ALCOHOL PROBLEMS AND RESOURCE DEVELOPMENT IN ATIKOKAN, ONTARIO: BENIGN EFFECTS OR INSUFFICIENT INFORMATION?

NORMAN GIESBRECHT

and

DIANE McKENZIE

Social Policy Research Department

Addiction Research Foundation

Toronto, Ontario

ABSTRACT

The monitoring of the potentially damaging impact of primary resource development on local or host communities is essential to good community planning. The Township of Atikokan negotiated an agreement for a community monitoring program with Ontario Hydro in 1978 prior to the construction of a generating station and the influx of a large transient workforce. The agreement provided for annual monitoring of socio-economic indicators, including alcohol and drug use, and related social changes reflected in public order and public health data. The monitoring data is complicated by the convergence of two social changes—the closing of the iron ore mines and the ongoing construction of the Hydro generating station.

The results suggests that the monitoring of social impacts of rapid development require the use of conventional as well as more elaborate data-gathering techniques, with observation and survey methods as key components. In addition, temporal and organizational concerns indicate the need for longitudinal planning of impact assessment and the separation of social and economic investigations.

INTRODUCTION

Although primary resource extraction has been a central component of the Canadian economy for a century, the potentially

Acknowledgements: The authors wish to acknowledge the contributions of Sydney Hancock, Planning Coordinator, Township of Atikokan, and Don Falconer, Dave Hardy and their colleagues at Ontario Hydro for facilitating data collection on alcohol and drug aspects in the context of the general monitoring study.

Special thanks are in order to the staff of agencies and organizations in Atikokan who provided access to regular statistics or undertook special tabulations for this study.

damaging impact of development on local or host communities and their economies has been studied only recently. Canadian studies have focused primarily on oil and gas extraction and shipment, and the production of hydro-electric power (e.g., Berger, 1977; Lysyk, Bomer and Phelps, 1977).

Primary-resource development has been particularly problematic because the "bust" aspect of development follows closely behind the "boom" economy. Benefits from increased employment, consumer demand and housing activities are generally short-lived in most development contexts.

A large-scale construction phase typically involves transient, highly-skilled workers and

capital intensive materials and equipment. The intensive activity usually subsides just as the community is equipped to absorb the larger population. The operational phase of these projects require a small group of highly trained technicians, precluding substantial participation of local workers.

Social impact assessment, with joint participation by community and industrial interests, is essential to good planning to absorb a temporary work force particularly in terms of adequate housing, road access, and health and recreational facilities. Rapid growth communities that have not anticipated the aspects of development are likely to be characterized by high rates of social and public order problems as well as lack of capital to deal with them.

Heavy drinking, drug use and concomitant problems are commonly noted among the social problems linked to rapid economic development. Higher rates of alcohol consumption are associated with the prevailing economic, demographic, environmental and social factors typical of rapid growth communities (see Giesbrecht and Macdonald, 1982; Giesbrecht and McKenzie, 1982). Municipal and corporate planning is essential to reducing these potential detrimental effects and monitoring of emerging social problems provides a basis for planning interventions as the negative impacts become apparent.

This study explores a case of rapid social change in a small Northern Ontario community focussing on alcohol consumption, demographic and economic characteristics of the community, and public and health related indicators associated with alcohol and drug use.

THE COMMUNITY AND THE MONITORING PROGRAM

Atikokan is located about 170 kilometers west of Thunder Bay, on Highway 11 and near the United States border. Initially a railroad town, it has been predominantly a

resource-based single industry mining town since the mid-1940s. The fortunes of the town have fluctuated with the changing world of markets of the iron-ore industry. The population is about 4,500.

Community leaders in Atikokan have been committed to protecting the town from the negative influences of the "boom" or "bust" economy. In the past, they have successfully buffered the impact through anticipation and good planning. In 1978, prior to the construction of the coal-fired generating station, the township negotiated an agreement with Ontario Hydro. The agreement stipulated that annual monitoring of specific indicators of community impact was to be conducted throughout the construction phase of the station, and also specified how the Township and Ontario Hydro might negotiate adequate compensation for negative impacts (Township of Atikokan and Ontario Hydro, 1978). As one area of the larger monitoring study the Addiction Research Foundation was requested to assist in the monitoring of alcohol and drug use and related social changes in the community.

MONITORING OF ALCOHOL AND DRUG PROBLEMS

After considering a wider range of data sources, several variables unequivocally related to alcohol and drug problems were studied:

- (1) Liquor and beer sales;
- (2) Police statistics including total offences and specifically reported occurrences and charges laid for
 - (a) Liquor License Act,
 - (b) drinking and driving,
 - (c) illicit drugs,
 - (d) violent crimes, and
 - (e) wilful damage;
- (3) Hospital and clinic data tabulated for the monitoring project on six demographic categories, namely,
 - (a) alcohol intoxication,
 - (b) alcohol dependence,

- (c) alcoholic psychosis,
- (d) drug overdose,
- (e) drug dependence, and
- (f) drug psychosis; and
- (4) Tabulations of alcohol or drug related problems by social, mental health, public health, welfare and children's aid services.

Plans to collect other related information via a community survey, and information on prescription drugs were abandoned due to cost, lack of staff and collaborative support.

RESULTS AND INTERPRETATION

The data tabulated to date are summarized in the three categories: alcohol consumption, public order and public health. The community is quite small and the low number of cases—particularly with regard to police and hospital data—must be interpreted with caution. Nevertheless, the importance of the changes noted should not be entirely discounted because of the low numbers.

Alcohol Consumption

Annual alcohol consumption, calculated by aggregating spirits, wine and domestic beer sales was expressed in litres of absolute alcohol. The population base aged 15 and over included estimates of persons from surrounding areas who would be purchasing their liquor in Atikokan, as well as a weighted yearly average of the contract and transient labour employed by Ontario Hydro.

Alcohol consumption in Northern Ontario is generally higher than the provincial rate. In 1979 the rate for the Rainy River District where Atikokan is located was 13.97 litres per adult while the provincial level was 11.57 (Rush, Macdonald and Giesbrecht, 1982). Alcohol consumption rates in Atikokan were generally representative of the Rainy River District before 1976 but fell substantially after 1976. In 1979, however, the Atikokan rate rose sharply and the two were similar for that year. Both rates increased in 1980 with

the District rate rising more sharply; both rates levelled off in 1981.

In commenting on this anomalous increase in alcohol consumption rates for Atikokan in 1979, the Annual Report on the Community Impact Monitoring Program notes that in "1979, the event contributing the greatest amount of social and economic change in Atikokan was the closure of the iron mines." It is noteworthy that while the District rate declined from 14.5 to 14.0 litres of absolute alcohol per adult, the Atikokan rate increased from 13.0 to 13.5. Closing the iron ore mines in Atikokan may have contributed to the increase for two reasons: increased anxiety or despondency among the townspeople directly affected, and increased frequency of celebration in conjunction with a migration of about 10% of the population following the mine lay-offs in 1979.

However, both the Atikokan and District rates increased in 1980. In Atikokan, the changes may be related to an improved economic climate for small industry and the construction of the generating station. Alternatively, the final mine lay-offs in 1980 may also have contributed to the increased alcohol consumption.

The stabilization in the consumption rate in 1981 may affect both normalization following the lay-offs, primarily younger and middle-aged adults left town, representing an out-migration of the age-cohorts which typically have higher numbers of heavy alcohol consumers.

In short, while the fluctuations in the alcohol consumption rate are noteworthy, the convergence of the two social changes—the closing of the mines and the ongoing construction of the generating station—complicate the analysis of aggregate data. In the absence of primary data such as repeated surveys, any interpretation is tentative.

Public Order

In Atikokan the crime rate for reported of-

fences dropped from 390 to 239 per 1,000 adults between 1978 and 1981 and charges declined from 239 to 81. The specific offence categories declined as well. Alcohol and drug cases declined from 18% to 15% of total offences; however, as a percentage of total charges, alcohol and drug cases increased from 28 to 41 per cent.

A year-by-year examination of the data indicates interesting fluctuations. Although there was very little change in the overall rate between 1978 and 1979, there were substantial increases in drinking and driving charges (+20%) and drug offences (+47%) and in alcohol or drug charges as a percentage of the total.

Between 1979 and 1980 there was a dramatic drop in both the overall rate and the specific categories examined. The crime rate dropped 30% from 40% to 278 for reported offences and 37%, from 245 to 154 for charges. Decreases were evident in all categories, with the percentage changes of approximately 50% in several instances. In 1981, a stabilization in certain offence categories occurred; the overall rate of offences declined by 7% from the previous year, and the rate of charges dropped by 47%. Nevertheless, alcohol and drug charges rose from 23% to 41% of total charges, and wilful damage appeared to be increasing (reported offences increased 43% from 120 to 171, and charges increased from 6 to 24).

Initially, the findings from the public order data show no strong evidence of patterns attributable to either the mine closures or the Hydro plant development. For example, between 1978 and 1979, during the largest lay-offs from the mines, the reported offences and charges changed very little. There were no overall increases in crime associated with the expansion of the workforce involved in the Hydro project. The substantial drop in all crime categories between 1979 and 1980 is difficult to explain in either context. However, a reasonable explanation is that there was a change in police activity.

Nevertheless, M.B. McInnis, Chief, Atikokan Township Police, has suggested in a personal communication that there were several years of social upheaval and legal confrontations prior to the lay-offs. According to Chief McInnis the 1979-1980 tabulations represented "normalization" of police activity. This suggests that using 1978, the year prior to the lay-offs as the baseline data for the public order assessment involved insufficient temporal coverage to detect significant behavioural changes in the community.

Public Health

Regular monthly data on cases involving alcohol and drug problems were provided by the Atikokan Hospital, the Atikokan Clinic, the Mental Health Services, Family and Children's Services, the Welfare Administrative Board and the Transition Counsellor. It should be noted that the six diagnostic categories specific to alcohol and drug problems failed to account for alcohol as a secondary diagnosis or contributing factor to such other conditions as gastrointestinal, cardiovascular, or neurological disorders or in such incidents as alcohol related violence or accidents.

Despite these limitations, analysis of the alcohol and drug specific data showed that admissions to hospital declined from 1978 to 1980 and increased sharply in 1981. The fluctuation in the number of patients was less dramatic. The greatest fluctuations are due to changes in the male admissions which went from 62 in 1978 to 39 in 1980 and up to 61 in 1981. Female admissions increased each year from 33 in 1978 to 48 in 1981 with the greatest increase in the last year.

It should be pointed out that overall alcohol and drug admissions comprise a very small proportion of the hospital's total caseload—about 1-2% for emergency cases and about 3% for in-patient cases.

Male-female ratios for alcohol and drug admissions declined between 1978-79 and

1980-81 suggesting that women in the community were becoming increasingly involved in alcohol and drug-use behaviour. The overall male-female ratio for the period was between 2:1 and 1:1. In 1980, alcohol-related female admissions increased by 18% over 1979 while male admissions decreased by 37%. However, by 1981, the male-female ratio increased again, suggesting that women were adapting better to the economic and social pressures of the mine closures and the population exodus that occurred in both 1979 and 1980.

A shift has occurred in the age composition of admissions to hospital for alcohol and drug-related problems. In 1979, individuals in the middle-aged categories increased substantially over 1978 while admissions under 30 and over 50 declined; the 1981 admissions for males aged 30 to 49 declined by 30% and males under 30 increased by 17%.

Contrary to initial expectations, drug diagnoses were generally more common than alcohol diagnoses. Alcohol cases declined dramatically in 1979 (12 out of 85) and remained at this low level (14 of 109 in 1981). Alcohol diagnoses were slightly more common among male than female admissions.

In contrast to the Atikokan General Hospital and the Atikokan Clinic where the alcohol and drug-related cases make a small proportion of the total, the Mental Health Services has a substantial proportion of cases involving alcohol and drug problems. In 1978, 30% of their contacts were alcohol-related, however, the absolute proportion diminished in the following years because of an expansion in the caseload showing 13% in 1979 and 17% alcohol-related cases in 1980.

MONITORING ISSUES

The study of alcohol and drug problems in the context of recent changes in Atikokan, provided an opportunity to identify several important issues relevant to the monitoring of social problems. These involve the following: (1) scope and focus of the monitoring procedures; (2) methods of data collection;

(3) the time-frame of the monitoring study; and (4) organizational matters.

Scope and Focus

A major shortcoming of this study was that the variables selected and the data tabulated were mainly oriented to measuring only the most extreme and harmful aspects of alcohol and drug abuse in the community. Regular official statistics, or special tabulations by professional personnel focussed exclusively on categories unequivocally linked to consequences of alcohol or drug use. The inclusion of alcohol-secondary or tertiary diagnoses would identify more cases, and of course, a higher proportion of total contacts with alcohol or drug involvement.

Monitoring studies account for the acute or transitory problems related to drinking as well as the serious alcohol-related diagnoses. Also, since the time-frame of most monitoring studies is fairly short (a few years), some of the chronic problems related to social change will not be detected during the course of the monitoring.

Methods of Data Collection

Both anticipated and unanticipated shortcomings in the monitoring program indicate the need for improved methods of data collection. Not a single data series allowed for the unqualified linkage between the closure of the mines, or the expansion of the workforce related to the hydro projects and a specific indicator. Conversely, there were enough data irregularities that the results did not allow us to claim that no such linkage existed.

Each data set posed problems for interpretation. The consumption data did not indicate who was actually drinking. The police data series was too short to establish pre-development "baseline" figures. Finally, the public health categories selected for tabulation were subject to diagnostic inconsistencies and were too specific.

In retrospect, had some additional investigations been conducted, interpretations could have been made with more confidence. For instance, a survey would determine who actually was drinking, how much, why they drank, and what the real consequences were. Regular and frequent on-site observation would improve the capacity to interpret the data more accurately. Furthermore, a baseline survey, with one or two follow-up surveys would have substantially increased our understanding of changing consumption rates, patterns of drinking and problems related to heavy consumption.

Time-Frame

Since planning of the logistical, engineering and economic aspects of development precedes implementation by several years, it is feasible to initiate baseline data collection of alcohol and drug use several years before the on-site activity is initiated.

In general, where the number of cases is low and fluctuations from year to year are common even under stable social conditions, it is particularly important to seek several data points for the pre-development period. The same would logically hold true for interpreting the data from the post-development period.

Organization

A number of organizational issues are relevant to the methodology, quality of data collected, and interpretations of the findings. While it is beyond the scope of this paper to examine this topic in detail, several questions are raised. There are few easy and no final answers.

Should "social problems" monitoring be conducted as one aspect of overall socioeconomic impact analysis or be handled separately? The unique conceptual, methodological and political issues of studying social issues in these contexts may be the basis for justifying a separate study. The combined approach may be desirable on the basis of efficiency in obtaining funding, legitimation at the community level, and so on. However, in some impact studies the social issues tend to be given low priority (see Giesbrecht and Macdonald, 1982).

Should "social problems" monitoring be reported separately from other aspects of the community monitoring, or documented in joint reports? Separate reporting may increase the visibility of social issues, while joint reporting facilitate comparisons between various data sets and topics used in the monitoring study providing an opportunity to obtain a balanced and more comprehensive perspective. However, social problems might receive a higher priority via a separate report or one in a series.

Should the "social problem" monitoring be under the same organizational umbrella as other aspects of the monitoring? Several combinations and permutations are possible in this context, ranging from a single study conducted by the development company which also provides the funding, to several independent studies conducted by several groups with multiple funding arrangements. Each approach has advantages and disadvantages in administration, impact on the community, duplication of effort (or conversely, oversights in design) and biased interpretation as a result of vested interests.

RÉSUMÉ

Les répercussions négatives possibles de la mise en valeur des richesses naturelles sur les communautés locales ou les localités hôtes peuvent être étudiées dans le cadre d'une évaluation permanente des répercussions sociales. Une telle étude s'avère essentielle pour une planification adéquate. Le canton d'Atikokan a négocié un accord en vue de l'application d'un tel

programme d'évaluation communautaire avec l'Hydro Ontario en 1978, avant que ne débute la construction de la centrale à Atikokan, laquelle a occasionné la présence d'une main-d'oeuvre transitoire considérable. L'accord prévoyait le contrôle annuel de certains indicateurs, dont la consommation d'alcool et de drogues et les changements sociaux concomitants en ce qui a trait à l'ordre public et les statistiques sanitaires. La convergence de deux changements sociaux, à savoir, la fermeture des mines de fer et la construction de la centrale de l'Hydro, viennent cependant compliquer l'analyse des données.

Cette étude nous a permis de cerner plusieurs questions importantes qui sont liées au contrôle des problèmes sociaux. Or, les résultats semblent indiquer que le contrôle des répercussions sociales d'un développement rapide nécessite l'utilisation de techniques de cueillette de données davantage conventionnelles et élaborées accompagnées notamment de composantes capitales telles que des méthodes d'observation et d'enquête. En plus, les soucis de temps et d'organisation démontrent le besoin d'une planification longitudinale quant à l'évaluation des répercussions ainsi que la nécessité de séparer les investigations sociales et économiques.

REFERENCES

- Berger, T. *Northern frontier, northern homeland. The Report of the MacKenzie Valley Pipeline Inquiry, Volume One*. Ottawa: Ministry of Supply and Services, Canada, 1977.
- Giesbrecht, N. and Macdonald, S. Alcohol problems in conjunction with resource development in northern Canada: Control issues and research policies. *Contemporary Drug Problems* (in press).
- Giesbrecht, N. and McKenzie, D. *Frontier drinking tradition: Continuities and change in the face of resource development*. (Paper presented at the International Group for Comparative Alcohol Studies, First Meeting, October 17-23, 1982, Konolfingen, Switzerland.)
- Hancock, S., Hardy, D., Giesbrecht, N., McKenzie, D., Kairow, I., Lockart-Grace, J. and Smith, M. *Community Impact Monitoring Program: Fourth Annual Report for the Year 1981*. Atikokan, Ontario.
- Hancock, S., Hardy, D., Giesbrecht, N., McKenzie, D. and Menard, B. *Community Impact Monitoring Program: Third Annual Report for the Year 1980*. Atikokan, Ontario.
- Hancock, S., Falconer, D., Campbell, S., Giesbrecht, N., Lockart, J. and McKenzie, D. *Community Impact Monitoring Program: Second Annual Report, 1979*. Atikokan, Ontario.
- Hancock, S. and Walker, J. *Community Impact Monitoring Program: First Annual Report, 1978*. Atikokan, Ontario.
- Lysyk, K., Bohmer, E. and Phelps, W. *Alaskan Highway Pipeline Inquiry*. Ottawa: Ministry of Supply and Services, Canada, 1977.
- Rush, B., Macdonald, S. and Giesbrecht, N. *Estimating the number of alcoholics in Ontario: An analysis by county*. Toronto: Addiction Research Foundation Working Paper Series, 1982.
- Township of Atikokan and the Ontario Hydro. Agreement re: Atikokan Community Impact Monitoring Program; 1978.