OK TEDI MINE:
UNEARTHING CONTROVERSY

The environmental and human tragedy that is still unfolding at the Ok Tedi mine in Papua New Guinea raises fundamental questions about the governance of natural resources. These questions concern the balance of power between inexperienced, cash-poor governments and powerful multinational industries; the provision of and access to information that is technical in nature; communication across language and cultural barriers; and the need for institutional structures that allow for effective complaint and redress when things go wrong. Such issues are directly relevant to the global mining industry's ongoing efforts to reduce its adverse social and environmental impact and to be more accountable for its actions.

The Story in Brief

Papua New Guinea, a country of only 5 million people, is a botanical treasure island. Its relatively pristine rain forests, mountains, rivers, and reefs harbor a host of rare plants, animals, and birds, including flying foxes, river turtles, the longest lizard, and the largest orchid, bat, and butterfly species in the world (NRI and World Bank 2002:8).

Yet, in the 1990s, the country became a byword for the ecological destruction that can result when a young, weak government and an international mining corporation ignore environmental concerns and the voices of local communities.

The main source of trouble has been the Ok Tedi mine, situated deep in the rain-forest-covered Star Mountains of Papua New Guinea's Western Province. Since the mid-1980s, the large copper and gold mine has released about 30 million tons of mine tailings (a fine sand of crushed rock and metals) into the Ok Tedi tributary of the Fly River every year (Kirsch 2001:1). The result has been ecological disaster. By the early 1990s, fish were dying, turtles disappearing, and canoes running aground midstream as sedimentation raised riverbeds. The overflow destroyed food gardens in down-

Ok Tedi Mine: Some Facts and Figures

Operating Life: 1984–2010.

Jobs: Ok Tedi Mining Limited (OTML) employs about 2,000 staff. About 1,800 are Papua New Guinea citizens and 800 live within a 40-kilometer radius of the mine.

Production: About 200,000 tons of copper and 500,000 ounces of gold a year. By December 2001, the mine had produced 7.5 million tons of copper concentrate.

Ecological Impact: About 40 million tons of waste rock and 30 million tons of tailings—a fine sand—are discharged annually into local rivers. Impacts on rivers and rain forest will last for decades.

Economic Impact: The mine is the single largest contributor to Papua New Guinea's economy, accounting for about 10 percent of GDP. In 2001, sales accounted for 18 percent of total national exports.

Profits: From 1984-2001 OTML's profits totaled US$338 million.

Source: OTDF 2001:6; Higgins 2002:1; Kirsch 2002:18; OTML 2003c:13; OTML 2003d stream indigenous communities and killed thousands of trees.

The mine's main shareholders–Australia-based Broken Hill Proprietary or BHP (renamed BHP Billiton after merging with UK-based Billiton in 2001) and the Papua New Guinea government–failed for years to respond adequately to the ecological consequences of its operations. After the case became an international cause celebre, the indigenous peoples living along the Ok Tedi and Fly rivers sued the BHP and received $28.6m in an out-of-court compensation settlement (NRI and World Bank 2002).

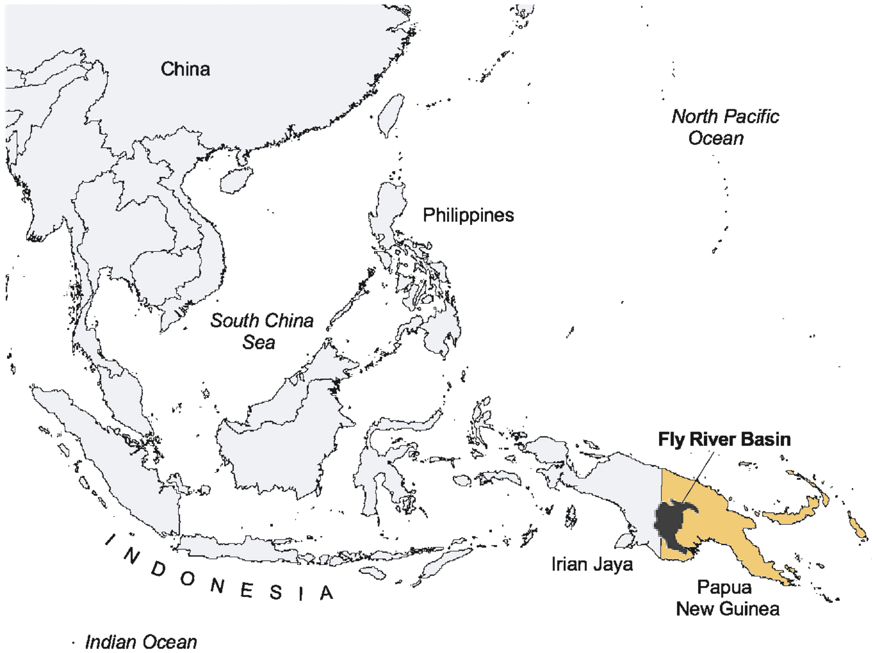
Today, although a limited dredging operation has been introduced, mine waste continues to pour into local rivers. While the mine's operations–and along with them, its boost to the national economy–are scheduled to end in 2010, its ecological impact will linger for decades. Ok Tedi Mining Ltd. (OTML), the company that operates the mine, itself acknowledges that more than 2,000 square kilometers of rain forest could be stunted (OTML 2003b). BHP Billiton, however, has walked away from Ok Tedi. In February 2002, its 52 percent equity share in the mine was transferred to an offshore trust, set up on behalf of the Papua New Guinea people (Finlayson 2002:6). The government gave BHP Billiton legal indemnity from responsibility for future mine-related damage to the Ok Tedi ecosystem, although the legality of this deal may be challenged in the country's courts.

What went wrong? The answers–explored in the following pages–lie in the interplay of several factors, all related to governance. They include the linkage of the mine with nation-building and economic development in a newly independent country; the political marginalization of local communities and weakness of local government institutions; the government's over-reliance on BHP for information about environmental costs and benefits; and the government's conflicting role as both mine shareholder and regulator.

Ok Tedi Mine: The Political and Economic Context

Papua New Guinea's first central government was elected upon independence from Australia in 1975. The young nation experienced an abrupt transition to rule by a weak, centralized government whose authority was rivalled by traditional clan systems. The new government faced high expectations from its people; it also faced external pressure from multilateral lending organizations such as the World Bank and International Monetary Fund and from corporate partners in the mining industry.

Papua New Guinea and Surrounding Region



Papua New Guinea is rich in mineral wealth. Large-scale mining began in the 1930s, under Australian colonial rule, in the Wau-Bulolo area. In 1972, a massive copper mine began operating at Panguna on the island of Bougainville, discharging its waste directly into the Jaba River. Over the next 15 years, the Bougainville mine became the world's biggest copper producer (Filer 1997:59; Finlayson 2002:1).

The copper and gold deposits at Ok Tedi on Mount Fubilan, almost 2,000 meters high in the rain forest-swathed Star Mountains, presented a daunting challenge. The terrain is inaccessible and prone to high rainfall, frequent earthquakes, and landslides (King 1997:96). But the ores presented a tantalizing prospect to Papua New Guinea's young government. By 1974, mining's contribution to the national income had already increased substantially, and a new mine at Ok Tedi promised to raise it even more.

The government wanted to use income from the mine to develop infrastructure and services and to boost Papua New Guinea's international standing as a major minerals exporter. It was encouraged in this by the World Bank and the Australian government, whose Export Finance and Insurance Corporation helped fund exploratory studies at Mount Fubilan (IWT 1994:60; MPI and AID/WATCH 1999:23).

In 1976, the state of Papua New Guinea authorized BHP, Australia's biggest mining corporation, to prepare a development plan for the mine. Four years later, the government committed to a partnership in Ok Tedi Mining Limited with a 20 percent shareholding. The other shareholders were BHP, Amoco Minerals, and a consortium of German companies (King 1997:98). The mine began operating in 1984 and within

a decade became one of the world's largest copper producers–extracting about 30 million tons of ore. By 1996, the Papua New Guinea government owned 30 percent of shares, BHP 52 percent and Inmet, a Canadian mining company, 18 percent (King 1997:98).

Virtually all of Papua New Guinea's land is in customary ownership, with the owners grouped into small communal clans (Hancock and Omundsen 1998:1). The state, however, claims legal ownership of all mineral resources beneath customary lands. As a result, only the government and its potential corporate partners were involved in deciding whether and how to develop Mt. Fubilan's ores, assessing the Ok Tedi mine's potential environmental and social impacts, and deciding how to ameliorate those impacts (Hancock and Omundsen 1998:3).

The approximately 2,000 landowners living at the headwaters of the Ok Tedi River held customary rights to the area covered by the proposed operations (Finlayson 2002: 9). These villagers alone were included in negotiations with the mining conglomerate, agreeing to lease 7,000 hectares of land to OTML in return for a benefits and compensation package that included cash, jobs, and education and health facilities. The indigenous communities living downstream of the proposed mine were excluded from the mine consultation process. It was not until 1997, after mine waste had devastated their lives for almost a decade, that leases for these villages were finally negotiated as part of an out-of-court compensation settlement (Kirsch 2001:4).

Before the project was approved, OTML agreed to build a tailings dam to protect the Fly River as recommended in an Environmental Impact Assessment (EIA) by Australian consultants commissioned by the company. The report concluded that even with such a dam in place, copper and other heavy metals would have severe effects on fish downstream of the mine (Townsend and Townsend 1996). In January 1984, however, a landslide destroyed the dam's foundations. Under pressure from BHP not to force the expensive building of another dam, the government granted OTML temporary permission to release mine waste into the headwaters of the Ok Tedi River. In 1988, after a rebellion by indigenous landowners in Bougainville forced Papua New Guinea's other major copper mine (and revenue-earner) to close, the government renewed OTML's interim river disposal license. It is still in effect (Filer 1997:59).

Ok Tedi Mine, Fly River Basin

The Fallout

The well-documented environmental and social consequences of these decisions have been enormous. For almost two decades, the mine has discharged about 30 million tons of metal-tainted mine tailings and 40 million tons of waste rock a year into the Ok Tedi River, which in turn discharges its load into the Fly River. Before it reaches the Gulf of Papua in the Torres Straits, the Fly flows through dense primary tropical rain forest, wetlands, and savanna. The river system supports the greatest biological diversity in Australasia, including 128 recorded native freshwater species, with 17 unique to the Fly basin (Swales et al. 1998:100).

This chronic build-up of waste has had a devastating effect on the 50,000 people who live in the 120 villages along the two rivers and depend on them for subsistence fishing and other river-based resources. Before the mine, taro and bananas were commonly grown in village gardens and riverside sago palms often provided the mainstay of local diets. But since the early 1990s, the build-up of sediment in the rivers and subsequent flooding of forests have dramatically altered the local environment. Fish stocks have fallen by 70–90 percent, animals have migrated, and about 1,300 square kilometers of vegetation have died or become blighted, forcing villagers to hunt and fish over larger distances (BHP 1999:9; Higgins 2002:2). Copper concentrations in the water are about 30 times background levels, though the river still meets World Health Organization drinking water standards (BHP 1999:8–9).

For the Yonggom people and their neighbors living along the lower Ok Tedi and Fly rivers, the mine's ecological impact violated a centuries-old way of life. From the late 1980s, they described in interviews and anguished letters to the OTML and government officials how pollution and flooding were eroding their traditional subsistence lifestyles, forcing some villagers to relocate. "The animals living along the river banks–the pigs, cassowaries, pigeons and bandicoots–have all disappeared...now the places where turtles laid their eggs have been covered up," said one. "Before women travelled by canoe on their own, but today the river is too dangerous" (Kirsch 1997:124). An anthropologist working with the Wopkaimin people described the mine waste's impact on local wildlife and people as "ecocide" (King 1997:96).

A Voiceless People

As Ok Tedi Mining's own literature acknowledges, its arrival changed the lives of the people forever (OTDF 2001:6). The horticulturalist indigenous tribes of Papua New Guinea's Western Province had lived in small clan-based settlements for hundreds of years, cultivating small garden-farms and hunting and gathering food from the rain forest (IWT 1994:71; Kirsch 2003).

The Ok Tedi mine introduced industrial jobs, urban living, a cash economy, and supermarket food to the region, based around the company town of Tabubil. Yet, little was done to consult or prepare its indigenous residents for this upheaval (Finlayson 2002:17). Lack of communication isolated the downstream communities from their new corporate neighbor. Confusion over language, the role of customary clan leaders, and cultural and spiritual values also fed into OTML's failure to quickly recognize and deal with the environmental disaster that ensued.

When personnel in the company's environment and community affairs departments first received complaints from villagers, they found them imprecise, exaggerated, and confusing. "People are suffering from sores," stated one letter. "The rain makes us sick. The air we breathe leaves us short of breath. And the sun now burns our skin" (Kirsch 2001:5). The villagers' letters reflected their holistic and spiritual view of nature and human society as inextricably linked. But the jumbling together of evidence of mine waste impacts with clan mythologies blunted their message and helped prevent the initiation of a political process through which the communities' grievances could be effectively heard (Burton 1997:42–44).

At the same time, local peoples had little experience with modern political environments. Traditionally, disputes were often settled without formal procedures. Clan leaders who gained their legitimacy through lineage were more influential than elected local officials and members of parliament (Burton 1997:33). These clan leaders wrote letters and sent petitions to as many interested parties as they could think of, making little distinction as to who was responsible for taking action. This helped create a situation whereby even though OTML's community relations staff recorded villagers' grievances, their reports were not considered important enough for senior management to act on and instead lay "filed away in forgotten corners" until it was too late to prevent court action (Burton 1997:42,52).

When anthropologist Stuart Kirsch visited the Yonggom communities in 1992, several years after the first letters of complaint were written, little formal assessment of environmental damage had been carried out by either mining company or government. He described the villagers as "in a state of despair, feeling both frustrated and completely ignored in their efforts to obtain restitution" (Kirsch 2001:9).

Seeking Redress

The unresponsiveness of both OTML and the government provided a crash course in politicization for the Yonggom people and their neighbors. Through local church and environmental groups, they made contact with the Australian Conservation Foundation and the Geneva-based World Conservation Union, which funded environmental audits of the Fly River. In 1992, the Wau Ecology Institute helped a group of indigenous landowners present their grievances against OTML to the International Water Tribunal in The Hague. The tribunal's judgments lack legal force. But its finding, issued in 1992, that the Papua New Guinea government should either prevent further damage or close the mine (IWT 1994:85), brought Ok Tedi into the international spotlight. This in turn encouraged local villagers and their nongovernmental allies to seek legal remedy (Kirsch 2001:7–8).

In 1994–95, Australian law firm Slater and Gordon launched a series of lawsuits in the Victoria Supreme Court in Melbourne, where BHP was incorporated, on behalf of 30,000 villagers from 600 clans affected by the mine (Gordon 1997:143). The "David and Goliath" suit against one of Australia's biggest corporations received widespread media coverage, mostly unfavorable to BHP. Lawyers for the villagers argued that they had suffered damaging "loss of amenity" because of the waste's impact on their subsistence economy and spiritual and cultural connections to the land (Kirsch 2001:13, 17). In 1996, the two sides reached an out-of-court settlement, which included compensation and a BHP commitment to contain mine tailings. The agreed payout included 110 million kina (US$36 million) over the life of the mine for the 34,000 people living along the Ok Tedi and Fly Rivers, and 40 million kina (US$13 million) for the 15 villages most affected (Kirsch 2001:17).

In 1999, OTML began a river dredging operation 80 kilometers downstream of the mine. The same year BHP, as the major shareholder, publicly acknowledged the mine's "unexpected and significant environmental impacts" (BHP 1999:4). The timing of this announcement coincided with the publication of a risk assessment study commissioned by the company which identified the mine's closure in 2000–10 years ahead of schedule–as one of several options (BHP 1999:14). In the event, BHP chose to disinvest from the mine, arguing that the impacts of riverine disposal were not compatible with its contemporary corporate standards (BHP 1999:4).

Whatever the company's rationale for withdrawing from the Ok Tedi mine, its public admission of responsibility came 11 years after the first letters of complaint. How had such a significant failure of corporate governance and government oversight been allowed to take place, and over such a long period of time? The answer lies partly, of course, in the company's internal dynamics, but also in the political and economic climate in which it was operating.

Weak Nations, Powerful Corporations, and a Failure of Governance

Central Government: A Conflicting Role

Papua New Guinea is a country with a democratic process, freedom of information laws, and a constitution that enshrines environmental protection as a key national goal. The latter requires, for example, that "all necessary steps be taken to give adequate protection to our valued birds, animals, fish, insects, plants and trees" (Taylor 1997:15).

Yet, when it came to Ok Tedi, the government agreed first to delay and then to forego construction of a tailings dam and to permit waste dumping in the river. How did the constitution take a backseat to economic development? Why was the likelihood of ecological damage deemed acceptable? And why was there no consultation with downstream communities before permitting river dumping?

The answer lies primarily in the linkage of the mine with nation-building and economic and social development, and in the government's conflicting role as both mine shareholder and regulator.

In the 1980s, it was not unusual for developing country governments to take equity stakes in new mining ventures operated by transnational corporations. The aim was to ensure that as many benefits as possible–revenues, profits, mining taxes–remained in the host countries. Yet, by juggling the roles of mine owner and mining industry regulator, these governments opened themselves up to a major conflict of interest (Temu 1997:192–193).

Strict oversight measures are necessary to neutralize such conflicts. At Ok Tedi, however, the Papua New Guinea government's conflict of interest played itself out to damaging effect. According to critics, the state's direct financial stake undermined its role as independent arbiter of the mine's environmental and social impacts and contributed to its failure to honor the constitution. As a mine owner, the government was also seen by local communities as at least partly responsible for environmental damage caused in the pursuit of profit and as having relinquished its role as the government (Taylor 1997:24).

The government's conflicted position was most strongly demonstrated by its failure to hold its corporate partners to their agreement to contain mine waste. When the tailings dam's foundations collapsed, start-up costs were over budget and copper prices falling. The area's geological instability made another dam potentially risky, and alternative options that environmentalists favored as more ecologically sound, such as building a 100-kilometer tailings pipeline to a stable lowlands waste dump, were expensive. At the same time, the Bougainville copper mine was in the process of closing down, with a consequent reduction in national GDP of around 20 percent (Hancock 2003).

Simultaneous closure of Ok Tedi would have undermined the country's fledgling education and health systems and exacerbated rural poverty (Hancock 2003). The mining companies could afford to walk away but the government couldn't afford to let them. When BHP warned that it would close the mine if it were required to build a new dam, the government waived the requirement rather than face major revenue, tax, and job losses and a severe blow to national pride. It chose this course of action even though complaints about the environmental effects of mine waste disposal had contributed to the rebellion that brought down the Bougainville mine (Kirsch 2001:5–6).

The government's part ownership of the Ok Tedi mine also raises key governance issues in the legislative arena. From the start, the government made its deep commitment to Ok Tedi's success clear, and seemed prepared to accept some degree of environmental degradation to accomplish that goal.

Ok Tedi was exempted from later legislation, including the Environmental Planning Act of 1978, allowing the mine to escape oversight by the Department of Environment and Conservation (Burton 1997:50). Instead, OTML was made responsible for monitoring its own impacts (Kirsch 2001:8). The Department of Mining and Petroleum oversaw Ok Tedi policy in its early years, encouraging a decision-making process dominated by senior government and OTML officials (IWT 1994:66–67).

The closeness of this collaboration was brought to light at the International Water Tribunal hearings in 1991. According to its proceedings, "one former staff member at the Department of Minerals observed that OTML management personnel had easy and frequent access to the highest Papua New Guinea government levels... Frequently, important decisions by the Cabinet were made even without consulting responsible government staff, based on information provided mainly by OTML itself" (IWT 1994:66–67). In its judgment, the tribunal accused BHP of "using its foreign earning power to influence the government to make exceptions in the application of law in its favor to the detriment of the local environment and the livelihood of the local people" (IWT 1994:84).

In 1989, the government moved to address concerns about accountability for these mines, establishing a more inclusive form of decision-making for both new and existing operations. Development Forums were established, through which national and provincial governments and local landowning communities agreed to operational terms and to the benefits, rights, and obligations of each stakeholder (Hancock and Omundsen 1998:1–3). In 1991, the retrospective Development Forum for Ok Tedi resulted in an increase in royalty payments to villagers leasing land to the mine.

According to John Strongman, World Bank Mining Advisor in Washington, DC, these Development Forums "give a very good voice to landowners and provide for a very good circulation of information. Is it possible for Ok Tedi-type problems to happen again in Papua New Guinea? Absolutely not. The consultation procedures are now probably some of the best anywhere in the world" (Strongman 2003).

Many local villagers and their allies in local and international nongovernmental organizations (NGOs), however, do not share this upbeat assessment. They point to a continuing trend in decisions by the government since the 1996 settlement that favor BHP. Most contentiously, in December 2001, the Papua New Guinea government passed the Ok Tedi Mine Continuation Ninth Supplemental Act–which included a liability waiver relieving BHP of any responsibility for damage from the mine after the company sold its shareholding.

Local Government: A Lack of Capacity

Governance failures related to the Ok Tedi mine and the short-changing of local communities have not been confined to the national government.

The rule of law is tenuous in parts of Papua New Guinea, including its Western Province, and provincial agencies often lack both the capacity and expertise to deliver much-needed health, education, and transport services. Some local government administrations have also mismanaged their finances. The Fly River Provincial Government (FRPG), which governs Western Province, has been suspended three times by the national government for inadequate financial management, the third time in September 2000. It was reinstated in October 2001 (OTDF 2001:7; Finlayson 2002:10).

The FRPG has had little success in converting its substantial mining royalties into sustainable, long-term benefits for its people. Since 1990, the provincial government has received 300 million kina (US$100 million) in Ok Tedi-related payments, including royalties and taxes (Finlayson 2002:10). Yet, according to a 2002 report commissioned by the Papua New Guinea government as part of a World Bank-funded project on institutional mining reform, little of the windfall has been used to improve "unsatisfactory" health and education services or reorganize failed administrative systems. As recently as 2001, the FRPG's Building Board, Tenders Board, Land Board, and Transport Board all failed to function, while the Department of Works had no working equipment (Finlayson 2002:11).

The province's huge size, the existence of many isolated communities to whom service delivery is costly and difficult, and the national government's failure to assist FRPG to reform have all contributed to this situation. With mine royalties and taxes due to cease in 2010, the potential consequences are dire. The national government-commissioned report concluded that "the vast majority of people outside the mine-affected areas have not benefited from the Ok Tedi mine, either financially or through improved services. In rural areas of Western Province there is little evidence of investment in agriculture or business activities that may be sustainable after mine closure" (Finlayson 2002:17).

Corporation as Government: Filling a Vacuum

Like other transnational corporations operating in developing countries where infrastructure and services are scarce, Ok Tedi Mining Limited has effectively taken on some of the functions of local government. To enable the mine to function and to attract and retain employees, it built an airstrip at Tabubil, the town nearest the mine site. It has also set up localized power and water supplies, constructed a sewage system, and built a local road network.

The company soon became the major provider of health services within 40 kilometers of the mine, running a 24-bed hospital and funding mosquito control programs (OTML 2003a). Local infant mortality subsequently fell from 27 to 2 percent. The company also paid for 133 community halls, 40 classrooms, 600 water tanks, and 15 aid posts in village communities (BHP 1999:11–12). Between 1982 and 2001, the Ok Tedi mine provided 3.39 billion kina (US$2.13 billion) in benefits to Papua New Guinea (Finlayson 2002:6).

By the early 1990s, it became clear that the Ok Tedi mine had, through its existence in a highly under-developed region, created a dependency in the Western Province on the economic activity it generated. According to David Wissink, manager of the Ok Tedi Development Foundation, "OTML provided the area around the mine site in particular with the sort of social and physical infrastructure that would ordinarily have been provided by representative government. OTML provided this to meet its own needs, but also as part of the compensation arrangements for its mining activity" (Wissink 2003).

The company's assumption of this role clearly benefited those living closest to the mine, many of whom also worked there. The bigger downstream communities suffering the brunt of ecological damage, however, received little direct benefit from the mine until after the compensation settlement. Moreover, their early efforts to win redress were hampered both by the weakness of the local government and by the absence of democratic process created by the national government's conflicting role as a mine owner.

Acting like a surrogate government, whether intentionally or not, raises serious governance questions about the proper role of un-elected transnational corporations operating in developing countries. On one hand, local citizens often welcome the new services and infrastructure that such companies can bring. On the other, such benefits can quickly erode once the companies depart.

In Papua New Guinea, the government was warned in August 2002 by an independent expert that "unless the capacity of the provincial government is greatly enhanced in the immediate future, the [Ok Tedi] Foundation will be seen as replacing the role of government for a large proportion of Western Province's population" (Finlayson 2002:18). His report also warned that the viability of the modern infrastructure that local people had come to rely on–from water and power to roads–would be jeopardized once OTML ceased to maintain them (Finlayson 2002:15).

Ok Tedi Today: A Just Outcome?

Both the Papua New Guinea government and local communities viewed the possibility of the mine's early closure as the worst of all worlds, depriving local residents of income and the region of royalties to mitigate ecological problems and fund alternative employment programs.

A World Bank report commissioned by the national government in late 1999 concluded that closing the mine quickly would be the "best environmental option," but would create a "potentially disastrous" social situation (World Bank 2000). BHP's shareholders wanted to close the mine in 2000, but the company agreed instead to write off its investment. In February 2002, its 52 percent equity was transferred to a new trust–the Papua New Guinea Sustainable Development Program Company–whose dividend income would be spent on development programs for up to 40 years (Kirsch 2001:1; MMSD Mining et al. 2002:348). For its part, the newly-merged BHP Billiton, now one of the world's largest mining corporations, received indemnity from future pollution liability.

Legislation and agreements sealing this deal followed 2 years of consultations between OTML and Fly River communities. According to the company, each village chose two representatives to act on its behalf. By 2002, OTML had negotiated Mine Continuation Agreements with 142 of the 155 villages in the affected area (Higgins 2002:4). The agreements provide compensation for future environmental damage between 2002 and 2010. About 60,000 people–or 40 percent of Western Province's inhabitants–will benefit, with 180 million kina (US$50 million) split between cash payments (16 percent); health, education and job creation projects (58 percent); and trust funds for future generations (26 percent) (Finlayson 2002:14).

The bulk of development assistance will be managed by the new Ok Tedi Foundation, which has become a vehicle for improved company communications with the Fly River

communities. During 2002, around 150 village planning committees were set up to jointly review proposed projects with foundation staff. Agreed-upon projects are presented to one of nine community development trusts for funding approval. These trusts have an average of eight trustees, at least four of whom are local community representatives (Wissink 2003).

It is too early to judge how this new partnership approach will play out in terms of successful sustainable development and job creation before and after the mine closes. What is not in question, however, is that both the contested 1996 settlement and BHP's early exit from the mine raise crucial issues of environmental governance, accountability, and social justice that continue to reverberate throughout the region and the country.

Two issues generate most anger. First, many villagers still living with the daily outpouring of mine waste believe that BHP Billiton should not have been allowed to escape responsibility for continuing environmental damage after its exit. A pending court case in Australia alleging breach of the 1996 settlement will attempt to force both BHP Billiton–which remains bound by its terms–and OTML to implement more comprehensive tailings containment measures and pay out more compensation (Hardwick 2003). Both companies are contesting the case, expected to reach trial in early 2004.

Second, there is widespread confusion and upset among villagers over the terms of the Community Mine Continuation Agreements (CMCAs) signed on their behalf. According to local NGOs and the Australian lawyers acting for community leaders, many villagers claim they did not understand that legal documents were being signed by two representatives on behalf of entire communities, or that they barred individuals from taking part in the second lawsuit against BHP and OTML. Fourteen hundred villagers subsequently signed affidavits disowning the agreements (Hardwick 2003).

Ongoing distrust among the mining company, provincial government, and communities is also reflected in concerns about the accountability of the Papua New Guinea Sustainable Development Program Company. Bob Danaya, governor of Western Province, has strongly objected to the lack of a provincial representative on the Board of Directors, whose membership has been appointed exclusively by BHP Billiton and the national government (Danaya 2003).

2002–2010: Crunch Time

The history of poor governance–national, local and corporate–surrounding the Ok Tedi mine and Western Province has left a legacy of distrust, disaffection, and environmental degradation. Further, Papua New Guinea remains a heavily mineral-dependent economy, despite hopes that the revenue from Ok Tedi and other mines would help the country diversify its economy.

Although Ok Tedi has generated significant income for local communities and the Fly River Provincial Government, there is little to show for it in terms of new, durable infrastructure or services (Finlayson 2002:15). Meanwhile, mine

Beyond Ok Tedi: Progress Toward Sustainable Mining?

The mining industry has rapidly consolidated in the last 20 years, creating companies that are larger than some national economies. A few giant mining transnationals based in Australia, Canada, the United States, and the UK now dominate the market. They include BHP Billiton, Rio Tinto, Placer Dome, Newmont, Freeport, and Anglo American.

These companies wield enormous power, especially in developing countries anxious to generate income. Under-resourced governments, as in Papua New Guinea, can fail to provide adequate oversight and protection for local people and resources. Some assume the potentially conflicting roles of mine regulator and shareholder. A number of questions suggest how such power imbalances among corporations, developing country governments, and local communities might be righted.

- Would a global code of conduct agreed by governments and mining companies improve the industry's social and environmental performance?
- How can developing country governments make informed decisions on whether to approve a mine when they are acting on information provided by the prospective mining company?
- What better efforts can be made to ensure the full understanding and prior informed consent of communities living in or around potential mine sites?
- Should governments be part-owners of mining projects, given the potential conflict between the roles of mine regulator and shareholder?
- What measures can be taken to ensure that mine closures do not result in social dislocation and deprivation, especially in regions where local government is weak and companies are major service providers?
- Should companies remain accountable for future pollution from their mining operations, even if they divest themselves of ownership?

tailings continue to pour daily into the local rivers, affecting food supplies and making it harder for people to return from a semi-cash economy to subsistence lifestyles.

Between 2001 and 2010, 40 percent of the predicted 1.5 billion kina (US$0.5 billion) total income from Ok Tedi mine will flow into Western Province (Finlayson 2002:18). Clearly, greater cooperation and better relations are urgently needed between mine, foundation, national, and provincial governments to ensure that this money is used to maximum effect.

Seven short years remain to put right the wrongs done to the people and environment of Ok Tedi. If this is not achieved, ecological disruption and cultural dislocation—not sustainable development—will be the mine's lasting legacy.