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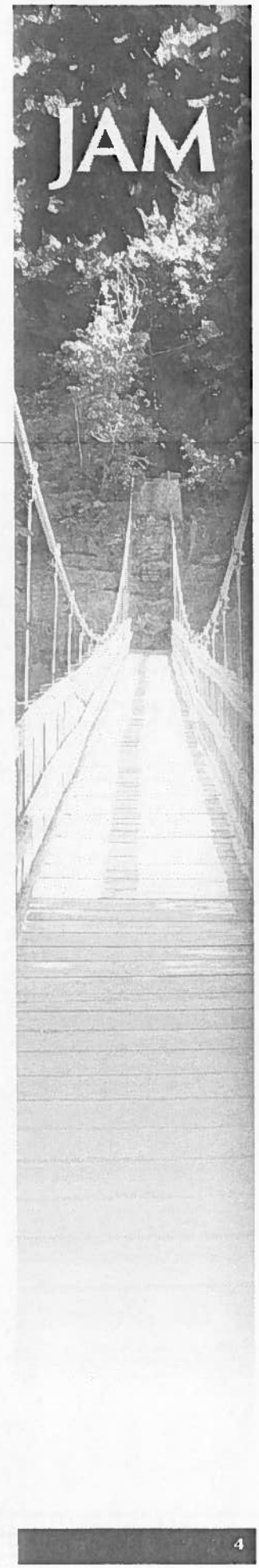


TURNING MINES INTO BRIDGES

GAINING POSITIVE LEGACIES FROM NON-RENEWABLE RESOURCE PROJECTS

ROBERT B. GIBSON

WHILE THEY ARE IN OPERATION, MINES CAN BRING SIGNIFICANT OPPORTUNITIES AS WELL AS PROBLEMS FOR ABORIGINAL COMMUNITIES. THESE MERIT CAREFUL ATTENTION. BUT MINES HAVE LIMITED LIVES, AND WHEN THEY CLOSE THEY OFTEN LEAVE NEGATIVE LEGACY EFFECTS FOR COMMUNITIES, THE LAND AND FUTURE GENERATIONS. IF MINING AND OTHER NON-RENEWABLE RESOURCE EXTRACTION PROJECTS ARE TO MAKE LASTING POSITIVE CONTRIBUTIONS TO THE WELL-BEING OF ABORIGINAL COMMUNITIES, THEY WILL HAVE TO BE CONCEIVED, DESIGNED AND MANAGED AS BRIDGES TO MORE DESIRABLE AND SUSTAINABLE FUTURES. THIS IS A PARTICULARLY SIGNIFICANT CHALLENGE FOR COMMUNITIES FACING MULTIPLE MINING AND ASSOCIATED PROJECTS WITH REGIONAL AS WELL AS LOCAL EFFECTS.

Non-renewable resource projects are at the centre of many of the most visible conflicts between Aboriginal governments and outside interests in Canada today. Recent and current cases include confrontations over hydrocarbon fracking in New Brunswick and resistance to the Northern Gateway bitumen pipeline across northern British Columbia.

Some of these conflicts cannot be resolved through compromise and mutual agreement. The Tahltan First Nation, for example, has participated in several mining and other industrial development initiatives but is immovably opposed to a proposed open pit coal mine at Mount Klappan in the Sacred Headwaters of the Skeena, Nass and Stikine rivers. For the Tahltan that project is simply unacceptable.

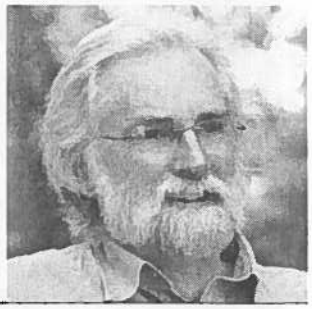
In many other cases, however, non-renewable resource extraction projects may be acceptable to communities if the projects are designed and undertaken in ways that respect the land, minimize risks of social and ecological damage, and provide desirable opportunities and lasting benefits. Meeting these "if" requirements is rarely easy. Special efforts are always needed to capture the opportunities, avoid the problems, and ensure that community priorities are recognized. But projects that depend on non-renewable resources raise additional issues because they have limited life expectancy. Their basic role involves depleting orebodies or hydrocarbon fields. The projects themselves cannot be sustainable. Eventually they exhaust the commercially exploitable resource, and the effects of what they leave behind can be as significant and longer lasting than the effects during operations.

LEGACY EFFECTS OF MINING PROJECTS

Canada has had a long history of mining projects and plenty of time to learn that mine legacy effects, at least at the community and regional levels, are often regrettable. For Aboriginal communities, the legacies of mining fall into five main categories, each of them deserving careful attention.

1 *Depletion of a non-renewable resource*

A commercially exploitable orebody represents a transient one-time opportunity. Once the ore is depleted, the opportunity – for the relevant communities, as well as for the mining companies and provincial or federal authorities – is gone. For that reason, some economists have argued that non-renewable resource extraction should be treated as a depletion of capital as well as a contribution to income. The key question is how the opportunity is used.



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If the revenues and other openings for benefit are used to broaden and extend the foundations for lasting community and regional wellbeing – to strengthen time-tested traditions, transferrable skills, economic activities based on renewable resources, community institutions, etc. – then depletion of the resource may well be justified. If the opportunities are used only for immediate purposes, or if the benefits go mostly to the already advantaged, the legacy will be negative. Using up a one-time opportunity without providing lasting benefits is a form of theft from the future.

2 *Boom/bust effects*

Especially in areas with little other industrial activity, new mines and their associated infrastructure needs (roads, power lines, etc.) can bring an economic boom for the recipient regions. There are new jobs and entrepreneurial opportunities, new spending by outside players, increased revenues and better services for some communities, increased disposable income for some individuals, and the ripple effects of these economic infusions through communities and beyond. These boom effects are not all positive. Much depends on where the money is spent and on what, who benefits and who suffers, and how long the benefits last. But for many communities the potential gains from a mining-based boom are highly attractive.

When a mine's life ends, however, communities that have become dependent on mine-related economic activities face economic distress: more unemployment, revenue losses, poorer services, and associated health and social problems. The results can leave communities in worse condition than when mining began. Since mine closure is inevitable, the problems can be anticipated. Mine dependency can be minimized and bust effects can be softened if, as noted above, the boom time opportunities are used to build a bridge to more lasting well-being. Experience suggests that diversifying local economies and strengthening community and individual capacities to find new options and succeed in new activities is not easy. It is never automatic, and it is rarely quick. But the odds are better if the bridge-building begins with the initial discussions about whether and under what conditions a new mine might be acceptable.

3 *Residual effects on the land (and waters and wildlife, etc.)*

Mining and associated activities scar the land. Often, they also leave behind potentially serious contamination problems. The risks vary with the characteristics of the ore and tailings, milling processes, and waste management processes. They are also affected by local conditions such as ecological sensitivity, cultural importance, and potential for earthquakes, flooding or fire, and by the adequacy of available funding and the rigour of reclamation requirements, monitoring and enforcement. Moreover, the problems left by individual mines combine cumulatively with existing stresses and risks posed by other existing or anticipated activities.

Most residual contamination concerns receive much more serious and effective attention than they did in the past. However, significant deficiencies remain. Mining projects with waste management plans requiring care in perpetuity are still being approved. Assurance of adequate restoration is undermined by risk underestimation in initial assessments, poor clean-up monitoring, and the temptation for major mining companies to off-load declining mines to junior companies that have limited experience, motivation and resources for reclamation. Regional scale assessment of cumulative effects remains rare in Canada and reputable experts have described project level requirements for assessing cumulative effects as "impotent."

While there have been admirable examples of mine reclamation in Canada, the biophysical legacy of mining projects is still generally negative. Imposing a "no lasting damage" requirement on mining would be unrealistic. More could be done to minimize the scars and the dangers, but positive legacies from mining will depend on other improvements being enough to compensate for the residual biophysical losses.

THE ADVERSE EFFECTS WILL BE WORSE IF INEQUITABLE DISTRIBUTION OF MINING BENEFITS AND COSTS LEAVES RESIDUAL SOCIAL DIVISIONS WITHIN, AND BETWEEN, COMMUNITIES. AND FURTHER TENSION IS LIKELY IF LEGACY COSTS FALL UNFAIRLY ON INDIVIDUALS AND COMMUNITIES THAT BENEFITED LITTLE DURING THE LIFE OF THE MINE(S), AND MORE HEAVILY ON LOCAL COMMUNITIES AND REGIONS THAN ON MINE INVESTORS AND GOVERNMENTS.

4 *Remaining infrastructure*

Mine development typically also involves new infrastructure. Big new mines, or multiple projects in remote locations, may require ambitious road or rail projects, significant new power generation capacity and transmission lines. Sometimes, governments keen to spur mining development have subsidized new roads or rail lines and provided below cost power. These infrastructure initiatives may pose more significant ecological risks and have greater potential for positive and adverse community effects than the mines.

They also raise important legacy issues. Usually, planning for the infrastructure is centred on the mine, and option selection and alignment decisions are made by the mine proponent – perhaps in collaboration with government and/or utility officials. The resulting structures, however, are likely to outlive any mine. Governments and utilities may hope that available access and power will induce additional resource exploitation investment and contribute to larger and longer regional development. But in environmental assessments of proposed new mines, such expectations are normally dismissed as merely speculative. The more certain continued users of transportation and energy infrastructure after mine closure are the Aboriginal and other communities in the vicinity.

From the community perspective, the legacy value of mine infrastructure depends heavily on whether the projects were selected and aligned only to serve mine needs, or also to serve existing, emerging and lasting community needs. If infrastructure decision making is seen as a means of building the foundations for sustainable communities after mining ends, then roads may be aligned to link communities and shared resources, and development of local renewable energy options may be favoured over alternatives that offer fewer opportunities for local skills and livelihoods. And because communities are more likely than mine proponents to be concerned about overall lasting effects, community engagement in infrastructure planning is more likely to include effective attention to cumulative effects than planning centred on individual mines. Without such engagement, the likely legacies are infrastructure components of little lasting value, costly to remove but too expensive to maintain.

5 *Residual effects on communities*

Beyond the local and regional economic bust effects of mine closure, Aboriginal communities are left with the residual effects of changes brought during the lifetime of the mine(s). Those effects are likely to be a mix of positive and negative. On the positive side are better housing, more training and experience, additional community facilities and still-viable new businesses. Negative possibilities include the many new burdens of dealing with the bust effects, ensuring proper reclamation, finding alternative servicing and revenue options, and addressing implications for rights and interests, all with fewer post-mining resources. New economic options may be scarce, and traditional options may have declined if involvement in mining reduced time on the land or if mine and infrastructure effects displaced wildlife.

The adverse effects will be worse if inequitable distribution of mining benefits and costs leaves residual social divisions within, and between, communities. And further tension is likely if legacy costs fall unfairly on individuals and communities that benefited little during the life of the mine(s), and more heavily on local communities and regions than on mine investors and governments.

The specific residual effects on communities depend on many factors – what strengths and problems the community had at the outset, how members were involved in the mining project, what effects accompanied the new infrastructure, what opportunities and revenues were gained through Impact and Benefit Agreements, and so on. Some of the benefits and losses cannot be predicted reliably at the outset of mine planning. But certainly the prospects for more positive overall legacy effects for communities could have been improved by forward-looking arrangements made before mining began.

Among these arrangements, the most important may be bridge building to establish post-mining livelihoods, to ensure adequate resources for resolving post-mining problems and to strengthen community capacities to deal with the inevitable uncertainties.

...EFFECTIVE BRIDGE BUILDING WILL ALSO REQUIRE EFFORTS AND ARRANGEMENTS EXPLICITLY AIMED AT ENSURING POSITIVE LEGACY EFFECTS. THERE ARE MANY OPTIONS, AND COMMUNITIES WILL CHOOSE THE ONES BEST SUITED TO THEIR NEEDS. BUT THE FOLLOWING FIVE ACTIONS INDICATE THE NATURE OF THE POSSIBILITIES.

BRIDGING FOR POSITIVE LEGACIES

Mining legacies in all five categories can be negative if special efforts are not made. The most fundamental step is to approach mining and other non-renewable resource extractions as resource depletion projects with limited lives and with obligations to deliver positive legacies. If resource depletion projects are to make lasting positive contributions to the well-being of Aboriginal communities, they will have to be conceived, designed and managed as bridges to more desirable and sustainable futures.

Treating mining projects as bridges entails both avoiding negative legacies in the five categories outlined above and taking positive steps to build better future options. At the community level, positive initiatives include skills training, housing and facility improvements and other potentially lasting beneficial investments already on the common agenda for mine-related negotiations. But in many circumstances, effective bridge building will also require efforts and arrangements explicitly aimed at ensuring positive legacy effects. There are many options, and communities will choose the ones best suited to their needs. But the following five actions indicate the nature of the possibilities.

1 *Establish community legacy funds*

Communities may negotiate for, and assign dedicated revenues from mining to, three distinct legacy-related purposes:

- to support activities (e.g. monitoring of mine waste management) during mine life to avoid and mitigate problems that may lead to negative legacies
- to fund other efforts during mine life to build foundations for sustainable post-mining livelihoods (e.g. through skills training with post-mine applications, protection of valued cultural and natural resources, and start-up support for renewable resource projects that will diversify lasting employment and income options), and
- to ensure a flow of revenues is available after mine closure to maintain capacities, address legacy problems and expand sustainable opportunities.

2 *Set future objectives*

Communities may find it useful to outline, at least roughly, the main characteristics of the desirable future at the other end of the bridge. Agreement on the objectives may help guide discussions about what community strengths and land resources are already available, how they can be used more effectively, and what else is needed to pursue promising options and to adjust to emerging possibilities, problems and priorities.

3 *Demand sustainability-based assessments and approvals*

Communities can influence the requirements that mine proponents have to meet in environmental assessments and for associated approvals. Serious efforts to seek positive legacy effects will be more likely if communities insist on environmental assessment processes and evaluation criteria that apply a "positive contribution to sustainability" test to proposed mines and infrastructure. The requirements can include explicit attention to each of the five legacy effects categories, and obligations for effective bridging arrangements can be a pre-condition of approvals.

IF NON-RENEWABLE RESOURCE PROJECTS ARE TO DELIVER LASTING BENEFITS TO ABORIGINAL COMMUNITIES AND TO THE PUBLIC INTERESTS MORE GENERALLY, THEY MUST BE PLANNED AND IMPLEMENTED NOT ONLY TO PROVIDE IMMEDIATE BENEFITS AND TO AVOID ADVERSE EFFECTS, BUT ALSO TO ACT AS BRIDGES TO MORE SUSTAINABLE LIVELIHOODS IN THE FUTURE.

4 Negotiate positive legacy agreements

Impact and Benefit Agreements, and other arrangements with companies and governments, can incorporate particular components addressing legacy issues in the five categories.

5 Promote regional planning and assessment

Much of the discussion above has focused too simply on individual communities facing single mining proposals. In many areas, communities must deal with the linked effects of multiple activities – mineral exploration ventures, existing mines, proposed new mines and infrastructure, projects in other sectors (e.g. oil and gas) and anticipated future developments. Several communities may be affected, and the major options (e.g. for infrastructure selection and location) and cumulative implications may be regional. That, for example, is the current situation in northern British Columbia and the Ring of Fire region of Northern Ontario.

In such cases, project-centred assessment and approval processes cannot define the larger goals, compare the cumulative effects of broad alternatives, or develop overall strategies for positive legacies and desirable futures. Collaborative regional scale planning and assessments are needed.

CONCLUSIONS

If non-renewable resource projects are to deliver lasting benefits to Aboriginal communities and to the public interest more generally, they must be planned and implemented not only to provide immediate benefits and to avoid adverse effects, but also to act as bridges to more sustainable livelihoods in the future.

It is clearly unfair that ensuring positive legacies from mining is left to Aboriginal communities. After decades of official government commitments to sustainable development, and of corporate claims to social responsibility, one might have expected those players to have stepped up to the legacy plate long before now. However, Aboriginal communities have long traditions of commitment to future generations, and thanks to the long and persistent work of Aboriginal governments and communities to win recognition of their rights and interests, Aboriginal communities have increasingly firm legal grounds for acting on those commitments – including in efforts to gain positive legacies from non-renewable resource projects.

POSITIVE LEGACY PRECEDENTS

So far, only three Canadian mine proposals have been subjected to formal environmental assessment reviews that considered whether the project would leave a positive legacy. The Joint Review Panel that assessed the proposed Voisey's Bay nickel mine and mill project in Northern Labrador wanted to know whether the project would make "a positive contribution towards the attainment of ecological and community sustainability, both at the local and regional levels." A similar standard was imposed by panels reviewing the proposed Whites Point quarry in Nova Scotia and the Kemess North copper-gold mine in British Columbia.

Usual practice remains less ambitious. The focus of most environmental assessment proceedings is still on mitigation of significant adverse effects. Positive effects during mine life are sometimes considered, but only insofar as they may be used to justify approvals despite the adverse effects. The job of ensuring lasting positive effects receives scant notice. But as the Voisey's Bay, Whites Point and Kemess cases revealed, a higher standard can be applied.