



From Bhopal to Superfund: The News Media and the Environment

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**FROM BHOPAL TO SUPERFUND:
The News Media and the
Environment**

by

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Discussion Paper D-17
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The Joan Shorenstein Center

PRESS • POLITICS



• PUBLIC POLICY •

Harvard University
John F. Kennedy School of Government

INTRODUCTION



A decade ago, the Indian city of Bhopal suddenly joined a list of infamous place names that haunts the Twentieth Century. As this century dawned, the popular confidence in human reason — expressed in the technological wonders of steam, electricity, the telephone, and the internal combustion engine — seemed almost unbounded. As this century moves toward its end, wonder has been replaced with worry, and limitless confidence with concern.

The shattering effects of technology's uses in two World Wars, the haunting fears of a half-century spent in the nuclear shadow, and constant new discoveries about the unintended consequences of DDT, dioxin, thalidomide, and other human inventions meant to make the world safer, more useful, and more productive — have left indelible stains on the human imagination.

Modern research on risk assessment makes clear that the public now distrusts science's progeny. To the dismay of statisticians, when natural and man-made threats are ranked for danger by average citizens, those made by man always seem more threatening than those arising from nature. The researchers pore over their probability tables, and point out the misjudgments involved — to no avail. But the issue isn't one simply of abstract probabilities, in a case-by-case sense. Something about the hubris of human-made dangers touches deeply in mankind's collective imagination. Perhaps it is the seeming inescapability of natural disasters, their sense of being associated with forces larger than humankind — versus the perverse inventedness of man-made risks — that touches the chord that warns us that we are defying laws not meant to be challenged. Perhaps it is the gulf of mistrust left by the misplaced certainty that the scientists themselves fostered, by promising no ill effects. Whatever the reason, the dichotomy of fear persists.

The Faustian dimensions of the bargain we have made with Progress was never clearer than in Bhopal on the morning of December 3, 1984. While citizens of that city slept, a silent, invisible cloud spread out among them, carried by the morning breezes. It came from the Union Carbide plant meant to process fertilizer for the country's Green Revolution; instead, it killed more than 4,000 and hospitalized 200,000 more. It achieved, in a century filled with achievements, a landmark of sorts: the worst single

industrial accident ever recorded.

But there the "story" of Bhopal might have stopped, without an enterprising group of reporters, editors, legislators and environmentalists. In the last twenty years, the century's growing doubts about the human manipulation of the natural world has given rise to an environmental movement of unprecedented scope and influence. By pursuing the Bhopal story, not as an isolated tragedy but as part of a pattern of dangers that touches not only the relatively underdeveloped Third World, but reaches into the heart of the industrialized West, those reporters and editors were able to help set a public agenda.

In turn, that new public agenda — about control of dangerous chemicals, their manufacture, transportation and storage — helped, through an intricate and delicate dance of legislation, to pass an important new set of laws in the United States meant to limit those dangers, laws that have since been duplicated around the world.

Sanjoy Hazarika was among the first reporters to reach Bhopal within hours after tragedy first struck, and he has pursued the story that has grown out of it with the persistence that distinguishes all great reporters. As New Delhi correspondent for the *New York Times*, he helped shape his own paper's early coverage, and watched proudly as the paper continued its reporting — along with a handful of others — well after the defining moment of disaster had passed.

As a Fellow of the Joan Shorenstein Center on the Press, Politics and Public Policy, Hazarika stepped back to examine the effects of press coverage of the Bhopal disaster not only on public awareness of technology's dangers, but of its aftermath when a similar disaster nearly occurred here in the United States. Combining extensive interviewing with careful reconstruction of chronologies, he reveals how the Bhopal disaster ultimately led to important new public checks on a misplaced technological freedom. In doing so, he casts important new light on the intersection between technology, the public interest, and the role of reporting.

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FROM BHOPAL TO SUPERFUND: The News Media and the Environment

INTRODUCTION

The first news of the Bhopal disaster landed in New Delhi early on December 3, 1984. I was at the *New York Times* bureau when an Indian news agency ran a flash on the incident, saying that scores had died in a gas leak and many more were injured. It was not immediately clear what had caused it — even a claim by Sikh extremists that they had blown it up drew some publicity — but it was soon established that the city had been overwhelmed by toxic fumes from a Union Carbide pesticide plant.

As the toll mounted by the hour and reporters caught planes, trains or just drove there, it became clear that this was no ordinary tragedy but a cataclysmic event. Bhopal began to force people across the world, at least briefly, and policymakers in industry and the environment, at greater length, to re-examine the paradigm of development and the relevance of certain technologies.

The unthinkable had come to pass, forcing the asking of the question: Can it happen here?

"What happened in 1984 at one plant in one Indian city prompted a worldwide reexamination of industrial policy and practice,"¹ says Sheila Jasanoff, of the Program on Science, Technology and Society at Cornell University, who has edited a set of essays on the Bhopal disaster and the community right to know.

Bhopal would seize the attention of the world and hold it firmly for some days. The disaster lent itself to front-page copy and television footage. There were dramatic figures on center stage: a giant American multinational corporation struck by calamity, doctors desperately trying to save lives, the images of blinded, gassed victims, of relatives and friends searching for one another, of bodies laid out on the ground because the main mortuary was full, of funeral pyres lighting the night sky. The people of Bhopal spoke of grief, incomprehension, fear and aimless anger.

Reporters worked the phones, hammered out copy for stuttering telex machines and stayed up late every night to file copy (nothing new for most reporters). A few hours of exhausted sleep merged into another rushed day of travel, interviews, meeting and writing in time for deadlines.

Bhopal came at the end of a nightmarish year

for India: that summer, hundreds had died in a Central Government crackdown on Sikh extremists at the Golden Temple in Amritsar, the holiest shrine of the Sikh faith. A few months later, Prime Minister Indira Gandhi was gunned down by two of her Sikh guards, angered by the assault on the temple. In consequent riots, more than 3,000 Sikhs were battered and burned to death in Northern India, most of them in New Delhi. The gas disaster briefly interrupted a campaign for general elections called by Indira Gandhi's untested son and successor, Rajiv.

Some images endure for life. And for me, there is one that is a constant reminder of the horror of those days.

In the state-run Hamidia Hospital, the main focus of the battle to save lives during those traumatic weeks, I walked into a roomful of frightened children, with glucose drips on their arms and oxygen masks on their faces, gasping for air, turning restlessly on soiled beds, unable to understand what was happening to them and even more frightened by the helplessness on the faces of their parents and doctors.

The benefits of technology are not worth that price anywhere, any more.

AN EVENT HAS HAPPENED

Edmund Burke once said, "An event has happened upon which it is difficult to speak and impossible to be silent." He could have been speaking of Bhopal.

Nine days after the world's worst industrial disaster, back in the United States, Rep. Henry Waxman (D-California) called a special meeting of the subcommittee on Health and the Environment of the House of Representatives to order with those words.

"What happened in India was a terrible, terrible tragedy of a magnitude that is difficult for us to grasp. Out of this tragedy we all must make sure that an accident such as happened in Bhopal ... will not be repeated anywhere ... As horrible as Bhopal is, we must face it and learn from it," Waxman added.

His words — spoken at a state college at Institute, West Virginia, where the subcommittee was meeting — were especially resonant, for they were spoken a short distance from a Union

Carbide pesticide plant. The factory used the same chemicals that had erupted in a gas cloud thousands of miles away. Union Carbide had shut the Institute factory to allow federal inspectors to conduct safety audits.

Out of that meeting, where lawmakers and leaders of Union Carbide, and later meetings where community workers, residents, state and federal officials spoke, was born a specific campaign to equip communities and local authorities with the ability to respond better to chemical disasters.

In this paper, I argue that the media played the role of an intermediary in reporting incidents relating to Bhopal and chemical incidents in the United States that created a platform for change, for agenda-driving — if not the agenda — in public attitudes to the chemical industry. Other forums played more important roles in influencing policy decisions, especially in Congress.

The fact that the accident took place in India was not the political issue that provoked debate. If it had been an Indian company, or even a European one, the disaster would have made some headlines but dropped out of reckoning as irrelevant to the industrial experience and culture of the United States.

What made the difference was the involvement of an American multinational.

Two other factors — the scale of the tragedy and the question of technology in development — were issues for the media in the United States. But they were not as significant as Union Carbide's role.

Without Carbide, there would have been no story and no impact.

TWO YEARS

It took two years for the process that began at Institute with the Congressional hearings and in Washington — although that process was born with the disaster itself — to be moulded into laws to force polluters to function within a framework. The road through Congress bristled with obstacles and delays at every stage: from lawmakers supportive of business or protective of jobs, from technical snags in the wording of legislation, from environmentalists who thought the rules did not go far enough and from an industry and an Administration which thought they went too far.

Did the reporting of Bhopal and later coverage and editorial opinion on chemical-related incidents in the United States help develop public consciousness on the issue? And did this eventu-

ally have an impact on the laws and regulations that were later passed to insure better chemical safety?

The media's role in this case is perhaps the most difficult to measure: by nature, it is a free-floating agent that is event-specific and is hard to pin to causal relationships and impact.

PERSPECTIVE

The Bhopal disaster needs to be viewed in the perspective of the steady growth of the environmental movement worldwide in the years preceding it.

Environmentalism surged in 1962 with the publication of *Silent Spring*, Rachel Carson's classic on the impact of overuse of pesticides on humans, animal, plant and bird species and on soil. Another benchmark was the Minamata mercury poisoning case in Japan in the 1950s and 1960s when a Japanese firm dumped methyl mercury in a channel that flowed into Minamata Bay. The villagers who fished in the Bay suffered major neurological disorders which were not diagnosed for years. The company, Chisso Corporation, was taken to court and forced to pay compensation to hundreds of victims. As a consequence, the Japanese Government set up a Pollution Control Board.

In 1972, the first world environmental conference was held at Stockholm, Sweden, where many nations decided to create pollution-control agencies and mechanisms for the first time.

In 1976, dioxin leaked from a Hoffman-La Roche subsidiary in Seveso in Italy in 1976, forcing the evacuation of more than 700 people and causing the deaths of thousands of pets and domestic animals. As in the case of Minamata, compensation was sought and secured from Hoffman-La Roche. In 1982, the European Community passed the Seveso Directive which laid down rules for member states on preventing industrial accidents and limiting damage from such incidents; it defined hazardous substances, classified them and recommended storage levels for different chemicals.

In the United States, between 1979 and 1981, more than 400 families in the Love Canal neighborhood in Niagara Falls, New York, were evacuated after the press extensively reported on health hazards and complaints about toxic chemical waste, dumped in the area decades earlier, seeping into their homes. The issue became a major national news event, forcing government attention on a problem that had been ignored for decades. Love Canal led to

Congress enacting the Superfund bill, which had been pending for some time, giving the government the authority to supervise the cleanup of toxic dumps.

In 1980, a radioactive leak at the Three-Mile Island atomic reactor caused a public outcry, leading newspapers and magazines — as well as industry, Congress and regulatory agencies — to reassess safety conditions at nuclear plants and question the importance of nuclear energy.

A dioxin leak in 1982 at Times Beach, Missouri, caused another scare, another bout of news reports, another evacuation of a community and calls for stronger regulation for industry. But efforts to press for these changes were stalled by several factors, including the Reagan Administration pro-industry bias.

THE BHOPAL BACKGROUND

Bhopal came in the wake of these events. And it was the worst of them all: that one incident killed more people than all the major industrial accidents preceding it this century. More than 1,600 died in the first few days after the leak and 200,000 were treated for injuries in hospitals and private clinics. The death toll now stands at more than 4,000.

Why did Union Carbide set up its plant in Bhopal? The scale of the tragedy makes it necessary to look at the reasons behind the disaster, even briefly.

Union Carbide had built a subsidiary pesticide plant in Bhopal in the 1970s to take advantage of India's Green Revolution. At the time, a combination of new seeds, extensive fertilizer and pesticide use led to rapid growth in foodgrain production and created an influential rural middle class. Until about 1980, Union Carbide imported methyl isocyanate, a lethal liquid intermediate used in the manufacture of the pesticide, from the plant at Institute, West Virginia. That year, the Indian Government cleared the company's application to manufacture methyl isocyanate, better known as MIC, at Bhopal.

The MIC unit ran into losses from the beginning with frequent stoppages. A major drought led farmers to turn to less expensive pesticides. The level of qualified engineers at the plant dropped. So did its safety record: at least two accidents took place before the 1984 tragedy. One worker was killed and about 30 others were hospitalized by the smaller leaks. Tired of its flawed facility, Union Carbide planned to dismantle the plant and ship it to subsidiaries in

Indonesia and Brazil. Workers spoke later of how they would come to know of leaks: they smelt them first. On the night of the disaster, four out of five safety systems failed to work.

Poor plant management was one problem; another was the political response to thousands of illegal squatters who had moved onto government land around the plant. When the Carbide plant was being built, the fields around it were empty. In December 1984, it was flanked by crowded shantytowns whose residents had been awarded property deeds by the state government with an eye to general elections around the corner. And when survivors spoke of the lethal gas cloud that swept out of the plant, killing people as they slept or fled, my immediate thoughts went to the Biblical mist of death described in the Old Testament.

Union Carbide was portrayed by the Indian press and in underdeveloped nations as a cynical multinational, with little concern for Indian lives, and a company which introduced a pesticide technology that failed. The Indian and state governments also were attacked for their seeming complicity and inability to develop a balanced strategy for industrialization.

IMMEDIATE INTEREST

The scale of the disaster and the involvement of an American firm ensured that the main American newspapers front-paged the news of Bhopal. Television networks flew in crews and reporters and gave top billing to the story. The newspapers followed up with editorials, detailed on-the-spot reporting and analysis.

The reports turned out to be a major source of information for people figured in the unfolding tragedy. For example, Warren Anderson, the Chairman of Union Carbide, listened to radio broadcasts for initial details of the incident.

At one point the *New York Times* had four reporters on the ground, including a science specialist ordered to India from covering the Ethiopia famine. Another who was on vacation in the country was enlisted to man the New Delhi bureau.

Between December 4 and December 18, when the story finally went off the front page from India, the *New York Times* published more than 60 major and medium-sized news articles, reviews, analysis and investigative pieces about Bhopal. Other chemical accident/disaster-related stories were also published, including one about the failure to investigate an oil pipeline explosion in Mexico that killed more than 300 per-

sons. That Mexico City fire occurred a few months before Bhopal.

In this period, there were 13 front page stories, including two lead stories, and several front-page photographs. On two days, the *Times* published two Bhopal-related stories on the front page.

When those of us in the South Asia bureau of the *Times* turned our attention to the Indian general elections later in December, the paper sent out an investigative reporter to follow up.

The reporter, Stuart Diamond, collaborated with Robert Rheinhold, the correspondent who had had his vacation plans ruined by the disaster, to write the most comprehensive account of the disaster at the time: what happened at the plant site, the compulsions behind Union Carbide setting up its factory at Bhopal, the role of the Indian Government and the local state government of Madhya Pradesh.

EDITOR'S CHOICE

The driving force behind the *Times*' detailed coverage of the events was then Executive Editor, A.M. Rosenthal. Rosenthal, who worked in India in the 1950s as a *Times* correspondent and knew its political leadership, had retained an abiding interest in and affection for the country.

Rosenthal says that he personally decided to focus the newspaper's attention on Bhopal.

"The question was, was there a double standard?" he says. "That was what horrified me."² Rosenthal also broadened the *Times*' coverage by asking his reporters to study whether the Bhopal plant was manned by trained personnel and the relevance of the technology used.

One of the persons I remember interviewing at the time was a local journalist who had reported accidents at the plant and warned of the potential for disaster. His reports and warnings were ignored by state officials and the company.

In an editorial after the disaster, the *Times* spoke of "shared vulnerability" as a reason why "Americans feel compassion and concern for the victims of a disaster in India that could have struck anywhere. Safety records are built on accidents as much as on foresight. The tragedy at Bhopal, when understood, should help make all chemical plants safer."³

In the United States, reports focussed on Warren Anderson, Carbide's embattled chairman, on its legal fight with the Indian Government, the selection of whiz-kid lawyers by India and occasional stories on the unravelling cases. The reports looked at Union Carbide's battle to fight off a takeover bid by a rival but smaller

corporation.

The reporting out of India in the newspapers, on television and radio forced lawmakers to take notice of the incident and its implications for the United States.

Leaders of the environmental movement lost no time in pounding that message home as they were summoned to testify before Congress. Their words and statements were reported extensively in the *Times* and elsewhere. The remarks were skilfully crafted, using the poignancy of the situation to ensure wide press coverage.

One of them, Gus Speth, testifying before a Congressional subcommittee in Washington, said: "It is likely that Bhopal will become the chemical industry's Three-Mile-Island — an international symbol deeply imprinted on public consciousness." Speth, then President of the World Resources Institute, added that "just as Three-Mile Island spurred a thorough assessment of the safety of nuclear power, Bhopal will bring justifiable demands that hazardous facilities in the chemical industry be designed, sited and operated so that nothing even close to Bhopal can ever happen again."

Speth's remarks were backed by others expressing public concern. News accounts of these views helped establish that concern in the public domain. The environmentalists were trying to frame the agenda: that hazardous facilities needed to be sited, operated, monitored and designed in such a way that Bhopal was not repeated. Paletz and Entman have referred to this form of news coverage when they say that journalists perceive one of their roles as reporting on "developments that may adversely affect audiences or people audiences identify with."⁴

George Robinson, Director of Health and Safety in the International Association of Machinists and Aerospace Workers, told the House Subcommittee on Health and Safety that "Chemical companies have for too long endeavored through the media to persuade communities of the absence of any real danger they might pose; that myth no longer exists. What happened in India must be a warning that we cannot ignore."

Robinson was emphasizing that the media was not fluent with issues of chemical safety and that industry influenced what it reported. My own feeling was that he was referring to local newspapers in major industry towns where companies control the lives and jobs of thousands.

Tod J. Kaufman, a state senator from West

Virginia, reflected this view when he said that before Bhopal, "Most of our citizens remained resigned to the tradeoffs ... We lived with it because our people need jobs. But what we thought was a potential long-term health risk now seems a clear and present danger, a matter of life and death."

Kaufman asked the questions on everyone's minds:

"Are the evacuation plans adequate? Do people in the surrounding communities know what to do when the whistle sounds? Do they even know what the whistle means? Are there provisions to transport people away from the area? Should they get into their cars? If they do, do they know which direction to go? Do they even know what not to do?"

COMMUNITY RIGHT-TO-KNOW

The tension between pro-environment groups and industry crackled during the early hearings in Congress. Industry was defensive and Anderson, the corporation chief, weakly remarked that "It never crossed my mind that an accident such as Bhopal could happen."

Industry had long drawn comfort from the fact that the chemical industry was one of the safest industries in the United States, in terms of man-hours lost by on-site incidents. Many chemical incidents were associated with accidents during transportation rather than with technological problems inside plants. But after Bhopal, even industry asked the unthinkable question of itself.

"We wondered, can it happen here," said Tom Gilroy, a spokesman for the Chemical Manufacturers Association, the main chemical lobbying group. The CMA is based in Washington and after Bhopal, several committees held meetings to look at defensive measures to take in the light of the tragedy and the flaws shown up in safety.

"Our response was that that kind of thing happening [in the United States] was highly unlikely," said Gilroy. But the CMA committees looked at ways to ward off expensive class action suits and attacks by environmental groups. "We looked at different issues to see if we should do things differently."

The chemical industry, stung by accusations of bad management, poor information and safety records that flowed from articles and analysis in newspapers as well as public debates and Congressional hearings, moved to secure its flanks. The CMA, founded in 1872 as the Manufacturing Chemists Association, had about 200 mem-

bers who represented nearly 90 percent of the industrial chemical manufacturing capacity of the United States. Responding to the crisis and the continuing flow of adverse news — Bhopal prompted a flood of news reports on spills, chemical accidents, leaks, hazards and public fears across the United States — the CMA developed three programs.

The most important of these was CAER (pronounced care), an abbreviation for Community Awareness and Emergency Response. CAER asked companies to list toxic chemicals on their sites, share the information with local officials and work with them to develop emergency evacuation plans. Virtually every major company quietly called up consultants to conduct safety audits and risk analysis at their plants.

CMA began CAER as a voluntary program aimed at re-establishing public confidence in the industry. These days it is a prerequisite for membership of the CMA.

A fear about "bad" news reports helped get CAER going. Another factor was a simple business concern: that public perceptions of unsafe industries would hit markets and investor confidence.

CAER was similar to a program that environmentalists had pressed for some years, one that several states had already adopted known as the right-to-know. By the time the lethal gases struck at Bhopal, as many as 14 states of the Union had passed Community Right-to-Know acts which enabled local communities to demand and secure information about hazardous chemicals and processes being used in neighboring plants. They could also seek information about the health hazards posed by these facilities and the chemicals.

During an early hearing, Robert E. Wise (R-W. Va), a Congressman who was strongly supportive of Union Carbide, asked Carbide's chairman, Warren Anderson about his views on a federal law on right-to-know.

Anderson's reply was significant:

I have no objection to right-to-know. I'm talking law. Now what I am concerned about is state right-to-know laws that confuse the issue and complicate the whole arena. And I think a Federal right-to-know act that can be actively administered and everybody understands could work makes sense.

I was unable to find news references to these remarks which dealt with the empowerment of citizens to monitor, if not control, hazardous processes and chemical plants. Perhaps this was so because a strong, poignant statement or

development is perhaps seen as more significant and easier to get into a newspaper than legislative sleight-of-hand. Yet the political skills used to move and block bills are more significant but may not get much notice in the press.

For example, few newspapers recorded the fact that 14 states had passed Community Right-to-Know acts before the Bhopal disaster, largely because of grass-roots work by the Working Group on Community Right-to-Know. These laws gave local communities living around chemical plants the right to seek information about toxic chemicals and processes in those industrial units, the health effects of exposure and how much was being vented into the air.

LAWSUITS

Another factor that kept Bhopal in public view was a raft of lawsuits against Union Carbide that ran into billions of dollars. Newspapers, news agencies, radio and television networks reported extensively on the compensation cases filed in the United States, including one by the Indian Government. Eighteen of them were consolidated in a Federal District Court in New York.

Many more were filed in India by lawyers for the victims. The American attorneys who flew into Bhopal soon after the disaster to sell dreams of billions of dollars of compensation to victims became figures of criticism and derision in news reports out of India. They were chastised by the *Washington Post*: "First the air was filled with poison. Then with lawyers."

The size of the lawsuits was daunting enough to force Union Carbide into negotiations for an out-of-court settlement with the Indian Government and a joint group of attorneys which had filed private claims on behalf of gas victims in the United States. In May 1986, the case was returned to India by the New York court, saying that India was the proper forum for such a trial.

The negotiations were reported by the *New York Times*, the *Wall Street Journal*, to a lesser degree the *Washington Post*, and a new and low-key player from the news field that sustained interest in the issue and had the ear of the chemical industry. This was *Chemical and Engineering News*, a trade and scientific journal about the chemical industry that, under the leadership of its editors, felt compelled to follow Bhopal closely.

The other impact of the lawsuits as well as perceived ones was to force industry to accept changes in legislation that it would have other-

wise fought longer and harder, such as right-to-know, and blocked at every stage of the legislative process. Not that the process was quick by any means but it could have taken far longer than two years.

Newspapers and legislators also focussed on the record and failures of federal safety enforcement agencies — the Environmental Protection Agency and OSHA, the Occupational Safety and Hazards Agency that is responsible for workers' safety at plant sites — to insure that Union Carbide, especially, and the chemical industry obeyed existing rules.

In March 1985, the Congressional subcommittee headed by Waxman reported that 67 American companies had listed 204 hazardous chemicals which they were using. The *New York Times* published the findings and Waxman pointed out that no U.S. Government agency had ever attempted to compile a national inventory of toxic chemical emissions. The study found that many chemical plants routinely emitted tons of untreated hazardous substances into the air.

Two prominent pro-environmentalist law-makers from New Jersey, Rep. Jim Florio and Senator Frank R. Lautenberg, also supported Waxman's efforts. Waxman sent out a letter to several hundred major chemical manufacturers demanding information on chemicals they were storing on plant sites, the toxicity of the materials and in what concentration there were being released into the air.

The industry mistrusted Waxman: in one case, an earlier internal safety audit of the Union Carbide plant at Institute, West Virginia, where the chemical that leaked in Bhopal is also manufactured, had reached the California lawmaker soon after the disaster. The report spoke of the dangers of a runaway reaction at the American plant and had been based on a survey conducted earlier in the year.

Copies of the report found their way to the *New York Times* and the *Wall Street Journal*. The results were articles by Philip Shabecoff, then the *Times'* environment reporter, and by Ron Winslow in the *Journal* that had Union Carbide scurrying for cover.

PROCESS SLOWS

But by the middle of 1985, the impetus given by the Bhopal disaster had slowed, especially in the legislative process. Interest in the press had waned and the story moved into the business pages as other issues were found more noteworthy.

The delays were also caused by overlaps: as many as nine committees claimed jurisdiction over the reauthorization of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), better known as Superfund. Later it was called the Superfund Amendments Reauthorization Act or simply SARA. During markup, the Senate Environmental and Public Works Committee adopted a suggestion of Senator Frank Lautenberg (D-NJ) that provisions of his Bhopal-inspired bill be incorporated into SARA. Thus, hazardous waste disposal and emergency response to chemicals, became closely related.⁵

The authorization of Superfund was a debate that had continued in the United States for years without resolution. Industry fought fiercely against Federal campaigns to force specific companies to contribute funds to clean up toxic waste sites. These sites were places where the firms had dumped toxins over many years, without concern for long-term impacts on the soil or the health effects on neighboring communities. The Love Canal case had brought the issue to the fore and Bhopal occurred right in the middle of a fierce debate on Superfund authorization and several agendas associated with it. These included regulation of the chemical industry. And the scale of the tragedy at Bhopal increased the pressure on industry to reform.

In the months after Bhopal, more than ten bills were introduced in Congress that included various provisions concerning either emergency response to chemical accidents or giving the public access to information about chemicals in their communities.

In 1985, the subcommittees led by Waxman and Gaydos on Health and Environment and Health and Safety respectively also struggled with opposition from the overall committee chair, John Dingel. Dingel voiced industry's worries about being forced to pay a heavy price and the potential loss of jobs in his constituency of Detroit. He pressed for weaker laws. The battle over the changes was stymied by drafts and counterdrafts as lawmakers shot down each other's proposals.

CENTRAL FIGURES

In the United States, the main figures around whom the legislative process revolved were Waxman, Florio, Ed Markey (D-Mass.), Gaydos, Dingel, Lautenberg. It was a frustrating period: amendments that men like Waxman and Florio would press through at the subcommittee level

would run into trouble in the full committee which Dingel controlled: "He controlled access, the clock, the votes," says Bud Ward, a former environmental journalist and currently Executive Director of the Environmental Health Center in Washington. The Center is part of the National Safety Council.

As the feuding continued, Congressional staffers met with environmentalists and a small group of lobbyists who supported a federal community right-to-know law. They saw an advantage in slipping the clause in, not as a separate bill on its own, but in Lautenberg's style, as an addition to the multi-billion dollar SARA. They thought that the clause had a better chance of success because Congressmen were interested in the bigger questions and would not pay as much attention to smaller details.

They also decided to incorporate another regulation, later called the Toxic Release Inventory, that proposed to list emissions of hazardous chemicals from plants. Individuals would be able to get lists of chemicals produced or emitted by calling telephone numbers or accessing information electronically.

The Community Right-to-Know provisions required states to form emergency planning districts centered on facilities that handled more than a threshold amount of any of 366 chemicals. Facilities handling more than that quantity needed to file reports for use by emergency response personnel, environmental agency officials and the public.

Industry disputed this as unfair, especially as it was already burdened with paying for the cleanup of toxic dumps. But because of the financial implications — and Right-to-Know was a non-tax measure — it stayed largely focussed on Superfund.

There was little news coverage of the infighting in Congress in the main newspapers although the specialist press and especially *Chemical and Engineering News*, the trade-scientific journal, documented the tangled process. *Chemical Week*, and *Environmental Law Reporter* also followed it.

Paul Shrivastava, author of *Bhopal: Anatomy of a Crisis*,⁶ sees this as a reflection of a flaw in general news coverage: "the media usually does its front end stuff and then moves out."⁷ He says that the mainstream news reporting of Union Carbide was positive toward the corporation, stressing its long safety record and the trauma and dilemmas of its executives. Rarely had news analysis relating to Bhopal been harsh on Carbide although it was critical of Indian workers

and government officials, he says.

Chemical and Engineering News (CEN) was led in its coverage by Senior Editor Wil Lepkowski and his editor, Michael Hayden. Lepkowski's visits to Bhopal had sensitized him to issues of safety and development on a personal and professional basis.

"I think one cannot approach this issue without taking a spiritual approach, strange though it may sound," he remarked in a conversation. "I used to speak to Union Carbide about the need for repentance on their part for what had happened."⁸

ANOTHER TRIGGER

As the legal, news and political pace slackened, an event in August 1985 brought what I call the Bhopal Syndrome back to the top of the environmental agenda. It forced industry and government to change their views.

That month, a leak of aldicarb oxime gas swept out of a Union Carbide plant and into the neighborhood in Institute, West Virginia, forcing the evacuation of hundreds and the hospitalization of 135 with breathing problems and other ailments. There were no deaths.

Yet, it had occurred less than a year after the disaster in India and despite a \$5 million safety upgradation of the Institute plant. Union Carbide was providing evidence of the limits of technology and reinforcing fears about community safety. It tried to hide behind the excuse that the computer had not been programmed to track a leak of this nature.

The development also mocked a statement by the corporation's director for health, Jackson Browning, who had proclaimed earlier that year that "It can't happen here."

The outcry in the media was tremendous.

The *New York Times* made the leak its lead story on August 12 and was joined in its focus on the chemical industry, and especially Union Carbide's safety record, by the *Washington Post* and the *Wall Street Journal*. *Chemical and Engineering News* also reported the developments in low-key fashion.

There was more bad news for Union Carbide and the chemical industry the day of the Institute leak: a train carrying toxic chemicals derailed in Arizona and another spill was reported from New Jersey.

Lawmakers sought explanations from the company, from EPA and OSHA officials and hastened with their views to the press.

Senate Majority Leader, Robert C. Byrd,

Democrat from West Virginia, flew to Institute with a group of specialists from EPA and the Department of Health on the following day.

In the flurry of activity, EPA Administrator Lee A. Thomas spoke of a "heightened sense of urgency" in tightening regulations.

On August 15, the chemical industry prepared for strong controls as the *Times* reported that executives were "bracing for greater government regulation and more intense public scrutiny."

Another *Times* report out of Washington spoke of how Congress and EPA were working on "programs to identify hazards." The article said that the prospects for quick action were "complicated, both by Congress disputes and by a fundamental disagreement between lawmakers and regulators over the extent to which chemical plant owners should be required to provide information about their operations and over the role the Federal Government should play in planning and enforcing emergency procedures at state and local levels."

POWER EQUATION

These reports, allied to industry fears over regulation, graphically defined power equations: Bhopal had been viewed as an important but distant tragedy in a foreign country involving an American plant.

Institute was in the American backyard. It had needed a local incident to drive home the lessons of an international incident.

Casey Burko, the Environment Editor of the *Chicago Tribune*, wrote in his newspaper on August 18, 1985:

'The big question' after the disaster at Bhopal was can it happen here? in the chemical valley of Charleston, West Virginia.

Despite a subsequent crackdown on the chemical manufacturing industry in the U.S., the answer has become alarmingly clear last week with leaks from two Union Carbide plants two days apart.

Burko emphasized that local incidents were more significant to public perceptions and policy than foreign disasters:

"My own sense is that the concern of people in this country seems to be greater with what happened in Institute, compared with Bhopal," he quoted an aide to Waxman as saying.

Senator Lautenberg expressed a prevailing view to the *Times*: "After Bhopal, there was still some complacency in Congress ... Institute is going to change things ... the chemical industry's

back is against the wall and there is going to be greater regulation."

Over the next days, a spurt of small spills and fires made news in the *Times* in addition to a detailed piece about how about 50,000 processing units at chemical plants "were not designed to prevent leaking hazardous substances." The reporter, Stuart Diamond, was among a handful who saw the core of the problem in technology and the need to change industrial designs to incorporate safety.

Diamond quoted a senior chemical engineer as saying that such basic changes were "frightfully expensive ... On the other, they are frightfully cheap when you consider the cost of an accident." And OSHA fined Carbide for the leak at Institute the following year with a \$1.38 million penalty for 221 safety and health violations and a "wilful disregard for health and safety." It was the biggest such fine on an industry that the agency had levied.

Meanwhile, EPA published the first toxic list of hazardous chemicals in November 1985. The following month, both Houses of Congress voted narrowly to incorporate the TRI into the proposal for the federal right-to-know. The TRI enjoined chemical manufacturers to annually and publicly report emissions of more than ten pounds of any of 350 toxic substances to the EPA, extending government control over industry.

One of the factors that helped nudge SARA along was a grass-roots campaign, conducted with sophistry by the Toxic Waste Campaign, that summer and fall. Four trucks set out from different parts of the United States seeking signatures of local people to the passage of SARA and Title III. Title III was the part of the Superfund bill dealing with TRI and the Community Right-to-Know.

Two million signatures were collected and presented to Congress after organizing a public relations campaign that touched local, state-wide, regional and national newspapers as well as radio stations and television networks across the country. The organizers gave the campaign a catchy title: "Super Drive for Super Fund" that ensured good coverage wherever they went.

Bhopal and Institute provided the triggers that enabled legislation aimed at curbing the chemical industry. Public interest groups worked with sympathetic lawmakers — especially those eager to be in the public eye and seize the issues of the day — and their aides, as well as undecided legislators, to support the inclusion of broad industry regulation in SARA.

Once the Community Right-to-Know and

Toxic Release Inventory were slipped into the proposed SARA, the "bigger" issues of funding took over and Title III moved quietly by.

Joint meetings continued between House-Senate conferees on amendments to the right-to-know provisions and on SARA. The omnibus law was so vast that it took two conference committees rather than the usual one to reconcile the differences between the two houses. SARA finally passed October 17, 1986 after the inner battles were resolved and was signed into law by President Reagan the following month.

What is remarkable is that virtually all newspapers, except *CEN*, ignored Title III altogether when the bill passed. The focus stayed instead on the omnibus SARA, which appeared to be a bigger and meatier story. The few who picked up on Title III were those who had been following it over months: the "specialist" press such as *Chemical and Engineering News* and the environmental media.

Lepkowski of *CEN* believes that the mainstream media did not associate the incidents at Bhopal and Institute closely to the passage of the community right-to-know clauses. Philip Shabecoff, a former *Times* environmental correspondent, agrees.

"At the time, a lot of us did not realize the importance of Title III, we missed it and played catch up when we heard accounts of how much it empowered people," Shabecoff says.

"RAINBOW" COALITION

It appears that the U.S. press coverage of the tragedy at Bhopal and the near-miss at Institute created a platform from which different voices could speak.

Chemical safety became the focus of a strange "rainbow" political coalition in the United States. These elements differed sharply in their ideological views but shared a common interest: ensuring that such incidents were not repeated, particularly in this country. For different reasons, they wanted the same thing.

Environment groups, including Friends of the Earth, in Washington viewed it as an opportunity to tame what they regarded as an unregulated industry. The Chemical Manufacturers Association, the main representative body of the industry, and especially Union Carbide, thought of it as an unwelcome step but one they could not oppose. Instead, they responded by seeking to be more open and win public confidence.

Lawmakers such as Waxman, Florio and trade union leaders and government officials, including

individuals in the Environmental Protection Agency — saw the opportunities.

"I think three factors came together that enabled the passage of the federal right-to-know laws: grass-roots work that had seen the passage of state laws in several states, a think-tank organization that looked at companies producing waste and the Bhopal disaster," said Paul Orum, the Coordinator of the Working Group on Community Right-to-Know.

Fred Millar of Friends of the Earth, who had followed general pollution issues, began working full time on chemical emissions and accidents, becoming an invaluable source for reporters in Washington and outside on the issue.

"Bhopal offered an extraordinary opportunity to environmental groups to change an industry that was virtually unregulated," says Millar.⁸ "It was clear that a train would be leaving the station soon, in terms of federal regulations for the chemical industry, and it was up to us to get some of the issues that the disaster raised hitched to the train."

Industry too knew it was on trial.

"The media determines what is on our minds at any time," said Gilroy, a spokesman for CMA.⁹ "When they report on an emergency or an incident, the industry comes under strict scrutiny of the local legislatures, lawmakers as well as Congress."¹⁰

Louis Fernandez, then chairman of Monsanto, spoke after the Bhopal disaster of the need for the industry to do a better job of interacting with the press. After attacking unnamed members of Congress for seeking "free publicity" and "knee-jerk reactions," Fernandez told *CEN* that the "big issue... is to gain public confidence — that it is acting responsibly and that it isn't putting dollars and profit ahead of everything else — which is a common perception."¹¹

Fernandez elaborated on this point, connecting the need to develop public confidence with better communication skills and a better relationship with the press.

"We have to spend more time communicating with people in the media, helping them to understand what the industry is doing, helping them to understand how to interpret things that are happening, making them comfortable with what we're doing, being honest with them when we're doing something wrong and when we make mistakes."¹²

Significantly, his remarks were to *CEN*, the keeper of industry's conscience.

"BAD NEWS"

It is important to note here that Bhopal was a "bad news" story which led to significant policy changes.

And what Paletz and Entman have to say about threats and reassurances as important characteristics of news is relevant here:

"Journalists ... also search for aspects of the story that calm, assuage, uplift."¹³ Such elements are to be seen in Bhopal and Institute.

Yet, for the U.S. media, the core issue lay in the involvement of an American chemical company.

"The significance was that there was a relevant message, it had this profound impact because it was Union Carbide, it came all the way back here," says Richard Zeckhauser, Professor of Political Economy at the John F. Kennedy School of Government.¹³ "Congressmen worried about it (because of the possibility that it could happen here) and this was significant because it got so much attention in the media. If you had stopped the *New York Times*, the *Los Angeles Times* and maybe, the *Washington Post*, the impact would have been 10% of what it was."¹⁴

Bad news in the elite media has more of an impact than reports in other press forums although *CEN*'s sustained coverage had, it can be argued, as much of an impact on business.

A two-month-long study of the press coverage of the disaster pointed out that 54 percent of the coverage related to Bhopal, while technological hazards received little space.¹⁵

The study also said that most of the articles about Bhopal and the concerns it raised were published in December 1984. It noted too that news interest in the issue began to flag a few weeks after the incident.

Yet, the wide readership of the *New York Times* in the constituencies of several prominent Congressmen, including Florio, Markey and Lautenberg, influenced their sensitivity to concerns voiced by constituents. They were associated with the campaign for a chemical cleanup. This was significant in itself: they formed part of a drive that enabled the passage of the relevant law.

But had there been no significant media coverage, had an American company not been involved, the results of environmental consciousness would have been limited. There would, at the most, have been editorials about the price of progress in developing nations, a batch of sympathetic news reports about the tragedy and a passing reference in Congress —

for the record — to the magnitude of the disaster.

Thus, lawmakers invoked laws after the issue came to the public mind. The tragedy registered on public consciousness because of media coverage.

Yet, the larger issues that Bhopal raised: of development and technology were seen as of limited public interest, especially among the popular press.

Other issues that were raised but not followed included whether the United States and other Western nations should export low-quality and high-risk technology to underdeveloped nations seeking to industrialize rapidly, disregarding the social and environmental consequences of such changes. The news media questioned the relevance of high technology for developing countries as a matter of course.

The "development" paradigm was not followed up adequately. The system was essentially taken for granted and the heart of it, the technology of the control room, was unchallenged. What was challenged was that technology's ability to cope with a crisis: the post-control room syndrome.

"The media coverage of the Bhopal incident and a substantial number of chemical accidents afterward have ensured that industrial and chemical plant safety gets on more front pages than compared to what would have appeared earlier," says Nicholas Ashford, Professor of Chemical Engineering and Policy Research at the Massachusetts Institute of Technology.

(Till this day, Union Carbide insists, as does Arthur D. Little, the consulting firm which it hired to investigate the leak, that the disaster was the result of an act of deliberate sabotage by a worker. That is a different story and not germane to this discussion.)

Later articles in the *Times* and other news media on issues relating to chemical safety in the United States rarely referred to the benchmark of Bhopal. The resonance faded although reliance on the use of environmental activists as sources for news and analysis grew.

"In areas of extreme public interest, such as chemical safety, we depend a lot on environmental groups; often, the corporation suppresses information and they [environmental groups] supplement what we do," says Lepkowski of CEN. "We cooperate and that is a role that has to be handled very carefully."

CONCLUSIONS

Through their coverage of the Bhopal disaster and issues, two influential but totally different newspaper groups played crucial roles in the development of the common platform referred to earlier. One was the *New York Times* with its national outreach. The other was CEN with its access to and influence in industry.

It is difficult, under most circumstances, to establish a causal link between news coverage of events and development of public policy. Yet, few I have spoken with dispute that the Bhopal disaster played a greater role than any other technology-related international mass disaster in heightening public interest in the United States on the question of safety in and around chemical industries. But on its own, Bhopal could not have produced the changes necessary. Institute was another factor in the process of enabling legislation to pass.

CEN found business a better listener than did the mainstream newspapers, which were largely viewed as critical if not hostile. CEN was respected for its solid base of scientific and business reporting. That base gave it a credibility in the industry that other, larger newspapers and magazines lacked. But without Lepkowski and Hayden guiding its turn to environmental journalism, it would not have been that effective.

SARA Title III empowered ordinary people with access to information that could save their lives and the Toxic Release Inventory got industry to improve its emissions record by insisting on transparency. Major changes too came in the attitudes of administrations, local authorities, community leaders and reporters. Industry's defensive role was shaped by the media's reflection of a public outcry over chemical hazards.

The press appears to have been predominantly a reactive agent to developments. It would react to an incident, a spill, a disaster and determine its importance in terms of safety and the need to reach a wider audience with news of the event.

The overall political and press reaction developed around the following themes which, even today, influence American news reporting of international events: One, the scale of the event and human interest. Two, American interests: in this case, the involvement of a major American corporation and American nationals. Despite the high loss of lives, Americans were also seen as victims — such as in the arrest of Union Carbide Chairman Warren Anderson when he landed in Bhopal — of an inadequate political system. Three, questions about the limits of

technology, of human controls and whether such incidents could happen elsewhere, especially the U.S. Four, the location of the event is also important with regard to the question of American interests. Take, for example, the massive earthquake that killed about 25,000 Indians in October 1993. The story stayed on the front pages and among television's top stories for four days before being banished to the inside pages. It was seen as a horrible calamity but one that no one could do anything about. Not so for Bhopal.

Lepkowski says that groups other than the press were better organized — such as industry, lobbyists, environmentalists and lawmakers — and saw issues through a policy-shaping process.

In the detailed battle to push SARA and Title III along its journey, I think that trade unions and lobbyists who represented concerns voiced by groups such as Friends of the Earth, Toxic Campaign Fund, Natural Resources Defense Council, the World Resources Institute and Sierra Club played a stronger role than the media in influencing public policy. They articulated these concerns to lawmakers, federal and state regulators and to reporters which, when published, would act as a further goad to the first three groups. For lawmakers, especially, the possibility of pressure from constituents after reading news reports and watching television accounts about risk has often been enough to make them pro-change.

Before Bhopal, environmentalists and risk analysts found it difficult to get an audience or mobilize public interest in toxic materials and their potential for disaster. But the size of the Bhopal tragedy ensured that these issues became part of the national agenda.

The attitude of the chemical industry toward EPA officials in the pre-Bhopal days was dismissive. It changed dramatically, says Rick Horner, a specialist at the EPA on emergency response and preparedness, after Bhopal.

If you wanted to inspect a chemical plant before the Bhopal incident, they'd laugh you out: they were not obliged under law to permit inspections or even report chemical spills. Bhopal and the reporting of it changed that: they dropped their aggressiveness, they actually began to cooperate, shared information and looked for hazards.¹⁶

The media is viewed by industry and environmentalists as an important medium to affect public policy, to assure or raise concerns in communities with regard to perceived risks. Both groups, and lawmakers, know the sensitiv-

ity of people living near environmentally hazardous industries.

Industry is divided on the media's role.

Ashok Kalelkar, a Vice-President of Arthur D. Little, takes one viewpoint. Kalelkar says that professional bodies, such as CMA, CAER and a professional group of chemical scientists monitoring plant safety "have had more of an impact on chemical safety than news reports."¹⁷

The Roper Center for Public Opinion Research at the University of Connecticut in Storrs conducted surveys in 1985 on public attitudes on chemical safety which reflected the impact of bad news on public opinion and consequently on public policy.¹⁸ In contrast to Kalelkar's assertion, several surveys showed that those interviewed had little faith in industry's ability to protect the community from toxic spills.

Yet, as recently as 1991, a Tufts University study¹⁹ found that hardly any of the members of local emergency planning committees regarded either the television or the print media as a reliable source of information on chemical risk.

Title III is clearly not a mantra that can end spills or chemical incidents. These will continue to happen. The existence of laws has never ended crime but only provided a means to tackle it. There are flaws in implementation.

Between 1987 and 1991, at least 14 major explosions took place at refineries and chemical plants across the United States, killing 79 persons, injuring 933 and causing \$2 billion in damage. Ten of these incidents took place in Texas and Louisiana, in major industrial areas.

Title III is an enabling clause that can prevent such incidents from having wider footprints. The news media, at every level, needs to use the tools of right-to-know to focus on immediate and long-term risks, investigate these risks and inform the public.

Title III raises another question, which is beyond the scope of this paper: of the actual impact of both clauses — Community Right-to-Know and TRI — on curbing, controlling and defusing potential and near-disasters or major chemical spills or incidents. My understanding is that TRI, more than CRTW, has played a part in getting industry to clean up its act because it presses chemical units to publish annual reports of releases of specific chemicals into the air.

The fact that this is mandated by law is one factor in influencing the process. But what is more important is that the emissions have to be reported not quietly to a federal agency but loudly, in print, to the public and regularly, with environmental watchdogs ready to pounce on

every flaw and noisily demand explanations, especially through the press.

Even lobbying groups and environmentalists acknowledge that the Community Right-to-Know and Local Emergency Planning Committees, set up for evacuating communities during toxic leaks, have not been as effective as earlier hoped. One of the reasons for this, say environmentalists such as Millar of Friends of the Earth, is because industry and pro-industry groups in small and medium-sized towns, such as local politicians and officials — fire chiefs or police — are strongly represented. Title III, according to the Working Group on Community Right-to-Know, has not been able to activate the 4,000 Local Emergency Planning Committees that exist nationwide in "active risk communication to inform the public about potential chemical accidents."²⁰

"Activists find LEPCs unresponsive, or may be deliberately excluded," says the Working Group on CRTW.²¹ The group finds fault with data integration and lack of funding. There is no general federal support and as many as 32 states lack even local funding although each state has a separate State Emergency Response Commission

(SERC) that is supposed to oversee the overall planning activity in the region.

Until last year, SARA Title III did not "explicitly advocate chemical accident prevention. Corporate executives can keep their worst-case scenarios secret ... People therefore rarely obtain a graphic picture of potential chemical hazards in the community. Thus uninformed, citizens do not appreciate the need for emergency planning and prevention ... While LEPCs are empowered to request the information they need from a facility for emergency planning, few have made such requests."²²

POWER, AGENDAS, EXTERNAL FORCES

This study perhaps illustrates the following remarks by a writer in the *Washington Post*:

The "power of the press," it is often said, is the power to 'set the agenda' in the arena of public affairs. But the more we look into the agendas of the media and their news selection processes, the more we recognize the large roles played by external forces.²³

Endnotes

1. Sheila Jasanoff, ed. *Learning from Disaster: Risk Management after Bhopal*, Philadelphia: University of Pennsylvania Press, 1994.

2. Interview, October 29, 1993.

3. *New York Times*, December 6, 1984.

4. David L. Paletz and Robert M. Entman, *Media Power Politics*, New York: The Free Press, 1981.

5. Susan G. Hadden, *Citizen Participation in Environmental Policymaking, Learning from Disaster*, University of Pennsylvania Press, in press.

6. Paul Shrivastava, *Bhopal: Anatomy of a Crisis*, Cambridge, Mass.: Ballinger Publishing Company, 1987.

7. Interview, October 4, 1993.

8. Interview, October 20, 1993.

9. Interview, September 20, 1993.

10. Ibid.

11. Interview with *Chemical and Engineering News*, October 7, 1985.

12. Ibid.

13. Interview, October 6, 1993.

14. Ibid.

15. Lee Wilkins, *Shared Vulnerability: The Media and American Perceptions of the Bhopal Disaster*, New York: Greenwood Press, 1987.

16. Interview, October 13, 1993.

17. Interview, October 6, 1993.

18. Various surveys conducted by Opinion Research Corporation, Roper Organization, Louis Harris and Associates, Gordon S. Black Corporation; research sponsors included *U.S.A. Today* and *Time*. The data was provided by the Roper Center at the University of Connecticut.

In February 1985, Gordon S. Black Corporation conducted a poll on behalf of *U.S.A. Today* on the chemical leak at Bhopal and whether "the event had

any impact on you at all, either directly or on your mood or how you feel." Of the 1,504 persons interviewed, 78 percent said yes; 21 percent said no and only 1 percent responded by saying they did not know.

Asked further if the impact of the Bhopal disaster was negative or positive, 80 percent of all respondents said it had been negative. And on a zero to 10 scale of importance of news stories that impacted people, Bhopal was listed by 21 percent as critically important to the way they thought and 33 percent said that it was "somewhat important." Another 46 percent described it as "not very important."

In a separate review, the Roper Organization said that 53 percent of respondents had doubts about companies assuring the public of the safety of their systems. Twenty-three percent said they did not believe such statements were reliable. Seventeen percent said they felt the remarks were to be counted upon.

Four months after Bhopal, the Opinion Research Corporation turned out a survey that said that 59 percent of those interviewed felt that the chemical industry had done either a "very bad job" or a "some-

what bad job" of protecting the community during manufacturing and storage processes. Thirty-three percent gave them good marks.

Given these pressures and perceptions, it was clearly only a matter of time before the chemical industry acted to protect its own interests. Those interests were seen, more than at any other time earlier, not in covering up but in actually sharing information with the press, government regulatory agencies as well as local community leaders.

19. "Risk Communication and Community Right-to-Know: A four community study of SARA Title III," March 1991, Tufts University.

20. Working Notes on Community Right-to-Know, June/July 1992.

21. Ibid.

22. Ibid.

23. Richard Harwood, "Who Really Decides What's News?", *Washington Post*, September 25, 1993.