

489

**IMPACT OF ENERGY DEVELOPMENT
ON THE NORTH SLOPE ESKIMO**

by

Dr. John A. Kruse

Institute of Social and Economic Research
University of Alaska
Fairbanks, Alaska

paper prepared for the

Pacific Sociological Association Meetings
San Francisco

April 9-12, 1980

This publication is printed on recycled paper.



IMPACT OF ENERGY DEVELOPMENT ON THE NORTH SLOPE ESKIMO

Jack Kruse
Institute of Social and Economic Research
University of Alaska

Between 1968 and 1972, two events occurred which were subsequently to act as primary forces for change among several thousand Eskimo living on Alaska's North Slope. These events were the discovery of major oil reserves at Prudhoe Bay and the formation of the North Slope Borough. This paper examines how the lives of individual residents on the North Slope have been changed in the areas of wage employment, subsistence and village living conditions.

The Prudhoe Bay discovery thrust Alaska into the world of major oil producing regions. It removed the uncertainties that had retarded investments in the petroleum industry in Alaska and led to a \$900 million state land lease sale in 1969. Today 85 percent of the State's revenues come from the petroleum industry in the form of bonus money, corporate taxes, production taxes, royalty payments, and property taxes.

The State is not the only unit of government that can derive revenues from the petroleum industry. Alaska's constitution encourages the formation of area-wide general governments called "boroughs". One of the major incentives for borough formation in Alaska has been the opportunity to impose a locally controlled property tax on resource developments. The tax base provided by oil development on the North Slope is enormous. Its assessed value is currently over \$4.8 billion. Leaders on the North Slope anticipated the scale of development that would be required to bring the Prudhoe Bay oil field into production. They viewed the development as a tax base that could support local efforts to expand and improve educational opportunities, upgrade village services,

establish land use controls and to increase local employment. Underlying these objectives was the goal of achieving local control.

Not unexpectedly, state and North Slope leaders disagree as to whether the developments at Prudhoe Bay are a statewide or a local tax resource. The state unsuccessfully attempted to obtain exclusive rights to tax Prudhoe Bay and pipeline properties and to resist the incorporation of the borough. In addition, the oil companies brought suit against the borough's taxing authority. Despite these maneuvers, the borough successfully incorporated in 1972 and began to tax oil development properties. The borough now annually receives approximately \$50 million in property taxes from the oil companies.

While the development of the Prudhoe Bay oil field has certainly changed the lives of the North Slope Eskimo, the direct effects have been minimal. The nearest village is over 60 miles from Prudhoe Bay and no roads extend from the oil field to any of the eight villages in a region larger than the state of Utah. There is some evidence that human activity associated with oil production and transportation may disturb the migrating caribou but as yet there is no conclusive evidence that the caribou population is in jeopardy as a result of oil development. In any case, all but one of the villages on the North Slope obtain caribou from herds which do not migrate through the Prudhoe Bay area.

Thus, the North Slope Borough rather than the oil development itself has been the primary direct force for change among individual residents. As soon as general obligation bonds could be sold, the borough initiated a capital improvements program (CIP) to construct housing, schools, roads, power, water and waste disposal systems, and health and public safety buildings. The borough expects to spend 150 million dollars in the first five years of the program. Borough operations in general and CIP projects in particular have been designed to primarily employ local residents.

Rapid change among the North Slope Eskimo did not begin in 1975 with the borough capital improvements program but rather eighty years earlier when commercial whalers arrived in the arctic. Since that time missionary contacts, the fur trade, defense projects and expanding government services have exerted major influences on the lives of North Slope residents. Seen in this context, recent changes primarily represent a continuation of several historical trends: expanding wage employment opportunities, increased availability and desirability of commercial goods, and the introduction of time saving but costly new technology. However, significant differences can be observed. Furthermore, if oil was not discovered or if the North Slope Borough was not formed, the course of recent change would have been much different.

Turning now to our research results, we find that the direct effects of energy development on North Slope employment have been small compared to the indirect effects of the borough transforming tax revenues into jobs (Table 1). Our analysis is based on personal interviews conducted with a probability sample of 290 Native adults. Sampling errors for responses involving the entire sample are approximately ± 4 percent.

Table 1
NATIVE ADULT EMPLOYMENT EXPERIENCE
WITH THE NORTH SLOPE BOROUGH
AND THE OIL AND PIPELINE COMPANIES

WORKED FOR:	NORTH SLOPE BOROUGH	OIL AND PIPELINE COMPANIES
Yes	57%	14%
No	43	86
	<u>100%</u>	<u>100%</u>
Respondents:	(290)	(290)

Table 2
TRENDS IN BARROW LABOR FORCE SUPPLY AND DEMAND

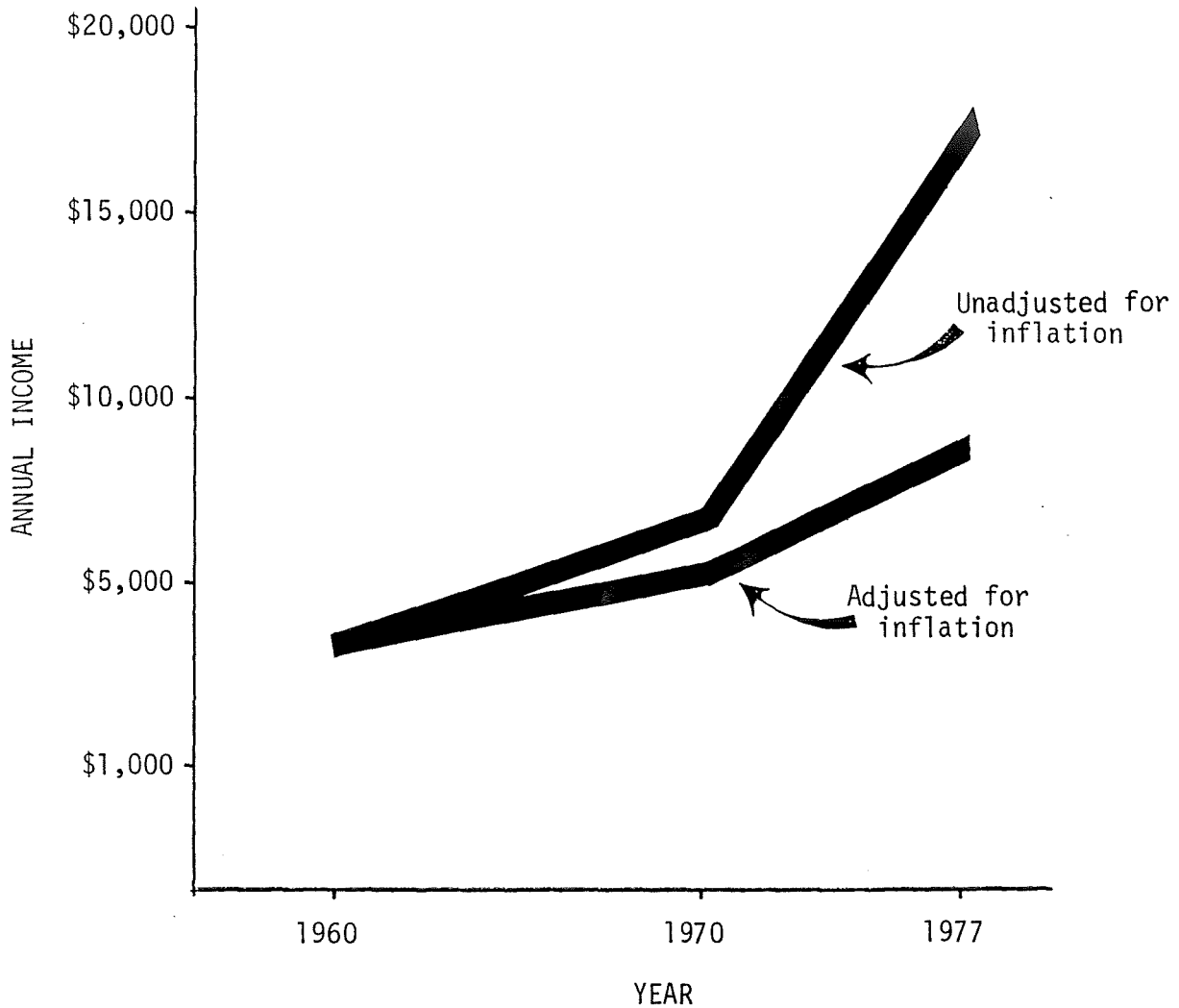
	1970	1977	PERCENT CHANGE
<u>Adult women</u>			
In labor force	91	313	+244%
Total	397	549	+38%
<u>Adult men</u>			
In labor force	277	381	+37%
Total	454	639	+53%
Estimated number of jobs:	560	915	+63%

The employment generated by the borough came at an opportune moment. The working age population was increasing rapidly and a growing proportion of women wished to work (Table 2). If the borough had not been formed to redirect dollars to local residents, village employment would have become a critical problem. Higher wage rates and more year round employment increased real incomes at an annual rate of over 6 percent since 1970 (Figure 1). Equally important, the distribution of income did not become more uneven (Table 3).

Table 3
COMPARISON OF INCOME DISTRIBUTIONS

	PERCENT OF TOTAL INCOME EARNED BY:			Gini Coefficient
	Poorest 20%	Poorest 40%	Richest 20%	
North Slope 1977	3.5	13.0	44.0	.40
North Slope 1970	3.6	13.0	44.0	.40
Alaska	5.3	16.9	36.0	.36
United States	5.7	17.5	40.0	.31

Figure 1
NATIVE FAMILY INCOME: 1960-1977



Men and women sharply differed in their occupational preferences. Male employment was concentrated in the construction trades while three out of four women held a white collar job (Table 4). The difference largely reflects the specific types of white collar and blue collar job opportunities. However, it does make men vulnerable to large variations in the amount of work available. This has not proven to be a severe problem in the last several decades but

may become so when the pace of the borough's capital improvement program slows. In these circumstances, women probably would become the primary wage earners, a reversal in roles that might increase already high levels of social stress.

Table 4
OCCUPATIONS OF NORTH SLOPE NATIVE MEN AND WOMEN

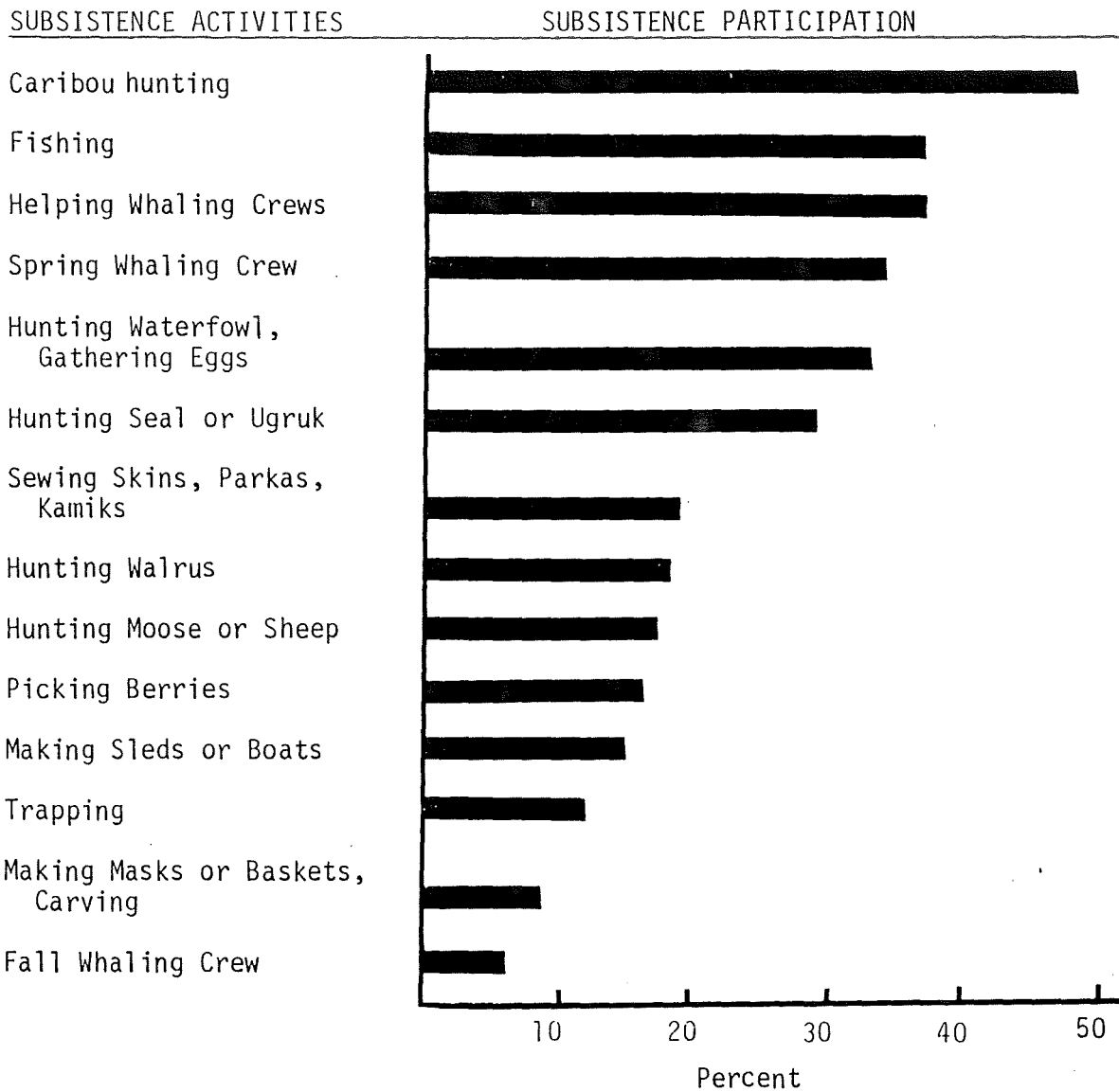
OCCUPATION	SEX	
	Male	Female
Professional-Managerial	12	17
Para-professional*	1	26
Clerical-Sales	6	32
Total white collar	19	75
Trades	29	-
Operatives	14	4
Laborers	31	1
Service	7	20
Total blue collar	<u>81</u>	<u>25</u>
	100% 100%	100% 100%
Respondents:	(112) (112)	(60) (60)

*Para-professionals include teacher's aides, nurse's aides, and other paramedical workers.

Despite recent increases in personal income, in 1977 over a quarter of North Slope Native families had incomes below the poverty level adopted by the State of Alaska. Per capita incomes averaged more than a thousand dollars less than the national average despite the much higher cost of living in rural Alaska. It was not surprising, therefore, to find continued widespread participation in subsistence activities (Figure 2).

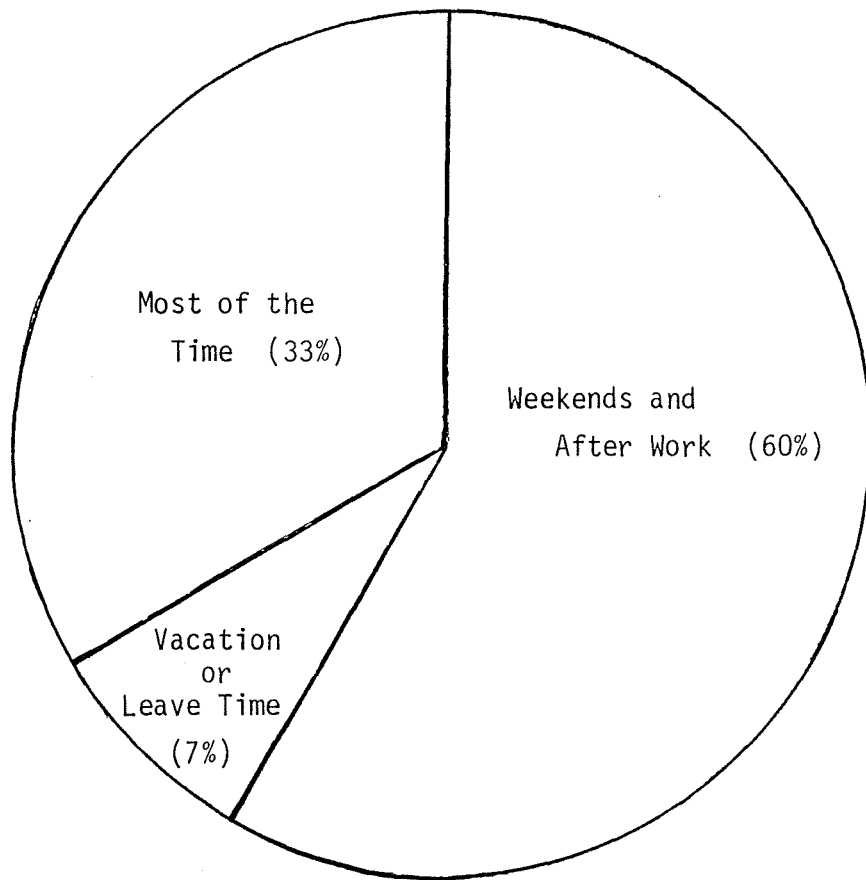
Figure 2

GRAPH OF SUBSISTENCE PARTICIPATION



However, few men spent more time on subsistence activities than they did on wage employment and the proportion perceived to do so is declining over time. The majority of Native residents reported that they engaged in subsistence activities mostly on weekends, after their wage job or on vacation or leave time (Figure 3). New technology such as the snow machine and restrictions on caribou harvests appear to account for much of the apparent decline in time spent on subsistence.

Figure 3
PATTERN OF TIME EXPENDITURE
WHILE ENGAGED IN SUBSISTENCE ACTIVITIES



Total Number of Activities: 752

The question read, "During the time when you were (each activity mentioned) did it take most of your time, was it something you did sometimes or on weekends or after work, or was it something you went on vacation or leave to do?"

Contrary to the predictions of previous research, there is no evidence that urban living experiences or education reduce the desire to participate in subsistence activities among North Slope men (Table 5). In addition, most patterns of wage employment do not appear to directly conflict with subsistence.

Table 5

MALE SUBSISTENCE ACTIVITY BY OUTSIDE SCHOOLING,
LIVING EXPERIENCE AND WAGE EMPLOYMENT
(EXCLUDING MALES 55 AND OLDER)

	AVERAGE NUMBER OF SUBSISTENCE ACTIVITIES	AVERAGE AMOUNT OF SUBSISTENCE EFFORT
<u>Outside Schooling</u>		
No	3.0	4.2
Yes	3.8	5.4
<u>Outside Living Experience^a</u>		
No	3.6	5.3
Yes	3.5	5.0
<u>Months Worked for Wages^b</u>		
0	2.9	5.3
1-3	3.5	4.7
4-6	3.8	5.0
7-9	4.5	6.2
10-12	3.3	4.7

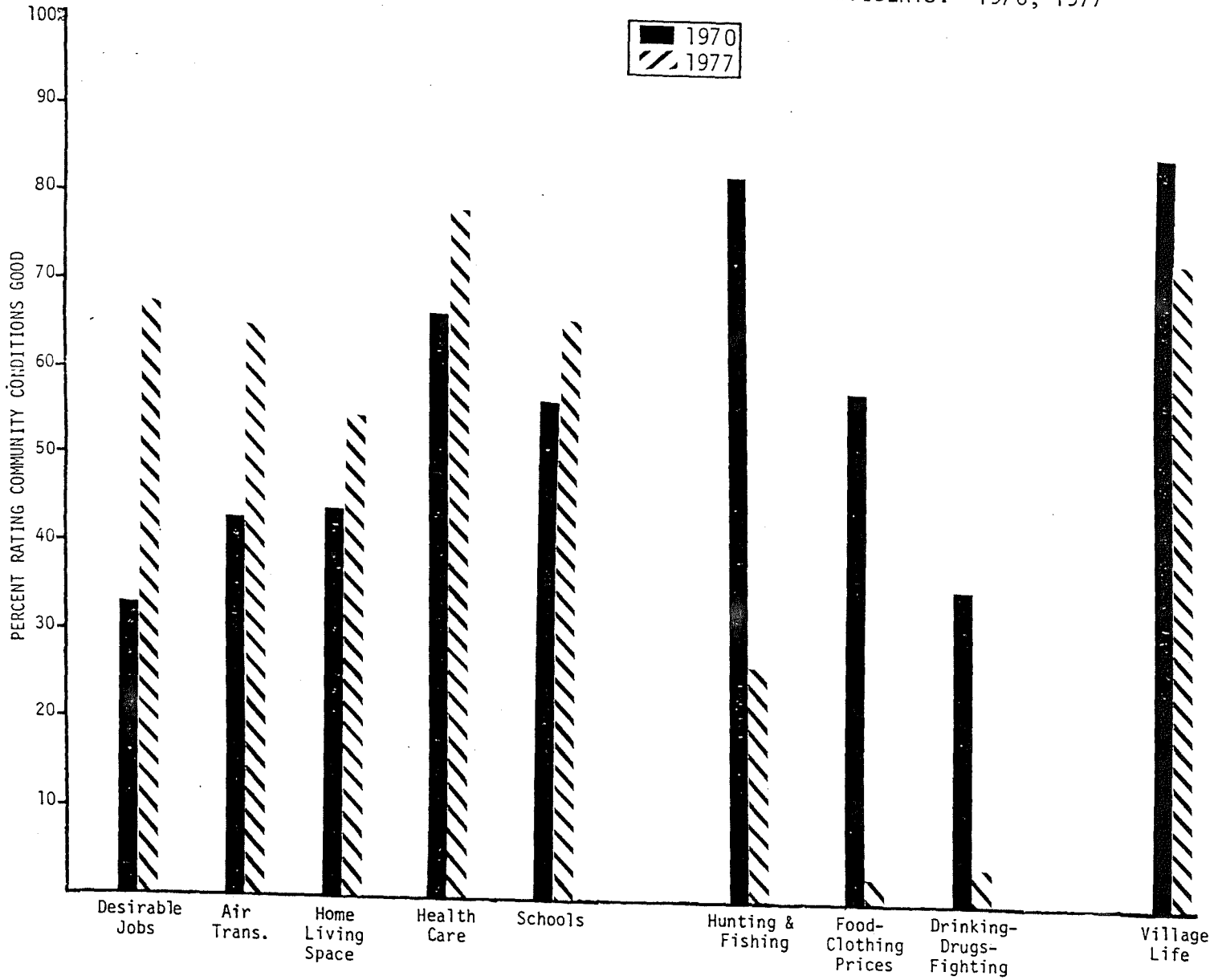
^a Respondents were asked if they spent three months or more living outside the North Slope for school, military, job training or to look for a job.

^b Months worked between October 1976 and September 1977, the same period covered by the subsistence activity and effort measures.

By 1977, the borough had spent over \$29 million on the CIP. It will eventually spend an excess of \$35,000 per capita on capital improvements. The greatest perceived effect of the CIP has been to create jobs, but residents also noted positive changes in air transportation (mostly an indirect effect of the CIP), the amount of home living space and in the quality of health care and village schools (Figure 4).

Figure 4

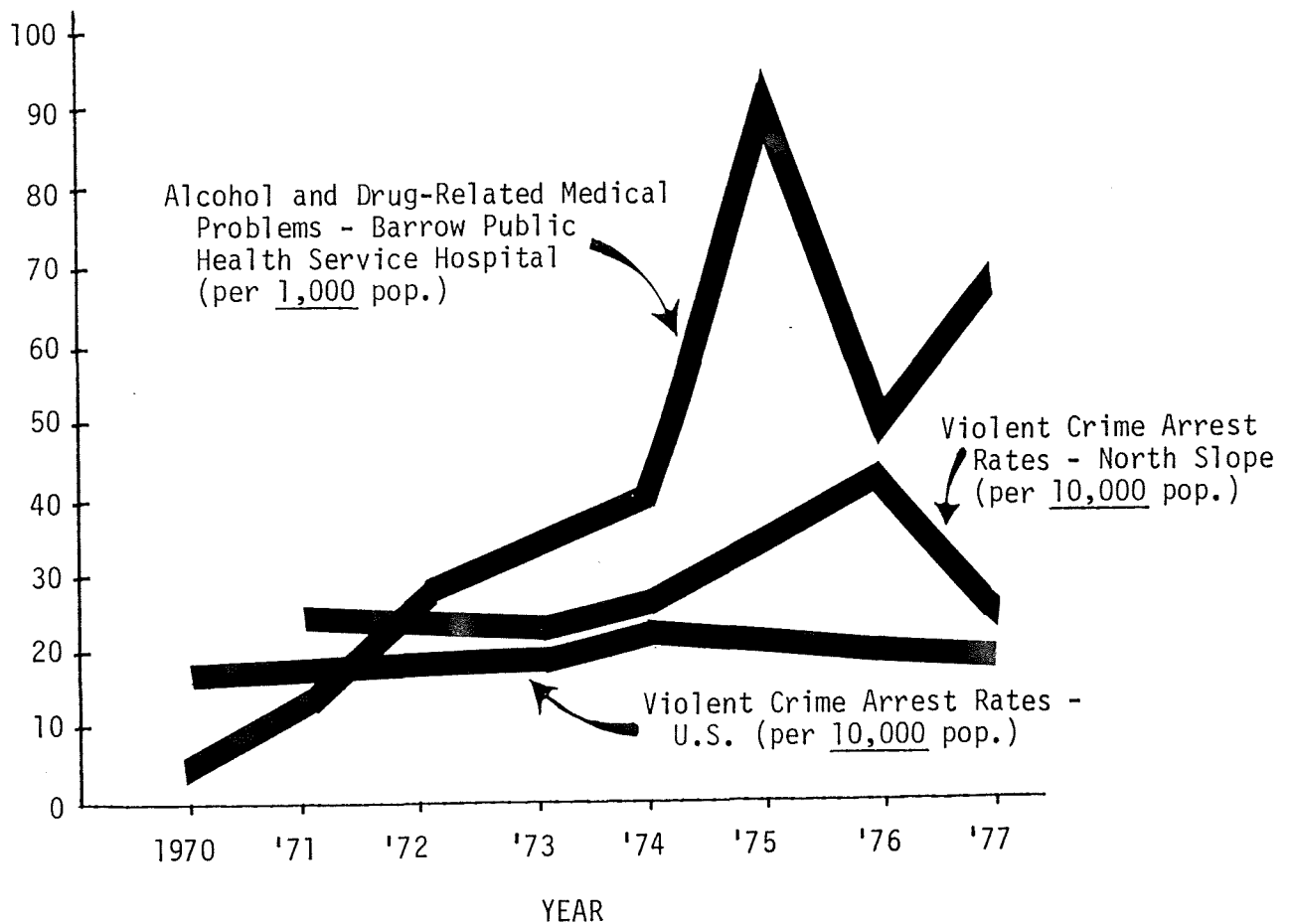
SELECTED COMMUNITY PERCEPTIONS OF ALL NORTH SLOPE RESIDENTS: 1970, 1977



At the same time, however, public records and resident perceptions both indicate that social conditions have been deteriorating for some time. Crime and accident rates have increased to seriously high levels (Figure 5). Local public safety and medical officials attribute these increases to rampant alcohol abuse. Half of the Native adult population rated the problems of drinking, drugs and fighting in their village as very bad in 1977. Only 4 percent said the same thing about village conditions in 1970. It is not clear, however, how much if any affect energy development had on these social problems.

Figure 5

INDICATORS OF SOCIAL PROBLEMS IN BARROW: 1970-1977



Village residents believed new facilities and higher incomes were making village life easier. However, they were concerned that higher living expenses, subsistence resource and social problems have made village life more difficult. Overall, 35 percent perceived that village living conditions worsened since 1970 and only 7 percent perceived that village living conditions had improved. Residents had a more mixed reaction with regard to the overall effects of oil development (Table 6).

Table 6
PERCEPTIONS OF THE EFFECTS
OF OIL DEVELOPMENT ON THE NORTH SLOPE

EFFECTS OF OIL DEVELOPMENT	PERCENT
Good	21
Both Good and Bad	20
Bad	21
No Change	4
Don't Know	34
	<u>100%</u>
Respondents:	(276)

TYPES OF EFFECTS	PERCENT
More Jobs Available	35
Bad Effects of Game, Environment	33
Other Economic Benefits	8
Too Many People or Changes	6
Other	9
Don't Know	9
	<u>100%</u>
Respondents:	(180)

Neither energy developments nor the North Slope Borough directly contributed to the social problems of alcohol and drug abuse, crime, preventable accidents and strained race relations. Nevertheless, these changes have occurred. It is also unclear whether energy developments caused hunting and fishing opportunities on the North Slope to decline or whether natural population fluctuations or increased hunting pressures were primarily responsible. And it is equally difficult to attribute perceived rapid increases in the cost of living to external factors or to personal choice. Again, however, caribou and whale resources have, in fact, been in jeopardy and household expenses have climbed at a rate that cannot be supported without a boom economy.

Over the short term, at least, the North Slope Borough has clearly been successful in its attempt to obtain revenues from oil development. Although there have been substantial problems in translating these revenues into public programs, the borough has demonstrated that it can provide local employment opportunities as it expands and improves village services. The borough has also begun to address the immediate cause of most social problems: alcohol abuse. However, the underlying causes of alcohol abuse remain unidentified.

The second major detraction to an otherwise dramatic success story is that virtually all of the borough's discretionary revenues come from petroleum facilities having a lifespan of perhaps only 20 years. Essentially, the borough is playing a high stake poker game, as the only foreseeable replacements for these revenues involve further on-shore oil discoveries. Given the chronic uncertainties associated with regional development in Alaska, however, it is easy to see why the Borough has chosen to exploit its present opportunity to the maximum.