

Planning for a Better Quality Of Life In Cities

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Quality of Life in A Small Industrial City: A Longitudinal Study of Alma, Québec (Canada)

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Introduction

The investigation into the perception of Alma citizens with regards to the quality of life lie within the framework of "Modelling of follow-up for social impacts resulting from the construction of a new aluminium smelter in Alma". The first stage of this longitudinal and multimodal study consists in putting forward initial reference, i.e. a portrait of the Alma community before construction of the new smelter. This investigation pursues two goals: to know, the description of the perceptions of Alma citizens in relation to their quality of life and the effect of the future smelter on these perceptions. It was planned longitudinally, which will permit the follow-up of the citizens' perceptions and the verification of the extent of the realisation of their expectations over a period of five years, i.e. before, during and after the construction of the new plant.

The Territory Covered in the Study

The municipality of Alma, the territory covered in the study, is situated in the centre of what is known as a greater Québec outlying region, i.e. the Saguenay Lac St. Jean. This region boasts around sixty municipalities and a settled area of approximately 11 000 km².

During the 20th century, the economy has been based on the exploitation of forest and hydro-electrical energy resources. Traditionally the manufacturing industry and the presence of multinationals have been predominant. The transformation of alumina into primary smelted aluminium by electrolysis and the transformation of trees into timber (sawmills), into paper and cardboard (paper mills) represent the major industrial sector employers.

For about twenty years, the modernisation of electrolysis plants (aluminium smelters) and the mechanisation of forest and agricultural exploitation have led to major unemployment in the region, to the point where the cities of Chicoutimi and Jonquière have held, for several years, the highest Canada wide unemployment rate.

In Alma, a city of 26 000 inhabitants, in 1996, 14.5% of the population was unemployed. The announcement of an industrial mega-project has therefore aroused numerous expectations. The principal social and economic indicators of the territorial development of Alma show that, compared with those of the regional municipality of Lac-Saint-Jean-Est (MRC LSJE) and those of the region, the locality has a slightly better economic performance (see table 1). However, these results must be compared with cities of the same size, with similar functions.

Table 1: Alma Social and Economic Indicators, 1996

Territory	Alma	MRC LSJE	Region SLSJ
Number of inhabitants	26 127	52 401	286 648
Territory surface area	109 km ²	2 733 km ²	105 562 km ²
Population variation rate between 1981 and 1996	-0.75 %	0.5 %	3.7 %
Average accommodation value	\$75 133	\$67 273	\$68 438
Percentage of the population with a high school leaving certificate	20.5 %	19.5 %	18.7 %
Unemployment rate	14.5 %	17.2 %	15.3 %
Job/population ratio	50.8 %	47.9 %	43.7 %
Household revenue	\$42 023	\$39 827	\$39 795
Percentage of people with job earnings	74.4 %	72.2 %	73.9 %
Percentage of people receiving government transfers	17.5 %	20.6 %	18.8 %

Source: Statistics Canada, 1996.

The Concept of Quality of Life

Interest for the quality of life study seems to have existed for a long time. Thus, according to the *eudaimonia*¹ concept of classical Greece,

individuals were called upon to realise their full potential in order to secure themselves 'a good life'. Three important philosophic traditions shaped the definition of the quality of life (Diener and Eunkook, 1997). The first, of a normative nature, describes ideas based on religious, philosophical or other systems. It gave birth to the social indicator approach used in social sciences. The second tradition, based on the satisfaction of personal preferences, postulates that individuals will select, within available resources, those which will secure for them the best possible quality of life. This utilitarian approach to life based on individual choices underlies modern economic thought. Finally, the third tradition refers to individuals' personal experience and the quality of life is associated with the individuals' subjective well-being; this acceptance of the quality of life is used especially in behavioural sciences.

The definition of the concept of quality of life is therefore relative to the considered conceptual model. Cutter (1985), for instance, defines it as 'the bliss or the individual satisfaction with regard to life and environment, including the needs and desires, the aspirations, the preferred lifestyle and other tangible factors'. On the other hand, McDowell and Newell as cited in Dennis, Renwick, Brown and Rootman (1996) suggest that it refers to the 'appropriateness between material circumstances and individuals' feelings in relation to these circumstances'. Finally, Schwab as cited in Bates, Murdie and Rhyne (1996) proposes that the quality of life '... is the difference between what should be and what is found in a community – the difference between the goal and the evaluation... the measure of the quality of life requires analysis of the objective conditions, just as the subjective evaluation of these conditions in a given place and their comparison with several places'. This latter definition underlies the approach to the investigation of which we are presenting the results, as well as the general triangulation approach to the objective and subjective data.

Methodology

Investigation objectives and dimensions

The investigation set its sights on two particular objectives, i.e. to paint a portrait of the state of perceptions relating to Alma citizens' quality of life and to verify the impact of the future Alcan aluminium smelter project on those perceptions. There are thirty five questions in the

questionnaire administered by the interviewers. Five dimensions of the respondents' lives were inventoried, i.e. personal characteristics, the constituent elements of the quality of life, physical environment, accommodation and economic conditions (cf. Table A, Annex 1).

Population targeted by the investigation and sampling plan

The population targeted by the investigation is made up of the all the citizens residing in the municipality of Alma territory as a whole as registered in the 1996 Statistics Canada census., i.e. a total of 26,136 persons. The sampling plan adopted for the investigation consisted in determining for the 37 census districts of the municipality of Alma, sample sizes with a margin of error no greater than 5% on a municipal level with 95% reliability. A random autoweighted census district (implicit stratification) was put together by the Quebec Geomatic Centre.

Data collection and processing

Data collection was carried out by a team of five interviewers between 27 February and 6 March 1998 in the municipality of Alma with a sample representative of the citizens of the municipality. The interviewers set about questionnaire codification and data processing was carried out by two students who double checked the processing. The initial sample was made up of 266 subjects who were invited to participate in the investigation. Of this number, 214 accepted, i.e. an 80% response rate.

Result analysis plan

A first analysis of the results allowed for the production of statistics applying to the sample. We then initiated data weighting and post-stratification, so that the results presented in this report are the parameters permitting the statistical inferences at population level.

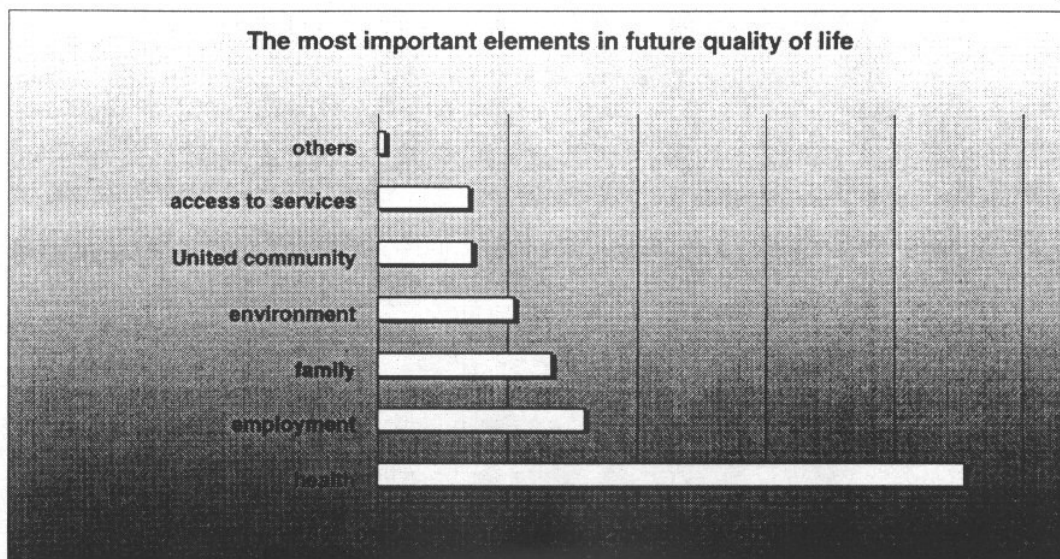
The Results of the Investigation

Health and employment make up the Alma citizens' quality of life

A first note of importance ensuing from the investigation results show that Alma citizens - nearly 98% - have a very positive general perception

of their present quality of life. Alma citizens identify health as being the most important positive element of their quality of life, while conversely, employment and health, could negatively affect their quality of life more than any other cause. Called upon to consider their future quality of life, they once again identify health and employment as the determining elements. All in all, the expectations relative to the future quality of life are founded on the same criteria as the present quality of life, i.e. health and employment (*cf.* figure 1).

Figure 1



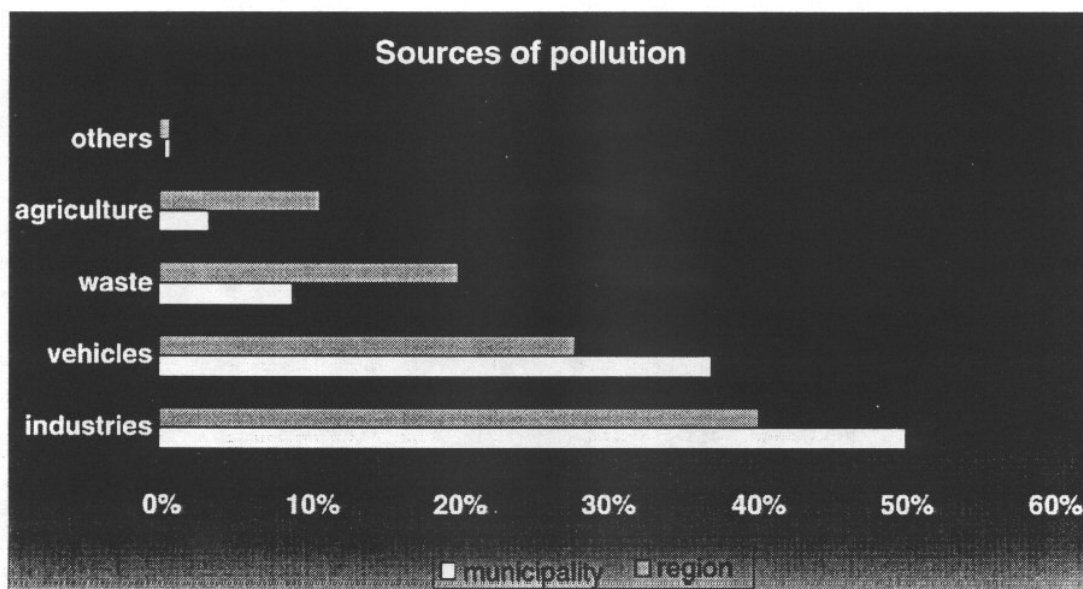
Moreover, half of Alma citizens say they have modified a way of life in order to improve their quality of life in the last five years. Two times out of five, these ways are related to health (stopping smoking, exercising, etc.). Finally, asked to form an opinion on the impact on their quality of life of the construction of the new Alcan aluminium smelter, a majority of citizens (69%) claim that the new aluminium smelter will improve their quality of life.

Positive evaluation of the environment

Globally, the Alma citizens, have a very positive evaluation of the accessibility and quality of their physical environment (air, water, green areas). More than two out three citizens consider that the environment of their neighbourhood will remain stable and one out of two even predict

improvements. However, one out of every four Alma citizens, perceives health risks in the environment and among the last-mentioned, two thirds associate these risks to industrial pollution. More specifically, the greatest sources of pollution in the municipality would be due to industries and motorised vehicles (cf. figure 2). Alma citizens therefore have a positive vision of the quality of their environment, but they nevertheless attribute the major causes of municipal pollution to industrial activity.

Figure 2



Accommodation and settling in the milieu

The size of the accommodation allows us to characterise the citizen's commitment to his neighbourhood, to his town. So, the majority of Alma citizens (eight out of ten) are owners of their accommodation and 72% of citizens have never moved, compared to 15% who have moved at least once. We must emphasise that in 1991 in Quebec, the proportion of the population having moved during the last five years was 44%, in Saguenay-Lac-Saint-Jean, this proportion was 36% for the same year, which places our result (28%) below the regional datum (Pageau, Ferland, Choinière and Sauvageau, 1997). In reference to the number of accommodation occupants, two similar sized sub-groups of the population have different profiles. So, the first third of the population occupies its accommodation in twos, whereas the second group end up

four to an accommodation. In reference to the time of accommodation occupation, the same phenomenon may be observed. Nearly one third of the population has been occupying its accommodation five years and less, while 40% of Alma citizens have been residing at the same place sixteen years and more. Faced with the hypothetical possibility of leaving their present place of residence, 29% of Alma citizens would indeed do it.

The major reasons put forward are relative to the dwelling itself (too small or too big) and the desire to improve their environment and social and cultural life. Conversely, the Alma citizens identify the closeness of their accommodation in relation to the services and the quality of their environment and dwelling as being the two principal reasons for holding onto their present accommodation.

Economic conditions that will improve

The last dimension of the study concerns the Alma citizens' perceptions in relation to the present and future economic situation in the municipality and region. According to 78% of Alma citizens, the present employment possibilities are just as bad in the municipality as in the region. But things should improve in the future, according to 84% of them (cf. figure 3). The only fly in the ointment is that road traffic could well deteriorate according to three out of five citizens.

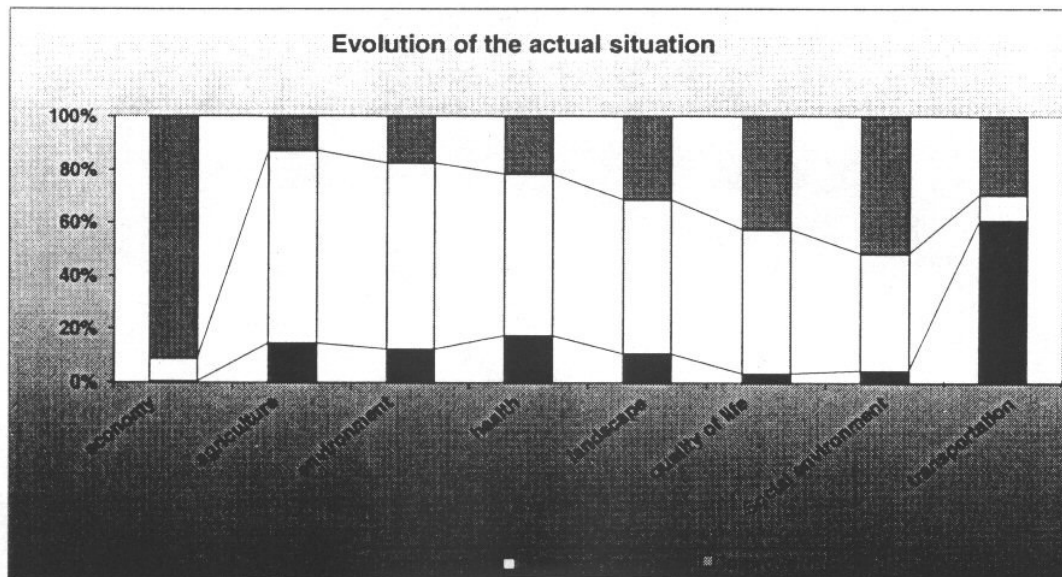
Conclusion

The objectives of the investigation on the quality of life were directed at knowing the Alma citizens' perceptions concerning their quality of life and measuring the impact of the new plant on these perceptions. The principal conclusions of this investigation are to the effect that the present and future quality of life of Alma citizens is linked to health and employment. It is also obvious that the perception of the new plant is positive as regards the citizens' quality of life. But the industries are identified as being the major source of regional and municipal pollution. Finally, Alma citizens are expecting jobs and fear the deterioration of transport.

The portrait of these perceptions presented in this report will be compared with available data obtained by objective indicators within a comparative analysis schema. Moreover, a similar investigation will be

repeated before the end of the plant's construction, as well as after its activation, which should give rise to an analysis of the chronological series. We envisage that the results of these analyses, linked to those produced for the other variables at study, could be used to constitute impact modelling.

Figure 3



Acknowledgements

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Note

1. Eudemonism is the theory of happiness considered as being supreme.

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