Undermining the Rights and Safety of Workers

Mineworker in South Africa / Photo: ICEM

On October 9, 2003, the south face of the Grasberg gold mine in West Papua, Indonesia, collapsed. Eight workers died and five others were injured. Government investigators turned up evidence that in the days leading up to the accident, seismic data had led mine operators to suspect that slippage was imminent, and that key machinery—but not workers—had been moved from below the unstable zone. These were not the first deaths at the Grasberg mine, the largest open-pit gold mine in the world. In May 2000, a landslide at the mine's waste dump claimed four lives, prompting environmentalists and government officials to question the safety of recent production increases.[46]

In 1983, the chief safety engineer of an unnamed South African mining corporation told the *Economist* that "production is more important than safety." No one in a similar position would go on record with such a statement today. And it is true that over the past 20 years, health and safety conditions have improved in large-scale corporate operations in most countries. Between 1984 and 2001, for instance, the average annual death rate in South African gold mines fell from 1.23 per 1,000 workers to 1.05 per 1,000, while the reported accident rate declined by one-third. (For conditions at small-scale sites, see page 25.) But even so, mining remains one of the world's most dangerous professions.[47]

Rock falls, tunnel collapses, fires, heat exhaustion, and other dangers claim the lives of over 15,000 miners every year. (Miners in the notoriously dangerous coal mines of China may account for up to half of these deaths.) According to the International Labour Organization (ILO), deaths within the mining sector as a whole (both metals and coal) account for 5 percent of all worker deaths on the job, even though the sector employs just under 1 percent of all workers worldwide. But these are just the reported deaths; a substantial share of mining deaths go unrecorded. The data on injuries are even less reliable but it's likely that hundreds of thousands of serious injuries are sustained

Small-Scale Mining, Large-Scale Risk

A fair share of the world's mining is done, not by big corporations, but by individual people, families, and collectives. This part of the industry, which is largely confined to the developing world, is known as "artisanal and small-scale mining," or ASM. ASM covers a range of activities. At the high end are companies doing sophisticated but small-scale mechanized mining. But the overwhelming majority of the sector's workers are found at the opposite end of the spectrum: they are poor, untrained miners often working their claims together with their families. Some of these miners are organized into collectives of several hundred people. All told, there are enormous numbers of them: an estimated 13 million people are directly employed in the sector—as opposed to only around 2.75 million in industrial metals mining.

ASM produces a sizeable share of the world's gem stones and precious metals, especially gold. But these riches are produced at great cost to both the environment and human health.

On both counts, the single greatest threat within the sector is probably mercury poisoning. Artisanal extraction of gold is done through a process called amalgamation, in which gold ore is heated in the presence of mercury. The mercury "amalgamates" with—adheres to—the gold, thereby drawing it out of the ore. The gold remains in more or less pure form after the mercury evaporates in the heat.

But in both its liquid and its vapor forms, mercury is extremely toxic. Mercury is a neurotoxin that has been shown to impair brain function in fetuses and children. People continually exposed to it may experience loss of coordination and memory, personality change, and stupor. Mercury has also been linked to increases in miscarriages and birth defects. In children, high levels of exposure correlate with lower intelligence and hearing loss. Mercury can also persist in the environment for decades in forms in which it is readily metabolized. And it bioaccumulates—it builds up in the fat of animals in increasing concentrations at higher links of the food chain, with the result that top predators (bears, for example, or people) tend to absorb the highest concentrations of it.

But in poor communities, where there is little information on such hazards, and where in any case, people cannot afford to buy safety equipment, few precautions are taken. Amalgamation is often done at home, by women and children, while the men are out on the claim digging more ore. The mercury is often handled with bare hands, and heated in the same pots used for cooking. Under such circumstances, it's virtually impossible to avoid inhaling mercury vapor, and contaminating food and drinking water with the metal. Much of the mercury eventually escapes into soil and water, and once released it tends to be mobile. In French Guiana, for instance, the Wayana people live downstream from small-scale gold mining operations and suffer from mercury poisoning. Their hair sample tests show mercury levels two to three times higher than World Health Organization limits.

Overall health and safety data for ASM are sketchy, but the sector appears to experience a significantly higher accident rate than the industry as a whole. Lack of training and equipment lead to more frequent landslides, shaft collapses, and accidents with explosives. In matters of risk, ASM differs in another important way from large-scale mining: many injuries in ASM are suffered by women and children—a reflection of their widespread presence in the sector. Children, for example, are frequently employed underground because of their small size. Women make up an estimated 10 to 20 percent of the above-ground ASM workforce, and are often engaged in the amalgamation process.

This poor safety record is due in part to a lack of legal recognition. According to the International Labour Organization, about 80 percent of the world's small-scale mining is illegal. In many poor countries, the laws against ASM haven't successfully controlled it, but they have discouraged poor miners from seeking medical help and other forms of assistance. The miners' reticence, in turn, makes it difficult to understand their needs, or how the sector as a whole might best be managed.[54]

Photo: JATAM

Small-scale gold mining, East Kalimantan, Indonesia

every year in the mines. In 1996, Pik Botha, then South Africa's Minister for Mineral and Energy Affairs, estimated that in his country, each ton of gold mined costs 1 life and 12 serious injuries.[48]

In addition to the deaths and injuries on the job, mining can cause a range of long-term disabilities, the most common of which are respiratory problems such as silicosis. Caused by the inhalation of crystalline silica dust, a common air contaminant in hardrock mines, silicosis can develop after only seven months of exposure to the dust, and can lead to complete loss of lung function. It also greatly increases its victims' susceptibility to other lung diseases, such as tuberculosis, bronchitis, and lung cancer. Deep mines, such as South Africa's gold mines, which reach depths of 3.5 kilometers (2 miles), present their own special set of risks. The extreme heat—up to 60 degrees Celsius (140 degrees F)—and the high atmospheric pressure put miners at risk for certain kinds of nerve damage and high blood pressure. South African gold mines sometimes also extract uranium, thereby exposing thousands of workers to unsafe radiation.[49]

Photo: ICEM

It's not surprising that in some countries, the lifespan of miners is substantially lower than that of the general population. In Bolivia, for example, the average miner in the tin mines of Potosí will live only 35 to 40 years, whereas the general population's life expectancy at birth is about 64 years.[50]

Almost all governments have enacted health and safety regulations that apply to the mining industry. But these laws are often poorly conceived and enforced. To help bridge the regulatory gap, the ILO developed the "Convention on Safety and Health in Mines" in 1995. The Convention requires employers to "eliminate or minimize" safety and health risks in their mines. It requires governments to oversee and report publicly on the implementation of such measures, and to suspend mining when violations occur. And it guarantees miners' rights to form unions and to be informed of health and safety risks and precautions. But to date, only 20 countries have ratified the ILO Convention and have agreed to abide by its standards. Among the major mining countries that have not done so are Australia, Brazil, Canada, China, Indonesia, Peru, and Russia.[51]

Miners have tended to respond to this unfavorable regulatory climate by looking to each other for support. To increase their leverage with the multinational corporations that employ them, the unions themselves are globalizing. In 1998, for example, members of the 20-million-strong International Federation of Chemical, Energy, Mine and General Workers Union (ICEM) formed the Rio Tinto Global Network to confront the labor practices of the Rio Tinto Corporation. Rio Tinto operates in 40 countries and is the world's largest private mining company. The Global Network charges that the company has employed union-busting activities, some of which might qualify as human rights abuses, at mines in various parts of the world. Among the charges are accusations that Rio Tinto fired HIV-positive workers in Zimbabwe; that in Brazil's Paracatu gold mine, it spied on and fired union leaders, and exposed workers to highly toxic levels of lead; and that it violated a two-day-old collective bargaining agreement with mass layoffs in Utah. Although the company has signed the United Nations Global Compact, a code of corporate responsibility, the Global Network points out that Rio Tinto's policies do not yet acknowledge basic ILO standards, such as protections for collective bargaining.[52]

But even though it is growing more sophisticated, labor organizing in the mines remains a difficult and risky business. The International Council of Metals and Mining (ICMM), a confederation of the 25 largest mining companies, still does not recognize the rights of workers to bargain collectively in its guiding principles. In some countries, such as China, Burma (Myanmar), and Laos, organizing independent unions is illegal. In Burma, workers are not only prohibited from forming unions, but have sometimes even been subjected to forced labor, such as at the Monywa Copper Mine, operated by the Canadian corporation Ivanhoe Mines, where the ILO reports that in the mid-1990s, nearly a million people were forced to build the hydroelectric plant and railway servicing the mine. Even where unions are legal, they are often undercut in various ways. In 2001, for example, some 2,500 workers at copper mining facilities in Kazakhstan were forced by the management to join "house" unions—led by the director's right-hand man—or face dismissal. Sometimes the hostility to the unions turns deadly. In Colombia, which has the world's worst record for trade unionist murders (one killing every other day), 11 members of the metals, mining, and oil workers' union federation were killed in 2001.[53] ■