

Economic Impact Assessment in the Mackenzie Valley

Environmental Assessment (EA) Practitioners' Workshop

Presented by Roy Ellis
Ellis Consulting Services
March 15, 2006

Sources of Economic Impacts

There are two main sources of economic impacts:

1. Those that flow from the project (footprint) on the environment – try to “minimize” these impacts
2. Those that flow from economic activity – i.e. working at the mine or supplying other goods and services – try to “maximize” or “optimize” these impacts

Source of Impacts - Environmental

- Most environmental impacts they have been mitigated through project design and/or compensation.
- Therefore have been few, if any, unmitigated impacts flowing from the environmental side

Source of Impacts - Economic

- Projects can only create “opportunities”
- People have to be willing to take training to qualify for jobs and governments have to be involved in making that training available
- People have to be willing and “enabled” to start new businesses or expand existing ones to build capacity
- In addition to impacts flowing from employment or business activity there is also the opportunity for “equity” participation in projects

Source of Impacts - Economic

- Why is it important that economic impacts be “optimized”?
- It is important that the directly affected communities and the NWT benefit as much as possible from developments occurring in the north
- Mining projects are the largest sources of “wealth creation” in the NWT and if an economy is to be built then the north must participate in that wealth creation
- But projects must also have an overall positive contribution to the economy

General Approach to Economic Assessment

- Try to match demand with supply – but in the north the unemployed labour market is small with low education levels and work experience
- But we also want to tailor the “demand” as much as possible to fit with the supply side
- We also want to suggest how capacity can be built on the supply side so that benefits can be greater
- The process is difficult as both demand and supply are “moving targets”

Basic Steps for Economic Impact Assessment

1. Select study area, temporal boundary and classification rules
2. Develop baseline economic data
3. Project baseline data into future without the impact of the proposed project
4. Develop economic data for the project and estimate direct, indirect and induced impacts
5. “Impose” the project impacts on the baseline to simulate the effect of the project on the economy
6. Determine significance and introduce mitigation

Study Area and other Parameters

- As a rule communities that the project proposes to sign Impact and Benefit Agreements comprise the “directly impacted” or local area
- Other communities that are expected to act as an extended labour pool are included as the regional study area
- The temporal boundary is provided by the proponent and rules on significance are proposed to the regulator

Baseline Data

- The baseline data describes the current economic environment
- There is significant “overlap” with many of the social indicators
- Need population and labour force characteristics in the baseline to undertake impact analysis
- It is preferable to show baseline as a trend over time – with data over the last decade or more if possible – this provides a basis for the projection of these variables over the project life

Projection of Baseline Data

- It is not possible nor necessary to project all of the baseline data into the study timeframe
- Demographic model – this model is used to project the population into the future using migration and natural increase assumptions
- Data from the census and periodic labour force surveys is used to “assign” labour force characteristics to the demographic results

Projection of Baseline Data

- The next step is to alter the labour force variables to reflect the expected change over time
- Have to make assumptions about changes to the characteristics of the labour force over the project life
- These include higher labour force participation rates, improvements to education levels and work skills

Develop Direct Project Data

- Work with proponent to obtain the most current and accurate data on the project
- During this work we highlight labour demand – how much, when and what skills and work experience is required
- Use this information to identify training needs to help hire more local labour

Develop Direct Project Data

- As the projects develops it goes through study from early exploration, to scoping, to pre-feasibility and finally to a bankable (if necessary) feasibility study
- Generally when the economic impact analysis is undertaken data is available at the “Pre-Feasibility” stage
- At this stage all data is at the range of 15 to 25 percent in terms of accuracy
- So as a rule by the time the mine or project is open the key variables will likely have changed somewhat

Estimating Indirect and Induced Impacts

- In addition to direct employment at the mine there are also “indirect” and “induced” impacts which are estimated using an economic impact model
- Most “authoritative” model is Statistics Canada’s Interregional Input-Output Model
- Model is “static” – based on average costs
- There is a significant lag in the base year for the tables used in the model – e.g. the 2002 Tables were only made available in the fall of 2005

Estimating Indirect and Induced Impacts

- Tables for jurisdictions such as the NWT are “sparse” – in other words there is very limited economic activity and many industries do not exist
- Have to make adjustments for this to not miss economic activity – this requires a good understanding of both the modeling process and the economy of the NWT

Significance and Mitigation

- Predictions for employment and business impacts are made using combination of model results and assumptions regarding labour force availability
- Provide results to “social” team for feedback on what they have learned from community visits and incorporate comments where appropriate
- To ensure benefits it is essential that information on training requirements and business opportunities be given to communities as early as possible

Other Issues – Side Agreements

- There are two major types of agreements that impact the process and need to be mentioned
- The first is the Impact Benefit or Participation Agreements
- The second is the Socio-Economic Monitoring Agreement (SEMA)

Impact and Benefit Agreements

- Impact and benefit agreements have been signed with directly impacted Aboriginal parties
- These are confidential agreements that provide for cash payments as well as provisions for training, employment and business opportunities
- They are an essential part of the “mitigation” but it is not possible to know what is in them

Socio-Economic Monitoring Agreement

- The SEMA is another instrument and is a “global” agreement that provides for targets for employment and business spending and a monitoring system
- Socio-Economic Monitoring Agreement (SEMA) is an agreement between the GNWT and the project
- They differ as BHPB’s Agreement is a bilateral agreement while Diavik’s has included the directly affected Aboriginal parties

SEMA

- The SEMA is important because IBA's do not cover the entire north – for example the Diavik Agreements cover only 10% of the total population of the NWT and only about 20% of the Aboriginal population
- There have been some issues with the use of percentages versus absolute numbers for employment and business spending “targets”
- As the mines have opened the absolute number of employees has been higher and hence with the percentage so the estimated number of local hires

Cumulative Impacts

- Cumulative impacts are more of an issue for small jurisdictions like the NWT
- This is because, on the economic side, there is limited capacity and a small labour market
- For example the local labour market can only support a limited number of (for the NWT) relatively large projects
- When undertaking cumulative impact estimation there are problems with getting “good” data on other projects unless EIS have been filed

Cumulative Impacts

- Even with an EIS the methodology and assumptions may be different
- For example the EIS's will have been prepared at different times and as a result rely on different baseline data
- There has also been more demand by regulatory agencies to include in the cumulative analysis more “speculative” projects – i.e. those that are in the exploration phase

Closing

- Undertaking economic impact analysis in the NWT poses unique problems
- The small economy means that building business capacity is essential – either through new business formation or expansion of existing ones
- The small local economy also means that training and education have to be “tailored” for the kinds of projects that will be occurring

Closing

- If intervention is not done early – i.e. building labour force and building capacity then many of the potential opportunities will be lost – training and building business capacity must be done before the project is in operation
- There must be a strong commitment of all parties (proponent, government and communities) to make the system work