

Mining and Communities: Poverty Amidst Wealth

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**Mining and Communities:
Poverty Amidst Wealth**

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Introduction

In the 1990s, the global mining industry experienced unprecedented expansion, establishing a presence in countries with no prior history of commercial mining, particularly in the global south.¹ Latin America became the world's most important destination for mining-related investment capital.² The regions of West Africa and Southeast Asia also experienced rapid growth in mining activity (Chalmen 1999, 2000). Expansion was driven by rising mineral prices in response to growing demand, and was also promoted by the policies of the international financial institutions, which favored privatization and permitted foreign investors to enter economic sectors and exploit natural resources that had previously been inaccessible.

The boom has imposed high environmental and social costs on communities in the global south. In some cases, mining threatens the very survival of local subsistence economies. Consequently, conflict between mining companies and communities has grown in parallel with the industry. This poses enormous challenges for communities, who often lack the skills and tools that are needed to address conflict adequately and constructively.

Communities have begun to develop a number of strategies to secure greater control over mining activity. In some cases, communities seek to impede the development of mining projects in their territories, judging them to be incompatible with local development. In other cases, communities have accepted the presence of mining activity and have attempted to establish a new, more equitable relationship with industry that integrates mining with local strategies for sustainable development.³

Non-governmental organizations (NGOs) are increasingly involved in these struggles. This paper draws on the experiences of CooperAcción, a Peruvian NGO that works directly with communities that are affected by commercial mining activities, and the Canadian Environmental Law Association (CELA), a legal aid clinic in the province of Ontario. For several years, these organizations have collaborated to promote the sustainable development of mining-affected communities. We discuss the costs and benefits of mining activity for affected communities, and describe the recent experiences of communities and NGOs that seek to transform mining from an activity that is often at odds with sustainable development to one that contributes to local, regional, and national sustainable development strategies.

Mineral Assets and the Poor

The World Bank and other international financial institutions promote commercial mining activities in less-developed countries as a mechanism for economic development and poverty alleviation. Through the International Finance Corporation (IFC), the World Bank has helped to finance, and in some cases has become part-owner of, important mining projects.⁴ Yet there is growing evidence that mining projects do little to reduce poverty.

A recent study prepared by Michael Ross (2001) for Oxfam America shows that many mineral-rich developing countries are among the poorest nations in the world. Ross discusses the strong links between mineral dependence and both lower standards of living and increased poverty

rates. Twelve of the world's 25 most mineral-dependent states are classified by the World Bank as 'highly-indebted poor countries'. The study also reveals that there is a strong correlation between mineral dependence and income inequality. The author suggests that mineral exports not only fail to alleviate poverty, but appear to *exacerbate* it.

The Peruvian experience conforms with Ross's analysis. The Peruvian government regularly produces a 'poverty map' that displays the relative poverty classifications for the country's different geographical regions (Compensation Fund for Social Development 2000).⁵ Mining activity is carried out in 45 of Peru's 194 provinces. When the poverty classifications for these provinces are examined, we find that 12% rank as extremely poor, 40% are very poor and 36% are poor. Only 1% of the Peruvian provinces that support mining activity have an 'acceptable' level of poverty. It is clear that in many areas with long histories of mining activity, this has not resulted in an improvement in the principal indicators of development or in the quality of life.

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The failure of mineral development to lessen poverty is due to a number of factors. Mining is capital-intensive, as opposed to labor-intensive. Few local people are hired at mines. Employees are generally skilled laborers who are often expatriates. Mining generates significant social and environmental impacts that are disproportionately borne by the poor and that hinder their development. Mining is highly localized, restricting the flow of wealth. Because of high international tariffs on value-added mineral products, less-developed countries generally export unprocessed concentrates, restricting opportunities for spin-off industries. Finally, mineral-dependent countries are vulnerable to the vagaries of global mineral prices, which are known for their volatility, often leading to boom-and-bust cycles (Ross 2001).

Although mineral activities, as currently undertaken, largely fail to benefit local communities, this result is not inevitable. Mining generates significant wealth. In some countries, such as Canada and Australia, mining companies have begun to negotiate agreements with impacted aboriginal communities so that the latter receive a share of the benefits that are created from mining activity. These benefits can take the form of employment opportunities, a share in mine profits, and investment in local development and infrastructure projects such as roads, schools, and clinics. To increase employment opportunities, mining companies can provide training and apprenticeship programs, scholarships, career support including counseling, flexible work schedules that accommodate traditional activities, facilities that permit the preparation of traditional local food, the use of local languages, and subsidized transportation between communities and the work site. Monetary benefits to communities can include royalties, profit shares or fixed cash amounts.⁶ They may also include equity interests in the mining project, with possible representation of local parties on the company's board of directors.

The Impacts of Mining

Mining operations routinely cause serious social, health, and environmental impacts. In virtually all cases, these are disproportionately borne by local communities who depend on the natural resource base for their livelihoods. Frequently, indigenous peoples are among those most seriously affected by mining operations. For example, it is estimated that by the year 2020, 60 to 70 percent of world copper production will take place in the territories of indigenous people (Moody 2001).

Environmental Impacts

The environmental effects of mining operations can be dramatic and wide-ranging. Toxic contamination is a frequent problem, generated by a variety of means. Mining activity often involves the use of chemicals to extract minerals. These chemicals are not always transported or handled properly. For example, mercury is an extremely toxic substance that is a by-product of the gold extraction process at the Yanacocha mine in Peru.⁷ A truck carrying mercury from the mine spilled its load in 2000. At least a thousand *campesino* people in the small village of Choropampa were poisoned by the spill. Unaware of the danger, many residents collected the mercury, believing it to be valuable.⁸

Contamination is also frequently caused by inadequate tailings containment. Tailings are the rock wastes left behind following ore extraction. They often contain heavy metals, acid-forming minerals, and residue from toxic chemicals used in the extraction process, including cyanide and sulfuric acid. Tailings disposal has been a historical problem for the mining industry. The Omai gold mine in Guyana is a telling example.⁹ When the dam wall on its tailings holding pond failed in 1995, over three billion liters of cyanide and heavy metal-laced effluent was released into the Essequibo River, the country's main waterway and the source of livelihood for most of the country's Amerindian population.¹⁰ In other cases, to avoid the expense of containment, tailings are simply dumped into rivers or the ocean, with disastrous consequences for aquatic life and the human populations that depend on these resources. This is the case at BHP Billiton's OK Tedi mine in Papua New Guinea. Since operations began in 1984, millions of tons of waste rock and tailings have been dumped into the Fly River system, devastating that ecosystem and neighboring indigenous communities.¹¹

The environmental impacts of mining operations may damage local natural assets to such an extent that communities are no longer able to sustain themselves, threatening their survival. For example, on the Filipino Island of Marinduque, twelve thousand families supported themselves from the biological wealth of Calancan Bay. For more than 25 years, the Marcopper mining company used the bay as a tailings dumping ground, decimating fishing grounds and jeopardizing food security for local communities.¹²

Social Impacts

The arrival of a mining company can have dire social consequences for local communities, including outright displacement. In some cases, communities are forcibly relocated to make way for mine development. In other cases, communities are displaced as they seek refuge from the adverse effects of a mine. For example, the Wassa traditional area of western Ghana experienced a gold boom in the 1990s. During that time, the residents of the communities of Atuabo, Mandekrom, and Sofo Mensakrom were forcibly evicted by armed soldiers and police to clear the way for a gold mine owned by the South African company Goldfields Ghana (Appiah undated).¹³

Mine construction and operation usually involve the arrival of outsiders. Mining activity may introduce or greatly enhance the cash economy, and local communities may be unprepared to navigate this system. These and other conditions routinely generate tension within communities and threaten traditional practices. It is not uncommon for prostitution, alcoholism, domestic violence, family breakdown, and health problems to increase in communities that coexist with mining. These impacts are often most acute when the affected communities are indigenous (Innu Task Force on Mining Activities 1996; MiningWatch Canada et al. 2000).

In some cases, the impacts of mining activities on local communities generate social unrest that is met with military repression or the use of private security forces. An infamous example is the Grasberg gold and copper mine in Irian Jaya, Indonesia, owned by the American company Freeport. As local opposition to the mine grew, the mining concession became increasingly militarized and reports emerged of appalling human rights abuses against the local indigenous population (Project Underground 1998).

Enhancing the Natural Assets of Mining Communities

At CooperAcción and CELA, we seek to transform mineral development from an activity that largely benefits industry, lending institutions, and first-world shareholders, to one that constitutes an integral component of sustainable development at the local, regional, and national levels. This requires discarding the current *modus operandi*, that at best compensates locally affected communities for mining-related damages, and replacing it with a scenario where local communities are active participants in the process of deciding whether and how mines are developed, and are beneficiaries of mineral development. Such a scenario requires respect for the rights of communities to natural assets, including the right to land and resources, to be adequately informed, and the right to participate in decision-making processes.

The primary aim of CooperAcción's work is to strengthen local actors so that they can work to ensure that their rights are respected. This involves providing opportunities for knowledge and skill development, improved organization, and the development of stronger linkages between and within communities. It also involves the articulation by communities of their development objectives and strategies. To achieve these goals, CooperAcción facilitates a variety of participatory processes. These include workshops, community assessments, strategic planning exercises, environmental monitoring, community surveys, and experience in the protection and

recuperation of natural resources (De Echave 2001). CELA provides information and analysis on strategies to secure local participation in decision-making and local benefits from mining, particularly those that are used in Canada.

These efforts focus on the protection and enhancement of natural assets. The transition to a scenario where communities are involved in decision-making and benefit from mineral development requires that they appropriate mineral and land rights. When communities refuse mineral development that they judge to be too harmful, they effectively invest in non-mineral natural assets, including clean water and air, pastoral land, and wildlife habitat. Such investment can also occur when communities permit mining activity, and have a role in how that activity unfolds. In such cases, mining activities tend to be more environmentally benign and non-mineral assets better preserved. Community participation in decision-making can also result in the internalization of otherwise uncompensated environmental services that community members provide, such as the recuperation of damaged and contaminated pasture lands.

The case studies that follow provide more detail regarding the experiences of communities impacted by mining, and their strategies to protect and enhance their natural assets.

La Oroya: Investing in Environmental Recovery

The province of Yauli La Oroya was established as an important mining area when a poly-metallic smelter was built in the city of La Oroya in 1919. Under the indifferent eyes of successive Peruvian governments, this area has experienced profound environmental deterioration ever since. La Oroya is now considered one of the most environmentally threatened areas of Peru: both rural and urban settlements are adversely affected by mining activities, rivers are visibly polluted, farmlands have been rendered unusable, and air quality is dramatically impaired by the operation of the smelter.

In response, local residents demanded that the area be cleaned up. The Union for Sustainable Development Consortium (UNES) is a coalition of NGOs that work with affected communities to develop local capacity in environmental monitoring and management. Actions also include investment in local natural assets through environmental rehabilitation. UNES's work has been carried out in phases. In phase 1, the community conducted an assessment to identify the environmental concerns of the residents, develop an environmental recovery plan and select 'environmental delegates' in each community who serve as local environmental watchdogs. The delegates receive instruction in a number of areas, including environmental law, simple monitoring techniques, basic technical information, and the environmental impacts of mining. They monitor environmental quality, organize capacity-building exercises in their communities, and mount campaigns. Their environmental assessments unequivocally demonstrate that local air, soil, and water resources are seriously polluted. For some contaminants, measured levels exceed the Maximum Permissible Levels established under Peruvian law (UNES 1999).

In phase 2, implementation of the environmental recovery plan began. In addition, UNES undertook a study that measured blood lead levels in the residents of La Oroya, focusing on children and expectant mothers, two groups who are particularly vulnerable to the adverse

impacts of this contaminant. As with the environmental monitoring work, the study aimed to generate scientifically credible data that could be used by the community in its efforts to initiate change. The study found dangerously high blood lead levels, in excess of limits suggested by the U.S. Center for Disease Control and the World Health Organization (UNES 2000).

Phase 3 is ongoing and involves work on the rehabilitation of natural resources, including water sources and grazing lands. These activities have brought together *campesino* communities, government agencies, universities, and NGOs. A consensus-building roundtable (*mesa de concertación*) was established with the participation of all interested parties, including the main mining companies. Environmental recovery is an important priority for this body. In the past four years, the communities of Yauli La Oroya have developed a range of strategies aimed at environmental rehabilitation and the sustainable use of natural resources. In some cases, improved environmental management and environmental recovery activities have resulted not only in investment in natural capital, but also resulted in discernable improvements in local living conditions.

Tulsequah Chief Mine: Assessing Sustainability

In 1998, the Canadian province of British Columbia approved the Tulsequah Chief project which involved the re-opening of an old metals mine situated on the Tulsequah River, near the border between British Columbia and Alaska. This pristine area, which supports exceptional wildlife habitat, is virtually undeveloped. It is also part of the traditional territory of the Taku River Tlingit First Nation.¹⁴

There are numerous concerns about the mine's potential impacts. The project requires the construction of a 160 km access road through the heart of the Tlingit First Nation's traditional lands. The mine also has high potential for generating acid mine drainage. Both road construction and contamination would significantly impact on the Tlingit's legally-protected right to hunt, fish, and gather food, with associated effects on the Tlingit economy and culture.

The Tlingit First Nation was a member of the Project Committee that carried out the environmental review of the project. During the review, Tlingit representatives raised concerns about the mine's impacts on fish and wildlife populations, and on Tlingit rights and interests. Following project approval, the Tlingit initiated a judicial review of the government's decision, arguing that the environmental assessment for the project failed to consider whether the project contributed to sustainability, as required under British Columbia's *Environmental Assessment Act*.¹⁵ The Supreme Court of British Columbia agreed, revoking the approval and ordering a revised project review that was required to address 'whether the project was a sustainable development in the sense that it would protect Tlingit environmental interests and foster a sound economy and social well-being for the Tlingit.'¹⁶

A number of NGOs in British Columbia and Alaska collaborated with the Tlingit in their struggle to protect their land and resources. One of these groups is the Environmental Mining Council of British Columbia (EMCBC).¹⁷ In the absence of any legislative or policy guidance

regarding how to determine whether a mine contributes to sustainability, EMCBC commissioned a report by economist Tom Green (2001) to examine this issue.

Green began by developing a series of nine criteria that can be used to gauge the contribution that a proposed mine will make to achieving sustainability:

1. the mine contributes to meeting the needs of the present generation;
2. the mine does not impair the ability of future generations to satisfy their needs;
3. the mine has an acceptable environmental legacy, with a low risk of imposing decontamination costs on future generations;
4. the producer covers the full costs of the mine;
5. the mine contributes to economic development;
6. mine benefits are shared equitably;
7. there is local consent for the mine;
8. the mine respects ecological limits; and
9. the producer undertakes restoration work at an abandoned mine in order to offset environmental disturbance.

On the basis of these criteria, proposed mines can be ranked on a continuum that ranges from 'high contribution to sustainability' to 'highly unsustainable.' Applying the criteria to the Tulsequah Chief Mine, Green found that it performs very poorly, in large part because the access road would cross undeveloped wilderness areas that are highly significant to the Tlingit.

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Green's framework is noteworthy for several reasons. In British Columbia, the law requires sustainability to be considered when approval decisions are made for proposed mine projects.¹⁸ However, if sustainability is poorly defined and there is uncertainty about how it should be assessed, this criterion is rendered meaningless. Such lack of clarity works to the advantage of project proponents, who can then jettison considerations of sustainability and instead focus merely on demonstrating that a given project will not cause unacceptable environmental impacts. The development of clear guidelines for evaluating sustainability minimizes the possibility that this criterion will be overlooked. In other settings, where there is no legal requirement that a mine contribute to sustainability in order to proceed, Green's framework can assist communities and NGOs to advocate the inclusion of this criterion in mine approval decision-making.

Espinar: Building Alliances to Protect and Enhance Community Rights

In 1980, the government of Peru established a public mining company to develop a large copper deposit in the region of Tintaya in the department of Cusco. The mine was auctioned off in 1994 and eventually became the property of BHP Billiton of Australia. Since its establishment, neighboring *campesino* communities have lost a great deal of land to the mine through direct

expropriation by the government and the sale of land by owners, many of whom were pressured by the company. In 1996, serious conflict broke out between BHP Billiton and surrounding communities. Local residents complained about a number of issues, including the invalidity of the land sales and the environmental impact caused by mine operations. The situation attracted the attention of organizations such as the Peruvian National Coordinator of Communities Affected by Mining (CONACAMI).

CONACAMI is the world's only national organization of communities affected by mining.¹⁹ It emerged from a series of workshops and congresses that CooperAcción and other Peruvian NGOs organized with community representatives from around the country. Regional Coordinators have now been established in thirteen departments, an area that includes over a thousand communities that are impacted by mining operations.

The goal of CONACAMI is to protect and enhance community rights. It does this through educational and capacity-building exercises with affected populations on the subjects of law, conflict management, and advocacy. CONACAMI disseminates information regarding the experiences of Peruvian communities impacted by mining activity and any resulting conflicts. It advocates for policy and law reform. This includes, for example, a campaign for legally-mandated social and economic impact studies for proposed mineral developments. It also intervenes on behalf of affected communities, communicating and negotiating with mining companies. Nationally, CONACAMI seeks the establishment of a tripartite commission with government, the mining industry, and affected communities, as a venue for dialogue and conflict resolution.

With the assistance of CooperAcción, CONACAMI and local groups in Espinar undertook a number of activities. First, a participatory community needs assessment was carried out. This was followed by a detailed evaluation of the land sale process and an independent environmental assessment. A survey was undertaken in order to gauge community perceptions about the mining company's presence in Espinar, and to derive social and quality of life indicators.

The land sale evaluation focused on the sale of communal land in the communities of Tintaya-Marquiri and Alto Huancané. The evaluators concluded that in both communities the process suffered from a number of serious debilities: the company negotiated with individuals who were not authorized to represent community interests; there were significant legal irregularities in the sales; and community members were intimidated by the company during negotiations (CooperAcción 2001). Workshops were convened to disseminate these findings and to improve community understanding of the legislation and regulatory procedures that govern the transfer of communally-held land.

The purpose of the environmental study was to assess whether BHP Billiton's mining and metallurgical activities were having negative impacts on local air, soil, and water resources. Water samples failed to meet either Peruvian or World Health Organization standards for human consumption. The water was also found to be of limited use for agricultural and animal husbandry purposes. The study attributed the contamination to mine operations, and concluded that there was a high risk to the local populations (EQUAS S.A. 2000).

Based on these findings, and with the support of groups such as the Canadian Environmental Law Association and Oxfam America, a report was prepared on the practices of BHP Billiton in Espinar. This report was forwarded to the Oxfam Community Aid Abroad (OCAA) Mining Ombudsman in June 2001. OCAA is an Australian non-profit organization that works globally for social justice and poverty eradication. In recent years, OCAA has received an increasing number of requests for assistance from communities in less-developed countries that are affected by the operations of Australian mining companies. In response, OCAA established a Mining Ombudsman in 2000. The Ombudsman helps communities to understand their internationally-recognized human rights and to ensure that the Australian mining industry operates in a manner that respects those rights. OCAA raises particular cases directly with the companies in Australia. The objective is to reach equitable resolutions to mining-related conflicts.

Upon receipt of the report on Espinar, the OCAA Mining Ombudsman visited the *campesino* communities around Tintaya and facilitated a meeting with a number of groups, including BHP Billiton, CONACAMI, Oxfam, CooperAcción, and the municipality of Espinar. The Ombudsman also met with BHP Billiton at its headquarters in Australia, and obtained a commitment from the company to enter a process of dialogue aimed at resolving identified conflicts.

The resulting ‘Dialogue Group’ established four working groups on the issues of land, environment, human rights, and sustainable development. The lands committee is working to resolve the ongoing land conflict by identifying properties that can be given to the affected communities, in exchange for areas lost during the expansion of the mine. The environmental committee has agreed to develop a baseline study as the first step in an environmental monitoring and management strategy for the areas that are affected by the mine. The willingness of BHP Billiton to participate in the Dialogue Group indicates that the company recognizes the need to address existing conflicts. Communities have great expectations that the Group will lead to the resolution of outstanding conflicts with the company, and to the recovery of their economic, social, and cultural rights. They also view it as an opportunity to initiate a process of environmental recuperation in their regions.

Ekati: Gaining a Voice and Sharing in Benefits

In 1998, BHP (now BHP Billiton) opened Canada’s first diamond mine, in the far reaches of the Northwest Territories.²⁰ BHP’s proposal to develop the Ekati mine was met with great concern on the part of local First Nations, who had several outstanding and overlapping land claims in the area. Not surprisingly, First Nations were concerned about how their interests would be addressed during project approval and operation. They also had significant environmental concerns. Ekati is in an area that supports important wildlife habitat and has experienced little industrial development. It is a traditional hunting, trapping, and fishing area for First Nations. Moreover, the public, including First Nations, considered the government’s record on environmental regulation to be poor. There was concern that existing regulatory systems were inadequate to manage a large mining project with the potential to generate significant environmental impacts.

The approval process for the mine was unique, and included a number of innovative instruments aimed at addressing these concerns. Exercising ministerial discretion, the federal Minister of Indian Affairs and Northern Development made project approval contingent on the negotiation of several legally-binding agreements. This intervention demonstrated a recognition on the part of the federal government that aboriginal people and northerners should benefit from mineral development, and that the environmental impacts of such development should be managed responsibly (CIRL 1997).

Parties to the 1997 Ekati Environmental Agreement included the federal government, the territorial government, and BHP. Although not signatories, affected aboriginal groups participated extensively in the negotiations. The Environmental Agreement imposes obligations on the company that surpass existing legal provisions. It requires that BHP develop environmental management plans and monitoring programs, and includes compliance reporting requirements.

The Agreement also mandates the establishment of the Independent Environmental Monitoring Agency, a non-profit organization that acts as a public watchdog over the implementation of the Environmental Agreement. The Agency, which is funded entirely by BHP, has seven directors who are appointed by the government, BHP, and First Nations, but act independently. Directors are generally chosen for their environmental expertise. The Agency reviews and advises on the company's environmental management and monitoring activities, as well as government regulatory activity. The Agency also facilitates aboriginal and public involvement in the regulatory process.

*Impact benefit agreements are negotiated directly between
Canada's First Nations and mining proponents.*

The Environmental Agreement is a marked improvement over the existing environmental regulatory system. Many credit the Agreement's strength to aboriginal participation in the negotiations, backed by good legal and technical advice (Macleod Institute 2000; O'Reilly 1998). Similarly, there is broad consensus that the Independent Agency has improved environmental monitoring and management (Macleod Institute 2000). However, the decision of the federal government to require the negotiation of an Environmental Agreement and the creation of an Independent Environmental Monitoring Agency was wholly discretionary. There is no legal requirement in Canada that mandates the adoption of such instruments, and hence no guarantee that this precedent will be followed in the future.²¹ There is also concern regarding the ongoing development of project-specific environmental agreements and accompanying agencies. Limitations include the lack of oversight regarding the cumulative impacts of these mines. Finally, some believe that agreements between select parties, negotiated behind closed doors, are not an appropriate instrument for achieving public policy goals (Kennett 2001).

BHP was also required to negotiate impact benefit agreements with four aboriginal groups affected by the Ekati mine. Impact benefit agreements (IBAs) are negotiated directly between First Nations and mining proponents and are generally treated as binding contracts between the

signatories.²² Their primary purposes are to minimize the adverse impacts of commercial mining activities on local communities and their environments, and to ensure that First Nations benefit from mineral development. These agreements are gaining prevalence in Canada, where First Nations have historically been marginalized from natural resource management and have received few or none of the associated benefits.

IBAs can deal with a diverse range of issues. Provisions regarding the employment of aboriginal people in a mining project are usually a central focus. Such provisions may include a preferential First Nations hiring policy, training and apprenticeship programs, and requirements that aboriginal languages be used in the workplace. An IBA may also include provisions that promote the development of aboriginal businesses that supply the mining company with necessary goods and services. In addition, mining companies may provide First Nations with economic benefits such as royalties, profit shares, or fixed cash amounts. Compensation can also be provided to individuals, such as hunters, who suffer losses as a result of mine operations. IBAs may also include environmental provisions that supplement other applicable laws and regulations. In addition, provisions may be included to minimize the negative social and cultural impacts of mining projects.

There are several limitations with IBAs, however. For a variety of reasons, they do not always succeed at providing First Nations with anticipated benefits. For example, IBA economic development goals are often unmet, in part because there is often a poor match between the mine's needs and the skills and interests of First Nations people (Kennett 1999b; Cleghorn 1999). Because the negotiation of IBAs is unregulated in Canada, there is great uncertainty regarding when an IBA will be negotiated and what it will contain.²³ Outcomes depend on a variety of factors, including the political power of a particular First Nation, its land and resource rights, the regulatory framework in place in the particular province or territory, and the relationship between affected communities and the mining company.²⁴ Any concessions that are obtained by a First Nation are dependent on the relative bargaining power of the parties to the negotiation. This situation leads to inconsistency and unfairness, and calls into question the value of the IBA as a tool for achieving public policy goals such as environmental protection and wealth distribution. Despite these and other criticisms, IBAs remain one of few tools available to affected aboriginal communities to secure a role in mine management and to gain a portion of the benefits accrued through mining.²⁵

The experience at Ekati demonstrates that aboriginal communities can secure an important role in the environmental management of a mine and can receive significant benefits from mineral development, through direct negotiation with mining companies. Although not without its shortcomings, this approach may have potential for application in other mining countries. Like the Ekati mine, the Tintaya mine in Espinar, Peru, discussed above, is owned and operated by BHP Billiton. CooperAcción, the Canadian Environmental Law Association, and the Environmental Mining Council of British Columbia have undertaken a number of collaborative activities aimed at building links between the communities impacted by these mines, and have disseminated information in Peru about the instruments that are being used in Canada. A representative of Espinar visited the Northwest Territories, and a workshop was held in Espinar to provide residents with information about the experiences of indigenous communities at Ekati,

including an explanation of the Independent Environmental Monitoring Agency and the use of impact benefit agreements.

Tambogrande: The Right to Say 'No'

The conflict in Tambogrande, in the San Lorenzo valley in Peru, is one of the most important mining-related struggles in the country. This case is unique for a number of reasons. The valley was transformed forty years ago, through the construction of an irrigation dam, from a desert landscape to a major agricultural area. Prior to the irrigation project, Tambogrande was sparsely settled. After the dam was built, an area of approximately 50,000 hectares was settled by farmers who began to grow fruit (mainly mangoes and lemons) and smaller quantities of other crops. According to farmers' associations, the valley now sustains approximately 2.6 million fruit trees. The valley's land and water resources support approximately 7000 families. Moreover, the surrounding dry forest, a fragile ecosystem that is easily damaged by farming, has been conserved and is sustainably exploited. This area has no history of metals mining, and the local population is firmly opposed to mineral development.

In May 1999, the government of Peru passed a Supreme Decree awarding the Canadian company Manhattan Minerals an option to acquire a 75% interest in the Tambogrande mineral project, which includes high grade gold as well as copper, zinc, and silver. Through this decree, Manhattan obtained all of the permits that it needed to begin exploration of the concession, which includes an area of 10,000 ha in the District of Tambogrande alone. The people of Tambogrande have remained steadfast in their opposition to the mine's development. They have been supported by numerous organizations, among them the Catholic Church, professionals from the largest university in the region, and local and international NGOs. The issues that most concern residents include the fact that the creation of an open pit in the first phase of the mine will require the forced relocation of more than a third of all urban residents (nearly eight thousand people), and the demolition of part of the town. Also of concern are the company's plans to alter the course of the area's principal river, and the environmental effects that mining would have on the valley and its agricultural operations. Despite pressure from the mining company and its efforts to gain the support of area residents, the people continue to reject the project, reaffirming a vision of development for Tambogrande based on agriculture and preservation of the existing ecosystem.

An NGO technical roundtable (*mesa técnica*) has formed to support the community of Tambogrande and has undertaken work to assess the dangers that a project of this type could pose in a region like the San Lorenzo valley. An analysis by U.S. hydrologist Robert Moran (2001) of the company's Environmental Baseline Study revealed that it does not satisfy the reporting standards required in places such as British Columbia (site of Manhattan's offices) or the United States, and that it significantly underestimates the potential environmental impacts of the mine. For example, Manhattan's study does not seriously address *El Niño*, a climatic phenomenon that occurs every three to five years in the area. *El Niño* causes the water levels in the Piura River, which the company plans to divert, to rise dramatically. Concomitant sedimentation causes the riverbed to rise. These conditions create a high risk that mining activity

in the Piura River basin would contaminate surface and ground water, and disperse toxic substances on land surfaces.

The people of Tambogrande, and their most representative organization, the Defence Front, along with a range of supporting organizations, have conducted a major resistance campaign in the last three years. In June 2002, a municipal referendum was held in which 97% of the eligible voting population voted against mineral development. The following day, the value of Manhattan's shares on the Toronto Stock Exchange fell by 28%.

The struggle in Tambogrande, and the community's achievements, have promoted a national discussion about the rights of local people to be consulted about proposed projects on their lands. In addition, there is discussion about the need to create environmental management mechanisms that guarantee the responsible use of natural resources and that include the participation of people who live in potentially-affected areas. This represents a significant step in Peru, where the mining sector is extremely important to the national economy.

While it is important that communities share in the benefits of mine operations, they must also be recognized as legitimate participants in the decision-making about when and where mining is desirable.

The conflict in Tambogrande has also generated discussion about whether it is appropriate to mine in all regions and ecosystems in Peru. For example, is it in the public interest to mine in protected areas, or in the few agricultural valleys that are as productive as Tambogrande? The struggles in Tambogrande and other communities affected by mining have brought important issues to the fore, including informed and timely participation, land-use zoning for the exploitation of non-renewable natural resources, and the reform of public environmental management mechanisms. These discussions and debates are an essential step in the transition to a scenario where communities have greater control over the natural assets upon which they depend.

Conclusions

Worldwide a growing number of communities, many indigenous, are impacted by the global mining industry. Mining activity rarely alleviates poverty or benefits local communities in a meaningful way. Instead, the social and environmental costs of mining can devastate local communities. Communities and NGOs in diverse locations are making efforts to change these conditions. Communities are attempting to protect their natural asset base through a variety of means. This involves the generation of independent, accurate information about the effects of mineral activities; collaborative efforts with advocacy groups in other countries; and the development of new organizational forms, like the Peruvian National Coordinator of Communities Affected by Mining. Communities also enhance their capacities through training and education in areas such as environmental monitoring techniques, the law, communications,

and conflict resolution. In some cases, such as the Ekati mine, communities enter into agreements with mining companies.

The results of these processes are encouraging. In La Oroya and Espinar in Peru, community members are now engaged in multi-stakeholder processes that include the participation of mining companies. In Tambogrande, residents may succeed in blocking undesired mining development. In the Canadian Northwest Territories, government, First Nations, and mining companies are now working collaboratively to improve environmental performance at mine sites.

Despite these gains, many hurdles remain. In most cases, communities remain marginalized from important decisions about mine development, including whether mining projects will be permitted. Community consent for mineral projects is seldom sought. Nor are communities routinely involved in mine management and oversight. While it is important that communities share in the benefits that are derived from local mine operations, this is not sufficient. Communities must also be recognized as legitimate participants in the decision-making about when mining is desirable and under what conditions. Only then can mineral development contribute to sustainable development.

Endnotes

¹ Between 1990 and 1993, mining operations were carried out in 105 countries. By 1994, that figure had increased to 151 nations.

² In the early nineties, that region accounted for just 12% of global investment. However, by the end of the decade, its share reached approximately 30%.

³ The term ‘sustainable development’ was coined by the World Commission on Environment and Development in 1987 and is defined as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs.’ The authors would augment this definition with a requirement of self-determinism, meaning that communities should exercise control over their sustainable development.

⁴ Faced with widespread criticism of its involvement in mineral, gas, and oil extraction, the World Bank has initiated a review to assess whether it should continue to support these industries. See the World Bank web site at <http://www.eireview.org>. The review will assess the performance of past and present World Bank projects and examine the efficacy of the Bank’s environmental and social safeguard policies. For a list of the mining projects that the World Bank supports, see <http://www.ifc.org/ogc/eirprojects/>.

⁵ The map uses a relative poverty index with five different poverty classifications: (1) Extremely Poor; (2) Very Poor; (3) Poor; (4) Regular; and (5) Acceptable.

⁶ For example, under the 1995 Raglan Agreement, which concerns a nickel mine in northern Quebec, Canada, aboriginal signatories receive a profit share that during the first fifteen years of mine operation could amount to between CDN\$50 and \$60 million dollars.

⁷ Yanacocha is a joint venture that includes U.S. mining giant Newmont, the World Bank’s International Finance Corporation and the Peruvian company Buenaventura.

⁸ Guarango Film and Video – a non-profit Peruvian organization – produced an award-winning documentary about the mercury spill entitled *Choropampa: The Price of Gold*. For information, see the Guarango web site at www.guarango.org. See also the Oxfam-America web site at <http://www.oxfamamerica.org/art2215.html>.

⁹ The Omai mine is a joint venture involving the Canadian company Cambior and the U.S. company Golden Star Resources.

¹⁰ See back editions of the Mineral Policy Institute’s publication *Mining Monitor* at <http://www.mpi.org.au/mm/mm.html>, or Project Underground’s publication *Drillbits and Tailings* at <http://www.moles.org/ProjectUnderground/drillbits/index.html>.

¹¹ The OK Tedi mine was opened by Broken Hill Proprietary Ltd. (BHP). Since its merger with Billiton, the company is called BHP Billiton. For more information on OK Tedi and the issue of submarine tailings disposal, see the Mineral Policy Institute web site at <http://www.mpi.org.au>.

¹² See Probe International's web site at <http://www.probeinternational.org/probeint/Mining/placerdome/pdhome.htm> and the Global Mining Campaign web site at http://www.globalminingcampaign.org/theminingnews/case_marinduque.html.

¹³ See also the Third World Network web site at www.twnafrica.org.

¹⁴ In Canada, aboriginal or indigenous peoples are commonly referred to as First Nations.

¹⁵ *Environmental Assessment Act*, R.S.B.C. 1996, c. 119.

¹⁶ *Taku River Tlingit First Nation v. Tulsequah Chief Mine Project*., (2000), 77 B.C.L.R. (3d) 310, 2000 BCSC 1001 at 58. This decision was upheld by the B.C. Court of Appeal in *Taku River Tlingit First Nation. v. Tulsequah Chief Mine Project*, (2002), 98 B.C.L.R. (3d) 16, 2000 BCCA 59.

¹⁷ See the EMCBC web site at <http://www.emcbc.miningwatch.org/emcbc>.

¹⁸ The provincial government in British Columbia that was elected in May 2001 will soon amend the *environmental Assessment Act* so as to remove references to environmental sustainability.

¹⁹ See the CONACAMI web site at <http://www.conacamiperu.org/index.htm>.

²⁰ This section draws on a number of sources including Keeping (1998 and 1999), Independent Environmental Monitoring Agency (2001), Kennett (1999a, 1999b, and 2001), Kerr (2000), O'Reilly et al. (1999), and Pearse (2001).

²¹ An environmental agreement was negotiated for Diavik, Canada's second diamond mine, also in the Northwest Territories. The agreement establishes an Environmental Monitoring Advisory Board that works differently than the Ekati Independent Environmental Monitoring Agency. One important difference is that the Board includes First Nation representatives and not independent appointees with scientific expertise (Kennett 2001).

²² These are also variously referred to as Human Resources Development Agreements, Socioeconomic Agreements, Participation Agreements, and Cooperation Agreements.

²³ Under the *Nunavut Land Claims Agreement*, some general guidelines are provided regarding the content and procedure for the negotiation of IBAs. However, in the view of the Kitikmeot Inuit Association, there is still too much latitude under the Land Claims Agreement in the negotiation of IBAs and too much uncertainty about the roles and responsibilities of the parties (Kennett 1999b).

²⁴ For details see Sosa *et al.* (2001).

²⁵ The Good Neighbor Agreement of 2000 is a rare example of an agreement between non-aboriginals and a mining company. This contract, between the Stillwater Mining Company and three non-profit citizen groups, aims to reduce the adverse environmental and socio-economic impacts of mines in Montana and to facilitate local oversight. The Agreement provides citizens with access to information, inspection rights and the right to participate in regulatory processes. The company must pay for the technical, scientific and administrative costs associated with meaningful citizen participation in these areas. There are conservation measures and pollution mitigation plans and programs. The company is required to fund independent environmental performance audits and to implement audit recommendations. The Agreement does not, however, grant monetary benefits to affected communities. Key factors in bringing about the Agreement include the fact that the deposit was very valuable and that the NGO signatories initiated a lawsuit in relation to the mines. The suit was dropped when the Agreement was signed. For more information see Whitney (2000) and the Northern Plains Resource Council web site at <http://www.nprcmt.org>.

References

Appiah, William (undated) *A Brief Case Study of Wassa Traditional Areas*. For Third World Network – Africa. (Available at the Project Underground web site at www.moles.org.)

Canadian Institute of Resources Law (CIRL) (1997) *Independent Review of the BHP Diamond Mine Process*. Submitted to the Mineral Resources Directorate, Department of Indian Affairs and Northern Development. (Available at the CIRL web site at <http://www.ucalgary.ca/~cirl/html/about.html>.)

Chalmen, Philippe (1999) Editor. ‘El Informe Cyclope: Les Marchés Mondiaux.’ In *Editorial Económica*.

----- (2000) Editor. ‘El Informe Cyclope: Les Marchés Mondiaux.’ In *Editorial Económica*.

Cleghorn, Christine (1999) *Aboriginal Peoples and Mining in Canada: Six Case Studies*. Prepared for MiningWatch Canada. (Available at the MiningWatch web site at <http://www.miningwatch.ca>.)

Compensation Fund for Social Development (2000) *Poverty Map*.

Consortio Unión para el Desarrollo Sustentable (UNES) (1999) *Evaluación de la Calidad de Aire, Ríos y Suelos en la Provincia Yauli-La Oroya*. (Available at the CooperAcción web site at www.cooperaccion.org.pe.)

----- (2000) *Evaluación de Niveles de Plomo y Factores de Exposición en Gestantes y Niños Menores de 3 Años de la Ciudad de La Oroya*. (Available at the CooperAcción web site at www.cooperaccion.org.pe.)

CooperAcción (2001) *Los Conflictos de Tierra en La Provincia de Espinar: El Caso de BHP y las Comunidades de Tintaya Marquiri y Alto Huancané*. (Available at the CooperAcción web site at www.cooperaccion.org.pe.)

De Echave C., José (2001) *Construyendo un Proceso de Toma de Decisiones Comunitarias Frente a Operaciones Mineras*. Lima: CooperAcción. (Available at the CooperAcción web site at www.cooperaccion.org.pe.)

Ekati Environmental Agreement (1997) *Between Her Majesty the Queen in Right of Canada, the Government of the Northwest Territories and BHP Diamonds Inc.*. (Available at the Independent Environmental Monitoring Agency web site at http://www.monitoringagency.net/website/key%20documents/Environmental%20Agreement/News_Environmental%20Agreement_menu.htm.)

EQUAS S.A. (2000) *Evaluación Ambiental Aire, Agua y Suelos: Area de Influencia de las Operaciones Mineras de BHP Tintaya S.A.* (Available at the CooperAcción web site at www.cooperaccion.org.pe.)

Green, Tom L. (2001) *Evaluating Mining and its Effects on Sustainability: the case of the Tulsequah Chief Mine*. Final Report. Prepared for the Environmental Mining Council of British Columbia. (Available at the Environmental Mining Council's web site at <http://www.emcbc.miningwatch.org/emcbc/index.htm>.)

Innu Nation Task Force on Mining Activities (1996) *Ntesinan Nteshiniminan Nteniunan: Between a Rock and A Hard Place*. Final Report.

Keeping, Janet (1998) *Thinking about Benefit Agreements: an Analytical Framework*. Northern Minerals Program, Working Paper # 4. Yellowknife: Canadian Arctic Resource Committee.

----- (1999) *Local Benefits from Mineral Development: the Law Applicable in the Northwest Territories*. Calgary: Canadian Institute of Resources Law.

Kennett, Steven (1999a) *A Guide to Impact and Benefits Agreements*. Calgary: Canadian Institute of Resources Law.

----- (1999b) *Issues and Options for a Policy on Impact and Benefits Agreements for the Northern Territories*. Prepared for the Mineral Directorate, Department of Indian Affairs and Northern Development. Calgary: Canadian Institute for Resources Law.

----- (2001) *Project-Specific Environmental Agreements in the NWT: Review of Issues and Options*. Prepared for Environment and Conservation, Department of Indian Affairs and Northern Development. Unpublished paper.

Kerr, A. (2000) *Impact and Benefits Agreements as Instruments for Aboriginal Participation in Non-Renewable Resource Development. A Report on Selected Case Studies*. National Roundtable on the Environment and the Economy.

Macleod Institute (2000) *Independent Environmental Monitoring Agency Evaluation Report*. Prepared for the Ekati Independent Environmental Monitoring Agency.

MiningWatch Canada and Canadian Consortium for International Social Development (2000) *On the Ground Research: A Workshop to Identify the Research Needs of Communities Affected by Large-Scale Mining*. Workshop Report. Ottawa, Canada, April 14-16, 2000. (Available at the MiningWatch web site at http://www.miningwatch.ca/documents/On_the_Ground.pdf.)

Moody, Roger (2001) Presentation to the Communities Confronting Mining Corporations Seminar, London, England, May 2001.

Moran, Robert E. (2001) *An Alternative Look at a Proposed Mine in Tambogrande, Peru*. Prepared for Oxfam America, Mineral Policy Center and the Environmental Mining Council of British Columbia. (Available at the Oxfam America web site at <http://www.oxfamamerica.org/art615.html>.)

O'Reilly, Kevin (1998) *The BHP Independent Environmental Monitoring Agency as a Management Tool*. Prepared for the Labrador Inuit Association.

O'Reilly, Kevin and Erin Eacott (1999) *Aboriginal Peoples and Impact and Benefit Agreements: Report of a National Workshop*. Northern Minerals Program, Working Paper # 7. Yellowknife: Canadian Arctic Resource Committee.

Pearse, Tony (2001) Presentation Notes. CooperAcción Workshop, Lima, Peru, November 20-21, 2001. (Available at the Canadian Environmental Law Association web site at <http://www.cela.ca/international/IMGeng.pdf>.)

Peruvian National Coordinator of Communities Affected by Mining web site at <http://www.conacamiperu.org>.

Project Underground (1998) *Risky Business: The Grasberg Gold Mine. An Independent Annual Report on P.T. Freeport Indonesia, 1998*. (Available at the Project Underground web site at <http://www.moles.org/ProjectUnderground/motherlode/freeport/tenrisks.html>.)

The Raglan Agreement (1995) Between Makivik Corporation, Qarqalik Landholding Corporation of Salluit, North Village Corporation of Salluit, Nunaturlik Landholding Corporation of Kangiqsujuaq, North Village Corporation of Kangiqsujuaq and the Société Minière Raglan du Québec Ltée.

Ross, Michael (2001) *Extractive Sectors and the Poor*. An Oxfam America Report. (Available at the Oxfam America web site at <http://www.oxfamamerica.org/art545.html>.)

Sosa, Irene and Karyn Keenan (2001) *Impact and Benefit Agreements Between Aboriginal Communities and Mining Companies: Their Use in Canada*. (Available at the Canadian Environmental Law Association web site at <http://www.cela.ca/international/ibaeng.pdf>.)

Whitney, Eric (2000) 'Mining Out the Middleman.' *High Country News*, 32:14. July 31, 2000. (Available at the High Country News web site at <http://www.hcn.org>.)

World Commission on Environment and Sustainable Development (1987) *Our Common Future*. Oxford: Oxford University Press.