



Measuring the Effects of Major Projects in the Inuvialuit Settlement Region

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Table of Contents

Introduction and Purpose of Report.....	1
Review of MGP Value Components and the Current Approach to Effects Assessment	3
Defining the Problem with the Current Approach	6
A Simple Approach to Establishing Pathways and Selecting VCs	9
Establishing Pathways.....	9
Stage One: Project Description	9
Stage Two: Effects of Participation	10
Stage Three: Culmination of Change	11
Selecting Valued Components.....	11
Stage One: Project Description	12
Stage Two: Effects of Participation	12
Stage Three: Culmination of Change	13
Validating Valued Components.....	16
Study Period	16
Testing the Proposed Valued Components.....	18
Stage One: Project Description	18
Stage Two: Effects of Participation	19
Stage Three: Culmination of Change	26
Conclusion.....	27
Next Steps.....	28

Introduction and Purpose of Report

The purpose of this report is to validate an implementable set of socio-economic indicators that can be used by the Inuvialuit Regional Corporation (IRC) to measure the impacts and benefits of future resource development in the Inuvialuit Settlement Region (ISR). The challenge is to keep the analysis simple while ensuring the key aspects of a community's development objectives are being monitored. The selected indicators must be easily measured. Pathways between the indicators and major project activities should be identifiable and provide useful information regarding possible mitigation measures. The research findings will inform assessments of future resource projects in the ISR, including Imperial Oil's proposal to conduct deep-sea exploration for oil.

On the surface, this would seem to be a rather simple task. Dozens of socio-economic impact assessments have been completed throughout the Northwest Territories over the past 15 years, including that for the Mackenzie Gas Project (MGP). Each of these assessments included a process for selecting indicators, determining their relationship with the project (which in Environmental Assessment jargon, this is referred to as Pathways), and evaluating potential effects. In other words, there are numerous examples to draw from and most, if not all, followed a very similar process.

But this seemingly simple and proven process has not necessarily resulted in particularly useful effects assessments. Socio-Economic Impact Assessments (SEIAs) have become exhaustive studies, sometimes without focus. Project proponents are increasingly asked to look at the effects of its projects through a lens that has widened to include holistic definitions of wellbeing. The broad focus has improved our understanding of the state of development across the territory, but recent assessments are also shining

light on the lack of progress in a number of development areas. This has caused a shift in focus for SEIAs, whose interest in the direct effects of a project has waned in favour of an increased focus on social, cultural, and cumulative effects of economic growth in general.

The challenge arises when communities see major projects as a direct means to solving its development challenges. It is true that economic growth should be made the means to development, but set within the constraints of the regulatory process, a single project represents neither the economy as a whole nor all factors that influence change. The past 15 years of diamond mining in the North Slave illustrates the limitations of resource development in affecting broad change in development. Yes, there has been progress in many important areas, but there remain many challenges. Clearly, there is a gap between the benefits a project can provide and the change that communities need.

The culmination of improved knowledge of the state of development, the gaps between what project's provide and what communities need, and the constraints inherent in the regulatory process that limit meaningful dialogue to and from affected parties—there is no meaningful discussions between communities and government as a part of the regulatory process, for example—can frustrate participants in the process, namely communities, and can even disrupt productive relationships between the proponent and these participants.

The investigation of recent SEIAs of resource projects in the North Slave region of the NWT might seem too distant from the ISR and the principal goal of this research—identified as the identification of indicators to monitor the effects of resource development in that region. However, understanding that major projects' direct effect

on the broader goals of a community's wellbeing is limited gives rise to a hypothesis that there are aspects of the SEIA that need revision. If proven to be true, this is an important insight that the Inuvialuit can consider in its own regional assessment approach.

Resource development projects are opportunities for a region or territory to improve its state of development and for residents to raise their overall quality of life, but how projects can become the means to these improvements requires some thought.

The focus for this report is on choosing what should be measured when assessing the effects of resource development and whether current choices are distorting our expectations of these projects. While not covered in this report, the discussion does invite a deeper examination of the fundamental aspects of economic growth and development. But skipping ahead, we ask the question, how do projects affect people? How far do these effects extend? How can a community engage with industry in a way that produces improved project design and other mitigation measures that enhance benefits and reduce impacts? Where and how should communities' broader development goals be considered? And, should these goals be a part of the regulatory process?

These are complex questions. This report begins the examination of this complexity and investigates the effectiveness of the current SEIA process as the mechanism used to link the development of a community to major resource projects.

The ISR has been working on this for the past ten years. In the early days of the MGP, the Inuvialuit conducted its own consultation process to ensure its communities' development objectives were correctly identified. Since 2004, the region has produced an annual report called the *Beaufort Delta Agenda* to revisit and record these objectives and, to some degree, track

progress. The purpose of the Agenda is twofold. First, it provides the Inuvialuit with a record of its development. Second, it offers a means to measure the objectives in relation to future economic growth (that is, a measure of the effects of development), and could be used to inform project design and mitigation measures.

The starting point for this research is the socio-economic impact assessment carried out for the Mackenzie Gas Project. As part of the MGP regulatory process, the IRC worked with proponents and regulators to identify key social and economic indicators renamed Valued Socio-Economic Components (VSECs)—now referred to more simply as valued components or VCs—and the means (or pathways) by which the project would affect them. Had the project proceeded, measuring changes in these variables would have become the means to evaluating the impacts and benefits of the project and whether the mitigation measures were effective.

One of the challenges during the MGP's regulatory process was to find a set of VCs that matched the growing concerns regarding the size and scope of the project and the potential disruptions it would cause. The solution was to add more and more indirect and induced social and cultural variables to the list of VCs. This was supposed to tie the project's activities and the development of affected communities together. The problem was there was very little direction provided on how this exhaustive list of potentially effected variables would be measured or evaluated against the future project's activities.

It is not the purpose of this report to conduct a complete *post mortem* of the MGP effects assessment, or undertake a meticulous investigation into the current approach to SEIAs in the NWT, but some challenges with these approaches are identified to help understand how future effects assessments in the Inuvialuit Settlement Region could be done differently. This

work would allow for greater clarity in project specific assessments and a greater understanding of the effects of future large-scale economic growth in the Beaufort Sea and, more pre-

precisely, it will offer communities knowledge on how and where it can benefit and how it might respond to negative effects.

Review of MGP Value Components and the Current Approach to Effects Assessment

The Socio-Economic Impact Assessment for the MGP was designed to focus on how the project might affect the wellness of a community (Imperial Oil, ConocoPhillips, Shell Canada, ExxonMobil 2005). Wellness is a holistic term that encompasses the most highly valued aspects of community life including the wellbeing of individuals, families, and the community as a whole. Thus, an expectation was put on the project through the regulatory process that its proponents would consider a broad array of economic, social, and cultural variables at the regional and community level in its design.

In anticipation of the MGP, the IRC did extensive work to identify community development objectives and to translate those objectives into indicators of valued components. This work resulted in the development of *MGP Impact Fund Investment Plan*.

Given the size and scope of the MGP combined with the relative lack of constraints on what constituted project effects, the list of wellness indicators was extensive. The VCs were grouped into five categories and numerous sub-categories with a distinction made in some cases between direct effects and multiple rounds of indirect and induced effects. The list of subject areas captured by the VCs are provided below:

1. People and Economy
 - a. Population, Demographics
 - b. Economic Activity
 - c. Labour Force
 - d. Income, Sources and Amounts
 - e. Cost of Living
2. Infrastructure and Community Services
 - a. Transportation Infrastructure
 - b. Utilities, Energy, and Communications
 - c. Housing and Recreation
 - d. Governance
3. Individual, Family, and Community Wellness
 - a. Health Conditions
 - b. Health Care Facilities and Services
 - c. Family and Community Conditions
 - d. Social and Protection Facilities and Services
 - e. Education and Training
4. Traditional Culture
 - a. Participation in Traditional Harvesting
 - b. Consumption of Country Foods
 - c. Trapping
 - d. Language
 - e. Heritage Resources
5. Non-traditional Land Use



For each potential effect, a pathway was established to demonstrate how the VC might be affected by the project. In some cases, the pathway was clear and direct, such as with business activity and labour force, which simplified the design of strategies to improve the results in these areas. The SEIA for the MGP contains details on an extensive array of strategies to improve local hiring, skills training, and increase the participation of local businesses. And, as the data will show later in the report, these strategies were also easily monitored and were quite successful.

In other cases, the pathway between the project activities and the VC was more complicated. (So complicated, in fact, the diagrams included in the SEIA that illustrated these pathways could not be replicated for this report.) This was common in cases where the VC was an indirect or induced effect. Questions arose regarding how people, families, communities, or governments would react at different points along the pathway to the potential changes in their lives and that of their communities. It was also not clear how the assessment would deal with externalities that influence the VCs.

A good example of this is health conditions. There is no doubt that the project would affect health directly, especially in an area such as workplace safety. But, health outcomes are largely the result of social determinants (externalities) not related to the project (see exhibit). Where the relationship was shown to be indirect or induced, there was no clear direction on how to account for the choices or decisions people make. For example,

- How to account for the health effects of a change in life patterns brought about by workforce participation?
- How to account for the variety of consumer choices that become available as a result of increased family income through the rise in wages and salaries? and
- How to account for the increased exposure of resident workers to other cultures and practices through workplace interactions?

Determinants of Health

It has been said that the primary factors that shape the health of Canadians that are not medical treatments or lifestyle choices but rather the living conditions they experience; that is, the social determinants of health (Mikkonen and Raphael 2010). The Public Health Agency of Canada goes one step further, listing the determinants of health as more than just social ones (Public Health Agency of Canada 2013). It includes in its definition:

- Income and Social Status
- Social Support Networks
- Education and Literacy
- Employment/Working Conditions
- Social Environments
- Physical Environments
- Personal Health Practices and Coping Skills
- Healthy Child Development
- Biology and Genetic Endowment
- Health Services
- Gender
- Culture

To say that a major project that raises the level of economic activity in a region will affect health is certainly correct. But it is one element among many. Isolating its contribution to any future change in health status poses several statistical challenges that might not be solved within the context of a SEIA.

These are issues of public health, education and lifelong learning, home economics, and culture among other things. In all cases, there is a connection between the project and health conditions, but the precise nature of those connections is difficult to isolate because they impact people differently and the response of each individual, family, or community could be

Difficulties with Measuring Effects on Wellbeing through Changes in Socio-Economic Indicators

There is no doubt that major projects alter the economic landscape of a region and its communities. The Inuvialuit have experienced this first-hand, having lived through the economic boom brought on by oil exploration in the late-1970s and early 1980s. These times are not remembered fondly. The rise in industrial activity caught the region unprepared causing a disruption in the lives of the local population while providing very little benefit in return. The long-term negative impacts can still be seen today, some 35 years later.

The challenge with the current regulatory process, though, is that there isn't a good measure of overall wellbeing that, had they been in place in 1979, would have led to a change in project design or mitigation measures that would have resulted in a different set of outcomes. There are numerous indicators that could form a type of composite index—*Canadian Index of Wellbeing* and the *Gross National Happiness Index* are two examples—but when the indicators that form these indices are measured individually, none will show what is happening to a community as a whole and may not even show changes that are statistically significant. Even indicators that show a dramatic change could be dismissed due to sampling error—which is easily done when, for example, data collection takes place every five years. In other words, we may not be able to identify a problem by measuring indicators of social cohesion, cultural integrity, or human capabilities on their own, but tragically, the time lag associated with constructing a comprehensive measure means its results come too late to have any meaningful impact on a project's design or mitigation.

So, despite the knowledge of what has happened in the past and what happens in other parts of the world that go through a similar change, it is not easily proved within the context of an SEIA or time-sensitive socio-economic indicators. This highlights a need to reconsider how and what is measured in order to uncover the true effect (good and bad) of major projects on a population.

different. This lack of clarity made it difficult to design mitigation strategies. Had the project proceeded, it is doubtful that a strong case for causation could have been made in the event that some of the selected health-related VCs deteriorated.

This is not to suggest that Health Conditions was a poor choice as a VC. It is one of the most important aspects of anyone's wellbeing and is therefore a very good choice. So too are indicators related to cultural integrity, sustainability, social inclusion, and human capabilities. But many of these suffer the same predicament—that a major project that significantly alters economic conditions will have measurable effects on all of these valued components, but that in each individual case the outcomes are inextricably intertwined with one another and with the ever-changing environment around them, and are largely a function of individual past and present conditions and future choices. Narrowing the relationship in an effort to see a simple pathway between the project and the indicator of wellbeing is likely not possible in these situations.

The MGP SEIA did not include direction on how it would account for the dynamic nature of the human environment nor did it provide a framework for understanding the role of the economy and economic growth in that environment. There was, however, an attempt to draw a very direct link between the project and the overall wellbeing of residents in the potentially affected communities ignoring any complicating factors. Imperial Oil ultimately rejected the position that it would be responsible for the long-standing social and cultural issues in the communities on the basis that its proposed project might exacerbate the situation. The Federal government later acknowledged that these demands had pushed the expectations of industry beyond reason and offered the potentially affected communities \$500 million to address their social concerns, but only if the pipeline was built. The

gesture signaled the Federal government recognized that socio-economic conditions of the region were a limiting factor in its ability to benefit from the MGP, but by tying the investment to the project, government also stalled the pace of development in the region, prolonging that state of development that persists to this day.

Defining the Problem with the Current Approach

The stated purpose of an effects assessment is to determine whether there is potential for a project to affect aspects of life most valued by a community or region. So long as these aspects of life are tied to overall wellbeing, the answer will surely be yes for every valued component selected since major projects, by their very nature, introduce changes to the economic landscape of a community. Economic activity is typically a necessary condition for society to achieve a better quality of life and is thus connected to virtually every aspect of wellbeing and is certainly connected to society's broad goals.

The current approach to SEIA attempts to link the two directly, making the project proponent responsible for the wellbeing-related decisions of the population. Establishing pathways between economic activity and society's wellbeing exposes the complicated nature of that relationship. To reiterate the challenge with this approach, it is difficult to reasonably account for the randomness of choices made or for the influence of externalities to the outcomes of valued components, especially those that are indirect or induced effects of the project. This challenge is even greater when considering the broad outcomes of induced effects such as community culture or social cohesion.

Most mitigation strategies, whether designed as a part of the project or imposed by regulators, tend to target direct effects and the first round

of indirect effects, (the latter constitutes most of the business opportunities that arise from a major project). This includes efforts to improve local workforce participation and business procurement and efforts to increase employee retention and job satisfaction.

Seldom does the process lead to mitigation measures that can penetrate the depth of issues surrounding changes in wellbeing. Not because the mitigation measure is poorly designed or ineffective, but because there are too many additional determinants of wellbeing that must also be addressed. Once into areas of human capabilities, social inclusion, and cultural integrity, communities would likely acknowledge that it is government programs and services in combination with their own actions and other externalities that are most critical to their overall wellbeing.

Industry's Social Contribution

This is not to say that resource companies do not support community-based projects or broader community wellbeing. They do. And, are doing it more and more. As a part of its project design, proponents will now automatically include mitigation related to money management matters, basic education and preparation for future skills training, cultural activities or pursuits, family support, and more. But this is very much in a grey area as far as the regulatory process is concerned and likely has more to do with proponent-community relationships (sometimes called corporate social responsibility or the social license to operate) than it does with effects assessment and SEIA.

This gets at what is wrong with the current regulatory process and why the approach to effects assessment needs to change. Each and every major project in the NWT undergoes an extensive socio-economic impact assessment, resulting in a tremendous store of knowledge related to the current state of development in NWT communities. Communities that have been studied many times over are keenly aware of their challenges and understand that they go beyond the potential effects of any proposed

project. But the Pathways Approach to effects assessment in combination with the SEIA Guidelines directs communities to link its state of development to the major project in order to seek project-led mechanisms that will improve different aspects of their wellbeing. This creates a perception that project proponents can and should be made responsible for any number of community-level changes in wellbeing.

Furthermore, where it's found that current and future socio-economic conditions are largely the result of externalities (for example, government programs and services in areas such as education, health, or housing), there is no meaningful recourse within the regulatory process for the community to discuss the findings with parties other than the project proponent. An unintended consequence of the process is a heightened awareness within the community of its current state of wellbeing that can create anxiety within its residents regarding their future.

This is not to say that the assessment process should be an open discussion for all parties on all subjects related to wellbeing. In fact, it suggests the exact opposite. Regulators are correct in not acting on many of the issues brought forward by communities related to wellbeing since they have no mandate in these areas, but they are very much responsible for directing assessments into this area without establishing appropriate limitations and can thus be implicated with the creation of the contentious environment.

The effects assessment should be limited to those aspects of a major project that are clearly linked to outputs that can be directly affected by project- or community-led action.

Does this imply that concepts of wellbeing be dropped as a part of the SEIA? No. The changes needed are more akin to dividing the current

approach into two appropriate streams; one related to the direct and first round indirect effects of a project and the other related to the role of economic growth in the pursuit of im-

An Independent Body Regulating Economic Growth

The idea of an independent body responsible for regulating how the economy grows with respect to human development is not without merit. To require that a developer understands a project's impact on the environment they're entering and defining that environment to include inter-generational human development is a modern and progressive approach in regulating economic activities. It is a model that the World Bank and the United Nations promote, and has become the established norm throughout the developing world, and is increasingly becoming a model for the developed world as well. The problem is not with the concept of regulations that establish the importance of human development within economic policy; it is that in the NWT, there is currently no guidance given to regulators that would clarify what the social and economic regulations are, why and how the regulations were developed, and how they will be implemented.

proved wellbeing at the community level.

In the first stream, the pathways approach works well in identifying and measuring direct effects and some early round indirect effects and therefore should remain to serve those purposes. In the second stream, community development goals, whether defined as wellbeing, quality of life, happiness, or something else should follow its own process. Its link to major projects would come in the form of community-led partnerships between the community, industry, and government, utilizing its participation in the project as an opportunity for positive change. This second stream could remain a part of the regulatory process, but to be effective, it would have to receive the mandate and guidance from government as well as government's full participation.

Including Development in the Regulatory Process

There are options that would see society's holistic goals remain an integral part of Socio-Economic Impact Assessments. To be legitimate, government would have to provide specific guidance to and become an active participant in the regulatory process. This would require some type of Socio-Economic Development Framework established in partnership with communities that would direct how effects assessments are conducted. This framework would have to include roles and responsibilities for government as a partner in the effects assessment process. The approach would have to be cognizant of the diversity of projects and communities in the NWT. Experimentation, innovation, adaptation, and more rigorous testing would have to be promoted over prescriptive and homogeneous programming.

This would be a progressive, if not ambitious, move by government. But, it should be noted that regulators managing the SEIA process are today attempting to do exactly what is described except that it has no authority beyond the project proponent to impose mitigation, is not being guided by any public framework specific to the NWT, and have not invested in the expertise that would help facilitate and legitimize these aspects of the assessment.

Government's involvement needn't be overly complicated. The process needs direction and oversight, a clear mandate in the area of social and economic policy or promotion, a defined role for communities, and the active and coordinated participation of government.

This might seem too theoretical or disjointed to be practical. But it needn't be. The theory is easily moved into practice since most of the work is already being done. The typical socio-economic baseline study and socio-economic impact assessment provides more than enough information to form the basis of a community-led development strategy and the relationship with industry is already ensured through duty to consult legislation, requirements for Impact and Benefit Agreements, and industries' growing interest in obtaining a social license to operate.

Further study is needed to determine the details of this idea and whether community wellbeing is a goal that is best addressed as part of the regulatory process or through separate means. It is research that could be explored as part of next steps and would benefit from insights from the Inuvialuit. In the next chapter, a simple approach to effects assessment is proposed that will produce an implementable set of socio-economic indicators to measure the impacts and benefits of resource development in the ISR. It also puts forth some initial ideas on how resource development can be made the means to achieving broader goals of Inuvialuit.

A Simple Approach to Establishing Pathways and Selecting VCs

Establishing Pathways

The proposed approach to establishing pathways is to first understand how project activities (defined by its expenditures on goods and services) enter an economy and to then trace the movement of money through the community and region. This establishes the pathways before selecting valued components, which in turn, provides initial insight into the nature of the relationships being considered.

This approach is a departure from what is currently promoted by the MVEIRB in its Socio-Economic Impact Assessment Guidelines. (Mackenzie Valley Environmental Review Board 2004). It states that,

“potential socio-economic and cultural impacts of a proposed development effecting the lives and circumstances of people, families, and communities should be identified first and then evaluated to determine whether there is indeed an effect and whether it is significant. If the potential effects are found to be significant and adverse, measures to reduce, remove, or prevent them from happening are needed.”

Economics as a Study of Choices

In mapping pathways, it can be helpful to think of economics as the study of choices and the evaluation of outcomes that result from those choices. At each stage of a project's effects, there are choices to be made and it is the outcomes of those choices that form the basis of our project assessment.

The pathways can be organized according to three stages of a Project's development, with the first stage being the project description, the second stage being the local participation in that project, and the third stage being the results or outcomes of that participation.

Stage One: Project Description

In the first round, the project proponent makes the decision to proceed with development, meaning they will need to purchase labour and capital. It is in Stage One that we learn the size and scope of the project, how much money will be spent, and what will be purchased.

In economics, the immediate impact of this expenditure is sometimes referred to as the direct effect or the “shock” (change) introduced to the economy. The result is a rise in demand for goods and services, which can include local labour and business services. All other social and economic impacts and benefits are the result of choices related to labour and business participation (including choosing to not participate which could be a personal choice or be a choice resulting from one or more impediments to participation) and are not a part of the first round of effects. In other words, there are no effects until money is spent.

Total spending is not separated into regional or Aboriginal/non-Aboriginal components at this stage, though it is often discussed theoretically in terms of “potential” impacts and benefits on the local and regional study area. Also note that these stages are not aligned with the direct, indirect, and induced effects concepts used in economics.

The first round of effects are relatively easy to calculate and are largely out of the control of the community.

Stage Two: Effects of Participation

The second stage encompasses a series of actions or responses by the local population to the change in the economy. By choosing to participate, resident labour and local businesses bring economic and social impacts and benefits into the community. The first effect is that more people are working and unemployment numbers decrease. The increased income, whether from direct employment, employment with a contractor, or through business profits, affords residents the opportunity to make choices on how and where that money will be spent. We typically think of these consumer choices in terms of spending on day-to-day goods and services, but the increased income also offers people choices in other areas such as savings, education, diet, vacation, employment decisions by other family members, day-care, housing, and even political and marital choices.

For a participating business, the increased revenues offer choices in terms of its possible expansion, capital investments, and partnerships. It also ignites the need for “restocking shelves,” meaning the provision of goods and services to the project uses up inputs that businesses require to operate. These inputs must be replaced, creating opportunities for new businesses that service the needs of contractors rather than the needs of the project.

The increased demand for labour can cause a movement of labour resources. Unemployed individuals and their families relocate to find work either directly with the project proponent or one of its contractors, or to establish a business that provides goods and services to the project, to contractors, or to the now-wealthier consumers.

Governments typically receive tax revenues in this round that includes taxes on income and

profits, resource royalties, and other indirect taxes.

In terms of economics, Stage Two is comprised of the direct effects from resident labour force participation, the first round of indirect effects from local business participation, later rounds of indirect effects from business expansion that occur within the region, and the induced effects from consumer spending choices.

Note that these are largely quantitative questions and are relatively easy to measure and evaluate.

These second round effects are generally those that a community wants to enhance; that is, the community wants to maximize benefits, largely in the form of increased personal and business wealth, and therefore must maximize participation in all its forms. Actions at this stage are typically centred on increasing the preparedness of the community and its residents to participate. This comes in the form of increased training, business development, and a variety of capital investments.

Accounting for Government Revenues

At different times throughout the process, governments will react to proposed and observed changes by increasing education, training, and other program spending and investing in infrastructure. Portions of this spending will occur prior to the official start of a project; that is, before we even reach Round One, while additional spending can occur as part of the effort to increase initial participation or in response to outcomes in wellbeing. Think of this as an increase in the supply of government goods and services in response to the increased demand.

Stage Three: Culmination of Change

In the third and final stage, the results or outcomes of the choices made in Rounds One and Two become known.

- How have the lives of employees and their families changed as a result of the new income? of the new work-life schedule?
- How has the population benefited from complimentary increases in government spending?
- How is the overall increase in income being spent? Being distributed?
- Are there any unintended consequences of workforce participation, or consumer and government spending?
- Is participation in the project creating an income gap? How are inequalities being managed?
- What is the overall effect on the community from the increased activity, wealth, population, and any other fundamental changes?

These are clearly questions that relate directly to the quality of life of individuals, families, and communities and include aspects of financial wellbeing, human capabilities, social inclusion, and cultural integrity. In terms of an effects assessment, these are largely induced effects of the project.

It is this final round that we learn about a region or community's ability to innovate and adapt, and whether its many stakeholders are effectively organised to move society toward its end goals of greater freedom, happiness, and wellbeing.

It is important to acknowledge some key points from the earlier discussion; that is, there are many factors that influence the answers to these questions of which the project's effects are but one source, and that it is not always possible to isolate effects specific to the project activities.

The answers to these questions would be qualitative as well as quantitative since there isn't a single indicator that could answer any of these

questions. In other parts of Canada and around the world, the lack of appropriate indicators has led to the creation of comprehensive indices that are designed to measure broad socio-economic change. But in truth, these indices are better suited to the measurement of inter-generational change rather than project-induced short- to medium-term changes.

The third round effects introduce uncertainty, and as such, can make communities and government wary of the potential changes to their economy. The outcomes can have very positive and long-lasting effects but can also expose pre-existing or create new vulnerabilities and test the enduring population's resilience to change. The outcomes, whether positive or negative, can cause stress and strain on the regional and municipal government budget, infrastructure, administration, and human resources. Understanding how a major project will affect a community or region can be challenging for communities or regions that are without a clearly established understanding of their current state of development and are not already engaged in development processes.

Selecting Valued Components

Valued Components have been defined as those aspects of life that are most important to a society's quality of life. But, as was discussed, this open definition invites the selection of any and all socio-economic indicators related to wellbeing regardless of their relevance to the project. The approach examined in this research would limit the range of valued components to the direct and early-round indirect effects.

There are additional rule suggestions to guide the selection process:

- It is not a requirement that the selected VCs correspond with existing data, but it is required that in the absence of readily avail-

able data, new surveys or focus groups can be organized, that the community agrees to participate in the collection of these data, and that the results are not held confidentially. In other words, it is entirely unproductive to select an indicator that cannot be measured.

- Where possible, each VC should represent new information, meaning it is not duplicating information from other VCs. For example, there is a strong correlation between changes in employment and changes in personal income. Collecting personal income data is redundant unless it is collected to answer questions not addressed by employment data. For example, resident workforce payroll as a percentage of project employment would indicate the types of jobs local people are filling relative to the total wages and salaries being paid. Tracking this share of income overtime would offer an interesting perspective on the performance of the resident workforce.

It is interesting to note that the majority of VCs selected using these proposed guidelines are identical to what were selected during the MGP effects assessment and what are now typically included in SEIAs conducted throughout the NWT. And of course, we should not expect the VCs to be different since they are the direct, indirect, and induced effects.

Stage One: Project Description

The first round effects relate to the change in demand for goods and services. Economists might refer to this as the “shock” to the economy, meaning the change away from the current growth state. In the case of a major project, the proponent(s) should be required to provide these data. They include:

- Duration of project (by phase if applicable)
- Dollar cost of project (by phase and by year if necessary)
- Dollar value of imports (by phase)¹

¹ Imports signal money spent outside the country and therefore the economic or social effects of that expenditure are experienced elsewhere.

- Employment needs (by phase and by skill level)
- Goods and services to be purchased—excluding labour services (by phase, by commodity—high level)
- Contribution to Gross Output and Gross Domestic Product

Stage Two: Effects of Participation

The second round of effects begins with the participation of resident labour and business and follows VCs that are closely correlated with those choices. This includes impacts on the labour market, business activity, income, population changes, and government revenues and expenditures.

Data can be sourced directly from the project proponent(s) or produced by the NWT Bureau of Statistics or by Statistics Canada on an annual basis. Some information will be regional in nature because it is not possible to drill down to the community level for all data needs.

Labour Force Participation

- Direct Resident Employment, including employment with direct contractors (by skill level)
- Labour Force Participation Rates
- Labour Force Employment Rates

Business Activity

- List of resident contractors associated with the project
- Total value of contracts to resident contractors
- Direct endogenous (also referred to as first round indirect effects) and indirect contributions to GDP – this is the value-added contribution of affected businesses

Income

- Personal income by source—employment, self-employed, government transfers (total and per capita)
- Project-related income earned by resident labour (total and as a percentage of overall workforce)

- Income assistance (dollar value of transfers, number of recipients)

Population Changes

- Demographic profile (by age cohort, gender, and ethnicity)
- Migration (interregional and international)

Government Special-Purpose Spending

- Training programs (by dollar amount, number of courses, trainees, graduates)
- Project-related investments in infrastructure
- Other special-purpose programming and spending

Government Revenues

- Project-related direct tax (corporate and personal)
- Project-related indirect tax (mining tax, property, fuel)
- Project-related payroll taxes (payroll, WCB, CPP, EI)
- Total tax collections

Consumer Spending*

The last variable in the list comes with an asterisk. How consumers respond to the change in income is important information, but not easily obtained. There are data sets produced that show changes in retail sales, but not on a local basis. Some high-level consumer expenditure data is produced as a part of Statistics Canada's *National Accounts*. Statistics Canada also produces data representing average consumer expenditures by category of goods and services. In both cases, the information is not representative of the ISR.

The absence of data sources impedes our ability to track the induced effects of a project on a community. Some thought should be given to how this information gap can be addressed because it does lend itself to a lot of speculation on where and how money is spent and causes the analysis of effects to ignore or devalue the contribution of "positive" monetary choices.

It is recommended that the IRC look into this gap in data. Some important elements within consumer spending would include the percentage of disposable income spent locally and the percentage of new spending on necessities (food, shelter, clothing). There are examples where data are collected through a partnership with local retailers. But there are likely several options that could be considered.

Stage Three: Culmination of Change

Identifying VCs that correspond with the first and second round of effects is a relatively easy process. The VCs chosen are not so different from what was proposed in the MGP SEIA. The task becomes more challenging for the third round of effects, which are predominantly the induced effects of the project, can be qualitative in nature, and are subject to a lot of interpretation. It is also important to reiterate that these effects can be difficult to trace back to a project directly and that it is more common to find these effects are influenced by a great number of other factors. Measuring effects in isolation of other economic, social, and cultural influences is not possible, making the determination of a Project's contribution to them speculative.

Developing a relevant and ultimately productive set of VCs for the third round of effects requires clarification of the ultimate goal of a community or region. This is typically defined in holistic terms such as wellbeing, quality of life, or happiness. But what is included in the definition will be different from one community to the next and depend on their current state of development. With that said, it is reasonable to speculate that the definition would include elements such as

- economic diversification,
- management of public interests,

- full employment (employment beyond that which is connected to the project),
- education,
- health,
- safety and security,
- consumer choices,
- family relationships,
- civic engagement,
- housing,
- food security,
- social exclusion,
- poverty,
- addictions,
- crime,
- religion,
- culture,
- history, and more.

What changes with the proposed approach to effects assessment is that a pathway is no longer needed to prove these elements of wellbeing will be affected by the project. But along with the global acceptance of the project's influence on a community comes the equally important acceptance that the process of development requires the integration of actions by multiple stakeholders in all of these areas and that mitigation at the project-level will not be enough to establish improvements in that are, in any way, self-sustaining.

The potential VCs that are listed can be grouped into categories that form a modern definition of development; that is, that development be judged by its impact on people, not only by changes in their income but more generally in terms of their choices, capabilities, and freedoms; and that concern should be with the distribution of these improvements, not just the simple average for a society (Barder, What is Development? Global Development: Views from the Center 2012). In this definition, the ultimate goal is the freedom to live a life fulfilled, to have choices, to have the capabilities necessary to make those choices, and to have the social connections that ensure one's voice is included when choices are being made for them. To turn these concepts into tangible

Financial Wellbeing

The concept of freedom has close ties with that of financial wellbeing—having the financial resources to live a life fulfilled. Gaining greater freedoms is one of the truly tangible benefits or consequences of economic growth. But we cannot forget that this freedom extends beyond what an individual can place in their shopping cart. Financial wellbeing affords consumers a broad array of consumer, social, and political choices. In that sense, the freedom to make these choices associated with financial resources can affect and is affected by human capabilities, social inclusion, and sustainability.

Human Capabilities

Human capabilities are those factors that allow individuals to live lives that are valued, something that is often determined by decision making and critical thinking and that affect one's ability to transform their own resources into improvements in quality of life. Education, health, literacy, and lifelong learning are the most obvious factors. To have strong capabilities is to have the ability to make sound decisions, to have the physical, social, and mental assets needed to follow through with those decisions, and to understand and adapt to changes.

Social Inclusion

Social inclusion is a complex concept with many different elements. It can be described as the strength of connection between people, community, government, and institutions. Some would call this the social fabric of a community and would draw a direct link between it and the concepts of social cohesion and trust.

Some find it easier to understand social inclusion as being the opposite of social exclusion, which is the process of marginalization through barriers to participation in economic, political, civic or cultural life.

Social inclusion is relevant at all levels of society. For example, success for small non-government organizations depends on a close association with government and, increasingly, with industry. At the broadest level, cohesion exemplified by trust and collaboration between governments, Aboriginal organizations, communities, industry, and non-profit interest groups is needed to create and implement and test processes aimed at improving the development of the territory; that is, inclusion is an essential element in creating a system of development that is adaptive and innovative.

measures, they can be described as the freedoms associated with financial resources, hu-

man capabilities, and social inclusion (see Exhibit for definitions).

It should be clear to see that understanding and measuring the development of communities or regions using this framework or something similar would produce useful and comprehensive results. And given that a comprehensive statistical measure of wellbeing is likely not practical, this approach might be the next best thing.

But there are also some obvious concerns. The first is that studying community development in this manner requires a substantial commitment of time and resources from multiple sources that go beyond the requirements established through environmental regulation. The second is that the results will only be partially related to the major project being considered; that is, much of the analysis would be on elements of development beyond the scope of the project. Under the current regime, regulators have no mandate to take the assessment in that direction.

Choosing this or a similar process over the current one means accepting broader involvement of stakeholders and thereby limiting the demands placed on project proponents. But it would also mean choosing a process that is focused exclusively on the wellbeing of a community that should ultimately result in better outcomes. And for those needing reassurance, moving project assessments in this direction would not affect community consultations, participation agreements, or corporate-social responsibility. One could anticipate, however, that the new process of understanding and measuring development combined with greater involvement from other responsible stakeholders would result in a realignment of interests when it came time to negotiate impact and benefit agreements, which could foster better relationships between project proponents and communities and result in better community wellness outcomes overtime.

Validating Valued Components

In this chapter, the socio-economic indicators for future effects assessments proposed in the previous chapter are tested against the rise and fall of economic activity in the ISR over the period of 1998 to 2011. That timeframe is associated with the escalation of natural gas exploration that came in anticipation of the pending Mackenzie Gas Pipeline.

We can be confident that the relationship between proposed VCs and economic growth exist, and that they are not purely theoretical. By its very definition, gross domestic product includes labour income, and consumer activity is a function of personal disposable income. But what we hope to learn is the degree to which these relationships hold and at what point do thresholds emerge in terms of the different direct, indirect, and induced effects. For example, what is the capacity of the labour force?

There are a few issues that arise that prevent a complete analysis, however. First, the study period includes a rise in economic activity, but not to the same degree that the MGP would have brought. The smaller size of the project means the effects will be similarly smaller and the chance for spillover into community wellbeing is much lower. The absence of a single definitive project (the exploration phase was characterized by several exploration companies conducting their own activities) also means that additional data collection efforts similar to what is recorded by operators of NWT's three diamond mines did not occur. Additional data are limited to the direct impacts on labour and business that were collected through the CCBA's, but even that data has its limitations.

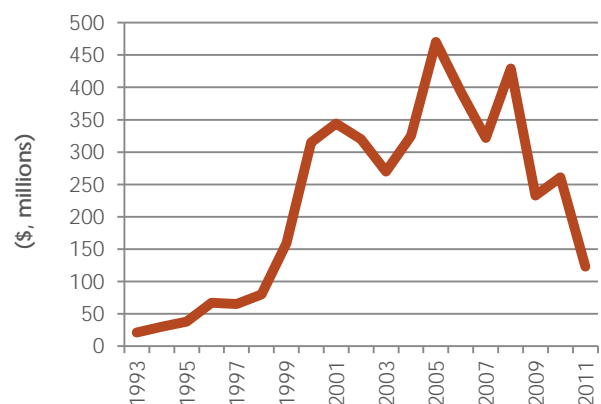
The approach taken in this chapter can serve as the basis for conducting future effects assessments. It offers a simple methodology rec-

ognizing the limitations in the data and does not link community wellbeing to the project.

Study Period

Exploration for oil and gas in the Beaufort Delta grew rapidly starting in the late 1990s alongside revived interest in building a natural gas pipeline along the Mackenzie Valley to northern Alberta. Exploration expenditures in the NWT grew from \$80 million in 1998 to \$344 million by 2001, peaking four years later in 2005 when expenditures reached \$470 million. That year saw natural gas prices in the United States climb to a historical high above \$13.50 per cubic metre. Exploration expenditures remained close to their peak level for another three years while the Joint Review Panel evaluated the MGP's Environmental Impact Statement submitted to the regulators in May 2005. By 2009, while still awaiting the final

NWT Oil and Gas Exploration Expenditures, 1993 to 2011



Source: NWT Bureau of Statistics

word from the Joint Review Panel, the price of natural gas had retreated back to its historical average, dropping to a low of \$3.15 in March of that year. Meanwhile, over the five years from 2005 to 2010, the estimated construction cost for the MGP had been revised from ~\$7 billion to ~\$16 billion. Interest in Beaufort Delta natural gas faded after that and the inflow of investment dollars ended abruptly.



Throughout this period of 12 to 14 years, the Inuvialuit economy grew increasingly connected to the oil and gas exploration sector. The region invested heavily in labour and capital upgrades needed for full participation in the many different components of the project. The

Comprehensive Cooperation and Benefit Agreement became the primary tool under which the IRC engaged with and guided prospective companies interested in establishing businesses in the region. These CCBA's created the link between project activities and direct effects.

The CCBA's also linked project activities to education through the Inuvialuit Education Fund. This was one of the only formal mechanisms that addressed induced effects (community wellbeing), though it was understood and promoted as a tool to improve direct participation in the project.

One of the principal goals of the Inuvialuit in concluding a comprehensive land claim agreement was to promote economic development within the Inuvialuit Settlement Region and to ensure that the benefits of any development accrue to Inuvialuit. The idea that Inuvialuit should be an influential force in all activities in the ISR was a principal motivating factor for the negotiators of the claim. Having had the experience of the first exploration boom in the Beaufort-Delta region, which happened with little Inuvialuit participation, the Inuvialuit Final Agreement (IFA) negotiators sought to achieve comprehensive involvement in the assessment, planning and benefits arising from future development activities.

In the next section, the relationships between the proposed VCs and the economic events of 1998 to 2011 are tested to confirm whether they can be seen in the measured results. A second purpose of this comparison is to learn if there are measurable effects that can be associated directly to the CCBA, IEF, or any other mitigation efforts.

Testing the Proposed Valued Components

Stage One: Project Description

These variables establish the size and scope of the project. They are not easily organised for this particular report since the exploration that took place does not represent a single project, but instead, many small projects led by several different proponents. Where the data allows, the economic activities of these multiple projects were combined to understand the overall scale of the exploration activities.

- Activities grew over the course of several years starting in 1999, peaking in 2005, and tailing off by 2010/2011 (as shown in previous Figure).
- The total dollar figure is compiled by Statistics Canada. From the period 1999 to 2011, \$3.96 billion was spent on oil and gas exploration in the NWT. Not all of that spending occurred in the ISR, nor was it all entirely related to the Mackenzie Gas Project. For example, exploration in the Cameron Hills area in south-central NWT is included in this figure. However, because the ISR was the centre of activity and because it would have re-

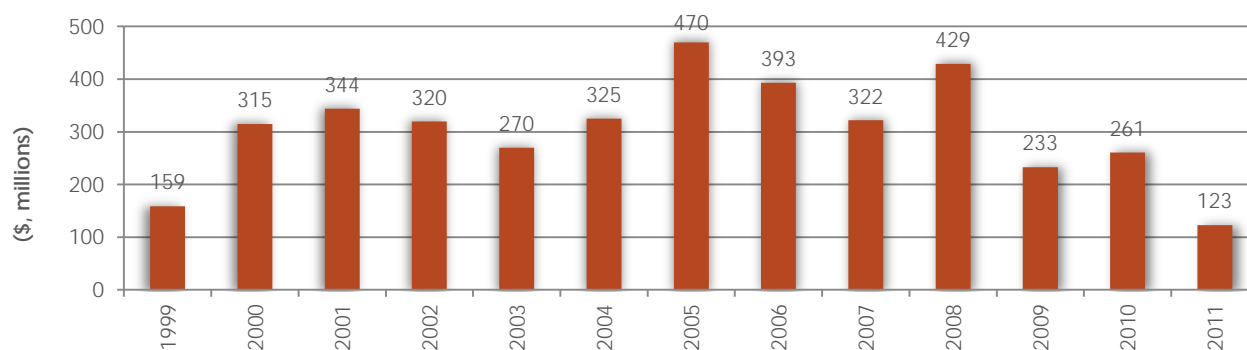
Exploration Relies on Imported Equipment

For example, the NWT Oil and Gas Exploration Model developed by Impact Economics to help understand the economic benefits of oil and gas exploration has shown that approximately half the money spent on drilling (excluding associated activities such as road construction or site preparation) will go toward the purchase of direct imports, and another quarter of the spending will go toward indirect imports, leaving about \$2.5 million to be spent in the NWT.

ceived a largest share of these expenditures, the figure provides a credible proxy for the rise and fall of expenditures in that region.

- The value of imports was not recorded as a part of the exploration phase. This information is crucial since it allows for an accurate Gross Output to GDP ratio calculation, amongst others, which is a ratio that describes the local economic contribution in relation to the total expenditure. Exploration projects tend to rely on imports to a greater degree than do resource extraction projects. The majority of exploration costs go toward the purchase of equipment, drilling services, fuel, and transportation.
- The total number of jobs created by the exploration activities is not available. There were employment data collected through

Total Value of Project, \$ millions, 1999 to 2011



Source: NWT Bureau of Statistics

CCBAs from 2005 to 2011, but they do not provide a complete picture.

- The contribution of the exploration activities to the regional or territorial GDP was not computed specifically. Statistics Canada does calculate the GDP by industry, including the category “oil and gas production services” which would include exploration services, however, this information is typically withheld because of confidentiality rules. A full economic impact assessment of the pre-MGP exploration activities, including all direct, indirect, and induced effects, was not a part of the MGP SEIA.

Stage Two: Effects of Participation

Labour Force Participation

Data on labour force participation was collected as a part of the CCBAs, however, it does not provide a complete picture of participation by Inuvialuit. That information can be combined with *Labour Force Survey* data from Statistics Canada, *Community Household Survey* data from the NWT Bureau of Statistics, and *Canadian Census* data to learn about the project effects on Inuvialuit labour.

The level of detail recommended as part of the labour force activity data collection is not available for the oil and gas exploration activities. It is the sort of data that is collected by the diamond industry as a part of its socio-economic reporting and is very useful in understanding local effects.

Active companies reported employment numbers in their CCBAs, showing Inuvialuit employment peaked in 2006 at a level just under 100 full-time equivalent (FTE) jobs². The regional employment data, collected by Statistics Canada and the NWT Bureau of Statistics that combines the results of three distinct surveys and thus do not form a true time series, confirms the rise and

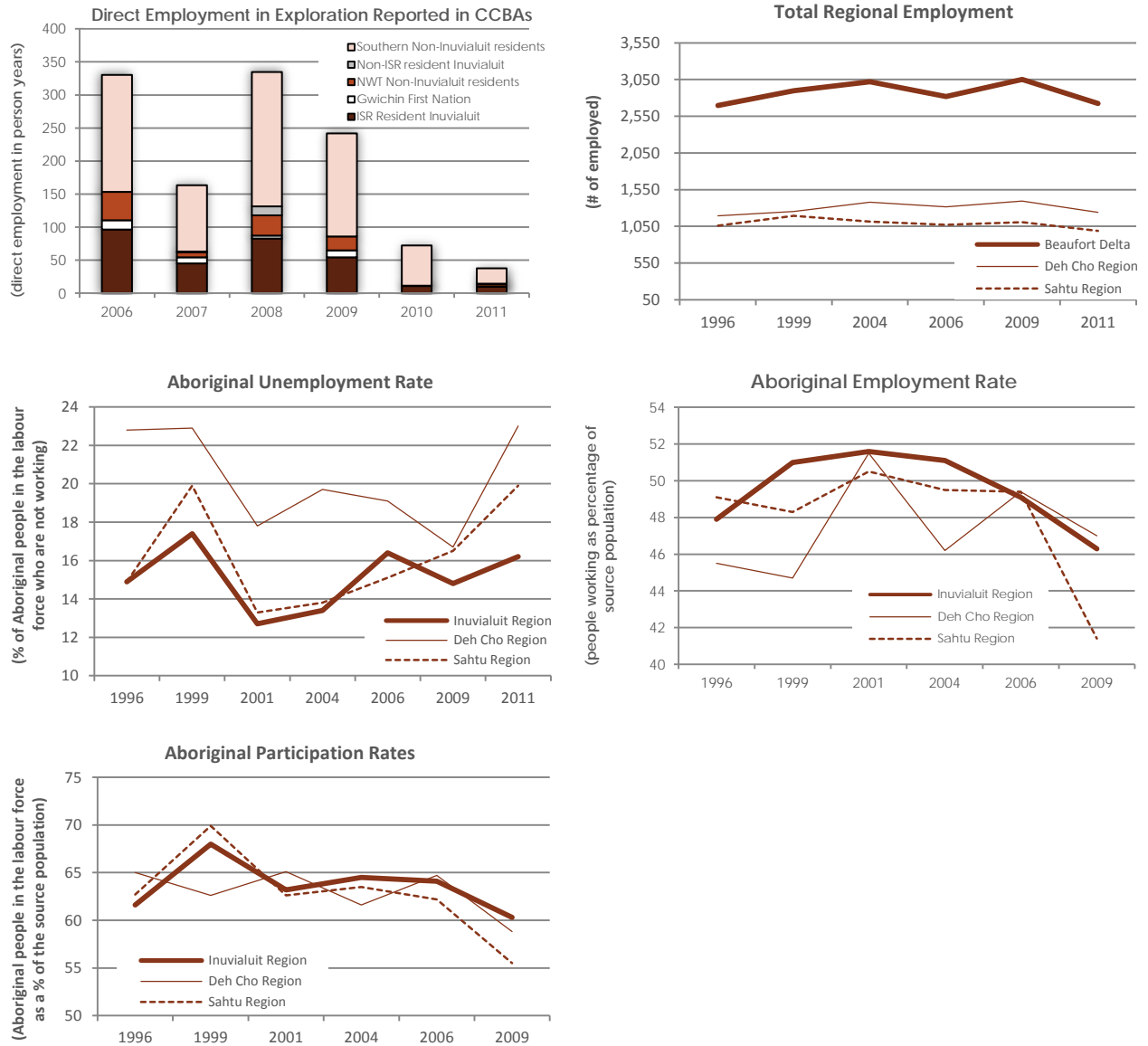
fall of employment in the Beaufort-Delta region with peaks coming in 2006 and in 2009. This pattern is consistent with the rise and fall of economic activity in the ISR.

The employment data show us what we know; that jobs were a part of the exploration activities and that Inuvialuit participated. The employment rate and unemployment rate data reveal something more interesting. These statistics suggest that the relative effect on the region’s labour force was not transformative. Meaning it didn’t alter the characteristics of the labour force in any profound or permanent way. Employment rates for Aboriginal labour barely moved over the decade of activity, remaining close to 51 percent. Unemployment rates actually grew during that time, which could be the result of a rise in the number of Inuvialuit in the labour market, coupled with a relatively smaller increase in the number of new jobs. Put another way, more Inuvialuit are entering the workforce to take advantage of the growth in opportunities, but a relatively smaller number of those people are actually finding work. However, Aboriginal participation rates actually fell throughout the decade, meaning fewer Inuvialuit were entering the workforce, which in turn suggests the rising unemployment rate is actually a reflection of fewer Inuvialuit working.

Unfortunately, the seemingly contradictory statistical results are not uncommon in the NWT where quarterly and annual labour force data are not collected outside Yellowknife. The population base is too small for such a survey. The result is, as suggested earlier, data that can be difficult to interpret. It is a challenge that was solved by the Socio-Economic Reporting Agreements signed between the GNWT and the three operating diamond mines that stipulate the statistics that must be collected.

² The term *full-time equivalent jobs* refer to the total hours of employment recorded as if they represented full-time positions. The number of hours used in the calculation is 2,080, which is simply 40 hours per week multiplied by 52 weeks.

Aboriginal Labour Force Activity, Inuvialuit, Sahtu and Deh Cho Regions, 1996 to 2011



Source: Inuvialuit Regional Corporation CCBC Reports, Statistics Canada Labour Force Survey, NWT Bureau of Statistics Community Household Survey, Statistics Canada Canadian Census, various years.

Business Activity

The IRC developed and maintains a list of registered Inuvialuit businesses. The value of contracts received by these businesses during the

exploration boom was reported in the CCBA reports starting in 2005-06, separating direct contracts with exploration companies from business that grew out of the need for subcon-

tractors. There was no estimation of further indirect or induced business effects.

The inconsistency in exploration activity (the dollars spent year to year changed significantly) means it is difficult to develop conclusions from the data. The CCBA reports show direct spending peaked between 2008 and 2009—somewhat contradicting the NWT-wide data that could be reflecting the spending patterns outside the ISR. Also, the CCBA data confirms the Inuvialuit involvement in direct and indirect contracting, but also shows its ceiling appeared to be approximately \$100 million in business. When total expenditures grew beyond \$150 million, as they did in 2008 and 2009, Inuvialuit business involvement could not keep pace.

One of the challenges with tracking the value of business contracts is understanding the effect on people and correctly allocating those effects to the correct jurisdiction. In the North Slave region, the three diamond mines report regularly on the value of direct contracts flowing to NWT and NWT Aboriginal businesses. The numbers have grown over the past decade and have exceeded \$1 billion at times, when

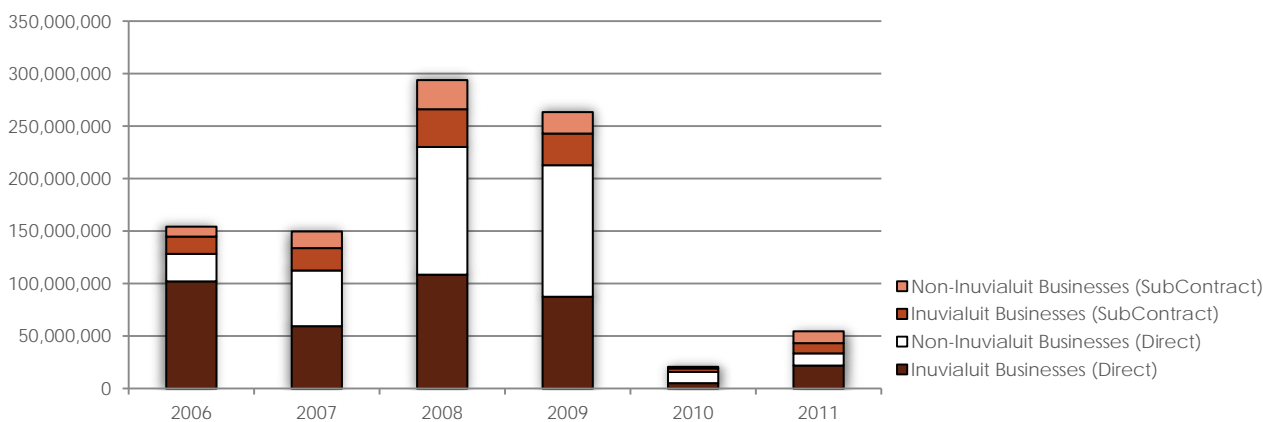
combining all three mines. But what does this mean for local business profits, employment, and labour income?

A contract to supply goods might be worth many millions of dollars, but most of the contract's value is in the good itself. The local company's share of the contract, in this example, would be limited to nothing more than the transportation of that item and any necessary paper work since the NWT is unlikely to manufacture the goods that are required.

Another challenge is with correctly assessing where the employment and profits actually occur. There are many instances where local contractors use non-resident labour and management to service the contract.

Neither of these cases diminishes the importance of participation of local businesses. But it is not always possible to accurately assign benefits of contracts based exclusively on their total value. The details of these contracts are important to track in order to properly assign real value.

Value of Business Contracts, Inuvialuit and Non-Inuvialuit Registered Companies, 2005 to 2011



Source: Inuvialuit Regional Corporation, CCBA Reports.

Income

The income data produced as a part of the CCBA's reveals a slight shift in the 6 years of data, with Inuvialuit residents gaining a small increase in the share of the total wages in relation to their hours worked, though there was also a slow decline in relative participation. A historical dataset prior to 1998 would be helpful here in identifying whether this was a consistent trend over the 12-year period being investigated.

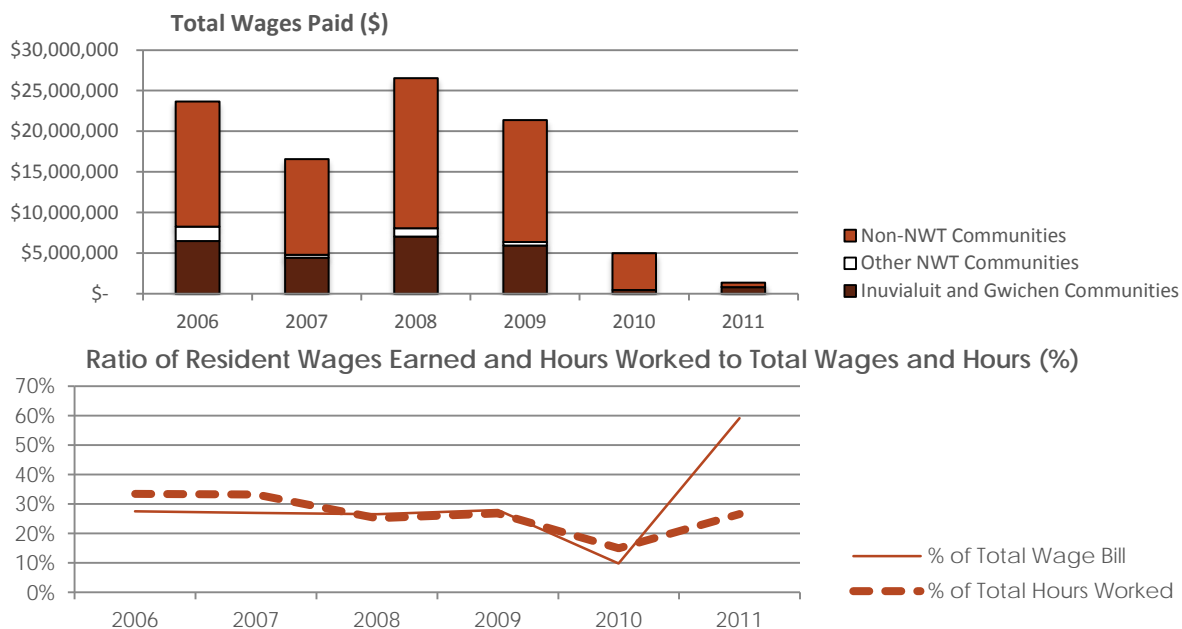
Similar to the employment and business data, there appears to be limits to the growth in income, with labour and business unable to grow at the same pace as the increase in wages.

Income Support data produced by the GNWT shows a dramatic downturn in the number of cases from 1997 to 2005 followed by a trend towards a slow but consistent rise in the number of cases that has continued right through 2013.

Finding a correlation between the exploration expenditure data and total personal income is likely not possible. The macro-level data (shown in the tables on the following page) contain too much information on the overall economy that prevents us from isolating the specific impact of the exploration activities.

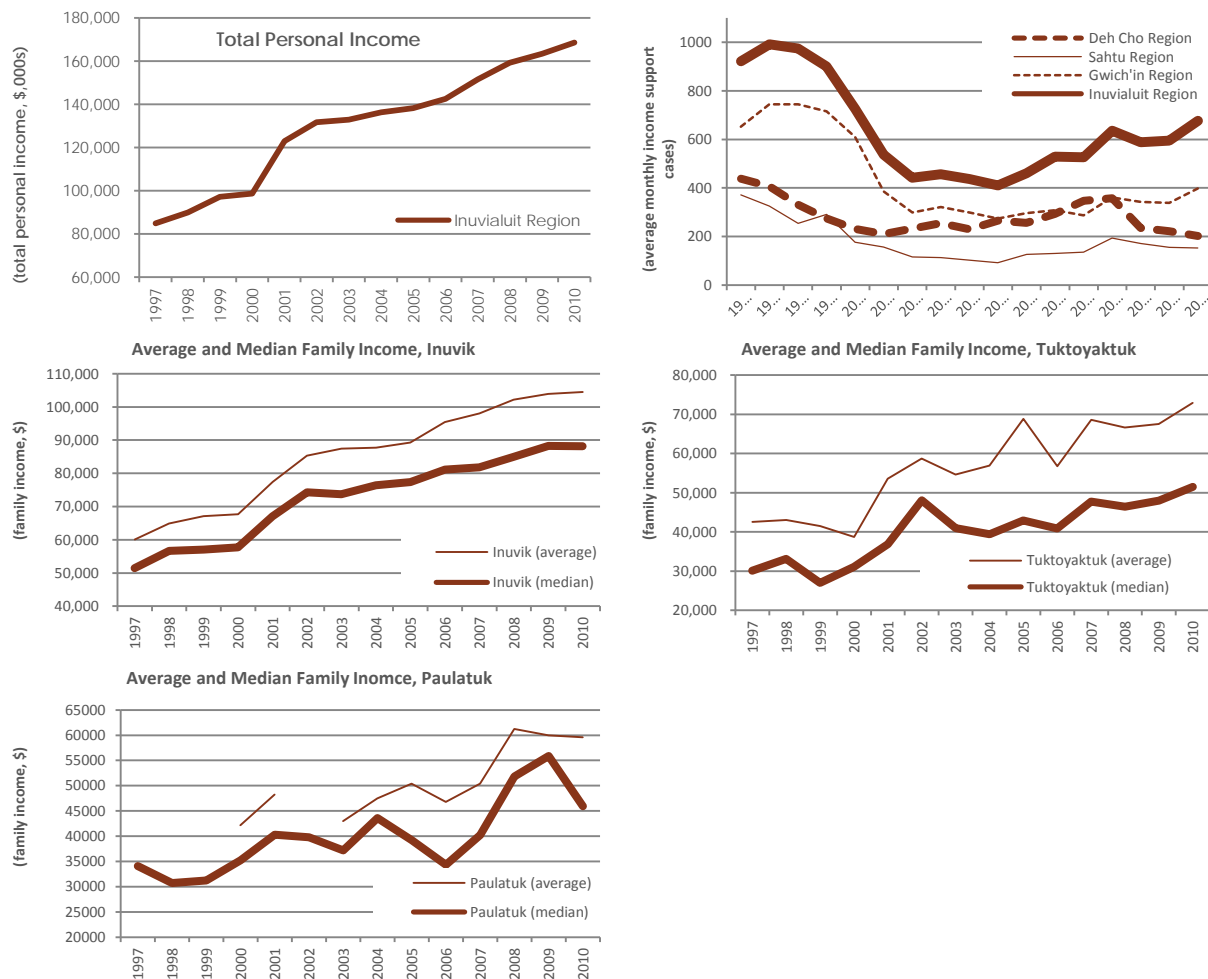
The average and median family income data show interesting results. While it does appear the gap is widening in Inuvik, the pace has been slow. The divergence was more dramatic in Tuktoyaktuk. There are many mathematical explanations for a divergence between mean and median incomes, however, economists and social scientists are increasingly looking at income gaps as a key determinant for issues related to social inclusion, human capabilities, and financial wellbeing.

Wages Paid and Ratio of Wages to Hours, by residency of employee, 2006 to 2011



Source: Inuvialuit Regional Corporation, CCBA Reports.

Income Data: total personal income, income support cases, average and median family income



Source: NWT Bureau of Statistics

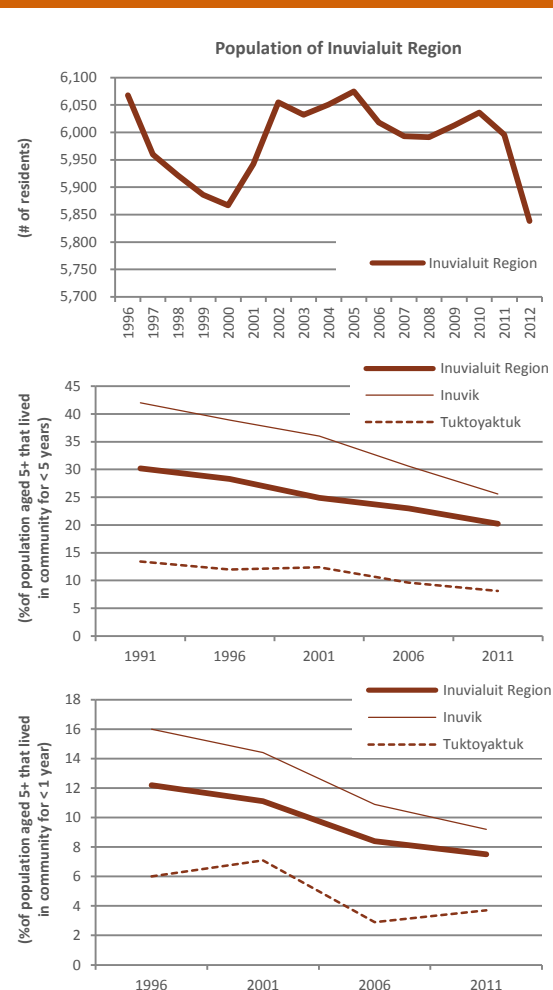
Population Changes

The pattern of movement in population for the Inuvialuit Settlement Region appears to be closely aligned with the rise and fall of economic activity across the study period. Some caution is needed though. These population data have not yet undergone a revision since the completion of the latest census. That revision might alter these results. Scale should also be considered. The population appears to have grown quickly from 2000 to 2002, but the actual-

ly size of increase amounted to less than 200 people.

Also revealing are the data on mobility, which shows a very steady decrease in the rate of movement or relocation. This phenomenon is being experienced throughout the NWT, as the population becomes less and less transient. *A priori*, it was thought that increased economic activity would increase mobility, especially in the form of transient workers.

Population Movement in the Inuvialuit Settlement Region



Source: NWT Bureau of Statistics, Statistics Canada Demography Division, Canadian Census

Investments in Workforce Readiness

The government increased its investments in training leading up to the anticipated MGP. Had the project proceeded, keeping track of the investments in training would have been important in understanding how to best improve

the participation of Inuvialuit in the project's direct or indirect workforce. Existing public data may not provide sufficient information regarding the effects of these investments because it does not make a distinction between the results of special-purpose funding and regular annual funding of education and training programs.

Through the CCBA's, companies engaged in oil and gas exploration contributed to the Inuvialuit Education Fund. As noted earlier, this was one of the few actions directed at improving community wellbeing though it was promoted largely as an investment in workforce readiness.

The percentage of high school graduates did not improve significantly from 1996 to 2009, however. The Figure on the following page separate the Aboriginal and non-Aboriginal population to demonstrate the lack of change in either group. This is an interesting result because it hints at the possibility that economic opportunity does not have an immediate effect on a student's educational performance. A few things to note however;

- these data do not tell us what might occur over the long run in a scenario where the economy sustains growth for a period beyond 10 years, and
- the data show the education levels of the overall population but are not showing high school graduation rates or post-secondary enrolment rates, which might give better indication of an effect, if there was one.

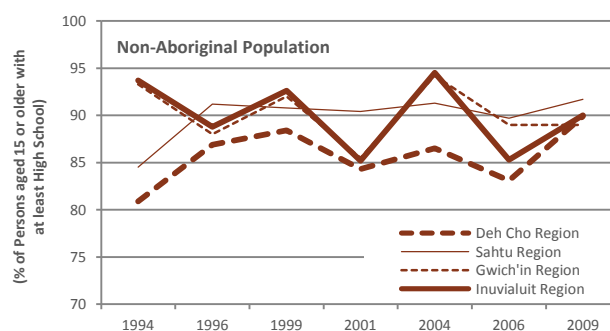
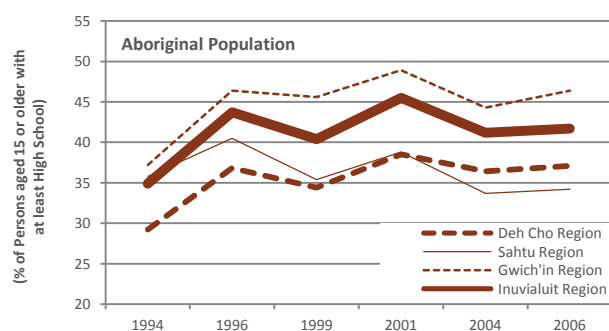
More specific data on education results is needed to understand whether economic activity can act as an incentive to perform better in school and whether the investments of government and industry have a measureable effect. Longitudinal data that links the education spending on specific students and their success in the workforce would help in these regards.

Inuvialuit Education Fund, 2000/01 to 2009/10

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Corporate Contributions	100,000	198,500	199,200	200,040	201,048	162,258	163,709	165,451	167,541	90,049
Scholarships, Endowments, and Investments	151,700	397,884	382,476	288,341	312,500	312,500	312,500	312,500	312,500	312,500
Inuvialuit Education Fund	251,700	596,384	581,676	488,381	513,548	474,758	476,209	477,951	480,041	402,549
IEF Program Administrative Costs	82,898	145,073	180,605	150,810	162,669	169,795	177,217	184,950	193,010	201,413
IEF Program Expenditures										
Grad Incentive Gifts	16,716	19,584	5,286	0	5,500	5,750	6,000	6,250	6,500	6,750
Tutoring Program	7,587	12,004	15,408	15,000	16,000	16,500	17,000	17,500	18,000	18,500
Spring Incentive Trip	24,136	21,932	0	0	16,500	17,000	17,500	18,000	18,500	19,000
Scholarships	37,000	36,500	49,000	62,500	62,500	62,500	62,500	62,500	62,500	62,500
IEF Total Program Expenditures	85,439	90,020	69,694	77,500	100,500	101,750	103,000	104,250	105,500	106,750
Year-End Balance	83,363	361,291	331,377	260,071	250,379	203,213	195,992	188,751	181,531	94,386

Source: Inuvialuit Regional Corporation *CCBA Reports*.

Percentage of population aged 15 years and older with at least a high school education, 1994 to 2009



Source: NWT Bureau of Statistics, *NWT Community Survey* and *NWT Labour Force Survey*, Statistics Canada *Canadian Census*.

It is worth noting that this relationship between education and economic growth is difficult to find in community-level data that is limited to a single generation. Inter-generational improvements in education are more obvious. But once into longer study periods, many factors beyond economic growth are needed to explain any improvement.

Government Project-Related Revenues

Government revenues were not affected by the exploration activities, which are, by their very nature, non-profitable. There would have been a small increase in direct personal income taxes, payroll-related taxes, and indirect taxes.

Additional Considerations

The data available to demonstrate the effects of the exploration activities on labour force activity, business participation, income, and consumer activity do reveal that the Inuvialuit were engaged with the project. But the data also demonstrate the variability in results and analysis because of the lack of specific data, the absence of a proper time series (many of the data series shown are pieced together from two or three different surveys and are therefore not comparable), and the sampling error that exists because of the small size of the population.

These are critical points that are often ignored or glossed over in effects assessments and are perhaps the most compelling evidence for keeping the statistical analysis simple. It should be emphasized that these statistical challenges arise in assessing the direct effects. The challenges are exacerbated as the assessment moves further away from these direct effects and into areas of community wellbeing. The statistical results become almost nebulous. But this doesn't mean there is no effect, just that the effect is difficult to *prove* statistically, especially when looking at each statistic in isolation of one another. This is an argument for moving the discussion of a project's interaction with community wellbeing outside the strict confines of the current regulatory environment.

Stage Three: Culmination of Change

The previous chapter proposed conducting the effects assessment on wellbeing in a different manner than what was used in the assessment of first and second round effects. It noted that establishing valued components related to wellbeing requires clarification of the ultimate goal of a community or region and listed a dozen or more typical areas that might be included such as

- economic diversification,
- management of public interests,

- full employment (employment beyond that which is connected to the project),
- education,
- health,
- safety and security,
- consumer choices,
- family relationships,
- civic engagement,
- housing,
- food security,
- social exclusion,
- poverty,
- addictions,
- crime,
- religion,
- culture,
- history, and more.

The importance of establishing clarity around the definition of end goals from a community's perspective cannot be overlooked. Evaluating changes in wellbeing requires judgment on the trade-offs between positive benefits and negative impacts on the variables in this list. In some cases, the path back to the project is direct enough that mitigation can help influence the outcomes, but in most cases, the results reflect the complex interaction of the many different forces at play within a community.

Ignoring this context of the human environment and moving forward with correlation tests between economic growth and these indicators of wellbeing disregards causality and the role of externalities and can harm the accuracy of the assessment as well as the community's own understanding of their current state of development. In other words, it can cause a community to put too much emphasis on the role of the project in influencing their current state of wellbeing when other factor—ones that a community could potentially influence—are being ignored.

Thus, it is recommended that an evaluation of indicators of wellbeing such as the ones listed here be studied in the broader societal context that they imply. There has been some work

done recently that would begin this process, including the evaluation of economic life in Paulatuk. It is also work that could be initiated at the regional level, though some inter-community differences would be missed with this approach. These differences may or may not warrant a community-based evaluation.

Conclusion

The socio-economic impact assessment that was carried out for the MGP brought to light many concerns regarding the state of wellbeing of communities situated along the Mackenzie Valley. However, it did nothing to positively effect the situation in those communities. One reason for this is the demise of the MGP. With no project, there can be no effects, negative or positive. Another reason is that the lead proponent, Imperial Oil, rejected the regulatory authorities position that its project be held responsible for historical socio-economic conditions in these communities. A third reason, and the one most germane to this report, was that the approach taken in conducting the effects assessment that attempted to link the MGP's activities with the overall wellbeing of the communities created a confusing assessment and left communities without an understanding of how to improve their situation apart from its link to the project's activities.

A major economic project, whether it's the MGP, offshore oil exploration, or a traditional mining operation, is not the answer to all of society's social, economic, and cultural concerns. It offers communities a means to improve its wellbeing by bringing choices to a society. There are, of course, many things industry can do to improve the manner in which these choices are presented. The most obvious being those related to money—who receives it and how it is used. Most corporations now operate with the recognition that its future ability to conduct business is very much tied to its social

license to operate today and that this license typically requires an active community presence. But at some point, the responsibility for improving socio-economic conditions shifts to the community itself, the choices its residents make, and the choices of other stakeholders such as the territorial and federal governments.

The problem that the SEIA encountered in the MGP and continues to encounter in present-day assessments is the requirement that a community's wellbeing be tied to a project's activities. It is accurate to say that an economy can and does influence a population's state of wellbeing, but it is inappropriate to view this influence as a direct pathway without accounting for the complexity that exists within a society. Promoting this relationship in the assessment causes community expectations to grow beyond what a project can reasonably deliver and can foster a confrontational relationship. A community would be in a better position to view a proponent as a future partner if it viewed the project as an opportunity to contribute to its ongoing efforts to improve quality of life.

In this report, an argument is put forward that says effects assessments should deal with valued components that a project can have a direct influence over. This includes many of the direct, indirect, and induced effects already included in the current approach such as employment, business development, skills training, income, and tax revenues. But the manner in which a project will influence broader issues of

social inclusion, human capacity, and financial wellbeing should be addressed differently. It should allow communities more room to establish their own ideas on improving wellbeing that brings in a much larger group of stakeholders and establishes the project as an input into the broader development process. How this can best be orchestrated is open for discussion. It can remain a part of the existing regulatory process or form the basis of a separate process. In either case, government has to become a more active participant in the process by providing guidance on how regulatory authorities should assess the effects of a project and by accepting a role in the development goals of communities.

Next Steps

This report contained a number of ideas for future work or next steps. It identified areas for improved data collection and reporting in areas that align with the information needs of future effects assessments. It also invited discussion on how future effects assessments should be conducted and, using the MGP as an example, demonstrated how this process might start. A key point to this discussion was on how community wellbeing should be treated in the regulatory process, or if it should have its own process outside that for environmental effects assessments. It is recommended that these ideas be considered with a thought to how they might be implemented.

The IRC intends to communicate the results of this research to and seek broader input from stakeholders within industry and government.

There is also an opportunity to share the research with the Social, Cultural, and Economic Working Groups for the Beaufort Regional Environmental Assessment and the Beaufort Sea Integrated Ocean Management Plan, with a view to establishing a process for future assess-

ments, create a common set of socio-economic indicators, and possibly generate some ideas on future mitigation measures.

Combined, these discussions with a broad set of stakeholders will provide information needed to complete a Report on Indicators that would facilitate the creation of a socio-economic database that could be used as part of future project-related baseline and effects assessment work.