Indigenous Knowledge and Environmental Remediation in Extractive Development

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Remediation at legacy extractive sites

• remediation: cleanup and/or restoration of former industrial sites
  • technical aspects and inventories of sites
  • potential economic benefits of remediation

• key challenges:
  • political and socio-economic dimensions of remediation poorly understood
  • local/Indigenous community knowledge and participation in remediation planning
Remediation and Indigenous Knowledge

• environmental assessment and remediation planning: often highly technical exercises
• “co-management” tends to favour Western science over Indigenous Knowledge and experience

• “containment” of IK to renewable resources and environmental questions
• politics of scale: IK as inherently “local” knowledge (vs. “universal” Western scientific knowledge)

Giant Mine Environmental assessment technical sessions, 2011 (photo by Kevin O’Reilly)
Toxic Legacies project

- Community—university research partnership
  - Yellowknives Dene First Nation (Goyatiko Language Society)
  - Alternatives North (NGO)
- Giant Yellowknife gold mine, NWT
- 237,000 tonnes of arsenic trioxide stored underground in old mine
- Federal contaminated site; est. cleanup cost >$1 billion
- Environmental assessment, Indigenous Knowledge, and environmental justice

Map by Charlie Conway
Background: Giant Mine history

• historical gold producer, 1948-2004
• widespread local environmental contamination
• 1951: death of Dene boy

Aerial view, Giant Yellowknife Mine headframe and buildings nearby, 1955 Credit: Busse/NWT Archives/N-1979-052-1927
Cleaning up Giant Mine

- mine closure and reversion to INAC
- proposal: stabilize underground arsenic using frozen block method, treat and dispose of mine water
- controversial EA process 2008-12

Illustration of “frozen block” method of containing arsenic underground

Thermosyphon test plot, Giant Mine (author photo)
IK and Giant remediation

• Mackenzie Valley Environmental Impact Review Board (MVEIRB): co-management of industrial impacts in NWT
  • half of review board are Aboriginal LCO appointees
  • IK considered “on the same footing as scientific knowledge for Board decision-making.”
• Giant remediation Developer’s Assessment Report includes TK report
Scoping of issues in the EA

- key YKDFN demands: recognition of historical impacts, full restoration, compensation and apology
- tight focus of EA on remediation: historical and cumulative impacts of mining “scoped out”

Roaster complex being dismantled (photo by John Sandlos)
Contemporary remediation issues

• Pollution and remediation standards
• Perpetual care and knowledge transfer to future generations
• Independent environmental oversight

Above: Baker Creek (photo by John Sandlos)

Left: Giant Mine test underground freezing (photo by Kevin O’Reilly)
Conclusions from Giant EA

• key issues “scoped out”: compensation, historical and cumulative impacts

• IK still confined to realms of historic harvesting rather than contemporary management

• Exclusions of IK from technical processes reinforced mistrust

• EA unable to address the issues of restorative justice

Giant Mine Healing Ceremony (photo on website of Wendy Bisaro, MLA
https://bisaromlaframelake.wordpress.com/2013/06/18/giant-mine-june-newsletter/)
Political ecology of remediation

• remediation: a neglected dimension of extractive development
• remediation may reawaken or reproduce injustices associated with past developments
  • ongoing impacts of “slow violence” of arsenic contamination
  • “scoping out” of historical experience and “containment” of IK
    • “epistemic injustice”

Giant Mine water treatment ponds (KOR)  Perpetual care workshop, Yellowknife (KOR)
Research funded by Social Sciences and Humanities Research Council of Canada and Memorial University

For full paper, see:

Thanks to: project partners Kevin O’Reilly (Alternatives North) and Goyatiko Language Society; Caitlynn Beckett, Amanda Degray, and John Sandlos

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