

Spheres of Influence

For years, the Halliburton Company followed local standards in its management of Brazil's state-owned oil company in Catu. This meant discharging stormwater runoff and wastewater effluents directly into the Catu River, untreated. Then, in 1994, the Dallas, Texas-based energy and engineering company initiated new company-wide environmental standards. In Catu, that meant an effort to reduce the pollution going into the river. The company engaged its 70 local employees in a project to identify elements of the waste stream and then find ways to reduce waste and properly treat and dispose of the remainder. The result was the construction of a water treatment facility that treats 100% of the water it releases into the river. But that was only the start.

The waste stream study also identified the need for a sanitary landfill, not only for Halliburton, but for the entire community. Then, after the landfill opened in 1996, the company and community saw the need to better manage the stream of landfill waste. So Halliburton began an educational program for city employees that led to a citywide waste reduction and recycling program. In addition, the city of Catu has begun to sell recyclable materials from the landfill to purchase food for the city's poor. By 1999, more than 15 tons of food had been purchased.

The story of Halliburton and Catu is one of 12 case studies discussed in the 1999 report *Fostering Environmental Prosperity*, published by the Global Environmental Management Initiative (GEMI), a nonprofit organization of major global companies who contend that good environmental practices and good business practices go hand-in-hand—even when doing business in a developing country with low environmental standards.

In its efforts to adopt environmentally friendly (or, at least, friendlier) environmental management standards company-wide, Halliburton was following a broad corporate trend that many believe can date its inception to 3 December 1984, the day a Union Carbide storage tank in Bhopal, India, burst open and sent a cloud of poisonous methyl isocyanate gas out into the community, killing by some estimates as many as 6,000 people within a week and some 13,000 to date. Subsequent highly publicized accounts of developed countries shipping hazardous waste to poor nations further focused world attention on the environmental dangers facing developing countries in an increasingly globalized

industrial economy. Over the intervening years, the environmental costs that developing countries bear in the new world economy have been addressed by a series of conventions, treaties, and protocols—with mixed results.

The Charge against Globalism

The complaint against global development is largely that corporations, driven by profit and reluctant to pay for expensive pollution-control technologies, seek to do business in developing countries where environmental regulations are more lax. As Hilary French, vice president for research at the Worldwatch Institute, reports in her new book, *Vanishing Borders: Protecting the Planet in the Age of Globalization*, this complaint may be quite valid. According to French, one notoriously polluted region of Mexico that is home to some 3,200 mostly foreign-owned manufacturing plants is an “environmental disaster zone” where more than one-fourth of the factory

share of total U.S. foreign direct investment in manufacturing in developing countries increased from 18% to 34% between 1990 and 1998. Between 1980 and 1996, the amount of chemical production in developing countries rose from 11% to 18% and, French says, “much of this expansion involves joint ventures with multinational firms.”

A similar movement has occurred among high-tech industries such as computer and electronics manufacturing, which may produce environmental hazards that are less well-recognized but just as toxic. Semiconductor manufacturing in particular, French says, is a “toxic-laden business” that has largely been exported to such places as the Philippines, where exports of electronics equipment—nearly 80% of it from semiconductors—increased from \$1 billion in 1985 to \$10 billion in 1996.

In 1996, the Silicon Valley Toxics Coalition of San Jose, California, conduct-

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operators freely admit that Mexico's lax environmental laws are the reason they operate there.

Some toxic and ozone-damaging substances have been banned internationally, but rules of industrial operation have remained primarily local matters. French reports that despite the environmental side agreement that accompanied the North American Free Trade Agreement, more U.S. companies have flocked to Mexico and environmental conditions have not improved. To these mostly smaller companies, the advantages of lower environmental costs in developing countries are significant, and thus represent one of globalization's palpable dangers.

The degree to which multinational corporations improve or deteriorate the environment in developing countries depends largely on which industry you're talking about, French says, pointing to the asbestos industry as a case in point. Both the manufacture and use of asbestos has shifted to the developing world, she says, and the result could mean “anywhere from 30,000 to several million deaths [in those countries] over the next 30 years.”

Chemical companies have moved heavily into developing countries as well. French reports that the chemical industry's

ed a review of 22 computer-related companies based in developing countries and found that more than half of the manufacturing and assembly operations, which are intensive in their use of acids, solvents, and toxic gases, have been shipped out to developing countries.

The news may not be all bad, though. French says that forces of globalization can produce environmental gains, for example by helping developing countries to adopt the cleaner technologies of the industrialized world. For instance, she says, China is now the world's leading manufacturer of energy-efficient compact fluorescent lightbulbs, largely through ventures with multinational companies.

Says French, “I think that some of the larger, more mainstream companies that are more concerned about their public reputation do bring with them cleaner technology that might not already exist when they establish operations in developing countries. So [industrial globalization] might be a means by which cleaner technologies are disseminated. But there have also been a number of cases . . . where more hazardous technologies and obsolete technologies have been dumped in developing countries, so it really varies quite a bit.”

A globe made of money, with various banknotes and coins visible inside the glass sphere. The globe is mounted on a dark wooden stand. The background is a solid green color.

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Industry's Answer

Still, even those who are most concerned about globalization's environmental threats concede an argument made by many multinational corporations: that the best method to achieve long-term environmental health in developing countries is through economic development, not necessarily through regulation.

"Generally, the argument is right," says Duncan Austin, an associate at the World Resources Institute in Washington, DC. "Economic development is really the only way that these problems are going to be solved in the long run. I don't think anyone argues with that. The question is how clean and how green should the immediate steps be, and at what price."

The response from free-market champions is unequivocal. Christopher Hartwell, an environmental policy analyst at the Reason Public Policy Institute in Los Angeles, California, has examined the effects of global industry and international trade policies on environmental outcomes in 130 countries between 1960 and 1992. According to him, rising income and education levels tend to produce beneficial environmental effects. Also, he says, increases in levels of education and income lead to more efficient consumption of natural resources. Hartwell says his research "debunks the idea that you need more regulations in keeping out the multinationals."

Jonathan Adler, director of environmental studies at the Competitive Enterprise Institute in Washington, DC, argues that the relationship between economic health and environmental health in developing countries is a straight line. "As prosperity increases, the types of environmental problems that countries face change," he says. "In terms of aggregate social welfare, they move toward those that are less serious."

The kinds of environmental problems faced by people in many developing countries may be extremely different from those faced by people in the industrialized world, Adler says. "From a water pollution standpoint, parts per million of dioxin is nothing compared to raw sewage. From an air pollution standpoint, the burning of dung and wood inside the home for heating and cooking is a far worse problem than air pollution is in, for example, any U.S. city."

Adler says that research has shown that as economic conditions improve and "first

order" environmental problems such as raw sewage and indoor smoke from dung fires are addressed, the "second order" problems related to industrial pollution draw attention and, at some point, such problems are reduced as the result of greater economic health and the financial wherewithal to invest in pollution reduction and abatement technologies.

Indur M. Goklany, an environmental analyst at the U.S. Department of the Interior, has studied the question of the point at which rising income results in decreasing pollutants. Goklany reported his findings in a 1998 book, *The State of the Planet: Ten of the World's Premier Environmental Researchers in a Major Challenge to the Environmental Movement*. He concluded that smoke and particulate matter problems begin to decline when per-capita income reaches \$3,280, sulfur dioxide declines at \$3,670, and coliform bacteria declines at \$1,375. Affluence and technology are highly symbiotic, he concluded, writing, "The institutional frameworks that foster the one also foster the other." At the same time

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that affluence increases consumption of goods, he wrote, it also increases "consumption" of environmental quality, for example by creating demand for better environmental quality and less tolerance for degradation.

A New Emphasis on the Environment

The free marketeers' argument, thus, is one based on what they say is demonstrated, proven evolution. While there is apparently a valid argument for the long-term environmental benefits resulting from industrial globalization irrespective of initial harmful environmental effects, the other part of the story on globalization's environmental effects deals with evolution of a different sort—the evolution of environmental thinking on the part of many multinational corporations.

In the wake of Bhopal, many companies began taking a harder look at how they manage their operations environmentally. The result, according to David Kling, director of the pollution prevention division of the U.S. Environmental Protection Agency's (EPA) Office of Pollution Prevention and Toxics, was a dramatic shift in the way companies think about pollution. Manufacturers started to rethink the idea that pollution is a routine by-product for which they sometimes must pay fines. Instead, they began to develop the concept of environmental accounting as a component of full cost accounting.

"They don't care whether it's an environmental cost or some other inefficiency," Kling says of the newer, "greener" managers. "It's a waste [of money that] they have to drive out. They're trying to build with that model and address pollution more as a process and an efficiency than as a stand-alone 'nice thing to do.'"

One of the outcomes of the new emphasis on environmental management systems was the creation in 1996 of a new set of environmental standards by the Geneva-

based International Organization for Standardization, known by its French acronym ISO. The environmental standards, known as ISO 14001, are designed to establish international procedures for internal pollution monitoring.

In addition to paying greater attention to their own environmental performances, many larger companies are also evaluating their suppliers in the same way because suppliers who lack good environmental management systems could pose an

actual liability, says Ted MacDonald, program manager for international pollution prevention partnerships in the EPA's Office of International Activities. "So what you have are a bunch of companies that are requiring their suppliers to have an EMS [environmental management system] or, more formally, to be ISO 14001 certified," he says.

French generally lauds efforts such as ISO 14001 but issues a caution about the set of standards as well. "It's important to recognize that it's an environmental management standard rather than an environmental performance standard," she says. "There's some concern on the part of environmental activists that a company can claim to be ISO certified and the impression will be created

that they meet various environmental performance standards in terms of how much pollution they put out into the environment, when in fact all that it means is that they meet these standards that are more related to internal corporate operations, environmental auditing, that sort of thing. You'd like to think that it would have the [effect] of reducing a company's impact on the environment, but there are a couple of links in the chain before that actually happens."

In January 1999, United Nations Secretary-General Kofi Annan addressed the World Economic Forum in Davos, Switzerland, and called upon global businesses to take a stronger role in working for an improved global environment. He urged industry to exercise a cautious approach when a lack of scientific certainty could mean serious environmental damage, to undertake greater initiative in promoting environmental responsibility, and to encourage the development and spread of environmentally friendly technologies. Annan's call to industry was little more than an entreaty, however, and like various international agreements and protocols, does not require companies to raise environmental performance standards.

Much of the advancement of such performance standards has come from industry itself. Besides ISO 14001, an industry-centered initiative sponsored by GEMI has also been encouraging better environmental standards. GEMI's espoused purpose is "helping business achieve global environmental health and safety excellence." Last year, GEMI commissioned an independent research organization, International Resources Group, to assess the effect that global companies are having on developing countries, including their environmental performance. The organization's rather glowing report found that multinational corporations produce less pollution per unit of output than domestic firms and serve as catalysts for economy-wide environmental performance improvements. The report also said that even though developing countries have weaker environmental regulatory systems, there was no evidence that companies located an operation in a developing country because it was a pollution haven, and that companies tend to bring their pollution-control and energy-efficiency standards with them because, among other reasons,

it's more economically efficient to maintain standard production processes and management systems.

The study concluded that these multinational corporations had much better environmental performances than private and government-owned domestic companies in developing countries. In Indonesia, for

in the hands of unfettered industry. Says Davis, "There are a number of forms of damage that can occur with toxic pollution or metal pollution—lead poisoning, for example—that you cannot fix no matter how much money you get later on. It's permanent, irreversible harm. And it occurs not just on the level of toxics and metals,

but it certainly will be the case with the planetary experiment that we are now conducting on weather and climate, because by the time we can be certain, it will be too late. . . . In the case of children's brains and lungs, they don't have a second chance to grow up. So the argument that we need more money and that money itself will necessarily solve all these problems ignores the realities of toxicology and climatology—that there are some problems you can't fix no matter how much [money] you have later."

In addition, says Davis, the world has never seen the kinds of population densities that exist today. "There are more children living in major cities than at any other time in history. And in many of these cities, like Mexico City, the average age is well under 20. What this means is that the opportunity to spread pollution over a large population that includes many, many young children is also without precedent. So I think we need to rethink the argument that economic growth alone is sufficient to improve the environment. In fact, economic growth is absolutely required to improve the environment, but it has to be growth with prudent, precautionary policies."

The question of how any nation might best achieve clean air and clean water for its citizens implies a difficult balancing act between environmental protection and incentives for economic development. Certainly, as Davis and others point out, the dangers of giving industry a blank check are obvious. At the same time, however, some multinational corporations have demonstrated that the ideals of a healthy environment and an expanding economy need not be mutually exclusive. They've discovered that it is at least possible for good stewardship and profitable business to coexist.

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instance, a government-operated environmental rating program called PROPER (for Program for Pollution Control, Evaluation, and Rating) found that companies with foreign ownership shares had significantly better compliance with regulatory standards than their purely domestic counterparts. Of nearly 300 Indonesian factories, 80% of those with foreign shares exceeded the government's compliance standards, while fewer than 50% of the domestic plants did.

The Bottom Line

Still, while many of global industry's bigger players have evolved into environmentally conscious businesses that are doing good things in many parts of the world, globalization itself may represent a growing threat to the planet. While groups such as GEMI produce data to support industry's contention that economic development itself provides the pathway to a better global environment, other figures are troubling. French points to shrinking forests and fisheries, as well as to the health threats implicit in exports of pollution.

Devra Davis, a senior scientist at the World Resources Institute, lauds industry's efforts to achieve better environmental standards. But she believes there is a danger in placing too much stock in the argument that the answer to a greener world best rests

Richard Dahl