



Thirteen participants from the environmental assessment of the Nico gold, cobalt, bismuth, copper mine participated in semi-structured interviews about how GIS can support public health planning in natural resource developments. Participants included the mine proponent, aboriginal governments, regulators, and the Northwest Territories government. Interviews captured four main themes found in organizational analysis literature:

- 1) Objective 2) Process 3) Social Practice 4) Technology

"[Environmental assessments] evaluate what I see as the trade-offs between impacts and benefits of a project, including environmental and socio-economic issues, and extending beyond to spiritual and cultural, a full breadth of review"

Participants described their objective from the Canadian Environmental Assessment Act as multi-stakeholder communication to prevent negative impacts on aboriginal peoples' health and socio-economic condition; physical and cultural heritage; traditional use of resources; and significant sites.

"If there was greater discussion about issues involving health of people, [we could] incorporate that ... But it starts at the grassroots ... people bringing it to the attention of the board as an issue, as a concern from the people"

Objective

The Nico Mine



Participants explained that both conceptual and technical learning are needed to identify and mitigate negative impacts of natural resource developments. Appropriately engaging aboriginal peoples' vision and commitment to their communities fosters both kinds of learning in the environmental assessment process.

Process

Participants agreed that GIS can serve as a platform for conceptual and technical learning about both traditional knowledge and scientific evidence. By improving communication during environmental assessments, GIS can help contribute to sustainable development.

Technology

Social Practice

Participants noted that the equal status of traditional knowledge and scientific evidence for Mackenzie Valley environmental assessments gives aboriginal peoples better opportunities for engagement. Ensuring the equal status of traditional knowledge for every development is required to engage aboriginal peoples in public health planning.

"I would say traditional knowledge has much more to do with health [and] healthy people ... than scientific knowledge in this region ... [I]t's only been in the last ... fifty years that science has had an impact ... People have retained their traditional ways [which] I think ... has a lot more to do with health than the current society"

"Many companies look at the maps, and they don't see any First Nations features ... The importance of doing these baseline studies is to put First Nations on the map ... their territories. To be able to document them in a way that can be relevant ... [for] a useful tool, such as in an environmental assessment"

Industry, governments, and some aboriginal leaders promote natural resource developments near northern communities. These groups say that development will improve the economy and quality of life for northerners. However, past developments have caused many health, social, and environmental hardships to aboriginal peoples. This research looked at mapping potential impacts of development using Geographic Information Systems (GIS) as part of environmental assessment. By increasing culturally appropriate communication between industry, governments, and aboriginal people, GIS can help communities articulate their concerns and hold industry and government accountable to achieve better public health planning for sustainable development.