

service on contract to the mine. This company also holds a government contract to provide janitorial and garbage pick-up services to the Nanisivik town site. The Nanisivik town site has further supported the emergence of a local business oriented to transportation of goods. One person noted that in the early days, the mine purchased considerable quantities of goods from the Arctic Bay Co-op Store at a time when that store was just getting established. Nanisivik workers are also reported to be the major market for local carvers. During a period when the local retail stores no longer purchase large quantities of carvings, this market has been a welcome avenue for sales.

Apart from these limited business activities, the mine does not appear to have had much additional impact on local business. As one person remarked, "Things could have been different. The mine should have been more visible in the community so opportunities would be known."

#### *Income effect*

The wages paid by Nanisivik to local workers do provide an important *income effect* on the local economy. In Chapter Two, it was noted that the Nanisivik mine has provided more than \$1 million in direct wages to Arctic Bay workers each year, with an estimated additional \$100,000 being paid out through EI eligibility and through local procurement. Government jobs at Nanisivik provide a further \$363,000 in wages. The total Arctic Bay economy was estimated to be in the area of \$8.06 million.

Nanisivik income, then, represents a significant share of total community income. It is reasonable to estimate that between 50% and 60% of community income would be spent at the local retail stores. (The rest would be spent on housing, purchases from the south, investments, and so on). If this pattern applies equally to Nanisivik income, then the mine is generating between \$500,000 to \$600,000 of an estimated \$4.15 million local retail business through an income effect<sup>1</sup>. This represents between 10% and 15% of the business of these stores. This income effect could actually be greater if Nanisivik income contributes disproportionately to household disposable income.

#### **SUMMARY OF IMPACTS AND BENEFITS**

Has the Nanisivik mine led to social change in Arctic Bay? The answer is not obvious. On the one hand, the community is described by outside observers, both Inuit and Gaijinat, as being one of the more traditional Baffin communities. On the other hand, significant social change has taken place during the period that Nanisivik has operated in the region. But is this change a consequence of Nanisivik or part of a wider cultural change caused by many interrelated factors?

The overall impression arising from discussions with people from Arctic Bay is that alcohol associated with the Nanisivik site has had significantly negative social impacts for many individuals and families in the community. Beyond these alcohol-related impacts, residents of Arctic Bay do not feel that Nanisivik has had other negative social impacts on the community as a whole, nor on specific groups within the community.

<sup>1</sup> A rough estimate combined retail sales of the Co-op and Northern store is \$4.15 million. This is derived from Co-op sales of \$2.15 million reported in the annual report, and a rough guess of \$2 million provided by the Northern store manager. \$4.15 million is 51% of \$8.06 million.

Positive social impacts, such as recreational opportunities and strengthened sharing networks, were also equated with Nanisivik.

One of the potential impacts this research aimed to assess, was whether 30 years of wage earning at the mine has led to a shift away from sharing, toward greater individualism when it comes to economic production in the household and in the community at large. The role of money has clearly increased in Arctic Bay over the years. Some families acknowledge that they now live from money, not from the land. It would be too great a leap, though, to suggest that this shift has been caused wholly by mine employment. Further, many people described how money earned by one family member would be spread around to assist both immediate family members as well as relatives. Sharing of major purchases such as snow machines also is widespread in the community. There was no evidence offered that the level of sharing of country food has been reduced by increased wage earning, and some suggestions that this has not occurred, that food continues to be shared in traditional ways.

Another form of social change of interest relates to changes in the roles of elders, parents, and children. When asked about changing roles, many people expressed strong opinions that the roles of parents and elders with respect to raising children are changing. Elders no longer live in constant contact with parents and their children and are losing their role in raising children. However, the cause of this shift was almost entirely identified as the school system—which takes children out of the home all day—and not work (either at Nanisivik or at the jobs in the hamlet).

Nanisivik has provided an important contribution to the household economies of workers. Two groups can be described. The first is small, and is made up of those who make a living from Nanisivik work, earning a wage sufficient to support their families. The other group is larger, and is made up of people who work shorter periods of time and earn less than what they require to live on. For these people, Nanisivik income is only once source of money, perhaps representing a disposable income component. For both groups, it is important to their household economies, and is reported to be productively spent.

Of particular importance is the level to which Nanisivik income is reported to be spent on equipment and supplies needed for participation in the hunting economy. From the start of Nanisivik employment back in the 1970s to the present time it seems that this income has provided the means for people to purchase snow machines, boats, gasoline and so on. Some of this money is provided to family members so they can make similar purchases. In other instances, Nanisivik workers lend their equipment to others while they are working. Although Nanisivik work cuts into the time workers have available for hunting, the benefits of Nanisivik income in terms of access to equipment and supplies promotes harvest activities. Traditional sharing networks seem to have been maintained throughout the Nanisivik era in Arctic Bay.

Finally, the effect of Nanisivik on promoting the local business sector has been limited. Two local businesses have emerged to carry out contracts with the mine and at the town site. Local carvers have found a ready and welcome market selling to Nanisivik workers. The effect of earned income on the Arctic Bay economy is important to local retail stores. This income is estimated to represent between 10% and 15% of sales. This impact could be even more significant, depending on actual expenditure patterns.

2.0 IMPACT OF NANISIVIK'S CLOSURE ON ARCTIC BAY

The previous section looked at how Nanisivik has affected the community of Arctic Bay during the past decades of its operation. This section looks at the effects that the closure of the mine will have on the community. It is acknowledged that there are some significant uncertainties in this look toward the future. This uncertainty arises from the possibility that some continued use may be made of the Nanisivik site. This is widely discussed by people in Arctic Bay.

Such a future use could have implications for the analysis presented here. In the meantime, however, the following analysis is based on what is certain—closure of the commercial mine operation. Where additional impacts may arise from loss of infrastructure or services associated with the mine (in particular the Nanisivik airport, jet service, and port facility), these are specifically noted.

Direct Loss Of Jobs And Income

Casual workers

It was noted in Chapter Two that many Nanisivik workers have earned relatively small amounts of money at the mine. For example, Table 12 indicated that 26 people earned a total of \$118,531, or \$4,559 each on average. Most of these people will not be eligible for Transitional Employment Insurance payments, since they have not worked a sufficient number of hours to qualify.

It may be reasonable to expect that for these casual workers, the psychological significance of the work is less significant than it may be for full-time workers. One psychological impact of loss of access to casual employment may be, however, the loss of a sense of economic choice. With Nanisivik in place, many people felt they were able to choose to work at the mine when they needed to earn a little money. Loss of this choice could lead to feelings of economic hopelessness, although this is rather speculative at this point, and will require further monitoring to assess. It should be pointed out that access to Nanisivik work was clearly not available to everyone who wanted it, as evidenced by comments related to having job applications turned down or simply not responded to.

Opportunities to replace the relatively low levels of income earned by the significant number of casual workers might typically be sought through casual employment at the retail stores in town. However, as previously noted, lost community income must be expected to lead to reduced retail sales and, consequently, reduced not increased, hiring of retail staff. The climate for finding casual work in town will not be good following the Nanisivik shut-down.

Significant efforts will be needed if new sources of casual wage income are to become available in the community. These levels of income are consistent with what might be paid by small-scale entrepreneurs for example. This income might also be expected from the pursuit of various micro-enterprises. The local women making birthday cakes for sale within the community would be a good example of this small-scale business that provides important income. Reasonable government support will be needed to overcome the barriers to micro- and small-scale entrepreneurship.

Steady workers

For a small but significant number of high income earners, loss of Nanisivik jobs will have a dramatic effect on their livelihoods. While a small number may seek work in other regions, there is an expectation that most will remain in Arctic Bay. During the eligible period of time, these workers will have access to EI payments. These may help to cushion the economic blow by providing an on-going—though much reduced—source of income. This will only be in effect for a maximum benefit period of 45 weeks, however. After that time, these workers will end up on the Income Support program if they are unable to find other work.

Loss of work may also be expected to affect other aspects of the well-being of these workers and their families. Reference was made to the positive effects of steady work on the overall "happiness" of some individuals and how this affected the entire family.

Replacing the higher levels of earning of people in more steady jobs will be, perhaps, a greater challenge. In 2001, for example, 14 people from Arctic Bay earned \$25,000 or more, with an average wage of \$58,500. While workers in this category may be eligible for EI payments, that income source will be temporary. Based on the interviews, it is possible that a small number of these steady workers may seek employment in regions outside Arctic Bay. Most, however, are expected to stay in the community.

The loss of steady jobs may increase further if the town site is also closed down. As noted in Chapter Two, six Arctic Bay residents hold government jobs related to the Nanisivik site. The average wage of these jobs is \$60,500. Some of these jobs may also be at risk.

Implications For Local Business

Reduced business revenue

In addition to loss of full-time and casual work at the mine, some additional job losses should be anticipated. These indirect job losses relate to reduced local spending associated with loss of income. In the absence of expenditure estimates, it is not possible to predict how much revenue will be lost from local businesses. However, it is reasonable to predict that the decline in revenues will be matched by a more or less proportionate decline in wages paid by these businesses, and a resulting loss in jobs.

The following table provides an assessment of the impact that Nanisivik mine closure is expected to have on various local business sectors.

Table 19 Business Vulnerability Assessment Grid				
Business	Impact		Loss of port and jet service (hypothetical)	
	Loss of mine-related	Loss of community income	Reduced sales	Reduced tourism
Local retail stores				
Carvings				

Traditional clothing sales			Reduced tourism
Guiding and outfitting			Reduced tourism
Consulting/Translation			
Hauling company			
Local transportation company (taxi, bussing)			
Local hotel			Reduced tourism
Other local businesses			

Note: Darkest shading represents greatest loss of business. No shading indicates that little or no impact is anticipated.

#### *Potential to replace lost business*

Some of the lost business caused by the Nanisivik shut-down should be recovered through adjusted marketing strategies. The most obvious of these in the carving sector. While mine workers have provided a good market for local carvings, alternative markets do exist and can probably be exploited with a reasonable level of effort.

It may require more complex adjustments to replace some of the other business. The Nanisivik-related transportation businesses seem to be dependant on what, if any, future use is made of the site. Some of this business (taxi, postal and cargo hauling) will continue regardless of what takes place at Nanisivik. However, the level of demand may be reduced. If this is the case, the affected business owners may need to pursue new business ideas in order to recover lost business revenues. Support may be needed to facilitate this process.

Finally, lost revenue caused by reduced community income will only be recovered as community income increases. The local retail stores are expected to adjust their operating costs to reflect new sales patterns and the overall impact should be incremental, not catastrophic.

#### *Impacts associated with loss of jobs and income*

As previously noted, Nanisivik is not identified as being the cause of a shift toward the money-based economy from a traditional economy. This shift has been seen throughout the territory. It is therefore unlikely that households that lose income from Nanisivik work will return to a traditional economy. For those who become dependant on income support, the traditional economy may well be beyond their economic reach, given the high costs capital and operating costs associated with this sector.

Rather, those who lose Nanisivik work are more likely to seek ways to replace this lost income, as discussed earlier. For some this may mean migration out of Arctic Bay. For others, some success may be found as owners or employees of new businesses as they emerge in the community.

Over the short term, however, it is reasonable to anticipate that many will be unable to adequately replace lost income. Income Support and lowered rents will do little to reduce

the impact of this loss of disposable income. The result of this situation will be financial hardship.

In addition to financial stress, job loss may also mean a loss of the ability to feel productive or to be able to play the role of family provider. This may lead some to suffer increased stress, depression, loss of confidence and so on.

Associated with these consequences of job loss will be the impacts that arise from increased stress. As noted by one professional in Arctic Bay, it is typical for social and law enforcement agencies to anticipate increased problems when these conditions arise.

Increased alcohol abuse is also typically implicated in situations of increased personal and social stress. Will this be the case following Nanisivik closure? If Nanisivik has had the effect of making alcohol more readily available, then closure of the mine must be expected to reduce access to alcohol. On the other hand, people have noted that alcohol can be obtained through other sources. No attempt to speculate on how this may play out will be made here, except to suggest that the price of alcohol on the Arctic Bay black market may be expected to increase.

#### *Impacts Associated With Reduced Social And Recreational Opportunities*

The ability to 'get out' of Arctic Bay to take part in social or recreational activities at Nanisivik has previously been noted as a benefit to people in Arctic Bay. Several people noted that they will miss the Dome restaurant when it closes. However, people also noted that access to Nanisivik facilities has already declined significantly in recent years. As a result, the immediate impacts of lost social opportunity may be less noticed than they might have been.

Comment was also made that the present social atmosphere at Nanisivik is less healthy now than it was previously. Families were seen as providing social structure to the site. The number of families has been declining in recent years and Nanisivik is now described as being more of a 'mining camp'. A higher level of social dysfunction seems to be associated with this designation. While some may miss the present opportunities to socialise with the miners, others may welcome an end to the problems that arise when alcohol is thrown into the mix.

In terms of longer term impacts, Arctic Bay may become more isolated socially and culturally, depending on what, if any, future use is made of the site. Presumably this would entail both a loss of benefits related to social opportunities, as well as an alleviation of some of the negative impacts that have arisen when alcohol abuse mixed with loosened social norms. If other uses are made of the site, or if Arctic Bay development leads to increased tourism, then the opportunity for cultural interaction may increase—again with the potential for associated benefits and impacts.

#### **SUMMARY OF THE IMPACTS OF NANISIVIK'S CLOSURE**

The closure of the Nanisivik mine is expected to have a range of impacts on the community of Arctic Bay. The major short term impact following Nanisivik closure will be the loss of jobs and income. Long-term workers will experience the greatest impact. Fourteen people from Arctic Bay have been earning \$25,000 or more. This group and

their families may be expected to suffer from the effects of significantly increased economic stress. Opportunities to find other work in Arctic Bay are limited. Employment insurance benefits will provide temporary relief, but will not come close to replacing the high incomes enjoyed by full-time employees. While some may seek to re-locate to find other work, migration out of Arctic Bay is not expected to be significant. However, finding alternatives to replace the high levels of income provided by the mine will be difficult.

Arctic Bay residents who have sought work at Nanisivik on a casual basis will lose this option. Some thirty people from the community have been earning part-time or casual income from the mine. While some casual work is available in Arctic Bay, competition for these jobs will increase and there will be an adjustment in the local casual job market as some become discouraged and eventually drop out of the labour force. Loss of the relatively small amounts of money earned by casual workers is expected to represent a significant decline in disposable income for those individuals and their households.

Many of these casual workers are young and single. The loss of the sense of economic empowerment represented by mine jobs is expected to have an impact on these workers. Opportunities to replace these lower levels of income are better than the high income levels of the full-time workers, as they are more in line with what might be generated by small start up businesses, or work in existing retail businesses. However, the local economic climate for business may be expected to be negatively affected by the loss of a significant proportion of total community income previously generated by the mine.

Nanisivik mine directly contributes over \$1 million per year to Arctic Bay's total personal income. This represents a significant proportion of household disposable income. The loss of this income can be expected to impact on the large retail stores, as well as on smaller consumer-oriented local businesses. Loss of income may also be expected to have a negative impact on hunting, given the high costs associated with this activity. The impact of Nanisivik's closure on local businesses is expected to be particularly felt by the Arctic Bay carvers and by the local taxi and hauling companies. Alternative markets for carvings may be found, provided reasonable support is provided. Other business owners may need to pursue new activities in order to recover lost revenues.

Over the short and medium terms, it is expected that many of those people who lose Nanisivik income will be unable to replace it with other sources of earned income. Increased financial hardship, stress, loss of confidence and other related symptoms of unemployment and loss of a sense of personal productivity may be anticipated.

Closure of the Nanisivik site may reduce the ability of Arctic Bay residents to 'get out' of the community to take part in other social and recreational activities. However, the impact of this will depend on what, if any, alternatives take place at the site. While some may miss the present opportunities to socialise with the miners, others may welcome an end to the problems that have arisen when alcohol is thrown into the mix.

### 3.0 IMPACT ON ARCTIC BAY'S DEVELOPMENT

The intent of this section is to begin to look forward toward Arctic Bay's future—how have the Nanisivik decades influenced Arctic Bay's present ability to achieve its development goals?

There are two reasons for raising this question. First, the capacity of a community to achieve its social, cultural and economic objectives is at the heart of community development and any impact that a major project has on this capacity is very relevant to socio-economic impact assessment. Secondly, there is evidence to support the idea that part of the rationale for providing public support for Nanisivik at its outset was that this project would serve as an important engine for regional development.

#### PUBLIC INVESTMENT IN NORTHERN INDUSTRY AS A DEVELOPMENT TOOL

The analysis presented in this section focuses on the contribution of Nanisivik to development processes in Arctic Bay. It begins with a review of the rationale for public investment in Nanisivik, and then considers how Nanisivik has contributed to development processes in the community.

#### Investment Of Public Money In Nanisivik

There are several motivations for government to spend public money on private sector developments like Nanisivik. The first is to generate benefits to the country as a whole. These benefits typically arise in the form of revenues flowing from the project to the public accounts, and from income taxes payable by the workers employed by a project. Benefits to the country may also include national development interests—pioneering new technologies and opening new economic sectors, are two examples.

A second motivation relates to using a major project like Nanisivik to kick-start a process of economic development in the region surrounding the project. The use of public funds to attract or to initiate major industrial projects as a 'regional development' tool was quite popular in Canada during decades past. Other reasons may also come into play to support public investment in major projects. Some examples include generating regional political support and maintaining national strategic interests.

The Nanisivik mine development attracted significant public investment from the Federal and Territorial Governments. In a 1981 evaluation report, Hicking-Partners calculated that the total public sector investment chargeable to the project was \$16.1 million (adjusted for inflation, this equals approximately \$45 million in current dollars<sup>1</sup>). These funds were used to develop the town site, road, airport, and dock. Of this amount, \$9.5 million (\$26 million adjusted for inflation) in public sector funds had been spent on developing the town site. This amount is the amount left over after \$10 million had been recovered through project payments and user fees.<sup>2</sup> An additional \$590,000 (\$1.5 million adjusted for inflation) in public funds was provided in annual O&M at the time.

The Hicking-Partners report suggests that at least some of this public investment seems to have been intended specifically to support Inuit development. For example, they quote a cabinet document associated with the project as stating, "The project offers an opportunity to test northern technology and obtain additional knowledge in the fields of

<sup>1</sup> Inflation adjustment has been calculated using the Bank of Canada CPI calculator available on the web at: [http://www.bankofcanada.ca/en/inflation\\_calc.htm](http://www.bankofcanada.ca/en/inflation_calc.htm)

<sup>2</sup> Hicking-Partners Inc. 1981. "Evaluation of the Nanisivik Project," Chapter 2.0

... employment policies, and so forth in a socially acceptable framework." They also note that alternatives were chosen that, while more costly to the public purse, were expected to promote Inuit employment.

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#### **Rationale for a townsite development and public investment**

Hickling-Partners (H-P) presented the mining company's case for government investment through statements made by MRI's consultant, Walls, Griffiths and McQuail (WGM), which was contracted to prepare the production feasibility study. This argument is worth reproducing here, for the record:

"In assessing the economics of the project, there are two principal alternatives open to MRI. One is to operate the mine as an isolated mining camp to which single mine workers from the south would be flown in on a frequent rotating basis. With this approach there would be no permanent community established, and employment of local labour would be at a minimum.

The other approach is to create a full community with normal community services and in which mine workers would live together with their families, as in most southern towns. This approach would result in a large number of permanent residences being built, a majority of which would be occupied by the large number of Baffin Island residents we hope to encourage to work at Strathcona Sound, should the mine be developed.

It is our hope we will eventually be able to have as many as 100 permanent Eskimo (sic) employees on the staff at Strathcona Sound, or approximately 60% of the total work force. Large numbers of other Eskimos (sic) would gain employment in various service industries that would be required if a full mining community was established at Strathcona Sound...

It is clear from our studies of the project to date that the financial returns are not sufficiently attractive for private industry to undertake the entire capital investment on their own, should the second approach be followed. Some form of government participation will thus be essential, if the project is to proceed on this latter basis, which we are sure all concerned, Federal and Territorial Governments and Mineral Resources International, would prefer."

- WGM, 1973, as quoted in Hickling-Partners Inc. 1981

The H-P report also summarise the responses of various federal departments and of the GNMWT. The GNMWT's position is of interest:

"GNMWT. Strongly supported the project based on the prospect of major social benefits for Inuit people in the Baffin and Keewatin Regions, both economically depressed areas where population pressures were threatening to outstrip the ability of the land to support it, and where a significant number of persons had expressed a desire to obtain wage employment."

H-Ps also quote the federal cabinet document that gave the go-ahead for the project. In terms of employment objectives that document noted:

"The project offers an opportunity to test northern technology and obtain additional knowledge in the fields of ... employment policies, and so forth in a socially acceptable framework."

For example, they suggest that the mine company was prepared to "develop a bunkhouse type operation at the mine without government participation. [But the mine] argued, however, that this approach would not lead to significant Inuit involvement in the workforce." They further note that local concerns were expressed as to the appropriateness of the town site investment, "It is also apparent that Inuit leaders in the Baffin Island communities did not favour the establishment of a townsite at Nanisivik which they felt would draw away from the development of their existing communities."

#### **Impact On Arctic Bay's Development**

##### **Arctic Bay Mission Statement**

The people of Arctic Bay want their community to be a place:

- ❖ Which respects cultural values and traditional life styles;
- ❖ Where people work together for the common good;
- ❖ Where there are appropriate services and programs dedicated to physical and mental health;
- ❖ Committed to the development of a higher standard of education;
- ❖ Which identifies training needs and provides appropriate training opportunities;
- ❖ Where there are proper and adequate buildings, housing and recreational facilities.

- From the 1999 Community Based Plan

Arctic Bay developed a Community Economic Development Plan in 2000, with the assistance of Consilium Inc., that identified what were considered to be the strategic sectors that would help to carry the community toward the achievement of its development mission. Seven sectors were identified:

- Tourism
- Arts and crafts
- Commercial fishery
- Small and micro-business
- Mining
- Public sector
- Community infrastructure

Looking back on the Nanisivik legacy, what has been the effect of Nanisivik on Arctic Bay socio-economic development? Was the investment of public funds in Nanisivik an effective way to help Arctic Bay achieve its development mission and goals? Were major social benefits for Inuit achieved? Is the local "capacity profile" that Nanisivik helped Arctic Bay develop appropriate for the development work that needs to be done? Has Nanisivik promoted the development of capacity needed to succeed in the strategic sectors that will carry the community into the future?

The following narrative is an attempt to consider the Nanisivik legacy in these developmental terms. To do this, the influence of Nanisivik on the following 'ingredients for development' will be considered:

- Human capital
- Social capital
- Entrepreneurial capacity
- Infrastructure

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### *Human capital*

Some of the skills developed at Nanisivik have clearly been applied within Arctic Bay. In particular, reference was made during the interviews to carpentry, machinery operation and mechanical skills being transferred from Nanisivik to Arctic Bay. It should be noted that some of these skills were also developed through employment at Pan Arctic. Several people have earned their trades papers through apprenticeships at Nanisivik.

Nanisivik employment was also identified as helping workers to develop formal wage economy work habits. Some of these may be well-applied within local Arctic Bay organisations. They may also be relevant for entrepreneurial development.

The Nanisivik school was frequently identified as having provided a good educational environment where students experienced high expectations, learned English, and gained confidence. Many positions in Arctic Bay are filled by former students from the school at Nanisivik.

Another area of benefit to human capital relates to the overall well-being of people in Arctic Bay. Nanisivik appears to have had both positive and negative impacts in this regard, both of which have been noted earlier. On the positive side is the reduced stress levels associated with increased family income. As previously quoted, one woman noted, "His job let us afford things—the basics plus other things. This was more uplifting. Life was less depressing after work was available." To the extent that employment helped to alleviate negative stress and emotions, and provided confidence and other personal strengths, Nanisivik has helped to generate positive human capital.

On the negative side, though, is the impact of alcohol and its associated domestic impacts on workers, spouses and children. The importance of alcohol has been discussed earlier in this chapter. Here the impacts are not limited to families directly involved at Nanisivik, but are more widely distributed throughout the community. As previously noted, it is not possible to allocate any specific proportion of the negative impacts of alcohol directly to the mine. There is a strong perception amongst people in Arctic Bay, however, that Nanisivik has contributed to these impacts. In terms of the effect of alcohol on human capital, perhaps the greatest concern relates to children. Foetal Alcohol Syndrome may lead to a lifetime struggle to learn and practice skills. Domestic violence can leave lasting impressions and lead to cycles of destructive behaviour. The research undertaken for this study is not sufficient, however, to go beyond simply pointing to this area as a concern.

One question of particular interest was whether Nanisivik had the effect of withdrawing critical skills from the community by "out-competing" local businesses, hantlet government, or other organisations. This is a situation that has been noted to occur in some situations. For example, businesses in Igloolik have noted the negative impact that widespread government employment has on their ability to access skilled workers at affordable prices.

The scope of this project clearly did not encompass a full-scale labour force needs retrospective and assessment. However, some qualitative data did emerge to support some broad observations. The evidence that was generated does not support a strong conclusion that this was the case, at least in relation to access to skills by government agencies. The strong preference amongst workers seems to be to find jobs in Arctic Bay.

Numerous references were made to movement of people from Nanisivik jobs to jobs located in Arctic Bay. One person did note the loss of a worker in a government service agency to a Nanisivik job. Overall, though, it appears that over a certain range of wage disparity, the benefits of working in the community over-ride the better wages that mine employment was generally able to provide.

Did Nanisivik employment create labour or skills shortages in other areas? The obvious sector to consider is the harvest sector. Certainly some comment was expressed to the effect that work interfered with the ability to hunt. The discussion of the impact of Nanisivik on traditional harvest activities suggested, however, that there is also a reasonable argument to be made that Nanisivik may have improved hunting success by providing access to cash needed to purchase hunting supplies and equipment. The harvest classification data presented in Table 17 must be interpreted cautiously due to the inherent constraints of the methodology. Nonetheless, the low proportion of hunters who consider themselves to be 'active' or 'intensive'—and the corresponding high proportion in the 'occasional' category—would not be inconsistent with a conclusion that Nanisivik has had some impact on the hunting sector by shifting people toward occasional involvement. If this were so, it would not mean that productivity has declined in the hunting sector. The increased income available amongst Nanisivik workers was widely identified to allow the purchase of better hunting equipment. This could increase productivity, allowing an 'occasional' hunter to have better success in less time than s/he previously may have had.

Even if Nanisivik employment did not reduce total production within the harvest sector (a question that remains un-answered), perhaps the fact that Nanisivik workers had less time to hunt has influenced the transmission of hunting skills from one generation to the next. This would certainly be a significant impact on human capital in an area of importance to the community. The only source of data available to address this question is from the interviews. Here the message was clear. As recorded in Chapter One, many people felt that the education system, not work, was more important in separating children from those who teach traditional skills (both hunting and sewing).

Again, it is reasonable to suppose that if Nanisivik provided a household with better hunting equipment and the ability to buy gasoline, opportunities for youth to get out on the land—perhaps with family members other than immediate parents—may not have been negatively affected by the father's absence at work.

### *Social Capital*

At least two implications of Nanisivik on the social structure of Arctic Bay can be identified. The first relates to Nanisivik's impact on family integrity and the institution of marriage. Instances were referred to where extra-marital relationships initiated at Nanisivik parties or social events generated stress within families. Some marriages have broken down. In other cases children have been affected.

An indirect impact of Nanisivik on Arctic Bay's social integrity also arises. Alcohol is identified as an important contributor to social problems, and, as previously noted, Nanisivik is felt to have increased access to alcohol in the community.

A positive impact of Nanisivik income on Arctic Bay's social capital should also be noted. As previously suggested, the sharing of income and other benefits of Nanisivik work was apparently widespread. For those who might not otherwise been able to afford snow

machines and other major productive tools. Nanisivik offered the ability to take part in sharing networks. Strong kinship ties will be important during Arctic Bay's transition toward its desired future.

#### *Entrepreneurial capacity*

What impact has Nanisivik had on Arctic Bay's entrepreneurial capabilities? Is Arctic Bay in a better position to capitalize on present or future business opportunities because of Nanisivik? There are two streams of evidence that can help in addressing these questions. The first relates to the businesses that have emerged to sell goods and services to the mine. As noted earlier, Nanisivik has had only a weak "entrepreneur effect"—little business has been generated in Arctic Bay related to the mine. It might be noted, however, that the two businesses currently providing services to the mine and to the Nanisivik town site represent an important part of the total Arctic Bay private sector. The business skills and expertise developed in transporting people and goods will continue to be required on some scale, regardless of the direction that Arctic Bay takes in the future. Thus these businesses will continue to be relevant for the community.

The second area to examine involves the extent to which Nanisivik may have helped to develop potential new entrepreneurs. Have people who worked at Nanisivik become more inclined to enter into business than those who have not had that experience? Has the income earned at Nanisivik provided seed capital that can be used to kick-start local business activity. Have children who grew up seeing what their parents can accomplish by working at Nanisivik become more apt to search for ways to earn their own money through business activity.

The evidence that this study has managed to accumulate is based on the observations of a small number of Arctic Bay residents. One person suggested a connection between working at Nanisivik and having ideas about starting a local business. Another person did not see this link. One person volunteered the insight that it is very important that children see the wide range of things their parents can accomplish—including making things as well as working. Even though they may pursue different paths, they will develop a sense that they can accomplish whatever they want to. This sense of optimistic determination is certainly an important part of the entrepreneurial mindset. Clearly the evidence for any positive contribution from Nanisivik to local entrepreneurial capacity is weak.

One may then turn the question around. Has Nanisivik suppressed entrepreneurial development? No one volunteered this observation. It is possible, nonetheless, that the ability to earn income at Nanisivik may have diverted people from taking steps toward business activity. This is purely speculative, however. Further, while entry into micro-business may be a response to economic hardship in some regional economies, it is not at all clear that this response exists in Inuit economies. The ability to borrow equipment to hunt, strong sharing networks, and a robust social assistance net all work to avoid the intensity of need that sometimes catalyses micro-enterprise activity. The evidence of a negative impact



Jaypedee Inuitiq has relied on Nanisivik as a market for his carvings.

by Nanisivik on local entrepreneurial activity is, therefore, weak. It remains to be seen whether the closure of the mine will release pent up entrepreneurial talents, triggering a small flood of entrepreneurial effort in Arctic Bay.

#### *Influence on Arctic Bay art sector*

One area where Nanisivik may have had a dampening effect on entrepreneurship is in the arts sector, specifically in the area of carvings. Has the Nanisivik market had the effect of delaying the development of more aggressive marketing strategies. Has this easy market led Arctic Bay to fall behind the "best practice" in terms of promoting its artistic talent, when compared to other Nunavut communities? Or has this local Nanisivik market been a positive influence on the Arctic Bay carving scene by providing an avenue for sales in a time where the Co-op has stopped purchasing these works, thereby supporting the development of artistic talent that can now be marketed in new directions?

The findings raised during this research is not sufficient to conclusively answer this question. People generally perceived the Nanisivik market as a good thing for local carvers that provided a good price. No evidence was presented to suggest that opportunities to promote and develop markets for individual Arctic Bay artists had been forgone as a result of this localized market opportunity. However, the possibility is there and might be considered in the context of efforts to better understand and develop Nunavut's art sector. It must be noted, in this context, that the hamlet has recently initiated, with GN funding, a revolving fund to purchase local Inuit art so that a selection of high quality works are available for viewing and sales when tourists and other visitors come to the community. Thus, the Nanisivik market has not prevented this first small step toward market diversification from taking place.

#### *Infrastructure*

Two aspects related to infrastructure are considered. First, what impact, if any, has Nanisivik had on the development of infrastructure in Arctic Bay? Secondly, has infrastructure available at Nanisivik had any lasting influence on Arctic Bay?

#### *Development of Arctic Bay infrastructure*

To address the first question fully would require a comparative assessment of capital investments made over a long period of time in Arctic Bay in relation to other communities. Unfortunately, such data was not readily available. The interviews identified a small level of concern that Nanisivik had a negative impact on Arctic Bay infrastructure development. Reference was made to Arctic Bay being ineligible for a community pool program some years ago, because Nanisivik already had a pool. More common, however, was the sense that Arctic Bay infrastructure suffers in the same way as other small Baffin communities.

Clearly Arctic Bay infrastructure needed to support local development is badly lacking. There is no community library facility. There is a gym but no community hall. The Arctic Bay airstrip is sub-standard. Arctic Bay has relied on Nanisivik for disaster response and back-up power sources. The community has little to no building space to accommodate business start-ups. There is no centre to support tourism development. These are some of the important infrastructure shortfalls facing Arctic Bay. They are not unique to Arctic Bay. Other small Baffin communities suffer similar problems. It is possible, though, that Arctic Bay's situation is graver than other communities. That conclusion could only be

validated through a detailed comparative assessment of infrastructure—an exercise that may serve little developmental purpose.

There has been little public or private sector investment in physical capital in Arctic Bay that is vulnerable to the mine shut-down. The local hotel does not gain significant business from the mine. The Northern Store has recently undertaken a major renovation, however the local manager does not seem to feel that advanced knowledge of the Nanisivik shutdown would have affected this investment decision. The greatest private sector capital stock developed specifically to carry out business with Nanisivik are the vehicles used for transporting goods and people. Some of this capacity may become surplus or be under utilised with the shut down of the mine—depending upon whether or not some future use is made of the Nanisivik site. Some loss of private capital investment may therefore be incurred.

In terms of future planning, it may be worth assessing whether the public dollars that were spent on developing Nanisivik for the purposes of regional development might have had greater impact had they been spent to develop productive local infrastructure. This sort of alternative use of funds' evaluation should be done on a routine basis as part of future project feasibility assessments.

#### *Impact of Nanisivik infrastructure on Arctic Bay*

Nanisivik infrastructure has affected Arctic Bay in several ways. The jet service made feasible by the airstrip and by the level of business provided by the mine has also made transportation between Arctic Bay, Iqaluit and other southern destinations easier and cheaper. Many people in Arctic Bay say they will miss the fresh food that jet service made possible, and will miss the convenience of jet transportation. The jet is also said to have significantly reduced the cost of air freight. Jet service also seems to be a key component to tourist traffic in the region. Reference was made to groups of cruise ship guests coming up or flying back south using the service, as well as participants in the Midnight Sun Marathon. Some people did note the inconvenience that occurred when air service between Arctic Bay and Pond Inlet was cancelled.

The port facility has had very similar impacts. As with the jet, the Nanisivik port has provided cheaper and more frequent shipping due to the number of vessels sailing on mine-related business. It has also served as a cruise ship re-supply point, thereby supporting what has been a rather experimental high arctic cruise sector.

The Nanisivik port and jet service, then, seem to have played a role in the regional tourism sector. Neither the marathon nor the cruise ships have yet had significant impacts on Arctic Bay business development. The reasons for this probably relate both to issues of human capital—attitudes, knowledge, preferences and skills—as well as to an absence of supporting infrastructure in Arctic Bay. However, the tourism sector is clearly identified as an area in which future community economic development efforts are desired. Should the port and airport infrastructure remain in place and jet service to Arctic Bay/Nanisivik continue, Arctic Bay may continue to find itself in a favourable position from which to develop its tourism sector, provided that other barriers to such development are identified and removed.

Nanisivik infrastructure has also had an impact on Arctic Bay human capital. Many people talked favourably about having access to Nanisivik facilities. Going to the dome restaurant, using the pool, school trips to the site, and so on. Some mentioned the

benefits of simply having some place to "get away to". All these opportunities may have helped improve general well-being amongst many Arctic Bay residents.



## SUMMARY OF DEVELOPMENT IMPACTS

The rationale for investing public money into the Nanisivik project included clear expectations that this investment would assist in achieving community development objectives. The impact on four ingredients for community development are assessed in this section.

### Human Capital

The lasting impacts of Nanisivik on people in Arctic Bay are mixed. For some, the mine has provided an important opportunity for personal growth and advancement in a region where such opportunities are limited in their scope. Others have, as described by one elder, "had a rough life" because of indirect impacts of the mine, closely associated with Nanisivik alcohol.

The relevance of these impacts to Arctic Bay's future are significant. A healthy, confident and well-educated population will be essential to achieving progress in the strategic sectors identified in Arctic Bay community economic development planning processes. Children who have seen the productive work their parents can do may become more motivated to explore their abilities as well. On the other hand, considerable community efforts and resources will need to be focussed to create opportunities for those who have suffered major set-backs to build productive lives in the community.

The skills profile developed by Nanisivik work must also be considered. These have been mostly in areas that relate to infrastructure creation and maintenance—carpentry, machinery operation and repair, some trades. These skills are not irrelevant to Arctic Bay's future development, but they are not the skills that will power the community toward development in the identified strategic sectors such as tourism, arts and crafts, commercial fisheries, and even mining development. What are needed will be entrepreneurial skills, administrative skills, research capabilities, people skills, conflict resolution, and so on. Over nearly three decades of proximity to Arctic Bay, Nanisivik has had a remarkably negligible impact on building skills in these areas.

### Social Capital

Arctic Bay is widely perceived as a traditional Inuit community. Frequent references to sharing of the proceeds of Nanisivik work suggest that kinship sharing networks have been well-maintained throughout the Nanisivik era. The shift toward a money-based economy in which Nanisivik played a supporting role—but did not cause—does not seem to have led to dramatic movement toward individualistic attitudes to material wealth. In the absence of any attempts to identify and measure appropriate indicators, little more than this can be said. It is conceivable that income earned at Nanisivik provided opportunities for people who otherwise would only have been beneficiaries of these sharing networks, to actually participate by playing a sharing role. This would both lead to increased social status for these individuals, as well as strengthening the sharing networks. References to orphans and others who lacked economic means gaining opportunities through Nanisivik are significant in this regard.

Other comments referred to situations where the "social norms" of Nanisivik were significantly different than those in Arctic Bay. In particular, the impact on established

marriages was noted. Did Nanisivik have a significant and lasting effect on the institution of marriage, or more broadly, on gender relationships in Arctic Bay? Various suggestions were made that negative impacts on marriages tended to be temporary, although references to marriage break-down were also made. Again, evidence that would shed more light on this indirect impact is not well-developed. Clearly such an erosion of the cornerstone of family—and ultimately community—social integrity would be a serious issue. What can be stated, though, is that impacts in this area were not directly imposed on Arctic Bay. Miners from Nanisivik are not said to have frequently traveled to the community for social interaction. Rather people from Arctic Bay chose to travel to Nanisivik. The physical and cultural separation between Nanisivik and Arctic Bay is recognized to have mitigated impacts in this area.

### Financial Capital

A conservative estimate of wages paid to Arctic Bay residents over the life of the mine might peg this in the neighbourhood of \$1 million a year over 25 years. That's \$25 million in inflation-adjusted wages entering Arctic Bay's economy. Some of this simply replaced social assistance payments, some went to pay income taxes. Much of this money, however, became discretionary income. Qualitative evidence was provided that some was used to purchase improved hunting equipment. Other income was used to purchase groceries, perhaps better quality or more convenient than might otherwise have been afforded. Some may have been used to purchase domestic labour-saving equipment such as washing machines. Some no doubt was spent on junk food, alcohol, drugs and so on.

In terms of the lasting impacts of this Nanisivik cash infusion into the Arctic Bay economy, there is little that is certain. No evidence was provided to support a connection between Nanisivik income and increased capacity to finance local business start-ups or expansions. Evidence to support the possibility that potential entrepreneurs have access to savings built-up as a result of Nanisivik work was not found. A few workers are said to have purchased homes as a result of having jobs at the mine. This is physical capital that could be converted into money should these people choose to enter into business.

The developmental value of expenditure of Nanisivik income should not be entirely discounted though. Some of this income may have been converted into social capital, if, as discussed above, sharing of proceeds of work (snow machines, gasoline, money, groceries, country food harvested as a result of equipment purchased and so on) did strengthen kinship sharing networks. Some of the income may also have been converted into human capital through expenditures that served to improve individual health and well-being. Suggestions that Nanisivik income reduced stress is evidence in this direction.

### Infrastructure

The lasting benefits of Nanisivik transportation services are limited. Some progress was made in developing the tourism sector by outside cruise ship companies. This experimentation was reliant on both the port facility and the jet service. While the direct benefits to Arctic Bay were small, these initial efforts have been a start in exploring the potential for this product. Other impacts of these transportation services are basically related to cost savings and are, therefore, similar in their effect as Nanisivik wages.

Evidence that the presence of Nanisivik infrastructure reduced the investment of public money into Arctic Bay infrastructure is small but credible. However, the overall assessment is that Arctic Bay suffers from inadequate infrastructure alongside other small Baffin communities, not in contrast to them.

However, it may be fair to consider what the community's development status would be today, had government invested in Arctic Bay infrastructure rather than in the infrastructure of the Nanisivik townsite. Nanisivik could have functioned as a bunk-house operation, with government money going to build better nursing facilities and school, a community hall, a visitor centre, space for business development and so on.

## CHAPTER FOUR: CONCLUSIONS AND RECOMMENDATIONS

### NANISIVIK—A LASTING LEGACY?



- ❖ Nanisivik has made limited contributions to Arctic Bay's development capacity. Some of the income earned at the mine has contributed to involvement in the traditional economy and has helped to maintain and possibly strengthen social networks of sharing. Some individuals have benefited from attendance at the Nanisivik school where they learned skills that have helped them to function well within local hamlet jobs.
- ❖ Children of parents who worked at the mine benefited from increased family income and from seeing parents productively engaged in work. The nature of these positive impacts on later outcome of children is not well known, however. The potential concern that children of workers may be less-exposed to traditional skills were not supported by community interviews.
- ❖ Indirect negative effects on individual well-being is also acknowledged. These arise particularly as a side-effect of alcohol abuse and misuse that is widely attributed to Nanisivik's lax alcohol policy. Those affected through alcohol-related domestic violence include people who had a connection to the mine as well as those who had no connection. This latter group did not share in the benefits of increased household income, only in the negative impacts.
- ❖ The long-term well being of some children has also been affected by the Nanisivik alcohol-effect. Exposure to domestic violence and Foetal Alcohol Syndrome are known to have significant impacts on future outcome. Little is known about the details of these sorts of indirect impacts in Arctic Bay, however, as no monitoring was undertaken.
- ❖ Overall, the Nanisivik experience has not provided a dramatic enhancement of Arctic Bay's capacity to achieve its development goals. The rationale for creating the Nanisivik townsite was made using arguments that this would contribute to development in the area. Opportunities to play this developmental role, however, seem not to have attracted the focussed attention needed to capitalize on them.
- ❖ The mine could have had a greater positive influence if a consistent focus on its role in local development capacity-building had been maintained by public sector parties, alongside the private sector function of running a profitable mine.