

## PSYCHO-SOCIAL PROBLEMS ASSOCIATED WITH RESOURCE DEVELOPMENT IN THREE NORTHERN NATIVE COMMUNITIES

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### ABSTRACT

Analysis of data from three contrasting northern resource developments showed differing patterns of psycho-social stresses on native populations. At Coppermine, many Inuit employees travelled to distant work sites with frequent rotations between home and work. Relatively few North Baffin Inuit travelled to the lead-zinc mine at Nanisivik for lengthy periods in camp. In contrast, the Syncrude developments in the Fort McMurray area affected native community life over a broad region and particularly in Fort MacKay. The Coppermine and Nanisivik experience indicated that rotation employment was the source of most disruptive impacts; whereas the experiences of Fort MacKay illustrated major negative impacts to communities in close proximity to major resource developments.

This paper presents an overview of the information available on three contrasting northern resource developments and on the resulting differences in psycho-social impacts on native communities.

Employment of Inuit in oil exploration at Coppermine involved many men working at distant work sites, rotating between home and work at frequent intervals. A number of North Baffin communities sent relatively few Inuit workers to the Nanisivik lead-zinc mine for periods of six or more weeks at a time. During the Syncrude construction project, in northeast Alberta, some local natives were employed. In addition, all the small communities in the area were greatly affected by the very large transient construction force and the impacts experienced by Fort McMurray which provides important service functions for the whole region.

### BACKGROUND

The traditional cultures and personality characteristics of Canadian Dene and Inuit

include positive and negative aspects in adapting to resource development projects. Traditional ways of dealing with emotion and with interpersonal stress are paramount. The Inuit ideal was to maintain imperturbably good humour at all times and to avoid irritation or anger and to maintain equanimity in the face of considerable provocation. When accumulated emotional pressure overrode the controls, violent lashing out or running amok would result. The expectation of emotional control was perhaps more characteristic of the Inuit than the Dene, but in both this pattern was the accepted ideal and loss of control was seen as childish.

When tensions developed between individuals or groups that could not be ignored, people sought to avoid a confrontation that might jeopardize the fragile solidarity and the cooperative relationships uniting hunting-gathering hands. One of the parties would withdraw, moving his household to a distant site (Savishinsky, 1974).

Thus, the native person involved in in-

dustrial employment, will not exacerbate a minor conflict by heatedly "talking back," and will withdraw from a situation in the event of mounting conflict. In addition the solidarity of kin insures native people of the support and loyalty of immediate and extended families. The lack of the competitive achievement pressures experienced by southern whites is also beneficial.

These may all be strengths for many employed natives. Most native people have made the transition from a semi-nomadic, bush or tundra-based existence to a settlement-based existence within the past 20 years. The cultural and social adaptations to town life are not yet adequately worked out. Thus there are many environmental stresses associated with their recent movement into established settlements, including increased surveillance and control by whites, culture shocks induced by new merchandising, communications and transportation facilities, the disorganizing consequences of residential schooling, and the dangerous pleasures of liquor consumption.

The settlement way of life often brings with it many more expectations and constraints even though it may offer valued services (nurses, social workers, teachers).

The rapid change and culture shock are well symbolized by the live television reception, by displays of consumer goods, improved access to and from the community by road or by scheduled air service. Residential schooling for several years for native children may have resulted in personal consequences never really assessed.

The alcohol-related problems of native communities are so well known that there is no need to elaborate on them here. But alcohol abuse interacts with previously mentioned conditions, the tendency to bottle up emotion, use of withdrawal as a technique for dealing with incipient conflict, the oppressive feelings of inescapable surveillance, the accelerating intrusions of southern culture. All of these contribute to tensions

and pressures. Alcohol consumption sometimes appears an attractive release, but with damaging consequences.

While native people have some distinctive resources, their typical home situation is considerably more stressladen than that of most southern Canadians, and their learned procedures for coping may be less adequate in some ways than those of most southern Canadians.

## SOURCES OF INFORMATION

In this paper we draw on the findings of three studies, two in the Northwest Territories and one in northeastern Alberta. The most comprehensive of the three has been the Coppermine study from 1972-1979 (Hobart, forthcoming). Data were obtained on the impact of exploration employment. This included several indicators of community health obtained from community surveys and from a wide variety of sources. Obtaining measures of psychological effects proved difficult and those available were only suggestive.

The second study was the attempt to assess the effects of employment at the Nanisivik Mine on northern Baffin Island on Inuit workers and their home communities (Baffin Region Inuit Association, 1979). Data were obtained from workers' employment records, from two surveys conducted over a four-year period of current and former workers and their families, and from government administrative statistics.

The third study investigated the impacts of the Syncrude oil sands project on a small (210 people) native community, Fort MacKay, 15 km from the construction site. Information came from various administrative statistics, from an excellent community study of Fort MacKay by Van Dyke (1978) and from interviews conducted in the area by the author.

It should be noted that all three of these studies suffered from a dearth of basic data as administrative statistics are frequently aggregated on a regional basis.

The low frequencies of many impact indicators found in very small communities also presented a problem. Such frequencies, inherently unstable, pose a more difficult problem of data assessment than in the case of larger communities: increased frequencies may or may not be due to the project. Confident judgements can only be drawn after study of other comparable situations.

### COPPERMINE

Coppermine, a small settlement of 800, predominantly Inuit, inhabitants, lies on the Arctic coast about 775 km east of Inuvik. It was a traditional community where industrial employment was unknown. However, from 1973 through 1978 during the winter and spring drilling season, between 50 and 90 Coppermine Inuit were employed at drilling camps in the Mackenzie River Delta. They worked at the drilling sites for two weeks, and then returned home for one week. Thus, the community was well buffered from direct contact with the drilling project.

It was possible to monitor precisely the earnings from development, the volume of liquor imports, and some indicators of health and social problems. These indicators included (1) violent woundings, (2) respiratory infection rates among infants and pre-schoolers, indicators of the quality of parental care, (3) the DFM index of damaged, filled and missing teeth among school children, and (4) crimes known to the police. Annual interviews with the local nurses and two community-wide surveys provided information on some health-related consequences of exploration employment.

Coppermine findings over eight years of oil employment present an interesting pattern. A 29 percent increase in liquor consumption, liquor-related violent woundings, particularly centered on married women apparently suspected of adultery by their absent husbands, was noted the first year. However, both liquor consumption and violent wounding declined thereafter. By 1975-76 both were at levels *below* those found prior

to oil employment. Both rates tended to increase once more after employment terminated in 1978. It may have been the transitional stresses associated with the onset and the termination of employment which helped induce increased consumption and the accompanying violence.

Crime rates showed steady significant increases, though Coppermine rates remained lower than in the Mackenzie Delta communities. Other influences may have come into play such as the increase in size of the R.C.M.P. detachment, increased availability of telephones, and an increased willingness among the Inuit to call for police assistance.

Comparison of the respiratory infection rate for small children prior to the onset of exploration with the rates during and after the employment years showed no indications of increased child neglect. Comparison of the data on damaged, filled and missing teeth for school children in Coppermine and Eskimo Point, a comparable community lacking industrial employment experience used as a control, showed slightly higher rates in Eskimo Point. During interviews, respondents reported that rotating workers had introduced no disease contagion into the community. There were no indications of other increases in morbidity conditions during the employment period.

Employment of many men by the oil industry did not result in any shortages of fish or game foods in the community and fur harvests appeared better than usual. The likely explanation is the increase in the varied equipment (skidoos, boats and outboard motors) necessary to harvest fish and game more efficiently, purchased with oil company wages.

These findings are not unique and match Roberts' results in 1975 of the effects of Pan Arctic employment on Arctic Bay and Pond Inlet (Roberts, 1977).

### THE NANISIVIK MINE

The Nanisivik Mine is an underground



lead-zinc mine operated by Nanisivik Mines, Ltd. in northwest Baffin Island, about 32 km from Arctic Bay, a small Inuit community. Construction of the mine started in 1974; operations began in October 1976.

Supervisors and some senior workers occupy family residences at the mine site. Other employees rotate between the mine and their home communities and live in dormitories while at the mine. The work period is lengthy: six weeks of work after which the Inuit may go home (transportation provided), for two weeks' leave without pay. Then follow seven weeks of work and two weeks of paid leave. Southern employees must work for 13 weeks before obtaining two weeks of paid leave.

The miners work 9, 10 or 12 hours a day, six or seven days a week with few activities during off hours. During the year that the data here reported were collected, 1978, no more than 48 workers, 22 percent of the total on site at any one time, were Inuit. The remaining workers were from the south in spite of persistent efforts to recruit more Inuit employees.

The data on Inuit hired during the first four years of operation of the mine reflect the unpopularity of employment there. Of the 314 Inuit who worked during that four year period, 39 percent worked no more than a single six week period and two-thirds worked no more than four months. An unusually high proportion of those employed were under thirty; forty-two percent were single, and forty-nine percent had no children. Older and married men were apparently typically unwilling to leave their families, despite their need for wage employment.

One would expect the communities closest to the mine would supply the Inuit labour. However, during the years under consideration rather large numbers of workers were recruited from Igloolik, 420 km distant. The economic situations of these communities explain this finding. One community closer to

the mine offered employment with Pan Arctic Oil where the much more attractive rotation schedule involved only two weeks at work, followed by one or two weeks at home. In another community, an existing road from the community to the mine enabled workers to commute daily using service provided by the mine. But work days at the mine are long, and weekend free time was only one day, while the two week rest periods came infrequently. Thus, these latter workers did not have enough free time for hunting to keep their families supplied with meat: in 1978 only 12 from this community worked in Nanisivik in contrast to 53 earlier.

Igloolik, the distant community, provides an interesting contrast: no alternative industrial employment is available and wage employment is scarce and coveted, though this community is located in an excellent hunting area. The long absences necessitated by the mine employment resulted in difficulties in providing families with game food. Thus fewer Igloolik workers have accepted mine employment in more recent years.

A purpose of the Nanisivik mine study was to ascertain the effects of mine employment on communities which had supplied substantial numbers of workers. Three communities were selected for special investigation, because of proximity and potential mine labour; information was collected on fur and game harvests, dependency patterns, liquor consumption, criminal convictions, personal injuries, health and physical well-being, child neglect, socialization of children, early school leaving and marital adjustment.

Generally these data suggest few adverse effects from the mine employment, since few workers were employed and only for brief periods. Nevertheless, there were indications of increased psycho-social problems among workers' families. Training of their sons in the land-living skills necessary to hunting and to survival was neglected, and more children were getting into trouble. Marital adjustment of some married workers suffered according

to the Legal Aid lawyer in Frobisher Bay involved in counselling and in divorce actions. Some wives had trouble handling their children and were harassed by other men. Unfortunately, exact estimation of the incidence of these problems is not possible.

Economic insecurity of some of the married workers' families was also a problem. To many natives, money is to be used for skidoos, traps, hunting gear, and perhaps liquor and sweets, but not for food. During the long work-imposed absences of husbands/fathers some families were left without either money or game food.

There is no evidence of significantly increased dependence on social assistance, liquor consumption, criminal convictions, bodily injury or violence, disease or ill health, child neglect or early school leaving. As so few workers were actually working at the mine at any one time, these negative findings are not surprising.

### NORTHEAST ALBERTA

The impacts of the Syncrude Oil Sands project on Fort MacKay just 15 km north of the construction site also concerned us. Fort MacKay is an all native community of 210 inhabitants who are dependent on hunting, trapping and fishing together with social assistance as needed.

The community was not well organized at the beginning of the Syncrude project. It was composed of Cree and Chipewyans, between whom there were traditional animosities. Each included Metis and Treaty Indians who were aware of their differential access to government benefits. Many residents had adopted a settled lifestyle only recently without new techniques for coping with conflict to replace the traditional avoidance response. Consequently, Fort MacKay had experienced elevated conflict levels within the community.

What effects did the Syncrude construction phase have on this small, vulnerable community? It is possible to give only a par-

tial answer as reliable data on numbers employed are lacking. The available information seems to suggest that there were significant effects on the Fort MacKay community, which peaked by the middle of the construction period during 1974-75, rather than toward the end of this period.

The impacts on Fort MacKay came from different sources: the absence of workers, their unavailability to help supply wild food, and the effects of their unusually large earnings. The importation and bootlegging of liquor increased, bringing with it resulting problems (in the view of the R.C.M.P.). The over-burdening on government services in Fort McMurray resulting from rapid growth resulted in a decline of these services for Fort MacKay and other outlying native communities. In addition, this small community was completely unprotected against several incursions of raucous and perhaps hostile workers from the Syncrude camp coming to "fight Indians."

The attraction of booming Fort McMurray was also disorganizing for numbers of Indians. Isolated until recently, northeast Alberta now had a bustling, booming town offering excitement, bright lights and free-spending men. Thus Fort McMurray was inevitably attractive to native young people, especially young girls who were interested in grooming, fashions and adornment and disdainful of the fate awaiting many native school girls as hunters' wives unless they married a white man. It offered not only excitement, but also the hope of escape for native girls.

Administrative data reveal a number of impacts. Police information on crimes for the years 1974-1977, in aggregated form for Fort MacKay, Anzac and Janvier shows that the rate for all crimes in the native communities, exclusive of traffic offences, was substantially higher than in all of Alberta. However, this discrepancy *decreased* from a factor of 2.3 to 1.6 between 1974 and 1977. The pattern for crimes against property was similar and



crimes against persons also showed a steady decline from 1974 through 1977.

Hospitalization data generally reflect a different pattern. Numbers of patients per 1000 population were higher in Fort MacKay than in the province as a whole, by a factor of 3.8 in 1972, 3.2 in 1973, 4.8 in 1974 and 1975, and 4.6 in 1976. The pattern for number of patient days for Fort MacKay per 1000 population also showed a rather steady increase, both absolutely and relative to the regional and provincial figures. Thus, the Fort MacKay rate for patient days increased from 3.1 times the provincial rate in 1972, to 6.1 times this rate in 1976.

While the proportion of all patients in Fort MacKay who were accident, poisoning or violence victims was less than one sixth that for the province in 1972, it had surpassed the provincial level by 1975. However the rate declined in 1976.

Data on patients hospitalized for mental disorders in non-mental hospitals for Fort MacKay provide the most clear indication of the psychological impacts of the Syncrude construction phase. In 1972, the Fort MacKay rate was less than two-thirds of the provincial rate, but by 1974 it was twice; in 1975, it was 4.5 times, and in 1976 it was three times the provincial rate. Fort Chipewyan, much more isolated from the Syncrude project, had rates about 200 percent higher than the provincial rates, with only random fluctuation during the construction years. The whole area, including Fort McMurray, showed an increase not exceeding 35 percent during the same period.

The rather varied data available indicate that Fort MacKay experienced significant adverse impacts: elevated rates of hospitalization specifically for mental disorders and for violent injuries.

## CONCLUSIONS

This paper has briefly described three development impact situations. The Syncrude project was situated very close to a

small native community, Fort MacKay, which was adversely affected. In the other cases, the development site was much more distant, and the impacts were derived from the rotation employment of workers.

The Fort MacKay case abundantly illustrates the vulnerabilities of a small native community in proximity to development. Pre-existing social tensions in the community were exacerbated; social service delivery suffered; incursions by hostile whites were experienced and violent injury and mental ill-health incidences increased. The employment benefits to the community were far less than expected.

The studies of Coppermine and Nanisivik rotation employment experiences yielded indications of much more moderate impacts. The most interesting null finding is that it did not bring very serious long-term problems associated with alcohol abuse. After an initial increase in liquor consumption in Coppermine, the levels fell below those found before the onset of the industrial employment.

The most important demonstrated impact indicates that rotation employment disrupts family life, and jeopardizes offspring. If the work period is over three weeks or so it disrupts subsistence hunting as well. Increased violence against wives in Coppermine during the first year, and marital difficulties among Nanisivik workers, show the destructive effect on marital adjustment.

Children miss their absent fathers, and their socialization may suffer. Boys may be inadequately trained in hunting and fishing by frequently absent fathers. Children are reported to get into trouble more often after four weeks' absence of the fathers. Economic hardships to the families may also result.

These findings might suggest that the most beneficial employment arrangement is daily commuting, turning the native community into a company town. An adequate buffering distance between the company town and the native, as the Nanisivik situation shows, may help. A more subtle difficulty in such com-

muting situations is the five-day work week, incompatible with serious game harvesting which may take from three to seven days.

Many of the adverse impacts of development discussed in this paper may seem to be only moderately consequential; they do not have spectacular visibility. However, it is apparent that they often undermine the solidarity of the family, they may disrupt the existing economy and lifestyle of the community and they may threaten the successful transmission of traditional lore and land living skills.

To this researcher, it seems apparent that change must come in the North, if only because the rate of native population increase makes the provision of new resources of subsistence mandatory. But what may be gained in the short run, and what may be lost in the long run, must be evaluated with great care by the native people themselves. In addition, however, as the gaps in my own research show, adequate assessment of many relevant issues will depend on access to data which are not now generally available.

## RÉSUMÉ

L'analyse des données provenant de trois différents projets d'exploitation des richesses naturelles dans le Nord a révélé l'existence de profils différents de stress psycho-sociaux chez les populations autochtones. À Coppermine, bon nombre d'employés inuit devaient se rendre à des lieux de travail éloignés et faire des roulements fréquents entre la maison et le travail. Un nombre relativement faible d'inuit du nord de l'île Baffin se sont rendus à la mine de plomb et de zinc à Nanisivik pour y passer de longues périodes dans des camps; parallèlement, les projets d'exploitation de Syncrude dans la région de Fort McMurray influaient sur la vie communautaire des autochtones dans une vaste région et particulièrement à Fort MacKay. L'expérience de Coppermine et de Nanisivik ont montré que le système de roulement du personnel entraînait les effets les plus perturbateurs, alors que les expériences à Fort MacKay ont montré que les communautés situées à proximité d'importants projets d'exploitation des richesses naturelles étaient gravement touchés par l'arrivée de l'industrie.

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