

The Role of Mining in Community Sustainability in Newfoundland and Policy Implications

A Case Study of Baie Verte

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CRRF Conference, October 2, 2019



Natural Resource
Development Network

Presentation Outline

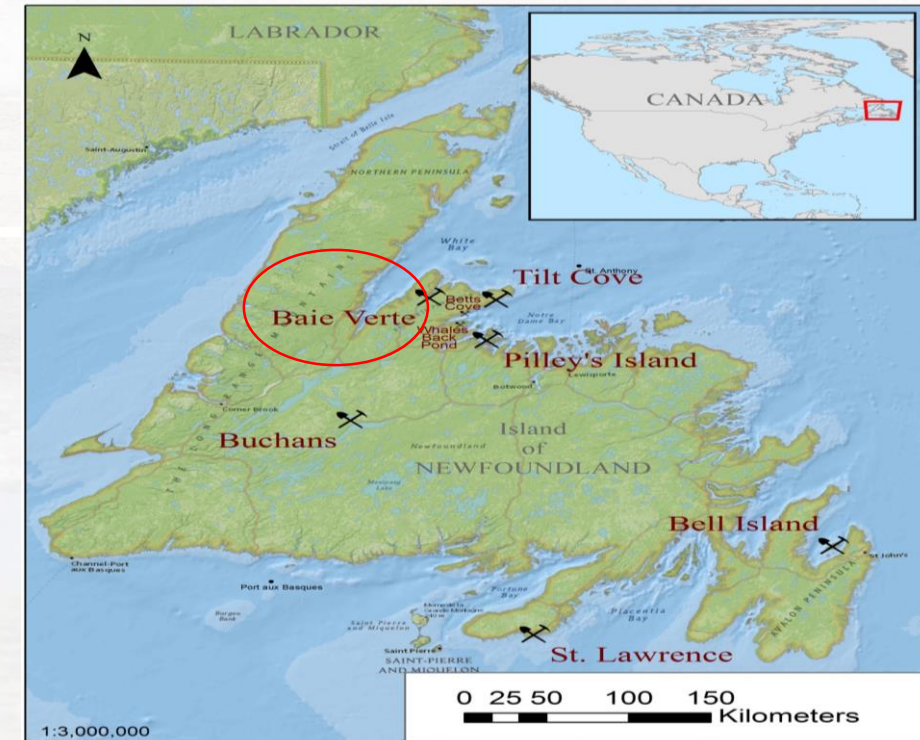
- Background and Problem Statement
- Research Objectives
- Conceptual Framework - Sustainable Development
- Analytical Framework - 'The Telos Framework'
- Research Design – Mixed Method Case Study Approach
- Results
- Conclusions & Recommendation

Background/Problem Statement

- NL is the 5th largest mining jurisdiction in Canada (MAC, 2018)
- \$2.5m annually to national minerals production. Mineral commodities - nickel, copper, cobalt, and gold
- 11 producing mines, \$3 billion annually to NL's GDP, \$90 million in taxes and royalties (2017-2018), 4,800 direct employments (2018) (Government of NL, 2018)
- Mining commenced in 1864. Mixed impacts on the sustainability of communities
- Sustainable mining policies used to address issues of mining and community sustainability. To what extent have these been used in NL?
- Fill gap in the literature on mining and community sustainability in Newfoundland, and the role of policy in that

Research Objectives

- Town of Baie Verte as a case study
 - Research objectives:
 - Understand the sustainability vision and goals of Baie Verte as defined by the municipality and residents.
 - Identify the strengths and weaknesses of Baie Verte from a sustainability perspective
- Examine how mining has impacted and contributed to community sustainability in Baie Verte
 - Identify mining related policies (government and corporate) being used to enhance community sustainability in NL and Baie Verte specifically



Conceptual Framework - Sustainable Development

- Study underpinned by the concept of **Sustainable Development (SD)**
- '*Resource Sustainability*' and '*Mine Sustainability*' (Hilson, 2001), two viewpoints for SD in mining
- Study based on the '**Mine Sustainability**' viewpoint (Crowson, 1998, James, 1999; Labonne, 1999; Eggert, 2000)
- Mining operations must have less negative environmental impacts and more socio-economic benefits in communities (Hilson, 2001)
- **Sustainable Mining Communities** = Net benefit from the introduction of a mine + Net benefit after mine closure and beyond (Veiga et al., 2001)

Analytical Framework - 'The Telos Framework'

- Local and regional sustainability assessment model developed in The Netherlands
- A three capital model based on the Telos Triangle (see fig 3)
- Sustainable Development/Sustainability = Balanced increase in quantity and quality of the three forms of capitals (Knippenberg et al, 2007)
- Sustainability Balance Sheet (see fig 4) employed in the study
- SBS measures and defines SD by involving community stakeholders (expert knowledge mobilization and citizens/resident participation)

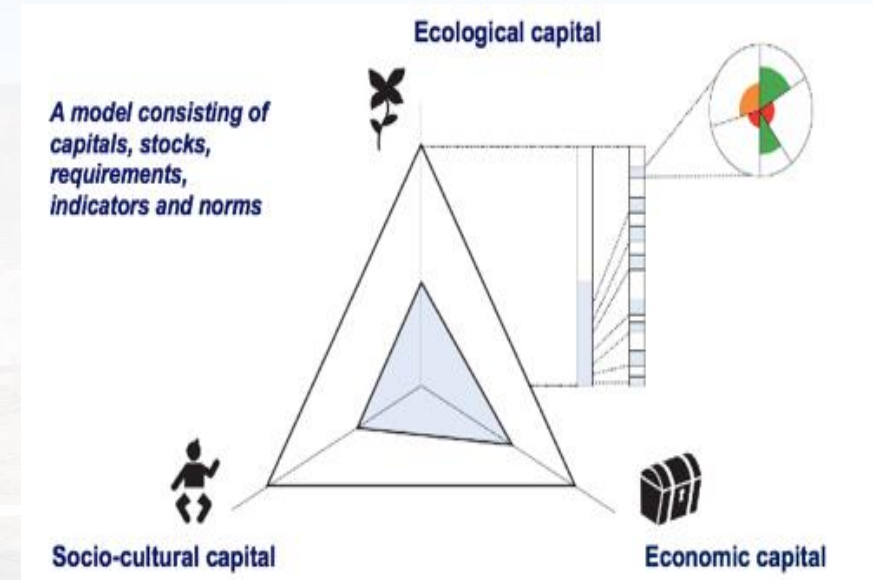


Fig 3: Telos Triangle

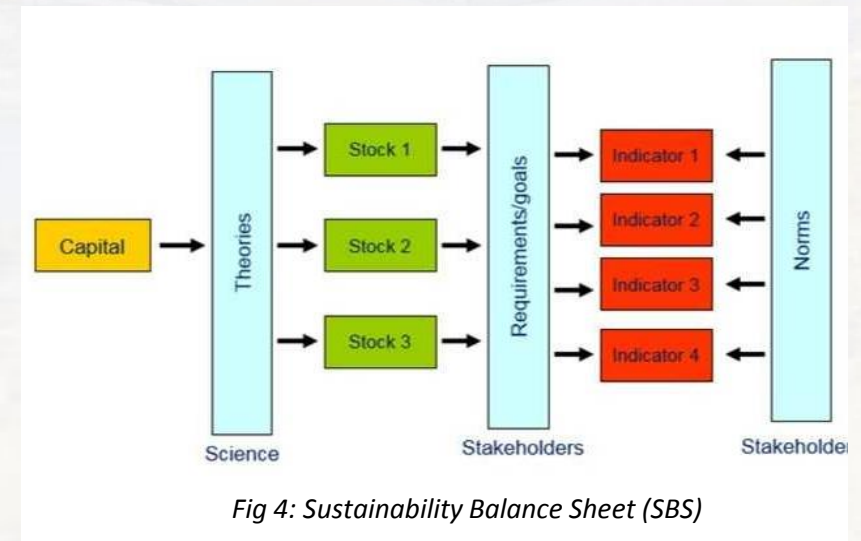
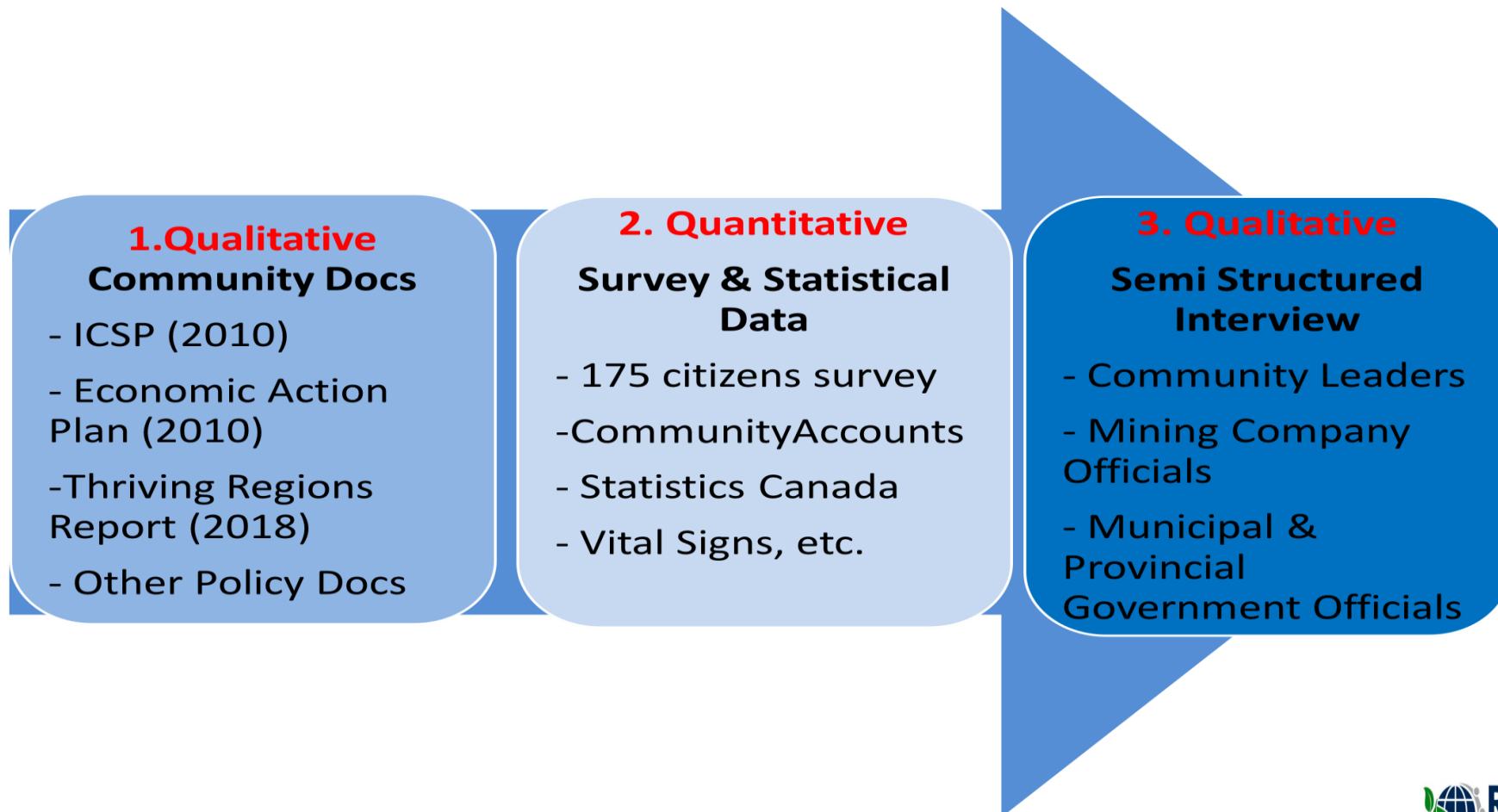


Fig 4: Sustainability Balance Sheet (SBS)

Research Design- Mixed Method Approach



The Capitals & Stocks for Baie Verte

Ecological Capital	Economic Capital	Socio-Cultural Capital
Water Quality, Use, & Infrastructure	Labour Market	Population & Demography
Air Quality	Economic Structure	Health & Well-Being
Ecosystems	Knowledge Infrastructure	Housing & Living Conditions
Land Use	Physical Infrastructure	Education
Waste Materials		Sense of Place & Cultural Identity
		Participation & Governance

Results - Impacts of Mining on Economic Capital

- Creation of direct and indirect employment opportunities
- Economic dependency gravitating towards the mining sector
- College underutilized despite the mines presence
- Contributions to infrastructure shifting from physical infrastructural support with the old mines, to social infrastructural support with the new mines

Results - Impacts of Mining on Socio-Cultural Capital

- Mines helping to stabilize the town's population in recent times
- Housing development, demand, and cost affected by mining
- Adverse impacts on workers health & safety from previous mines. Reduced health care services after the shutdown of previous mines
- Rich mining heritage. Little opportunities created for the development of local tourism
- Little participation from resident mine workers. Limited interaction between current mines and municipal government

Results - Impacts of Mining on Ecological Capital

- Land degradation from previous mining operations. E.g. abandoned asbestos mine site
- Current mines making efforts to reduce negative impacts on ecosystems, through land reclamation and revegetation
- Local air quality threatened by asbestos mine tailings. *“... I am sure air quality in Baie Verte is a lot better than what it was. But you’ve got open tailings from an asbestos mine that has been there since the 1960s.... when the wind went a certain way, dust particles from these tailings I believe suspend in the air, and that doesn’t sound good for us”. (Community Group Leader, February 17, 2019)*

.... Cont'd Impacts of Mining on Ecological Capital

- Mine waste disposal, a big challenge confronting the global minerals industry (Bridge, 2004, Franks et al., 2011). Baie Verte mines using recycling to overcome this

Anaconda moving 3.5M tonnes of waste rock offshore and creating jobs

Kenn Oliver (kenn.oliver@thetelegram.com)

Published: Mar 12, 2017 at midnight

Updated: Sep 30, 2017 at 6:19 a.m.



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Results - Mining Policies & Community Sustainability

- Both government and corporate policies seem focused on environmental sustainability rather than socio-economic sustainability
- Both government and corporate environmental policies enhancing environmental performance of mining companies
- Socio-economic policies at the government level still evolving with little impacts
- Socio-economic policies at the corporate level mostly voluntary and informal in nature, and form part of CSR

Conclusions

- Two mining regimes, varying levels of impacts
- Past mining operations laid a good foundation for socio-economic sustainability, but was environmentally destructive, with adverse impacts on health and safety
- Current mining operations seem environmentally friendly (so far), but with less contributions to socio-economic sustainability compared to the former operations
- Both government and corporate mining policies seem to have played more of an environmental role than an economic and socio-cultural role, in enhancing community sustainability in Baie Verte

Recommendations

- The Canadian Minerals Metals Plan (CMMP) and NL's Mining the Future have the potentials to supplement other existing policies in enhancing the socio-economic sustainability of mining communities in NL, including Baie Verte
- Collaboration between stakeholders in government, industry, and local communities to achieve this



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