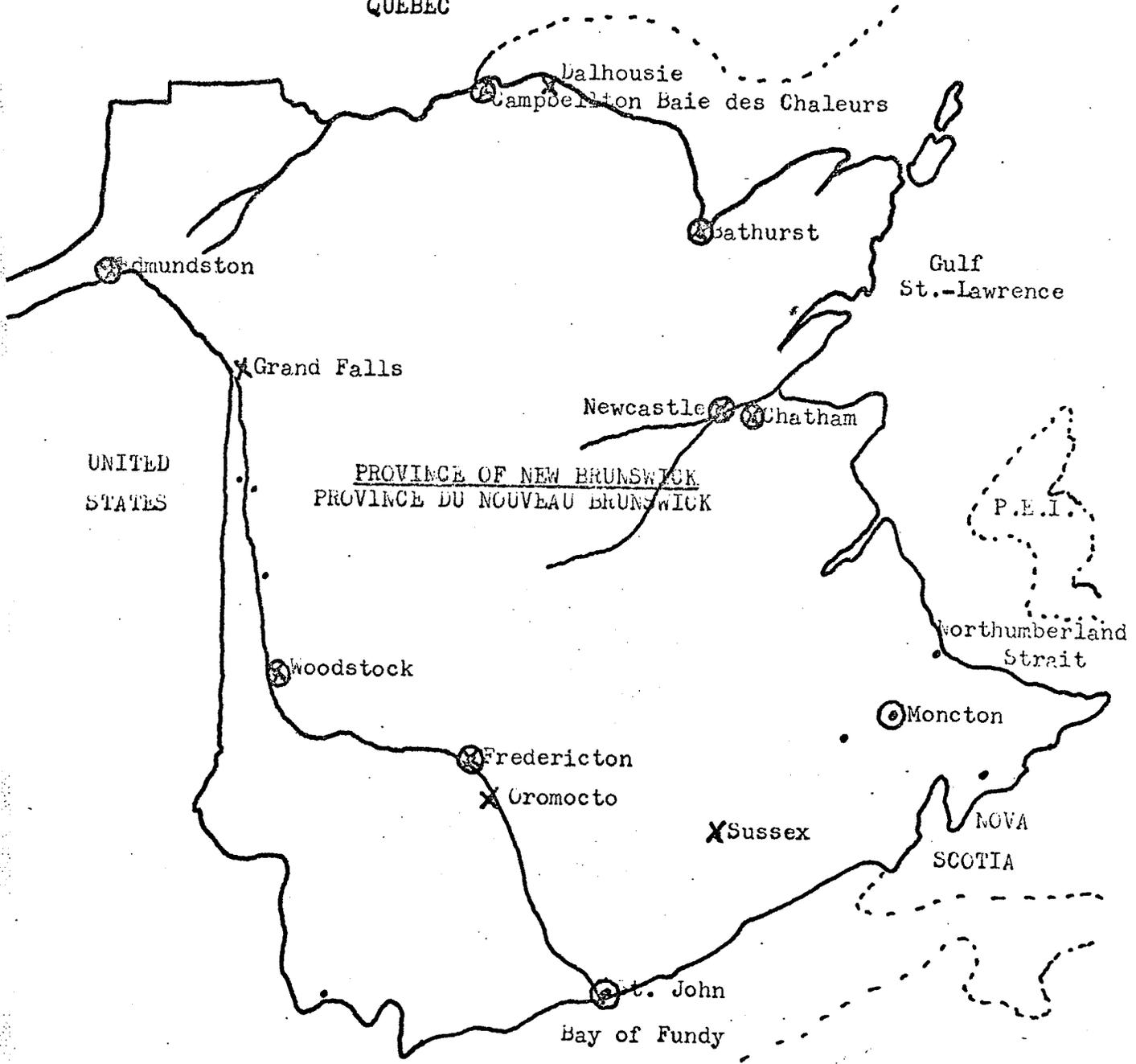
to group the centers of New Brunswick into seven types of centers. St. John, Moncton and Fredericton are the only centers performing a higher function than Edmundston, a Complete Shopping Center. Grand Falls, a Partial Shopping Centre, is one rank below Edmundston in this classification of central places. Map X shows the spatial relationship of Edmundston and Grand Falls with other major trade centers of the province.

A more detailed study of central places in the Madawaska Planning District was made by the author in the summer of 1969 with the use of the telephone directory for the upper St. John River Valley.

The chances are good that any business owner will have his telephone number registered under his respective business down to the most remote areas. The New Brunswick Telephone Directory was therefore used to identify for each community in the area, extending from Connors at the extreme west of the region down to Perth-Andover below the possible line in the delimitation of the Northwestern region. A total of 43 functions (see Appendix III) were listed and used as categories of functions. Each function represented one point, meaning that if one center performed it, the point would be credited to that center, but if two centers performed the function, each would be credited .5 points, and so on. The total of all functions would therefore total approximately 43 since there were altogether 43 such functions. As shown in Table V, nearly 34 points went to three centers: Edmundston, Grand Falls and Perth-Andover. Three other centers with more than one point, Plaster Rock, St.-Jacques and St.-Léonard brought the total to nearly 38 points, or 88 percent of the possible

MAP X

TRADE CENTERS OF NEW BRUNSWICK  
QUEBEC



- LEGEND:
- Primary Wholesale Centres
  - ⊗ Secondary Wholesale Centres & Complete Shopping Centres
  - ✕ Partial Shopping Centres
  - Full Convenience Centres

Source: Adams, J.G.L., Urban Centers in New Brunswick, Ottawa, Department of Energy, Mines and Resources, 1968, p. 32.

TABLE V

INDEX OF RETAIL TRADE ACTIVITIES  
MADAWASKA AND VICTORIA

Order	Index	Settlements
1	21.36	Edmundston
2	9.47	Grand Falls
3	2.93	Perth-Andover
4	1.59	Plaster Rock
5	1.16	St.-Jacques
6	1.05	St.-Léonard
7	0.67	Iroquois
8	0.65	Clair
9	0.52	St.-Basile
10	0.36	Three Brooks
11	0.30	Drummond
12	0.22	Baker Brook
13	0.19	Ste.-Anne de Madawaska
14	0.10	St.-André
15	0.10	New Denmark
16	0.09	St.-Hilaire
17	0.08	Aroostook
18	0.06	Four Falls
19	0.04	Riley Brook
20	0.04	Rivière Verte
21	0.03	Siegas
22	0.02	Rowena
23	0.02	Arthurette
24	0.02	Wapske

score. Map XI shows the location of the 24 centers that had any points recorded or portion thereof. The spatial separation between Edmundston, Grand Falls, and Perth-Andover, together with the large number of points they recorded, confirms their importance as regional centers. Perth-Andover recorded only one third of the points of Grand Falls, but this confirms Adams's conclusion that Perth-Andover falls in the Full Convenience Center category.<sup>40</sup> Since there is a definite separation between the settlements of the region and Perth-Andover, it would seem that this Village falls outside the region and functions as an auxiliary center to Woodstock. Grand Falls, a partial shopping center recorded just under half of Edmundston's points.

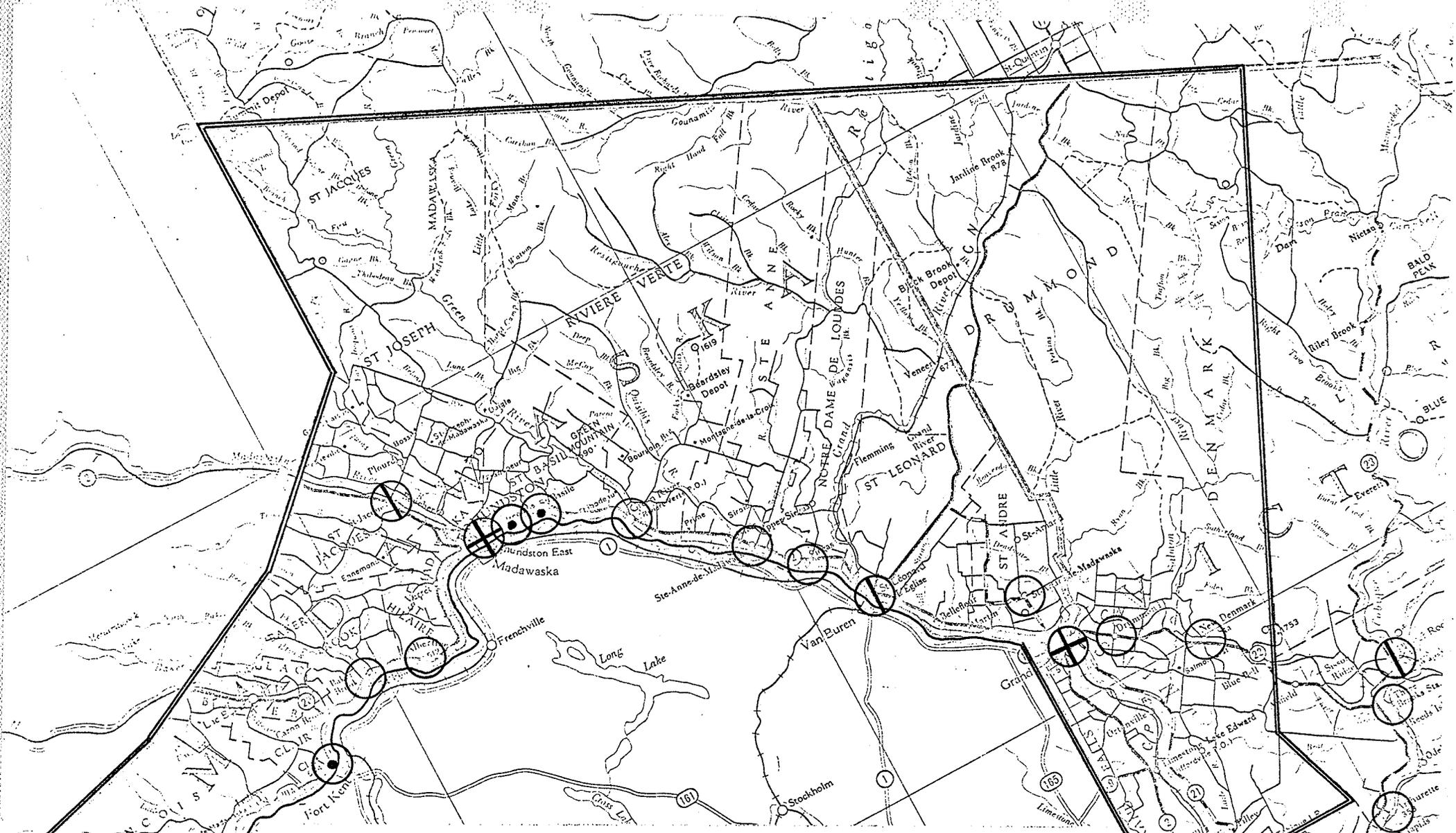
Stemming from these studies of the central retail and wholesale functions around the towns and villages of the Madawaska Planning District is the imminent existence of the process of polarization. Earlier, we had seen that communities themselves, with the institutions that made them up, were centered around a limited number of settlements. The final steps in defining the present structure of the region consists in a delimitation of the region with the use of a compromise between homogeneous characteristics and polarized characteristics; and finally, a look at the total structure of the region as it may be observed through the community, and polarized characters.

#### EMERGING COMMUNITIES

Besides the characters of homogeneity at the regional level,

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<sup>40</sup> ADAMS, J.L.G., Urban Centers in New Brunswick, Ottawa, Department of Energy, Mines and Resources, 1968, p. 32.



MAP XI  
 TRADE CENTERS OF THE MADAWASKA PLANNING DISTRICT

- ⊕...Settlements with two points or more
- .....Settlements with more than one point.....
- ...Settlements with more than 1/2 point
- .....Settlements with between 2 and 5 points

there are within smaller units of areas, communities where people live. In preparation for any amelioration of the regional structure, it is favorable to be aware of these communities located throughout the area.

As early as 1915, Dr. G.C. Galpin used the term "rurban community" to designate the phenomenon of people living in farm houses at a certain distance from small towns and, together with the town people, using a common service center.<sup>41</sup> The existence of such communities in the Madawaska Planning District could with profit be identified, in order that they might become adequately integrated into the region of the future.

The essential reality is that communities do exist beyond the incorporated villages and the towns, and that the people responsible for the development of villages and towns often make provisions for the incorporated center of their communities without being aware that the consequences of their decisions affect a much larger and more dispersed community.

#### FINAL STEP IN THE DELIMITATION OF THE MADAWASKA PLANNING DISTRICT

The cultural entity of the Madawaska Planning District strongly suggested the inclusion of Grand Falls, but as pointed out, did not extend far enough to include a consideration of the town's threshold sales level. In the delimitation of the region for the

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<sup>41</sup> DICKINSON, Robert E., City and Region, London, Routledge & Kegan Paul Ltd., 1966, p. 103.

purpose of urbanism, it is important to include the area to the south and east of Grand Falls, because it is part of the threshold sales level of Grand Falls, one of the parameters of the town's well being. For that reason, the survey of retail sales activities reported above has been extended to include Plaster-Rock as well as Perth-Andover.

In other parts of the region, the delimitation was quite natural with the United States and the Province of Quebec's boundaries. To the north, the Restigouche boundary was chosen since a large area with no human activities performed a natural obstacle to any kind of related development.

Following the survey of central retail and wholesale functions throughout the region, and beyond, Grand Falls' area of influence can more easily be identified since Plaster Rock seems to stand out among the surrounding hamlets. From the economic point of view, Plaster Rock fell at the limit of Edmundston's catchment basin for pulp wood; but using social entity criteria, it seems wiser to attach it to Perth-Andover. The line delimiting the southeastern part of the region will therefore run between Grand Falls and Plaster Rock and will exclude all the settlements shown between Plaster Rock and Perth-Andover.

Regarding the exact demarcation of the boundary of the region in that area, Friedman suggests that:

Non economic considerations, such as the availability of data and the location of political divisions, may, of course, be the basis for the demarcation of a region. The important point is not which boundaries are chosen but the effect of

this choice on the variables under study.<sup>42</sup>

Since most important criteria mentioned here have already been considered, the final consideration goes to the boundary of parishes - used as census divisions- that fall between Grand Falls and the two settlements of a different region, namely Plaster Rock and Perth-Andover. The best compromise between these various criteria resides, therefore, in the inclusion of the parishes of Grand Falls, Denmark and Drummond with the parishes of the once county of Madawaska as part of the Madawaska Planning District.

### 3. THE REGION TODAY, COMMUNITIES WITHIN A COMMUNITY

From the point of view of physical distribution, the character of population in the region seemed to provide an even density throughout, with a slight reduction at the eastern and the western extremities. From the economic and social point of view, we have seen that the region is more than a homogeneous mass of people spread on a ribbon of land. Therefore, the introduction of communities smaller than the region is an important point to stress; but an effort must be made to integrate these communities with one another and develop the regional fabric.

The term "hierarchy" is probably the most adequate to describe the relationship of institutions, among which the church is the most important found in the villages of the District.

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<sup>42</sup> FRIEDMAN, John, Regional Development and Planning, a Reader, Cambridge, Mass., The Massachusetts Institute of Technology, 1965, p. 258.

It is common knowledge that the village is normally the center for the activities of its parish, that the town is the center for an area within a radius of about five to ten miles, and the great city for a wider area which it serves in its capacity as a king among towns and a regional center of economic and social organization.<sup>43</sup>

The distance between the various levels of centers may be questionable; but the fact that some settlements may be more important to the total region than others must now be observed more closely. It is now possible to consolidate the results of previous sections in this study dealing with the various levels of importance of settlements, and grade them with the use of an "index of community centers", consisting of such criteria as church, schools, retail function, population figures and the incorporation status of settlements.

A composite measure of the analysis of the various elements studied so far has now to be devised. Settlements of the region do not perform the various aspects of regional life with the same intensity. A composite table has been set up grouping the settlements with approximate estimates of the importance of their status with regard to church, school, central retail function, population and incorporation status. Most results arrived at throughout this chapter were broken down into three categories, except for "central retail functions" where four categories of settlements were identified. The composite result of Table VI thus included four columns where settlements were listed when they had previously appeared in the

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<sup>43</sup> DICKINSON, Robert E., City and Region, London, Routledge & Kegan Paul Ltd., 1966, p. 87.

TABLE VI  
SETTLEMENTS BY CLASSES OF IMPORTANCE

First Class	Second Class	Third Class	Fourth Class
Churches (see page 38 & 39)			
Edmundston	Rivière Verte		
St.-Basile	St.-Léonard		
Ste.-Anne	St.-André		
Drummond	Baker Brook		
Grand Falls	St.-Joseph		
St.-Jacques	Clair		
	St.-François		
	St.-Hilaire		
	Lac Baker		
	Notre-Dame de Lourdes		
	New Denmark*		
Schools (see page 40 & 41)			
Edmundston	St.-Léonard	St.-Hilaire	
St.-Basile	St.-François	Verret	
	Clair	Boucher	
	Lac Baker	Plourde	
	Baker Brook	St.-Jacques	
	Rivière Verte	St.-Joseph	
	Ste.-Anne de M.	Iroquois	
	St.-Léonard Parent	Siegas	
	Grand Falls	St.-André	
	Drummond	New Denmark	
Retail Trade Activities (see page 51)			
Edmundston	St.-Jacques	Clair	Baker Brook
Grand Falls	St.-Léonard	Iroquois	St.-Hilaire
		St.-Basile	Ste.-Anne
			Rivière Verte
			Siegas
			St.-André
			Drummond
			New Denmark

\*The Protestant population of New Denmark was assumed larger than 500 per church.

## TABLE VI Contd...

## SETTLEMENTS BY CLASSES OF IMPORTANCE

First Class	Second Class	Third Class	Fourth Class
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Population (see page 8 & 9)

Edmundston	St.-Basile	St.-Jacques	
Grand Falls	St.-Léonard	Verret	
	Ste.-Anne de M.	Rivière Verte	
		Iroquois	
		Clair	
		La Côte du Sault	
		St.-François	

Incorporations (see Appendix II)

Edmundston	St.-François
St.-Léonard	Clair
Grand Falls	Lac Baker
	Baker Brook
	St.-Hilaire
	St.-Jacques
	St.-Basile
	Rivière Verte
	Ste.-Anne de Madawaska
	St.-André
	Drummond

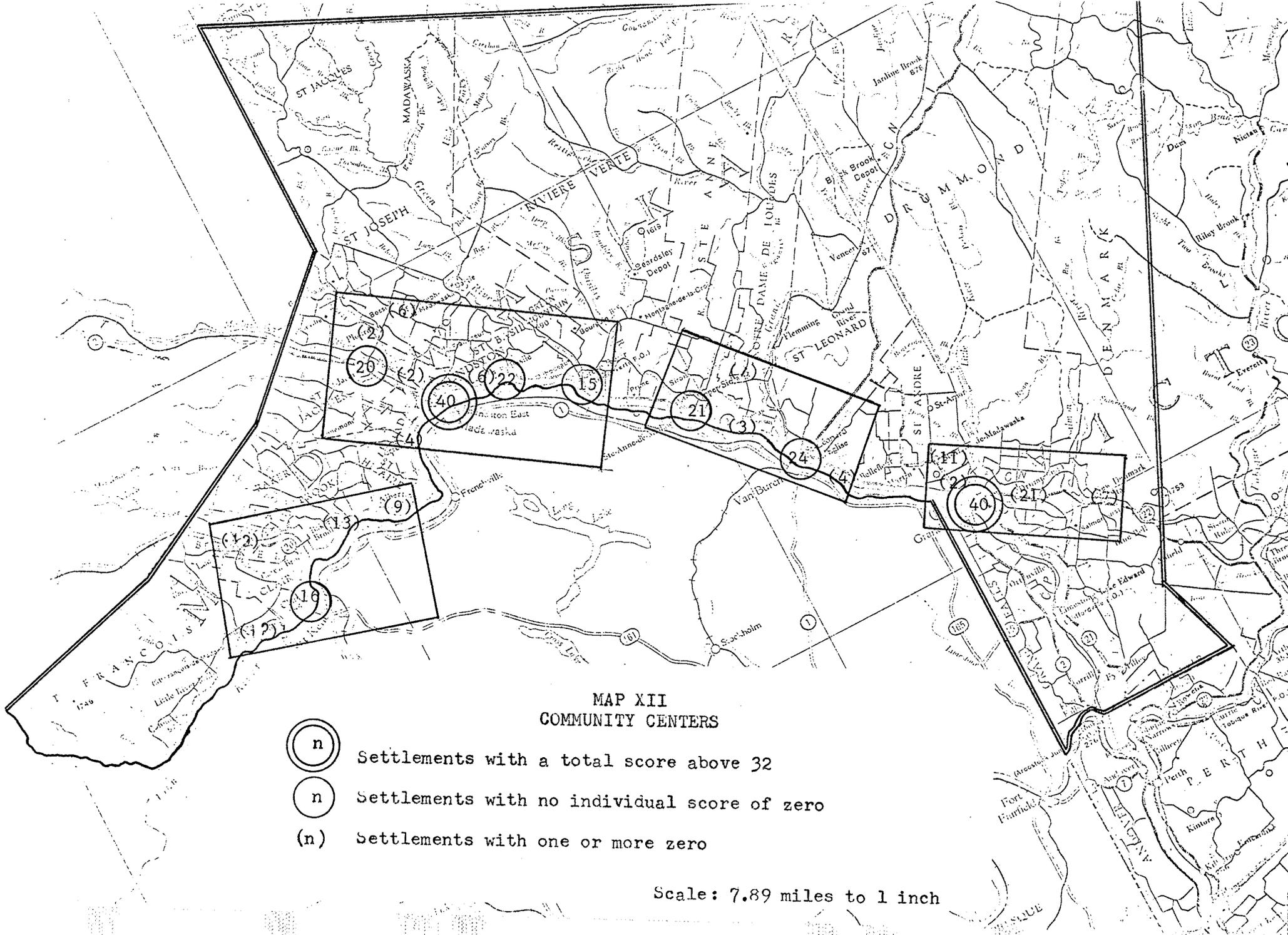
first, second, third or fourth category of importance. Then a series of points were assigned to each column. It was felt that if a settlement appeared in the second column, it should subsequently appear twice in the first column before it could compete with another settlement which would have appeared twice in the first column, and so forth. This explains why a weight of 8 was given for an appearance in the first column, 4 points in the second column, 2 points in the third column and only one point for an appearance in the fourth column. The resulting totals of these combined factors appear in Table VII. The results were then plotted on Map XII.

All the settlements that had at least one score of 8 were at the most eight miles from another settlement in the same category. These three groups, shown on the Map by a rectangle-like forms, are at a distance of 12 miles from each other. Between each settlement forming these areas, there appeared to be one settlement with at least one score of two. All other settlements noted for having at least one score of two are within six miles from any of the seven settlements at the top of the list, except for five settlements of the second category, that seemed to be grouped around Clair, which is at the top of this second category, and the only settlement in its area (within the rectangle) that did not record at least one zero for one of the factors. This short analysis provides what seems to be a valid look at the structure of the region, complementing the hierarchy of central places with sociologic criteria such as schools and churches, not to mention the local government.

Within the region, four groups of settlements became over-

TABLE VII  
INDEX OF COMMUNITY CENTERS

	Churches	Schools	Retail Trade	Pop.	Inc.	Total
Edmundston	8	8	8	8	8	40
Grand Falls	8	4	8	8	8	36
St.-Léonard	4	4	4	4	8	24
St.-Basile	8	8	2	4	4	26
Ste.-Anne de Madawaska	8	4	1	4	4	21
St.-Jacques	8	2	4	2	4	20
Clair	4	4	2	2	4	16
Rivière Verte	4	4	1	2	4	15
Drummond	8	4	1	0	4	17
Baker Brook	4	4	1	0	4	13
St.-André	4	2	1	0	4	11
St.-François	4	4	0	0	4	12
Lac Baker	4	4	0	0	4	12
St.-Hilaire	4	2	1	0	4	11
St.-Joseph	4	2	0	0	0	6
St.-Léonard Parent	0	4	0	0	0	4
Iroquois	0	2	2	2	0	6
New Denmark	4	2	1	0	0	7
Verret	0	2	0	2	0	4
Siegas	0	2	1	0	0	3
Notre-Dame de Lourdes	4	0	0	0	0	4
Boucher	0	2	0	0	0	2
Plourde	0	2	0	0	0	2
Côte du Sault	0	0	0	2	0	2



MAP XII  
COMMUNITY CENTERS

- (n) Settlements with a total score above 32
- (n) Settlements with no individual score of zero
- (n) Settlements with one or more zero

Scale: 7.89 miles to 1 inch

whelmingly obvious.

Edmundston and Grand Falls that had collected respectively 21.36 and 9.47 points in the hierarchy of central functions stand alone in the first category. St.-Léonard and Clair that had collected 1.05 and .65 points, become the most important settlements in their respective areas. To summarize the structure, it seems therefore that four settlements of the region perform some regional function or other; Edmundston and Grand Falls undoubtedly possess an area of influence; St.-Léonard and Clair, at a much modest level, have the potential for performing some limited services for the settlements around them, even though it is not necessarily obvious that they do in fact perform at a limited regional level.

Other settlements with all the qualities of neighbourhoods (ie. that did not record any zero for any of the central functions, namely churches, schools, central retail function, population or incorporation) were St.-Basile, Ste.-Anne de Madawaska, St.-Jacques, and Rivière Verte. The final result therefore reveals that organized neighbourhoods that could survive over the years are spread throughout the region, but all subordinated to two large centers and two intermediate neighbourhoods.

The remainder of the settlements are too weak to perform at any of the above mentioned levels: they constitute the last category.

To summarize his results, Kolb had found that:

...16 percent of all social contacts were in places of less than 200 population and another 16 percent in centers of 200

to 500. On the other hand, only 6 percent of the trade contacts were in places of less than 500, while 54 percent were carried on in places of 2,000 to 10,000 population.<sup>44</sup>

These data would tend to favor rather small communities spread all over the study area: on the other hand, the study revealed that about 61 percent of both social and trade contacts took place within nine centers of the county where Kolb did his study.

The present study of the structure of Madawaska Planning District did suggest the same number of community centers; but performing different levels of central function. The resulting structure may now be projected into the future.

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<sup>44</sup> KOLB, J.H., Emergent Rural Communities, Madison, 1959, p. 19.

## CHAPTER III

### THE FUTURE REGION A POLARIZED FORM OF SETTLEMENTS

The future region will be built with respect to the present characteristics discovered throughout the first two chapters. The strong polarization tendencies observed in the latter section of Chapter II must not be neglected, no more than the fact that above 30,000 people are presently living outside the two main centers of the region. The two following sections will therefore bear on the future character that planning endeavours should try to give to the centers, city, towns and villages, as well as the character that should be sought for the region itself.

#### 1. THE FUTURE OF REGIONAL CENTERS

Bardet suggests the "ville-fédération" as the best form to give the region, based on the following assumption: "Cette double nécessité de retour au petit groupe et de fédération de ces groupes - qui exclut l'infantilisme comme le gigantisme - ne doit jamais être perdue de vue."<sup>45</sup> This statement is then followed by the numeric standards characterizing the "ville-fédération": "Elle peut être, dans certains cas étalée, elle peut être polycentrique, porter sur la

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<sup>45</sup> BARDET, Gaston, Mission de l'Urbanisme, Paris, Editions Ouvrières, 1952, p. 459

réunion de deux ou trois centres de 5,000 habitants et d'une nébuleuse de villages".<sup>46</sup> This last alternative of the multiple center "polarized region" (polarized region may here be used to substitute the more precise term: "ville-fédération") would seem to answer better the needs of the Madawaska Planning District where two major centers have in fact been identified. Here, we have two centers, and possibly three or four with Clair and St.-Léonard, and most certainly the "nébuleuse" of villages and hamlets pointed out by Bardet.

#### THE TRENDS TOWARDS LARGER COMMUNITIES

An imposing number of communities have already been identified in the first chapter. Furthermore, expansion of many of these communities will likely occur should a new industry be located within their boundaries because of the resulting growth of commuting ranges. The school, we have seen, is also a factor in the growth of communities.

Similarly, the attitudes of the population towards centers also change. It is expected that within a few years, even the ruralites' life will be completely changed in regard to the characteristics that build the countryside:

In 1975, the farmer himself will no longer conform to the traditional definition of a ruralite. As we have pointed out, he will either be a labourer, resembling more and more the industrial unskilled worker, or a highly qualified contractor, characterized not by independence but by interde-

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<sup>46</sup> BARDET, Gaston, Mission de l'Urbanisme, Paris, Editions Ouvrières, 1952, p.461.

pendence in a highly woven commercial network.<sup>47</sup>

Thus, the present attachment of the farmer and ruralite to the land might take a new form whereby, like all other industrial workers, he will want to be provided with urban services nearby.

Speaking of regions similar to the Madawaska Planning District, Tremblay suggests that "Instead of trying to save the rural environment, it would seem more urgent to challenge the underdeveloped condition of these regions."<sup>48</sup>

People must not hesitate to develop their region rather than live in isolation under their own parish steeple. Regional centers and existing neighbourhoods will continue to exist, but as functional units of the total region, with respect to the three levels identified by Bardet as "patriarcal", "domestique" and "paroissial":

L'échelon patriarcal est le groupe élémentaire où les voisins s'assistent et s'entraident. L'échelon domestique est dû à la topographie tant sociale que naturelle, c'est une constante d'ordre géo-économique, le premier élément proprement urbain, dont la formation constitue l'échelon supérieur, bien connu autrefois sous le nom de quartier, faubourg, villette du bourg. Il y a une véritable vie spirituelle de quartier, qui dépasse les réalités familiales, aussi avons-nous baptisé cet échelon l'échelon paroissial pour évoquer le rôle communautaire qu'y jouait la paroisse."<sup>49</sup>

Transferred to the context of the Madawaska Planning District, the first category corresponds to the hamlets and small settlements with a population below 500: this constitutes the lower category in Table

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47 TREMBLAY, Marc-Adélarde et al., ed., Rural Canada in Transition, Ottawa, Agricultural Economics Research Council of Canada, p. 375.

48 Ibid., p. 377

49 BARDET, Gaston, Mission de l'Urbanisme, Paris, Editions ouvrières, 1952, p.66.

VII. The second category refers to the incorporated villages with a population ranging from 500 to 2,000 that will remain as neighbourhoods for the surrounding territory. Among those is the town of St.-Léonard and the village of Clair, which, according to Map XII, seemed to perform a lower level of central function other than strictly neighbourhood. Finally, the third level is also performed by the villages of the second category, since their importance at the parish level has earlier been stressed. Above these villages, the towns perform throughout the totality of the area.

The cities, towns and villages must now be considered in relation to the larger community which extends beyond their individual boundaries:

The nucleated settlement, whether village, town or city, either singly or in groups is effecting the areal integration of the activities and organization of society into geographical community units.<sup>50</sup>

Communities and the importance of central place are not stable phenomena however, and an attempt to circumscribe the dynamic elements of community changes will have to be made.

#### BUILDING THE NEW REGION

Based on the present structure of the region, future urban developments will have to cope with the main challenges presented by the region of today. After a brief look at the elaboration of solu-

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<sup>50</sup> DICKINSON, Robert E., City Region and Regionalism, London, Kegan Paul, Trench, Trubner & Co. Ltd., 1947, p. 7.

tions to these challenges, the nature of the new region will be examined. The "village-centre" concept and the aspects related to the growth of the existing communities will then be studied.

A SOLUTION TO THE PRINCIPAL CHALLENGES OF  
THE MADAWASKA PLANNING DISTRICT

From the social point of view, we need to correct two major problems: the alienation of the rural population resulting from the out-migration of younger people and from the fragmentation of social organizations which are generally grouped around a small parish church. "Today's rural resident must rely more and more on outside organizations not only for services but also for leadership and direction."<sup>51</sup> Better use of existing leadership might be made if the fragmented social groups were to become integrated around regional centers.

In the same line of thought, the rural church cannot any more serve the purposes originally borne by it: "While the needs of the rural person have changed, his church and his religion, which ministered effectively to the needs of his forefathers, have remained relatively static. Thus the impact of religion on his life has diminished."<sup>52</sup> Parishes with a smaller population or settled in environments not too desirable for their population, should be integrated with the church or other institutions of better equipped neighbour-

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<sup>51</sup> TREMBLAY, Marc-Adérard et al., ed., Rural Canada in Transition, Ottawa, Agricultural Economics Research Council of Canada, p. 94.

<sup>52</sup> Ibid., p. 91.

hoods, and so on until adequate communities are again established. All this is meant to provide the population with the best social structure possible within the context of the Madawaska Planning District, where, like all French Canada, the "paroisse" represents the most solid institution after the family.

More and more, education is bringing extended social contacts with people of larger areas. As with the churches, the school should be the central point of more viable neighbourhoods.

#### THE NATURE OF THE NEW REGION

The renewed region should consist of a federation of the presently existing communities, either as they are or otherwise extended:

C'est toujours du bas, de l'intérieur, par fédération de groupes locaux autonomes, que nous pourrons réaliser toute structure viable, et en particulier la nouvelle structure rurale, basée sur l'interrelation des vies d'échanges, d'exploitations et de production. 53

Not all settlements are in a position to act as centers not only for retail service, but especially for production. Only the larger, strategically placed centers will qualify for, as Dickinson says, "...centralized services must be carried on in central fixed places in order to reach consumers."<sup>54</sup>; and Bardet says: "Les bâtiments communautaires publics ou semi-publics, les foyers de ces groupes

53 BARDET, Gaston, Mission de l'Urbanisme, Paris, Editions Ouvrières, 1952, pp. 433-434.

54 DICKINSON, Robert L., City Region and Regionalism, London, Kegan Paul, Trench, Trubner & Co. Ltd., 1947, p. 22.

locaux ou régionaux, les services sociaux seront de puissants bâtiments qui devront dominer le magma urbain." <sup>55</sup> It is around these characteristics that Bardet sees these hierarchical federations of communities developing. Each community federation will represent a polarized portion of the overall region, the Madawaska Planning District. To be effective, planning agencies must rise at the next level beyond that of the polarized areas, at the level of the total region, to cope with problems that spatially identify themselves with the total rural-urban continuum.

Undoubtedly, the life of the "ville-fédération" will attain its climax in "villages-centres":

La greffe de la vie urbaine sur la vie rurale est indispensable: elle se fera au niveau des villages-centres et villettes qui doivent dépasser le chiffre limite officiel des communautés dites rurales, (2,000 habitants) pour s'élever jusqu'à 20,000 habitants. <sup>56</sup>

Again, only Edmundston and Grand Falls pass the test.

The fundamental characteristics of the region to emerge from planning efforts are described in this definition of the ville-fédération given by Bardet:

La commune rurale est avant tout un finage, une unité agricole, une unité d'exploitation; elle ne peut, dans le cas de trop petites communes, constituer une unité d'échange. C'est pourquoi le village-centre est le lieu où la vie urbaine indispensable au renforcement et à l'épanouissement de la nouvelle civilisation rurale, s'insère dans la vie agricole... Il est donc nécessaire de choisir des centres sur lesquels seront bloqués tous les crédits, tous les efforts

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<sup>55</sup> BARDET, Gaston, L'urbanisme, Paris, Que Sais-je, Presses Universitaires de France, 1967, p. 54

<sup>56</sup> Ibid., p. 108.

et qui deviendront les véritables noyaux "rur-urbains" dirait Geddes, de la nouvelle structure rurale.<sup>57</sup>

Urbanism may now extend from the exclusive urban milieu and become "l'aménagement des campagnes", including all parts of the rural-urban continuum. "Instead of speaking of rural environment, it would be better to speak of low density urban regions, or better still, of polarized regions."<sup>58</sup> "Villages-centres" will be tuned not only to the needs of the people in the town, but to all the people in their area of influence. Edmundston and Grand Falls presently perform at the top of the hierarchy of "villages-centres"; other settlements may remain as neighbourhoods for their respective parishes, if they qualify for this function.

#### THE "VILLAGES-CENTRES"

**SERVICE CENTERS** Gaston Bardet identifies three levels of "villages-centres" to be equipped for coping with the challenges of the development of rural areas:

Le village-centre 1 est déjà fortement équipé, et dans bien des cas il suffira de l'affirmer.

Le village-centre 2, de deuxième catégorie, est choisi comme centre à cause de sa position relativement à son entourage. Convenablement équipé, il pourra devenir un village-centre 1.

Le village-centre 3 est beaucoup moins caractéristique que les précédents. Il n'est choisi comme centre que pour rattacher des isolés. On le rencontre principalement dans les terres pauvres, aux finages trop vastes.<sup>59</sup>

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<sup>57</sup> BARDET, Gaston, L'Urbanisme, Paris, Que Sais-je, Presses Universitaires de France, 1967, p. 110.

<sup>58</sup> TREMBLAY, Marc-Adélarde et al., ed., Rural Canada in transition, Ottawa, Agricultural Economics Res. Council of Canada, p. 377.

<sup>59</sup> BARDET, Gaston, Mission de l'Urbanisme, p. 431

Edmundston and Grand Falls respond to the characteristics of the "villages-centres" 1 ; Clair and St.-Léonard are the only settlements that seem to fit the description of "villages-centres" 2. Four more settlements currently have the equipment to serve as "villages-centres" 3 for the reasons enumerated in the last section of Chapter 11.

Thus conceived, the "village-centre" is not to remain an entity in itself, but it must be tuned to the needs of the population falling within its sphere of influence: "La ville doit venir à la campagne sous toutes ses formes: en particulier, la vie urbaine doit se manifester au sein de la vie rurale par l'équipement des villages-centres."<sup>60</sup>

INDUSTRIAL CENTERS Because of the present limited amount of natural resources available for the development of the region, the challenge might be more adequately met if a limited number of centers are developed for the growth of industries. Among the major propositions emerging from a paper on the structure of a region, Friedman states that "the geographer has emphasized the distributive function of nodal centers of a region, but the role of the nodal center in providing external economies for the export industries has been equally important."<sup>61</sup>

The lack of a centralized regional industrial location within

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<sup>60</sup> BARLET, Gaston, Mission de l'Urbanisme, Paris, Editions Cuvrières, 1952, p. 414.

<sup>61</sup> FRIEDMAN, John, Regional Development and Planning, a Reader, Cambridge, Mass., The Massachusetts Institute of Technology, 1965, p. 254.

centers of the Madawaska Planning District has been prominent over the past twenty years as shown earlier. The two largest centers would be the best designated centers for industrial growth, but the use of land resources within the boundaries of these settlements is approaching the saturation point. For example, a study of industrial opportunities for the City of Edmundston was made in 1966, and the conclusion were as follows:

...within the present boundaries of the city there is little or no land suitable for industrial development left. It would be better planning and in the interest of industrial development to establish a well planned industrial district not merely for new industries but also for the relocation of the existing ones which involve conflicting land use.<sup>62</sup>

The situation of Grand Falls is similar even though more land is still available for industrial location within the town boundaries.<sup>63</sup>

The need for polarization of industries into these regional nodes, on the other hand, is real:

...if the region is a large town with a low population density, we must first develop the very center of the town. Regional development thus implies some form of industrial decentralization policy. However, industrial decentralization is relative in meaning. Industry must be decentralized, but at the same time be centralized at regional poles.<sup>64</sup>

At present, only the "villages-centres" of the Madawaska Planning District are sufficiently equipped in services for answering the needs for industrial location, but land is not available within their limits in sufficient amount. With the setting up of a planning district, it

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<sup>62</sup> JONES, Murray V. and Associates Limited, A Study of Industrial Opportunities and Industrial Land Needs, City of Edmundston and Madawaska County, New Brunswick, Toronto, 1966, p. 35

<sup>63</sup> CANADIAN NATIONAL RAILWAYS, Industrial Notes on the Grand Falls- St. Leonard, New Brunswick Area, Montreal, 1965,

<sup>64</sup> TREMBLAY, Marc-Adéland, ibid, p. 378.

might be time to seek for land outside the present boundaries of these settlements and incorporate the new land to benefit both the people of the city or town, and the people of the hinterland.

#### THE FUTURE OF SERVICE CENTERS IN THE REGION

Christaller himself had termed "auxiliary centers" the settlements providing different levels of services in the rural areas.<sup>65</sup> It is in the efficiency of the pretinent centers that lies the clue to the ideal "villages-centres". If centers of a certain order are losing their population, and therefore their threshold sales level area in favor of higher order centers, the region should certainly include both the lower order centers and the higher order centers.

This reality was first hinted at by Dickinson<sup>66</sup> and also by Kolb: "... the trend has been toward more complicated forms of communities within communities, just as was indicated by the Darien and Millard trade zones being included within those of larger village or small town center".<sup>67</sup>

The credit for studying the future of centers performing different levels of services in Canada goes to Gerald Hodge. He starts by enumerating the general elements related to the growth and decline of smaller trade centers:

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<sup>65</sup> DICKINSON, Robert E., City and Region, London, Routledge & Kegan Paul Ltd., 1966, p. 92

<sup>66</sup> Ibid., p.120-121.

<sup>67</sup> KOLB, J.H., Emergent Rural Communities, Madison, 1959, p. 100.

They may be summarized as follows: (1) trade centers that are small in population are most susceptible to decline; (2) trade centers offering a small range of goods and services are more likely to decline than those offering a wide range; (3) small trade centers located in proximity to large centers are less viable than if located elsewhere; (4) there are emerging two general types of trade centers: a large group of small centers serving local needs, and a small group of centers serving specialized shopping needs over large areas. <sup>68</sup>

When building the future central places of a region, investment should first be directed to centers with a better chance of surviving through the years.

Hodge has done a study of the changes encountered between 1951 and 1961 in the actual performance of the urban system within three selected regions of Canada, namely the farming area of Saskatchewan, 18 counties of western Ontario and the whole of Prince Edward Island. The classification used by Hodge is the Borchert-Adams classification: the same used by the department of Energy, Mines and Resources in their study of the urban centers of New Brunswick and used earlier in this present study. Hodge's predictions are therefore quite helpful in the way they can be directly applied to Table IV in estimating the future growth potential of the centers of the region in relation to the rest of New Brunswick.

According to Hodge, four major characteristics may be expected to emerge over the years to come:

1. The number of farm trade centers will continue to decline as increases occur in farm size and farm mechanization, thereby lowering the man-land ratio and the market potential for

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<sup>68</sup> HODGE, Gerald, Do Villages Grow? Some Perspective and Predictions, Rural Sociology, vol. XXXI, June 1966, p. 185.

trade center establishment.

2. Hamlets will satisfy most daily shopping needs, and convenience centers will be bypassed by rural people seeking centers with a wider range of specialized goods and services. Convenience centers will decline to hamlet status in most instances and many present hamlets will disappear.

3. Except for a limited amount of "suburbanization" around large cities, small trade centers will likely disappear within a radius of ten miles of large trade centers and will show substantial decline in areas up to fifteen miles away. Only beyond this distance is the trade area integrity of small centers likely to remain secure.

4. As the thinning out of small centers continues, rural people will have to travel as much as one-third farther to reach a center offering even day-to-day necessities.<sup>69</sup>

Applied to the Madawaska Planning District, this statement suggests a strong exodus of population from the numerous hamlets that are found in the area. The second characteristic suggests limited potential for growth of any settlement other than Grand Falls or Edmundston. The third of Hodge's principles suggests that the importance of all centers within ten miles from Edmundston will disappear in favour of Edmundston's businesses. The 2.24 points recorded for St.-Jacques, St.-Basile and Iriquois for their central function (see Table V) have good chances of being absorbed by Edmundston in the years to come. Clair, even though it presently performs at a modest functional level, has a larger chance of surviving if its importance as a commercial center for that part of the region extending beyond fifteen miles from Edmundston. In the last analysis, it would seem that Grand Falls and Clair are in a good geographic location to supplement at different degree, Edmundston's rôle as a center for the region.

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<sup>69</sup> HODGE, Gerald, Do Villages Grow? Some Perspective and Predictions, Rural Sociology, vol. XXXI, June 1966, p. 195.

The best solution applicable in these circumstances is found in Bardet's words:

La ville-fédération s'impose à l'époque où l'on parle toujours de fédération à grande échelle, oubliant les échelles de base, celles où vivent et meurent effectivement les hommes.<sup>70</sup>

Other existing settlements that have grown through the last centuries into strong communities must not necessarily disappear if they are judged to be livable by their own population, and to the extent that their decisions to remain does not become a burden for the rest of the population:

In our society, the individual is, and should remain, free to live where he chooses, but this does not mean that he should be privileged to impose upon others the extra costs incurred in providing him with the publicly provided amenities of urban living.<sup>71</sup>

It must not be forgotten either that local governments are the last institutions to conform to changes as the regional structure is altered. Appendix II reveals the large number of incorporated settlements within the District. Their number exceeds that of settlements already recognized as "villages-centres" 1, "villages-centres" 2 or "villages-centres" 3.

Bardet has introduced the concept of "unités-rurales" to designate the settlements that did not provide the characteristics of "villages-centres":

L'unité-rurale 1 est forte, douée d'une réelle autonomie.

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<sup>70</sup> BARDET, Gaston, L'Urbanisme, Paris, Que Sais-je, Presses Universitaires de France, 1967, p. 29.

<sup>71</sup> BYRNE, E.G., Royal Commission on Finance and Municipal Taxation, Fredericton, Queen's Printer, 1963, p. 173.

C'est un véritable centre, mais sans satellite à l'échelon communal.

L'unité-rurale 2, indépendante à cause de son isolement, doit être fortifiée par un apport artisanal de complément.

L'unité-rurale 3 est faible, sans rattachement possible. Elle risque de s'émmenter encore, précisément à cause de cette faiblesse.<sup>72</sup>

It is not necessary at this time to examine the remaining settlements for characteristics that make them "unité-rurale" 1, "unité-rurale" 2 or "unité-rurale" 3. In that category, the bottom category of Table VII: Drummond, Baker Brook, St.-André, St.-François, Lac Baker and St.-Hilaire, that are presently incorporated as villages; St.-Joseph, St.-Léonard Parent, Iroquois, New Denmark, Verret, Siegas, Notre-Dame de Lourdes, Boucher, Plourde and la Côte du Sault.

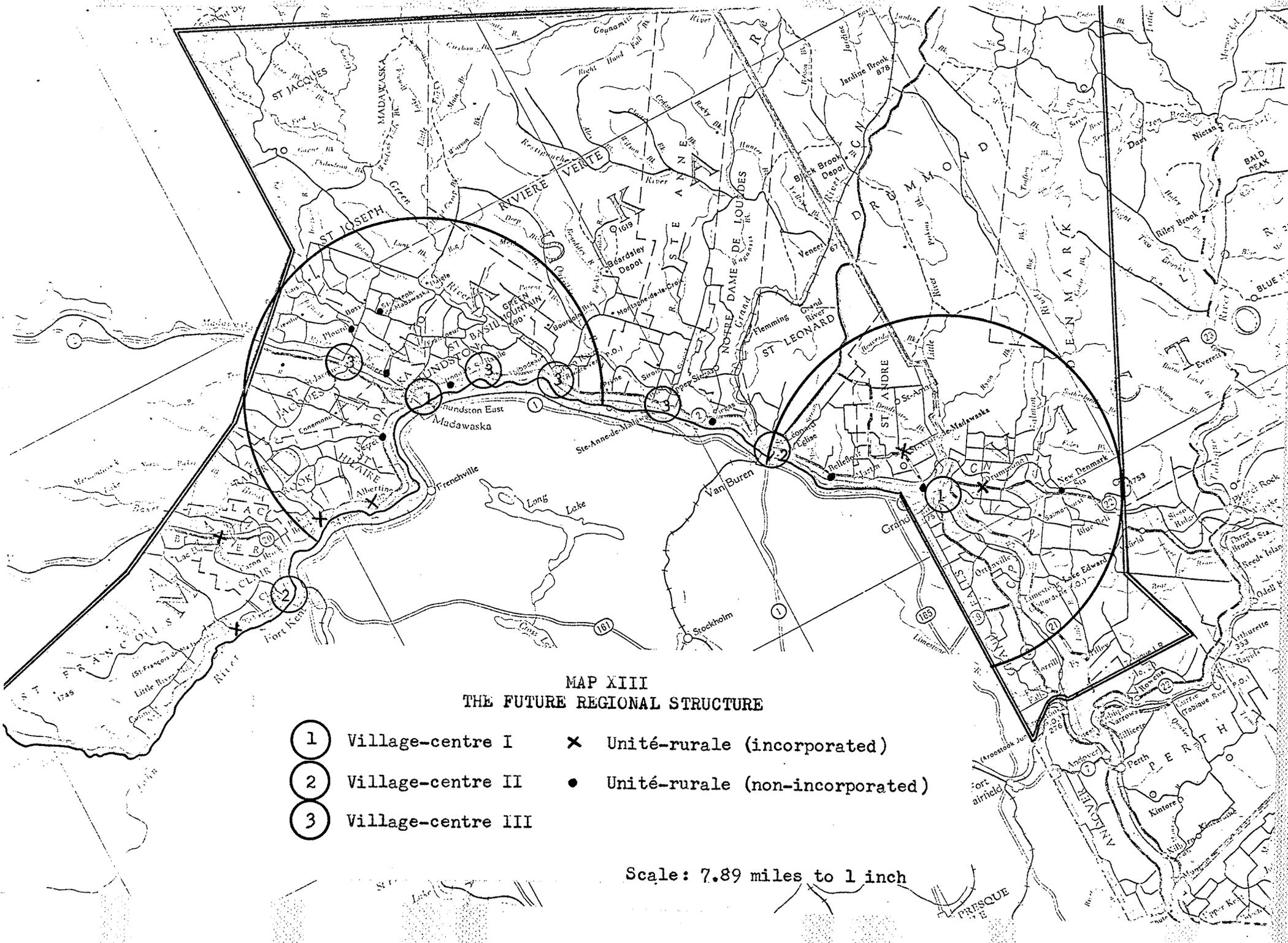
It is not sufficient to say that certain growth centers are selected to continue, while other settlements must be dismantled. Such a decision would fail to recognize the value of all the region, from the smallest settlement to the largest. Smaller settlements will disappear on their own if the total socio-economic well being of the region is improved. From its inception, however, the total region must be built in harmony with the various levels of settlements which, for the case of the Madawaska Planning District, appears in Table VIII. Map XII shows the spatial distribution of these levels of centers, and also the radius of ten miles around Edmundston and Grand Falls: Hodge suggests that the central function of these settlements around the regional centers will have a tendency to be acquired by

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<sup>72</sup> BARDET, Gaston, Mission de l'Urbanisme, Paris, Editions Ouvrières, 1952, p. 431.

TABLE VIII  
 THE FUTURE REGION  
 HIERARCHY OF SETTLEMENTS

"village-centre" I	Edmundston, Grand Falls
"village-centre" II	St.-Léonard, Clair
"village-centre" III	St.-Basile, Ste.-Anne de Madawaska, St.-Jacques, Rivière-Verte.
"unité-rurale"	Incorporated Drummond, Baker Brook, St.-André, St.-François, Lac Baker, St.-Hilaire.
	Non Incorporated St.-Joseph, St.-Léonard Parent, Iroquois, New Denmark, Vernet, Siegas, Notre-Dame de Lourdes, Boucher, Plourde, Côte du Sault.



the more central locations. As far as these settlements are concerned, this fact must not be taken as an indication of their complete disappearance: they will continue to perform their function of "tying up isolated settlements", to use Bardet's formula.

## CHAPTER IV

### IMPLEMENTING THE PROGRAMME

The measures suggested for improving the situation of the region cannot be implemented overnight, or without a proper administrative structure. One aspect is the plan: the policies for the improvement of the Madawaska Planning District must be stated in a programme, a programme that must be implemented; this task will be analysed in the first part of this last chapter.

Due to the number of responsibilities related to the urbanism schemes, the implementation may have to be done in cooperation with different public agencies: this will be the object of the second section of the chapter.

#### 1. NATURE OF THE PLAN

##### BASIC QUALITIES OF THE PLAN

One of the first qualities of the plan is that it must be operational: Friedman suggests that for this condition to be met, "... one of the cardinal rules should be that every planning endeavour must be intimately related to the operations of the institutions for which the planning is to be done."<sup>73</sup> The plan must therefore be

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<sup>73</sup> FRIEDMAN, John, Regional Development and Planning, a Reader, Cambridge, Mass., The Massachusetts Institute of Technology, 1965, p.501.

made with the awareness that a certain number of persons and organizations do perform a role in the development of the region.

Another very essential characteristic of the plan follows the fact that all the population will be closely or indirectly concerned with the results of the stated policies. Bardet stresses the importance of this quality of the plan in the following statement:

Ce sont surtout des instruments d'éducation pour l'initiative privée, les organismes publics et semi-publics et pour les agents qui devront les mettre en oeuvre. Les plans ne peuvent espérer se réaliser, si après avoir forcé les communautés à prendre conscience d'elles-mêmes, ils ne mettent pas à jour les tendances en puissance, s'ils ne possèdent pas les qualités de rayonnement, de jaillissement, de profonde vérité humaine indispensable à tout éducateur.<sup>74</sup>

This second aspect of the plan is nothing more than the realization of policies through related changes in the sociological aspects of the region. Once the population and all the people<sup>responsible</sup> for implementing the policies have been won over to the policies, it is much easier to implement the ideas.

In itself, the plan is not much more than the identification of the different parts of the structure of the region for the years to come: usually fifteen to twenty years.<sup>75</sup> The more detailed land use will appear in complementary reports to be submitted separately for the various incorporated areas of the district, as well as for the various aspects of development at the regional level both for incorporated and non incorporated areas. These subsequent individual plans.

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<sup>74</sup> BARDET, Gaston, Mission de l'Urbanisme, Paris, Editions Ouvrières, 1952, p.64.

<sup>75</sup> RAO, V.L.S. Prakasa, Regional Planning, London, Asia Publication House, 1963, p.7.

must, however, be bound by the resolutions of the District Plan.

The more essential characteristics of the plan are pointed by E. Gutkind in "Creative Demobilization":

- National, regional and local planning must be integrated.
- Development of existing and new communities respectively must be conceived and executed as one coherent whole and as a matter of regional concern.
- The interests of the community must govern every scheme in general and in detail. Private interests must be subordinated to this principle without impeding personal freedom and without undue hardship.
- The neighbourhood unit, a community within the community, is centered on the school and communal institutions.<sup>76</sup>

The next important aspect to consider is the practical application of these policies based on the real life of the region.

#### IMPLEMENTATION

Essentially, the implementation consists of having the plan accepted by all the levels responsible one way or another for the growth of the region: it will be simply an extension of the educational process initiated at the origin of the planning process. Obviously, conflicts will be existent: "Community leaders... worry about how to attract development, not how to control it."<sup>77</sup> It is the task of the planner and other people to channel these local interests and make them satisfied within a regional context. But the name of the game is people.

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<sup>76</sup> GUTKIND, E.A., Creative Demobilization, London, Kegan, Paul, Trench Trubner and Co. Ltd., 1943, p. 284-285

<sup>77</sup> HAHN, Alan J., Planning in Rural Areas, Journal of the American Institute of Planners, vol. XXXVI, no. 1, p. 47.

The initiative of the plan implementation must come from the people themselves, guided by the educational process that they will have gone through with the planner. "Pour qu'un plan se réalise il faut que les groupements qui y sont intéressés y soient réellement attachés et en assurent la direction."<sup>78</sup> The planner will not come with solutions all made up, but with the facts that he submits to the people responsible for the implementation of schemes. Together, they will educate themselves to the various possible alternatives, and with the criteria that themselves will have realized, they will formulate specific policies that will direct the future of the region.

From there on, planning becomes a constant study cycle where resolutions themselves may become the criteria for a later study. In Eastern Quebec, for example, the population of certain villages have accepted the ultimate solution possible within the field of planning: that of moving from their village:

The program calls for the disbandment of many marginal parishes of the peninsula. But the people are willing to move because they are confronted with a rational situation and they know that what they are being asked to do is meaningful to them and to gradually introduce themselves into a new community, even though they have no prior experience in that community.<sup>79</sup>

The people of Madawaska may never be faced with such radical solutions, but if they are, it will have been with their own realization

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<sup>78</sup> BARDET, Gaston, Mission de l'Urbanisme, Paris, Editions Ouvrières, 1952, p. 518.

<sup>79</sup> COLLIER, Regional Social Adjustment, Community Planning Review, vol. 19, no. 4, Winter 1969, p. 21.

that there is a better environment somewhere else that will give them much more than the present one.

Further investigations should therefore be made on the feasibility of social animation as a tool for making the population more aware of their problems and the possible solutions to these problems. This solution could be devised within a special regional structure, for the administration of programmes.

## 2. THE ADMINISTRATIVE STRUCTURE

### REGIONAL ADMINISTRATION

If a regional approach to problems is to be sought, a regional administration must similarly be set up. Cities, towns and villages presently constitute legal bodies that must remain and become federated for their best future within a regional context. Branches of the Provincial and Federal Governments that might have an influence on the planning process are found in the centers of the region. Therefore, we must look at concepts of a provincial administration body at the regional level, as well as a legal institution or body consisting of representatives from the existing municipalities of the Madawaska Planning District.

J.-C. LaHaye as well as Tremblay support the concept of the French "Préfecture"<sup>79b</sup>. The Province of Quebec has brought to the Canadian scene a structure called "Development and Management Board" whose functions and powers will be "to act as a liaison agent between the Government Departments and bodies, in the execution of social

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<sup>79b</sup> In the Province of Quebec, it is called "Development and Management Board". Both concepts are now going to be studied.

and economic development programmes and projects as well as land management."<sup>80</sup> Obviously, this scheme is related to a larger area than the one that is being dealt with here: in fact, the structure is suggested for a large socio-economic region consisting of all Eastern Quebec.

La Haye's suggestion is more precisely related to a region fitting the description of the Madawaska Planning District:

... ..un organisme gouvernemental qui serait chargé de co-ordonner les programmes d'équipement élaboré par les divers ministères et d'assurer la transmission aux responsables de l'aménagement physique des informations qui y sont relatives.<sup>80</sup>

Tremblay is yet more specific:

The institutions of the French préfecture seems to be the ideal mechanism to bring about the co-ordination of each department's endeavours on the regional level. The prefect would be a high ranking official preferably attached with the department of planning or with the Minister's cabinet, who would elaborate the overall plan and also co-ordinate the individual plans prepared by the regional officials.<sup>81</sup>

By Department of Planning, Tremblay obviously speaks of a department with more jurisdiction than just Community Planning, but a department where all aspects related to the social, economic as well as physical planning would be centralized. This organization does not at present exist in New Brunswick, but an adequate substitute for the time being might be the Provincial Planning Board at the provincial level.

At the regional level, a "Regional Administrator's Committee",

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<sup>80</sup> LA HAYE, J.-C., L'Aménagement du Territoire, La revue Canadienne d'Urbanisme, vol. 16, no. 4, Hiver 1966, p. 17.

<sup>81</sup> TREMBLAY, Marc-Adélarde et al., ed., Rural Canada in Transition, Ottawa, Agriculture Economics Research Council of Canada, p. 382.

initiated in the fall of 1969 might be an adequate structure for administering the interdepartmental implementation of this scheme at the regional level. Further negotiation among the several departments represented in the region may give rise to that committee.

#### LEGISLATION AND PRESENT ADMINISTRATIVE STRUCTURE

Early attempts to extend planning schemes beyond municipal boundaries were done in St. John:

The city of St. John, New Brunswick, has obtained authority from the Legislature to prepare a scheme for an area of about 20,000 acres, of which about half is outside the city boundary. No objection was raised by the local authorities concerned, and only one objection was raised by an owner.<sup>82</sup>

This text, dated in 1917, illustrates the preoccupation for including larger areas than the city proper in the planning schemes.

A letter from the Director of the Community Planning Branch, dated March 2, 1970, shows that the present situation is not much different from what it was then in regard to community planning:

Regarding Regional Planning, the situation is as follows: Saint-John which was a district planning commission ceased to be one upon amalgamation and a study is now being considered to look at the <sup>area</sup> which is just outside the present city boundaries to see if it is possible to tie in the outlying villages with the city proper.

Moncton- The district planning commission covers an area within a radius of approximately 30 miles around the city, but there is hope to have prepared a comprehensive regional plan in the true sense of the word which will establish the true region of Moncton and set up the district planning commission to govern the whole area.

Fredericton- The capital District Planning Commission is functioning very well, but recent events whereby possibili-

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<sup>82</sup> ADAMS, Thomas, Rural Planning and Development, Ottawa, Commission on Conservation, 1917, p. 221.

ties of amalgamation are being examined may change the concept of the commission.

In the Northeast, the Lieutenant-Governor in Council recently established the planning commission for the Campbellton-Dalhousie area, the Newcastle-Chatham area and the Belledune area which is the six villages excluding the city of Bathurst. We hope to be able to establish district planning commissions in the Tracadie-Shippegan area this coming year.

These are the first attempts to implement urbanism in a regional context within the Province of New Brunswick.

In the new Madawaska Planning District, all the land within the region should in time be controlled by a regional body with the priority for control being the urban areas. Legal support exists favouring the formation of District Planning Commissions: Under the Community Planning Act, (Section 13) the Lieutenant-Governor may, upon the recommendation of the Provincial Planning Board order two or more municipalities to enact complementary by-laws to:

- (a) establish a planning district consisting of the municipalities and any other areas designated by the Board;
- (b) establish a district planning commission for the planning district and specify the name of the commission;
- (c) prescribe who may appoint and remove members of the commission;
- (d) prescribe the proportion in which funds are to be contributed by the council to the commission to meet the costs of district planning; and
- (e) regulate any matter incidental to the clauses (a) to (d).<sup>83</sup>

This piece of legislation is sufficiently flexible to permit the implementation of policies outlined in the previous Chapters. Map IX suggests that 14 municipalities throughout the District would be represented on this Planning Commission, which would be responsible for the implementation of planning regulations related to the

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<sup>83</sup> Community Planning Act, section 13, subsection II

use of the land.

## CONCLUSION

The major challenges of the Madawaska Planning District result from the settlement pattern whereby a low density of population with a multitude of small settlements have led to a lack of institutional entity at the regional level. Isolation afflicts the more remote villages and hamlets of the region, which have sometimes been the parasites of larger centers because of the fragmented and wasteful use of natural resources.

Assets are found in the presence of centripetal forces about Grand Falls and Edmundston, matched with a potential use of these centers as exploitation and conservation bases for agriculture and forestry respectively.

The life of new communities to be formed must be related to an adequate use of the resources. The solution lies in a polarized region where different levels of "villages-centres" will be developed. Industry should be centered in the two present nodes with the most potential, namely Edmundston and Grand Falls. The second level of "villages-centres" could support the surrounding settlements with essential services of community life, and eventually be the site for limited industrial opportunities if the use of resources permit. A limited number of incorporated villages could also continue to perform their role of centers for parishes, either as "villages-centres" 3 or as "unités-rurales", for as long as their performance is not judged by the population as being detrimental to the total

well being of the region. All levels of settlements will be harmonized into a polarized region, termed "ville-fédération", and integrated into the Madawaska Planning District according to criteria established by standards that have previously been tested elsewhere in Canada.

Various aspects of the life of the region had to be omitted from the content of this research, which is only a starting point to the further development of more specific schemes which will have to be co-ordinated according to the findings of this research. Among the most important aspects of this regional life are recreational activities, a more detailed land use study of agricultural and forestry land uses throughout the entire region; and more detailed land use studies of the settlements found in the region.

The French "préfecture" seems to be the most adequate structure to implement such a programme, which must be done in cooperation with agencies responsible for the social and economic development of the region. In this context, the role of the community planner remains to set up the most adequate physical arrangement of settlements for the carrying out of economic and social activities.

APPENDIX I

POPULATION OF SETTLEMENTS  
MADAWASKA PLANNING DISTRICT

Order	Settlements	Pop.	Order	Settlements	Pop.
1	Edmundston	12,517	39	Portage du Lac	142
2	Grand Falls	4,158	40	Ruisseau Caron	140
3	St.-Basile	1,818	41	Cliffordvale	138
4	St.-Léonard	1,635	42	Martin	134
5	Ste.-Anne de M.	1,258	43	Ruisseau Violette	134
6	St.-Jacques	944	44	Lac Unique	131
7	Vernet	894	45	Medford	124
8	Rivière-Verte	829	46	Gillès pie	122
9	Iroquois	829	47	Crockett	119
10	Clair	799	48	Ciquart	113
11	La Côte du Sault	607	49	Aroostock Portage	111
12	St.-François	570	50	California Settlement	110
13	Boucher	463	51	Moulin Pelletier	107
14	Flourde	437	52	Morneault	100
15	St.-André	418	53	Lac Baker Nord	97
16	New Denmark Station	320	54	Lévesque	95
17	Baker Brook	318	55	Chemin Coombes	94
18	Lac Baker	311	56	Concession des Viels	92
19	Bossé	310	57	Lavoie	92
20	St.-Hilaire	293	58	Moulin Côté	91
21	Prime	273	59	Bellefleur	89
22	Tilley	255	60	Lapointe	81
23	Siegas	248	61	Paradis	81
24	Rang St.-Amand	210	62	Bourgoin	75
25	Burgess	197	63	Patrieville	75
26	Drummond	184	64	Ouellette	74
27	Montagne de la Croix	181	65	Bell Grove	73
28	Four Falls	177	66	Soucy	70
29	Couturier	174	67	Orlonville	70
30	Woodville	174	68	Riceville	66
31	Blue Bell	174	69	Val Oaks	63
32	Davis	169	70	Lerwick	63
33	Thibodeau	163	71	Collin	62
34	Priceburg	162	72	Foley Brook	58
35	Parents	152	73	South Tilley	56
36	Powers Creek	149	74	Fleming	56
37	Connors	148	75	Biard	50
38	Albertine	147			

Source: 1966 Census of Canada.

APPENDIX II  
INCORPORATED AREAS  
OF THE MADAWASKA PLANNING DISTRICT

City

Edmundston

Towns

St.-Léonard  
Grand Falls

Villages

St.-François  
Clair  
Lac Baker  
Baker Brook  
Albertine  
St.-Jacques  
St.-Basile  
Rivière Verte  
Ste.-Anne de Madawaska  
St.-André  
Drummond

Local Service Districts

Under sections 24 and 25 of the Municipalities Act, the Lieutenant-Governor in Council establishes the various areas of the Province, enumerated below, as local service districts for the provision of the services contained therein:

Those parishes of Madawaska County, enumerated below, the boundaries of which are as described in the Territorial Division Act:

- (a) Parish of Baker Brook, excluding the village of Baker Brook, for fire protection;
- (b) Parish of Clair, excluding the village of Clair, for fire protection;
- (c) Parish of Lac Baker, excluding the village of Lac Baker, for fire protection;
- (d) Parish of Madawaska, excluding the City of Edmundston and the Local service District of Verret, for fire protection;

- (e) Parish of Notre-Dame de Lourdes for fire protection;
- (f) Parish of Saint-André, excluding the village of St.-André, for fire protection;
- (g) Parish of Sainte-Anne, excluding the village of Ste.-Anne de Madawaska, for fire protection;
- (h) Parish of Saint-Basile, excluding the village of St.-Basile, for fire protection;
- (i) Parish of Saint-François, excluding the village of St.-Francois for fire protection;
- (j) Parish of Saint-Hilaire, excluding the village of St.-Hilaire for fire protection;
- (k) Parish of Saint-Jacques, excluding the village of St.-Jacques, for fire protection and street lighting;
- (l) Parish of Saint-Joseph for fire protection;
- (m) Parish of Saint-Léonard, excluding the town of St.-Léonard for fire protection;
- (n) Vernet for fire protection and street lighting.

The Parishes of Victoria County, enumerated below, the boundaries of which are as described in the Territorial Division Act:

- (b) Parish of Denmark for fire protection and community services;
- (c) Parish of Drummond, excluding the Village of Drummond, for fire protection and community services;
- (e) Parish of Grand Falls, excluding the Town of Grand Falls, for fire protection and community services;...

Source: Regulation 68-94 under the Municipalities Act, (O.C. 68-849)  
(for Local Service Districts)

#### SERVICES

Any service deemed by the council to be expedient for the peace, order and good government of the municipality and for promoting the health, safety and welfare of the inhabitants of the municipality including, without restricting the generality of the foregoing, the following:

- (a) drainage;
- (b) fire protection;
- (c) Police protection;
- (d) garbage and refuse collection and disposal;
- (e) sewerage;
- (f) sidewalks;
- (g) roads and streets;
- (h) regulation of traffic;
- (i) community planning;
- (j) street lighting;
- (k) water;
- (l) parks;
- (m) community services and recreational facilities;
- (n) tourist promotion and development;
- (o) industrial development and promotion;
- (p) urban redevelopment and urban renewal;
- (q) housing; and
- (r) land assembly. 1968, c. 41, s. 47.

Source: Municipalities Act, section 200.

## APPENDIX III

### LIST OF FUNCTIONS USED FOR RETAIL STUDY

Auto Supplies	Stationery
Bulk Oil	Tires, Batteries
Chemicals, Paint	Women's Accessories
Dry Goods, Apparel	Bakery
Electric Goods	Family Shoe Store
Groceries Wholesale	Farm, Garden Supplies
Hardware	Lumber, Building Material
Industries, Farm Machinery	Motel, Hotels
Transport	Jewellery
Professional Service Equipment	Laundry
Paper	Mortuary
Tobacco, Beer	Appliances & Furniture
Drugs	Men, Boys & Women's Clothes
Lumber Mills, Construction	Garage, Auto Parts Dealer
Antiques	Variety Store
Sport	Meat, Fish, Fruit
Florist	Bank
Music	Hardware
Photo	Eating Place
Paint, Glass, Wallpapers, Ornamen.	Gasoline
Plumbing & Heating	Groceries
Radio & T.V.	

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