

Beyond the Chemical Century:

Restoring Human Rights and Preserving the Fabric of Life



A Report to Commemorate the 15th Anniversary of the Bhopal Disaster

December 3, 1999

by Environmental Health Fund • Strategic Counsel on Corporate Accountability

EARTHRIGHTS INTERNATIONAL • CENTER FOR HEALTH, ENVIRONMENT AND JUSTICE • INFACIT • BHOPAL ACTION AND RESOURCE CENTER
ALLIANCE FOR DEMOCRACY • GOOD NEIGHBOR PROJECT FOR SUSTAINABLE INDUSTRIES • PESTICIDES ACTION NETWORK NORTH AMERICA

About the Sponsoring Organizations



The **Bhopal Action and Resource Center** is a voluntary organization working for the last 15 years since the Bhopal disaster to address the health needs of the survivors and to hold Union Carbide accountable.



The **Center for Health, Environment and Justice (CHEJ)** was founded in 1981 by Lois Gibbs, leader of the campaign at Love Canal. CHEJ is the only national US environmental organization started and led by grassroots organizers. CHEJ has worked with over 8,000 community-based groups nationwide.

The **Environmental Health Fund** is a co-convenor of Health Care Without Harm campaign and works on other toxic chemical issues worldwide.



EarthRights International with offices in Bangkok and Washington, D.C., combines the power of law and the power of people in defense of human rights and the environment.

Alliance for Democracy is a new American progressive-populist organization with 57 chapters throughout the US.



The **Good Neighbor Project** is a project of the nonprofit Tides Center which provides legal, technical and strategic support to community groups and workers to promote sustainable industries.



INFACT is a US-Based grassroots organization whose purpose is to stop life-threatening abuses by transnational corporations and increase their accountability to people around the world.



PANNA (Pesticide Action Network North America) has campaigned to replace pesticides with ecologically sound alternatives since 1982. PANNA links over 100 affiliated health, consumer, labor, environment, progressive agriculture and public interest groups in Canada, Mexico and U.S. with thousands of supporters worldwide.

Strategic Counsel on Corporate Accountability is a law office under the direction of Sanford Lewis focused on corporate accountability to industrial neighbors and workers, shareholders and consumers.

It is our belief that the restoration and maintenance of environmental health will be one of the great human rights campaigns of the next century. This report is a clarion call to environmental and human rights activists worldwide to forge new alliances in defense of human and ecological health.

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Project Director

Gary Cohen
Environmental Health Fund

Principal Author

Sanford Lewis, Attorney
Strategic Counsel on Corporate Accountability

Editor

Erika L. Jones

Contributing Authors

Douglas Allchin
John L. Allen
Kenny Bruno
Gary Cohen
Beth Gammie
Peter Montague
Brian Tokar
Jack Weinberg

Researchers

Marcia Carroll
Rev. Tim Anderson

Thanks for input and assistance in production or dissemination of this report:

Betsy Apple
Dr. Tamar Barlam
Vergil Bushnell
Jackie Hunt Christensen
Charlie Cray
Kristin Dawkins
Peter Diamond
Annie Leonard
Sharyle Patton
Claudia Saladin
Neil Tangri
Diane Wilson
Emily J. Yozell

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Cover Image of Bhopal Plant
Courtesy of L.A. Ramen/Impact Visuals

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For printed copies of this report:
Gary Cohen
Environmental Health Fund
41 Oakview Terr.
Jamaica Plain, MA 02130 USA
gcohen@igc.org

Beyond the Chemical Century:

Restoring Human Rights and Preserving the Fabric of Life

Introduction

Fifteen years ago, on December 3, 1984, Union Carbide Corporation's pesticide factory accidentally leaked poisonous gases into the city of Bhopal, India. In one night of terror over three thousand residents were killed and hundreds of thousands were injured, many of them permanently. In the aftermath, thousands more have died from their injuries. Bhopal has been called the "Hiroshima of the Chemical Industry."

The chemical industry has given us many useful and life-saving products — from aspirin to AIDS medication, from agricultural products to high powered computers. Yet the same industry has unleashed a plague of new ills on the biosphere: moving dangerous poisons into worldwide commerce, fusing new toxic substances with the fabric of life, and working to sell more of its products even at risk to life on earth.

This report is an examination of some of the worst abuses of the chemical century. Taken individually, the incidents are tragic. But viewed together they tell us that something is terribly wrong. While the industry's incidents over the last century have been termed "accidents" or disasters, our analysis indicates that these are also human rights violations, resulting from the industry's cost cutting, concealment, manipulation of science, and delays of precautionary action. The industry's maneuvers often amount to hidden violence against thousands of victims.

Human rights are agreed principles of protection which are deemed applicable to all people. These rights have been formalized by courts, legislatures, in national constitutions, and in international treaties. Examples of human rights which our review finds to have been violated by the chemical industry include:

- The Right to Life**
- The Right to Health**
- The Right to Know**
- The Right to Property**
- The Right to Bear and Raise a Family**
- The Right Against Discriminatory Treatment**
- The Right to Compensation for Harm**
- The Right to a Livelihood**
- The Right to Join and Organize Trade Unions**
- The Right to a Healthy Environment**

The Universal Declaration of Human Rights is the leading international statement of these agreed rights. In the United

States, the Declaration of Independence says that "we hold these truths to be self-evident... that all men are endowed by their creator with certain unalienable rights, that among these are the rights to life, liberty and the pursuit of happiness." That is what rights are - self-evident truths, principled and broadly agreed upon guarantees that adhere to all people and which cannot lawfully be taken away by any other individual, nation or enterprise. Unfortunately, our systems of governance have proven incapable of securing these rights against the dangerous global activities of the chemical industry.

This report takes a fresh look at some of the major chemical industry incidents of the past century through excerpts of previously published case studies. These are followed with brief updates and analyses of the human rights implications of each incident.

This report is triggered by the 15th Anniversary of the Union Carbide disaster in Bhopal, India. In **Chapter 1** we examine the **Bhopal Disaster**.

Looking back to 1984 we see that the company violated human rights by cutting back on safety at its Bhopal, India plant, placing thousands of lives at risk. Afterwards, the company worked to downplay the disaster, limit its liability and walk away from its public relations problems. The long term health, occupational and psychological effects of the Union Carbide disaster in Bhopal are massive. Bhopal illustrates a fundamental flaw of chemical industry activities. The logic of profits has driven pivotal decisions more than consideration of the risks, or even the certainties, of injury, death and destruction to the fabric of life.

In the subsequent case studies, we see this tendency play out time and again, often with severe consequences. **Chapter 2** examines the Japanese chemical disaster of **Minamata, Japan**. Over several decades, the Chisso Corporation poisoned the fishing village of Minamata, Japan, with mercury waste. The company began paying compensation for damage done to fishing beginning in the 1920's, but the gradually emerging plague of sickness that swept through Minamata and continues today in subse-

Everyone has the right to life, liberty and security of person.

Universal Declaration of Human Rights, 1948 - Article 3

quent generations constituted a fundamental violation of the human rights to life, health, and livelihood. The discovery of Minamata disease played out as if it were Bhopal in slow motion, with recognition and action on the poisoning and its causes playing out over many years.

The relationship between government “authorization” (or encouragement by government) and human rights abuses by corporations is a significant and sometimes confusing issue. Governments cannot legally authorize corporations to violate human rights, but corporations often act as if a government’s permission is sufficient cover to do so. **Chapter 3** probes the relationship between the chemical industry and state authorities, learning from the Nazi era case of **IG Farben**. IG Farben, Germany’s largest chemical cartel, participated in the operation of the Auschwitz concentration camp. Survivors allege that the chemical cartel conducted lethal experiments on the prisoners. The manner in which chemical cartel officials allegedly availed themselves of state permission to conduct unethical experiments on unwilling human subjects brings into question the role of the state in authorizing ongoing experimentation on the public, e.g. state-sponsored determinations of “acceptable levels” of human deaths and illnesses from exposure to “acceptable doses” of chemical contaminants. The company also employed slave labor to build its synthetic rubber factory to supply the Nazi war machine, and treated slave workers brutally – those too sick to work at breakneck pace were killed with the company’s Zyklon B gas in gas chambers. After the war, some Farben officials were convicted of crimes against humanity along with government officers at the Nuremberg Trials. The eventual criminal prosecution of chemical company officials demonstrates the potential for eventual redress of corporate human rights crimes, even if committed under the auspices of state endorsements.

Chemical industry human rights violations are repeated in every corner of the Earth. Cancer causing pesticides banned in the U.S. and Europe are freely sold to farmers in Asian, African and Latin American countries. **Chapter 4** discusses the emergence of a **Trade in Poisons** in the global economy. Chemical companies are using the variation in national environmental and health laws to export restricted pesticides and technologies to poorer countries, poisoning both agricultural workers and the nearby communities. These same poisons come back to U.S. and European consumers in pesticide-laden fruits and vegetables.

This circle of poison is being further enshrined under the auspices of a new international agency called the World Trade Organization (WTO). Under this new regime, global corporations are free to export dangerous products and technologies to 134 nations, as they shop around for the cheapest labor costs and weakest environmental and public health protections. When individual nations have tried to impose precautionary regulations to defend their citizens, exporting nations have appealed to the WTO to strike down rules as an unfair restriction of trade. For instance, European countries tried to ban sales of beef containing cer-

tain synthetic hormones. They were concerned about potential for causing cancer and other health effects. But the WTO struck down the European ban. This decision may allow the chemical industry to assert a “right” to market its products until there is conclusive proof of harm inflicted. If left unchecked, the WTO could institutionalize this misguided approach to regulation — and ensure continued human rights abuses by chemical companies.

New scientific revelations show that many commonly produced and disseminated synthetic chemicals are capable of wreaking havoc with the body’s hormone system, leading to impairments of reproductive capacity, immune system function, neurological development and intelligence. **Chapter 5, Tearing the Fabric of Life**, discusses the damage being done by persistent compounds that concentrate in ecosystems and bodies. We examine Dow Chemical, the largest producer of chlorine-related chemicals in the world. Chlorinated chemical production and disposal through incineration are the major sources of dioxin formation. Dioxin is ubiquitous in the bodies of the world’s population, with the highest concentrations in mothers’ breast milk. Dioxin is linked to cancer, and a host of other health effects at minute doses that especially impact the developing fetus and newborn. We assert that worldwide dioxin emissions violate rights to be born chemically free and be nurtured by our mothers without being poisoned. Chemical trespass not only leads to cancer in a single generation, but contributes to the general poisoning and impairment of future generations. This constitutes a global violation of human rights to family and reproduction, and hidden violence against the web of life itself. It also constitutes a vast chemical experiment on the human, animal, bird and fish populations globally. Unfortunately the industry is not responding in a precautionary manner, but by its familiar patterns of opposition and delay.

While endocrine disruption occurs as chemicals interact directly with organisms down to the cellular level, other chemical industry activities inflict harm by making the biosphere itself less livable. **Chapter 6** looks at a one such example — **DuPont and the Destruction of the Ozone Layer**. DuPont was the inventor and largest manufacturer of CFCs. When it was discovered that CFCs were destroying the ozone layer, and for many years afterward, DuPont worked to delay and undermine efforts to phase out their use. Globally, due to the loss of the earth’s protective shield, CFC usage has been projected by USEPA to eventually cause as many as a billion skin cancers and over 17 million deaths in the first half of the next century. This extraordinary damage violates the right to life and health of many. We believe it should be seen as a crime against humanity and the entire ecosphere. DuPont’s history shows well how within chemical companies emerging knowledge of potential risks is seen first and foremost as an impediment to profits, or even a harbinger of bankruptcy. The industry’s approach is not geared to respect for human rights, but rather to what the company can get away with within the confines of government interventions.



Some of the same chemical companies who have been responsible for human rights abuses and ecological destruction in the 20th century are rushing into the next generation of experimentation under the banner of genetic engineering. **Chapter 7** of the report explores the shift of chemical companies to **Biotechnology**. These technologies, deployed by companies such as Monsanto, as well as DuPont and Novartis, (the merger of chemical companies Ciba Geigy and Sandoz) have the potential to deepen corporate control over global food supplies. By engineering crops to be resistant to its own pesticides, Monsanto is working to maintain production and sales of its pesticides. One result may be more overuse of those pesticides by farmers. Companies releasing genetically mutated species into the environment have launched an aggressive public relations campaign geared to downplaying serious ecological and economic issues posed by their products.

The chemical industry's record points to a need to remember and restore basic human values and rights. **Chapter 8** of the report is a reexamination of "common sense" and "**First Principles**." Long established principles ensure the rights of all people to life, health and family -and a right to a clean environment that is the foundation for those rights. But in practice, the chemical industry has repeatedly violated those rights in the 20th century. A common set of patterns underlies many of the chemical industry's human rights violations. Often the industry's most extensive damage is inflicted on populations with apparent endorsement of government, justified as "acceptable risk". But endorsement by government does not eliminate the fact of a human rights abuse. Other times, even when severe damage is likely, the industry has hid behind uncertainties to forestall safety and prolong product sales. These and similar strategies must be seen as they are — as a strategy deployed by the industry to prolong profits at the expense of human rights.

Chapter 9, the conclusion of the report, sets forth strategies and principles for winning back human rights. For instance, it recommends the following:

Place fundamental human rights over corporate rights.

Corporations must be required to respect and comply with human rights as defined in local, national and international law, including the Universal Declaration of Human Rights. Baseline human rights such as the right to life must stand above economic principles such as free trade. In addition, corporations must respect other human rights including political and economic rights.

Ensure judicial recourse for corporate human rights violations.

Victims of the industry's human rights abuses should bring legal actions to halt the industry's human rights abuses. The class action suit filed in the US in November 1999 by victims of the Bhopal disaster exemplifies the potential for such litigation. Adjustments should be made in national and international law to accommodate victims' actions.

Overhaul societal strategies to ensure a precautionary approach to public health.

Social controls and the

structures of corporations must be reinvented toward real accountability and alignment with public health and a sustainable planet. After a likelihood of serious harm is foreseen, a lack of scientific certainty must not be used as a reason for postponing action. As to the introduction of genetically engineered products and other new technologies, the burden of proof must be on industry to prove safety to a scientific certainty, not on the public to prove hazards.

Prosecute corporate crimes. A corporate action that recklessly kills or maims thousands or millions is not a mere economic crime, regardless of the amount of profits at stake. It is a crime against humanity — it merits recognition and response as such. For the worst actors, those that commit crimes against humanity or the fabric of life, the charters that created the chemical corporation should be revoked and the assets disassembled so that they can no longer pose harm. In addition, we must restore individual accountability, through stringent punishment of individual corporate officials who have overseen corporate violations of human rights.

A Few Words on the Scope of the Report

For reasons of space, we have chosen seven of the best known chemical industry cases and revisited them in a human rights context. We could have chosen many more: the poisoning of the Hudson River in New York with PCBs; the existence of a concentrated cluster of chemical plants in Louisiana known as Cancer Alley; the racist and dangerous international trade in wastes; epidemic lead poisoning of several generations of children by numerous companies; the U.S. military's dumping of toxics on communities worldwide — the list goes on.

This report focuses on "human" rights in the context of environmental protection. Some environmental advocates also posit additional rights for non-human organisms and other aspects of the natural world. Our analysis here should not be understood as a rejection of the existence and need for such ecological rights; rather we have chosen with this report to examine the issue of human impacts and rights as was principally raised in the Bhopal incident.

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Bhopal: The Hiroshima of the Chemical Industry

As people ran with their families, they saw their children falling beside them, and often had to choose which ones they would carry on their shoulders and save. This image comes up again and again in the dreams of the survivors: in the stampede, the sight of a hundred people walking over the body of their child.

- Author Suketu Mehta describing the Bhopal disaster¹

Excerpt from 1998 Annual Report, Sambhvana Trust:

Fifteen years ago, on December 3, 1984, Union Carbide Corporation's pesticide factory accidentally leaked poisonous gases into the city of Bhopal, India. In one night of terror over three thousand residents were killed and hundreds of thousands of others were injured, many of them permanently.

The causes of the disaster were believed related to the cost cutting drive initiated by Union Carbide Corporation from its headquarters in Danbury, Connecticut in 1980. The moves directed at enhancing profits included: reducing the number of personnel, use of low quality construction material, cutting down on vital safety measures and the adoption of hazardous operating procedures. Between 1980 -1984 the work crew of the Methyl isocyanate (MIC) unit was halved from 12 to 6 workers and the maintenance crew from six to two workers.

Smaller accidents provided early warning signs of the dangers being posed. On December 26, 1981 a plant operator was killed by a phosgene gas leak. Another phosgene leak in January 1982 severely injured 28 workers and in October of the same year MIC escaped from a broken valve and four workers were exposed to the chemical. Senior officials of the Corporation, privy to a "Business Confidential" safety audit in May 1982, were well aware of "a total of 61 hazards, 30 of them major and 11 in the dangerous Phosgene/Methyl Isocyanate units."

On the night of the disaster, water being used for washing the lines entered the tank containing Methyl isocyanate through leaking valves. The refrigeration unit which should have kept the MIC close to zero degrees centigrade had been shut off by the company officials to save on electricity bills.

The entrance of water in the tank, full of Methyl isocyanate, triggered off a run-away reaction and consequently the release of the lethal gas mixture. The safety systems, which in any case were not designed for such a run -away situation, were non-functioning. The scrubber designed to

neutralize any escaping gas by spraying caustic soda was empty. And the flare tower meant to burn off any gases from the scrubber was under repair.

Impacts

The Indian Council of Medical Research (ICMR) has established that the toxins from Carbide's factory have crossed into the blood stream of those exposed and have caused damage to the lungs, brain, kidneys, muscles as well as gastrointestinal, reproductive, immunological and other systems.² Bronchial asthma, Chronic Obstructive Airways Disease, recurrent chest infections, and fibrosis of the lungs are the principal effects of exposure-induced lung injury. The prevalence of pulmonary tuberculosis among the exposed population has been found to be more than three times that of the national average.

Various studies also noted survivors have increased rates of early-age cataracts in the eyes and are more likely to have a damaged immune system. Women who were pregnant



The Union Carbide Plant at Bhopal, India.

during the disaster had a much higher spontaneous abortion rate than the national average, and studies have presented evidence of chromosomal damage to exposed persons that has the likelihood of causing congenital deformities among future generations.

In the fourteenth year of the disaster 10 - 15 persons typically died each month from exposure related diseases and their complications. However the official agency for recording disaster-related mortality was terminated in December 1992. Fourteen years after the disaster there were over 120,000 children, women and men who continued to suffer acutely from a host of exposure related illnesses and their complications.

Union Carbide's toxic legacy continues to harm people economically as well. There has been no official attention directed towards the urgent needs of children who lost parents, women who lost husbands, survivors who are chronically ill and disabled, and families who support survivors. Bhopal survivors cannot work the same jobs they used to, or must work fewer hours due to diminished health. Over 70 percent of the exposed population worked in the informal sector before the disaster, earning subsistence wages through day labor or petty trade. A large number of men and women who pushed hand carts, carried loads, dug soil, repaired cars and did other jobs can no longer pursue their trades after being exposed to

Carbide's gases. This loss of regular income has driven tens of thousands of families into poverty and debt.³

Human beings are entitled to a healthy and productive life in harmony with nature.

*UN Conference on Environment and Development (UNCED), 1992
Principle 1*

Union Carbide's Responses

According to Union Carbide's own report on the disaster, at 11.00 PM on the night of the disaster the field operator reported leakage of Methyl isocyanate (MIC) in the structure. A half hour later, without any warning from the factory, the poison clouds had reached the neighborhood communities.

In the absence of any warning and information about the leaked gases the City and police officials failed to respond to the situation. There is little doubt that Union Carbide's silence and denial substantially contributed to the death toll and the exposure levels of the affected population.

Within the first week of the disaster several "medical experts" came on a visit to Bhopal sponsored by UCC. While their stated purpose was to help people in distress, it did not take long before their real mission became clear. In their meetings with senior doctors as well as in their interviews with the media these experts emphasized repeatedly that the leaked gases will not have any long term health effect on the exposed persons.

Jackson B. Browning, Director of Health, Safety and Environmental Affairs, of Union Carbide Corporations a few days after the disaster referred to the poisonous chemicals that had, till that date, killed thousands of people in Bhopal as "nothing more than a potent tear gas." It was not just Carbide's medical experts who lied about the nature of chemicals that leaked from the factory. Senior officials of the company compounded the lies.

Bhopal: A Human Rights Analysis

The Right to Life is "a fundamental right in any society, irrespective of its degree of development or the type of culture which characterizes it"⁴ This right has been construed to also encompass protection of life-sustaining environmental elements such as food and water.⁵ The Bhopal accident deprived people of their right to life, as well as their rights to health, livelihood and security of person.

In the last fifteen years since the chemical accident, there have been few positive changes in Bhopal. Union Carbide's pesticide factory remains abandoned and contaminated, leaking toxic chemicals into the nearby slum. At least sixteen thousand people have died so far from injuries relat-



A grieving father looks one last time at his infant child killed by the Union Carbide gas cloud.

1969

Union Carbide builds the Bhopal plant.

1973

First batch of MIC is imported from the US.

1979

Unit for manufacture of MIC is set up in Bhopal.

1980-1984

Work crew of Bhopal plant's Methyl isocyanate (MIC) unit was halved to six workers, and maintenance crew cut from six to two workers.

1981

Plant operator killed by phosgene gas leak at Bhopal plant.

Photo by Pablo Bartholomew

ed to their toxic chemical exposure fifteen years ago.

The right to compensation for injuries has been poorly enforced in India. 550,000 people have injury claims before the compensation courts set up in Bhopal. Of the claims processed so far, 90% of the claimants have received only \$400 for their personal injuries, which is barely enough to cover medications for five years. Unfortunately, the



courts do not understand the long term health impacts related to peoples' toxic exposure. People are suffering from significant immune system collapse, which contributes to many other illnesses not covered by the settlement.

Criminal justice has not been fully enforced either. Despite an extradition order pending since March, 1992, the Indian government has made no moves to bring former Union Carbide CEO Warren Anderson to criminal trial. Instead, the government is courting chemical companies to expand their manufacturing capacity in India, as well as allowing companies like Monsanto to introduce genetically engineered crops to replace traditional farming practices.

For Union Carbide and the Indian government, the Bhopal incident was a public relations fiasco that is fading from the public's memory. In its 1989 annual report, Union Carbide told its shareholders that the Bhopal gas leak had cost them 43 cents per share. The horrible suffering of over a half million people was thereby reduced to 43 cents per share. On the day that Union Carbide settled with the Indian government on behalf of the Bhopal victims, its stock rose two dollars. Though people in Bhopal remain sick and dying, with the recent merger of Union Carbide and Dow Chemical, even the name Union Carbide will soon disappear.

The bright sign in this otherwise bleak landscape is that people have continued to struggle for their lives and for justice. There have been more than one hundred protests in Delhi and Bhopal. An international medical commission visited Bhopal in 1994 to help facilitate streamlined compensation and health assistance to those affected. The survivors themselves set up a model health clinic in 1997 to attend to the wounded, and have shared their stories with citizen groups around the world. People in Bhopal have not given up.

In November, 1999 a class action lawsuit on behalf of Bhopal survivors against Union Carbide was filed in New

York State under the US law, the Alien Tort Claims Act.⁶ The lawsuit alleges human rights violations. It says the company employed double standards in operating its Bhopal factory (compared to its West Virginia factory) and had reckless disregard of its own safety audits and advance warning signals of a potential disaster. According to the suit these constitute "incontrovertible proof of systematic racial discrimination as a matter of corporate policy on the part of Union Carbide..." in operating the Bhopal pesticides factory. The lawsuit also alleges that "Union Carbide's conduct amounted to a violation of international criminal law which prohibits widespread or systematic killings or other inhumane acts perpetrated against a civilian population".

The lawsuit was introduced against the backdrop of a pending merger between Union Carbide and Dow Chemical, which would create the world's second largest chemical company. The Bhopal survivors strongly believe, and the lawsuit asserts, that regardless of any merger, Union Carbide and its key officials are guilty of crimes against humanity and must be held accountable for those crimes.

Accident Hazards and the Right to Know

Bhopal was not an isolated accident. The chemical industry is the source of tens of thousands of accidents and billion of pounds of routine emissions of toxic chemicals each year.

The Bhopal accident has woken people up worldwide to the hazards of the chemical industry. In the US the accident was the impetus for the establishment of 1986 legislation securing the public's Right to Know how much of certain toxic substances are emitted from each factory, and how much may be stored on-site at any one time. Another law, enacted in 1990 as part of the US Clean Air Act, gives communities the right to know "Worst Case Scenarios" for local chemical plants: Could a Bhopal happen here?

However, the Right to Know does not ensure responsive action by the chemical industry. The

right to know laws have made it clear that there are thousands of sites worldwide where other chemicals are stored in sufficient quantity to pose a disaster like Bhopal's. While under attack for Bhopal and other major disasters such as Love Canal, Seveso and the Rhine River spill, chemical production has not only survived but thrived. Chemical production has risen substantially in the last 10 years and there are some 80,000 chemicals in use. Each year, hundreds of new

One out of six Americans resides within the injury and death zone of potential chemical accidents at 66,000 facilities. The hazards are even worse in developing countries, where chemical plants are often more poorly maintained.

1982

1984

1989

1992

1999

Senior UCC officials made aware of a "total of 61 hazards, 30 of them major and 11 in the dangerous Phosgene/Methyl Isocyanate units."

Union Carbide's Bhopal plant leaked poisonous gases killing over 3,000 inhabitants that night, and injuring hundreds of thousands more.

Union Carbide reports to shareholders that Bhopal gas leak cost 43 cents per share.

Indian government issued an extradition order for Warren Anderson, former Union Carbide CEO. The order is not enforced.

An estimated 120,000 people continued to suffer severely from a host of exposure-related illnesses and 10-15 people died each month from long term effects.

chemicals are put on the market, mostly without full testing of their health and environmental impacts. Depending on which incidents are counted, the total number of chemical accidents occurring worldwide is between 27,600 to a million accidents each year.⁷

After 1984, many chemical companies that used Methyl isocyanate - the material unleashed on Bhopal - found ways of substituting other materials, or of ensuring that they would never have enough of the material onsite to cause an accident like Bhopals. But not so with

Rhone Poulenc (RP), the company that bought Union Carbide's pesticide plant in West Virginia, upon which the Bhopal plant was modeled. Carbide sold the plant to

RP after the Bhopal disaster and public protests regarding the risk of a copy cat disaster in West Virginia. But RP has continued to use and store more Methyl isocyanate (MIC) at the

West Virginia plant than was released in Bhopal. A local citizen's group, People Concerned About MIC, has demanded that the company permanently eliminate its use and storage of MIC:

"Rhone Poulenc announced last week that it will eliminate its inventory of MIC for Y2K this coming New Year's Eve. RP continues to store more MIC than was released at Bhopal. Therefore People Concerned About MIC calls for Rhone-Poulenc to use this occasion to permanently cease storing MIC in Institute, the only place in the world that continues to store MIC, and make their pesticides without continuing to endanger the lives of tens of thousands of Kanawha Countians that live downwind of their plant."

Workers' Rights

Workers at chemical factories have extensive, firsthand knowledge of the hazards that can lead to a massive accident. But when alert chemical workers flag these issues, instead of being commended they are often scapegoated or even fired. That is one reason why many chemical workers have joined trade unions, through which they have the

Everyone has the right to form and to join trade unions for the protection of his interests.

*Universal Declaration of Human Rights
Article 23*

Where Do Human Rights Come From?¹¹

Throughout this report we refer to human rights affected by the chemical industry. It may be helpful to briefly review where such rights come from. Our human rights begin with philosophical and moral agreement, which are formalized in legislation and common law of nations, as well as in international law. For example, environmental protection rights are written into national constitutions in at least 60 countries. Enforcement of those rights is effectuated in the courts of those countries. The common law also has evolved individual and community rights for which people have specific recourse, such as the right against interference with the reasonable use and enjoyment of property (i.e. a right against "nuisances") and rights against "assault." Similarly in the US and elsewhere constitutional law provides a right against discrimination ("equal protection") which has been interpreted to include a right against discriminatory exposure to harmful pollution sources.

Another source of human rights is international law. International law is less well enforced than domestic law, but provides the advantage of common rights that adhere to people regardless of where they live on earth. Since chemical corporations operate globally, international human rights law is appealing because it represents the only body of law that may be applied to the companies regardless of where they are operating.

The U.N. Charter, signed in 1945, is the agreement creating the United Nations¹². It sought "to reaffirm faith in fundamental human rights, in the dignity and worth of the human person, [and] in the equal rights of men and women and of nations large and small."¹³ The U.N. Charter declares that the United Nations has a duty to promote "universal respect for, and observance of, human rights and fundamental freedoms."¹⁴ In 1948, the U.N. General Assembly unanimously adopted the Universal Declaration of Human Rights, which gave more specific meaning to the broad declarations in the U.N. Charter. The specific human rights implicated by the chemical industry's activities include are rights to life, health, and the right to family, or reproduction. One of the best statements applying international human rights law to the environment is contained in the Draft Principles on Human Rights and the Environment, prepared by the Special Rapporteur on Human Rights and Environment of one of the Subcommissions of the UN Human Rights Commission. The document is attached to this report as an appendix.¹⁵

Traditionally, however, international human rights law has been applied to governments, not to individuals or corporations. Thus it is more often alleged in international law that a government has violated human rights, than that a corporation has done so. However, domestic and international forums are also available for enforcing international human rights law against chemical companies. Some domestic courts are even available for recourse of residents of other countries. For instance, in the United States, under the Alien Tort Claims Act (ATCA) citizens of other countries can bring an action for harmful acts in violation of international law in US courts.¹⁶ This has been used by victims of human rights abuses to sue corporate perpetrators in US courts. In addition, individuals can appeal to the United Nations and other international bodies for justice, broadening the scope of recourse for violations of human rights beyond national jurisdiction.

representatives, rights and resources to address safety and other concerns. Chemical companies often resist unionization for the same reason they retaliate against whistleblowing workers - because it makes cutting corners on safety more difficult.

The experience of workers at Formosa Plastics (FP) in Point Comfort, Texas exemplifies this. On December 4, 1998, an ethylene dichloride storage tank exploded at the plant. Workers at the plant have complained that the "Safety Department is here for us to call when we have safety concerns, but when they are notified because of unsafe conditions, management acts as though we did something wrong."⁸ Due to fear of retaliation, the danger of accidents may have been heightened — workers say they will not report unsafe conditions, even though it may place lives at risk. Employees at Point Comfort decided to unionize. In 1999 sixty five percent of workers qualified to choose a union signed a petition for FP to recognize the Paper, Allied-Industrial, Chemical And Energy Workers International Union (PACE) as their representative. The company refused to recognize PACE; instead it launched an aggressive campaign against the union. According to a complaint filed with the National Labor Relations Board, the company violated workers rights to organize a union — threatening to reduce workers' pay and benefits if a union is voted in, and blocking workers from distributing information where they had a right to do so.⁹

In instances where workers have successfully organized unions, sometimes chemical companies also violate workers' rights. In 1984, BASF locked out 370 Oil Chemical & Atomic Workers (OCAW) members at Geismar, Louisiana, in the eighth BASF lockout in a decade. This lockout, the longest in U.S. labor history, ended in 1989. In the five and one-half years in between, BASF hired hundreds of inexperienced and untrained contract workers to run the facility, placing safety at risk. In response, OCAW formed coalitions with environmentalists and placed billboards referring to the danger of BASF becoming a "Bhopal on the Bayou." It also worked with others to block the company's expansion plans. The campaign ended when a three year agreement was ratified, but the coalitions formed continue to work in Louisiana to protect worker and community interests.¹⁰

Some of the countries with a right to a clean environment or state obligation to prevent environmental harm in their Constitutions:

Afghanistan	Malta
Albania	Mexico
Algeria	Mongolia
Angola	Mozambique
Argentina	Namibia
Bahrain	Nepal
Bolivia	Netherlands
Brazil	Nicaragua
Bulgaria	Nigeria
Burkina Faso	Panama
Chad	Papua New Guinea
Chile	Paraguay
China	Peru
Colombia	Philippines
Costa Rica	Poland
Cuba	Portugal
Ecuador	Romania
El Salvador	Russian Federation
Equatorial Guinea	Seychelles
Ethiopia	Slovakia
Germany	Slovenia
Greece	South Africa
Guatemala	Spain
Guyana	Sri Lanka
Haiti	Sweden
Honduras	Taiwan
Hungary	Tanzania
India	Thailand
Islamic Republic of Iran	Turkey
Korea	United Arab Emirates
Lao People' s Democratic Republic	Vanuatu
	Vietnam

The Poisoning of Minamata, Japan

It is only the sea
I can trust.
When people tell me
that the sea is dirty
I curse them,
I want to strike them.
The sea 'dirty'?
How dare they say
the sea is dirty!
It is not the sea that wrongs.
The sea has done nothing wrong.
The sea is my life.
The sea is my religion.
The sea comforts me—
it has given me courage and sustenance,
and escape from the quarrels
of shore-bound men.
When I thought I was dying,
and my hands were numb
and wouldn't work—
and my father was dying too—
when the villagers turned against us—
it was to the sea
I would go to cry.
The sea protected my tears.
I talk crazy about the sea.
No one can understand
why I love the sea so much.
The sea has never abandoned me.
The sea is the blood of my veins.

– *Anonymous fisherman of Minamata*¹⁷

Excerpt from "The Poisoning of Minamata"¹⁸ by Douglas Allchin

While cases such as Bhopal are familiar to those living now, the deep problem of the devastating release of chemicals into the environment had its dramatic origins in Minamata, Japan, earlier this century. Its disturbing story begins, perhaps, in the 1930s, as the town was continuing to shed its heritage as a poor fishing and farming village. In 1932 the Chisso Corporation, an integral part of the local economy since 1907, began to manufacture acetaldehyde, used to produce plastics. As we know now, mercury from the production process began to spill into the bay. Though no one knew until decades later, the heavy metal became incorporated into methyl mercury chloride: an organic form that could enter the food chain. At the time, Minamata residents relied almost exclusively on fish and shellfish from the bay as a source of protein.

After World War II (around 1952), the production of acetaldehyde boomed. So, too, did the local economy—and most residents welcomed their improved lifestyles. About the same time, fish began to float in Minamata Bay.

Chisso, as it had since 1925, continued to pay indemnity to local fishermen for possible damage to their fishing waters. Also at that time, cats began to exhibit bizarre behavior that sometimes resulted in their falling into the sea and dying, in what residents referred to as "cat suicides." In the early 1950s, similar behavior began to appear—sporadically and without much notice—in humans. People would stumble while walking, not be able to write or button their buttons, have trouble hearing or swallowing, or tremble uncontrollably. In 1956 an apparent epidemic broke out and one can imagine the confusion—and fear—that was prevalent because no one knew the cause. Was it a viral inflammation of the brain? Was it syphilis? Was it hereditary ataxia, or alcoholism? Was it infectious? The popular names of "cat-dancing disease" and the "strange disease" convey some of both the mystery and its alienating quality. The physiological effects, including successive loss of motor control, were devastating, and resulted in sometimes partly paralyzed and contorted bodies. The episode was documented in powerful images by Life photojournalist Eugene Smith and his wife, Aileen (Smith and Smith 1975).¹⁹ Smith's now renowned photo of "Tomoko in the Bath" is an emblem of environmental hubris.

The Smiths describe the plight of individuals, such as fisherman Sohachi Hamamoto. Virtually overnight, he lost his ability to keep his balance, or to stay afloat in the water once he had fallen off the boat. He could not put on his sandals, walk properly, or understand what others were saying to him. Once hardy and strongly self-willed, his condition quickly degenerated, and he was hospitalized on the fourth day. There, even tied to his bed with bandages, he “crazed-danced,” said words that were not words; he salivated; he convulsed. Later, he tore at his own skin with his fingernails until his body bled. “Mother would look at Dad,” his son Tsuginori recalled, “and just stand there—tears dropping from her eyes—looking dazed. Then we realized that the same symptoms were developing in Mother.” The father died within seven weeks, the mother nine years later.

By the end of 1956, epidemiological and medical researchers identified the disease as heavy-metal poisoning caused by eating the fish and shellfish of Minamata Bay. Direct evidence that mercury from the Chisso plant was responsible, however, did not emerge until 1959. Dr. Hajime Hosokawa, in private tests on cats at the Chisso Company Hospital, showed that the plant’s acetaldehyde waste water caused the disease symptoms. One can imagine Hosokawa’s turmoil when Chisso did not make the results public, his sense of fidelity obliging him not to divulge the information himself. Chisso nevertheless installed a “cyclator” designed to control the emissions, offered ‘mimai’ (consolation payments) to the patients, and the matter seemed resolved. Nearly 100 patients had been identified, of whom over twenty had died. Children were also born with the “disease.” The geographical distribution of cases widened. In 1963, Public Health Service researchers traced the disease to mercury from Chisso. Controversy soon erupted over who was responsible for compensating the victims and supporting their families. It was not until 1970 that a district court ruled that Chisso make payments totaling \$3.2 million to the original group of patients; others soon received payment by negotiating directly with Chisso. Chisso still operates in Minamata and now produces liquid crystals, preservatives, anti-dessicants, fertilizers and other chemical products. The city has diminished in size, now almost 70% of its peak population in the 1960s. From 1977 to 1990, 1.5 million cubic meters of contaminated sludge were dredged from the bay at a cost of half a billion dollars. Fifty-eight hectares of land were reclaimed over the main dumping site and now house a park, museum, bamboo garden, study center and a memorial for the victims. In 1997, the bay was declared safe

again for fishing and swimming.

The patients of Minamata disease suffered not only from a physical handicap alone. Due to their economic status and the social dimensions of the disease, the victims and the fishermen whose livelihoods had been destroyed—did not initially command the power to obtain proper compensation from Chisso. The Smiths recorded their political struggle, as well. In the late 1950s, the disease patients organized

In the printed version of this report, a photo by W. Eugene Smith, “Tomoko in her Bath” appears here.

The photo does not appear here due to copyright permission limitations.

You can see the photo on the internet at:

http://masters-of-photography.com/S/smith/smith_minamata_full.html

a “Mutual Help Society.” Through continued petitioning, recruiting of grass-roots support across Japan, months of sit-ins at Chisso headquarters, and an unsightly tent settlement on their front sidewalk in Tokyo, they focused unfavorable public attention on Chisso. Eventually Chisso management agreed to negotiate directly with the patients, rather than appeal to the government’s authority (which supported Chisso). Other patients brought suit. Dr. Hosokawa finally gave testimony on his deathbed, demonstrating Chisso’s negligence. The court ruled in favor of the patients and the demands of the negotiations group were met soon thereafter. The political campaign proved effective through bearing witness, patience and sheer persistence.

Chisso finally stopped production of acetaldehyde in 1968—when an alternative technology for producing plastics was developed. Still, through the 1970s and 80s, new patients continued to surface. In some cases, the

7. All persons have the right to the highest attainable standard of health free from environmental harm.

UN Commission on Human Rights²⁰

symptoms were partial: numbness or tingling in the extremities, for instance, or frequent headaches or the inability to concentrate. Wary of the potential scope of the problem, the government was at first reluctant to verify patients. Now, more than 12,000 victims have been verified. More than \$2 billion in compensation has been paid, though the costs can surely not be measured in economic terms alone.

Much like the dropping of nuclear bombs on Hiroshima and Nagasaki on the nearby island of Honshu, the poisoning of Minamata has left an enduring legacy. Yet spirit has endured among the residents of Minamata. The city now sponsors several environmental awards and strives to share its hard-earned lessons with the rest of the world.

Minamata: A Human Rights Analysis

In historical perspective, the awakening of the people of Minamata to the tragic reality of their industrial poisoning reads like Bhopal in slow motion. The recognition of what went wrong took years instead of hours; the corporate denials of harm and of causation occurred over a longer timeline, but with same effects of delaying full responses and heightening the severity of injury to the victims.

At what point in time did the poisoning of Minamata cross the line from an industrial miscalculation to the violation of the human rights to life, health and livelihood? Was it when the company realized and concealed the fact that its emissions could be causing the illnesses that were emerging? We believe that the company may have crossed the line long before then – when it began the discharge of high volumes of mercury to the local waters, at jeopardy to life in the region. Precaution should have dictated that such discharges not be made knowing the likelihood of serious impacts.

Minamata also brings another important lesson in present day conditions. A fundamental principle of environmental policy, the Polluter Pays Principles, asserts that a key way of ensuring proper environmental management is by ensuring that corporations pay the full costs of their harm to humans and the environment. In the case of Chisso, the Japanese government has bailed out the company, recently committing in June 1999 to loan the company as much as a billion dollars for its compensation of the victims of Chisso's pollution.²¹ While Chisso is

required to pay back the loan, it is without interest and without a time limit. While following the Polluter Pays Principle, the need to compensate victims has led the government to maintain the operations of Chisso, as a source of continued compensation of the victims.



1932	1953	1956	1959	1966	1995	1999
Chisso begins dumping mercury into Minamata Bay.	Local cats commit suicide.	Human occurrence of disease becomes epidemic. Government blames fish from Minamata Bay.	Fishermen storm Chisso factory. While internal studies show Chisso as cause, company denies liability.	Chisso halted release of toxic waste water to Minamata Bay and the Shiranui Sea.	The Japanese government offered small compensation to victims, but only on terms of no future claims.	Japanese government provides \$1 billion no interest loan to Chisso for victim compensation.

IG Farben: Participating in State-Sponsored Human Rights Atrocities

"Its bricks were ... cemented by hate; hate and discord, like the Tower of Babel, andin it we hate the insane dream of grandeur of our masters, their contempt for God and men, for us men."

- Primo Levi describing the Carbide Tower in the middle of the Auschwitz rubber plant, built by concentration camp inmates²²

The relationship between government authorities and corporate human rights abuses is a significant and sometimes confusing issue. Governments cannot legally authorize corporations to violate human rights, but corporations often act as if government's permission or encouragement will suffice. Perhaps the most notorious example of this relationship occurred under the Nazis' genocidal rampage in Europe. A cartel of chemical companies known as IG Farben took part in, and benefitted from, the Nazis' atrocities.

In 1925, Bayer, BASF Hoechst and other German companies joined forces to form the cartel — in German an Interessengemeinschaft, or "IG," which they named "IG Farben." This became the linchpin of Hitler's military/industrial complex, providing synthetic nitrates, fuel and rubber²³. The Nazis' Dr. Josef Mengele conducted gruesome experiments on the inmates in the concentration camps at Auschwitz and elsewhere. IG Farben is alleged to have experimented on inmates against their will with drugs and other chemicals.

Excerpt from "Victims No More," National Catholic Reporter, John L. Allen Jr.

During the unwilling testing of new drugs on concentration camp prisoners, Nazi Doctor Josef Mengele favored experiments on twins because twins have the same genetic code²⁴. Eva Mozes Kor was injected with unknown chemicals several times. After one such set of injections, Eva developed an intense fever and was sent to the prison infirmary. During the first two weeks Eva was hospitalized, her twin sister Miriam was put under constant SS guard. The guards were poised to kill Miriam as soon as Eva died, so doctors could perform comparative autopsies.

Kor's lawyers say they have evidence of ampules of drugs bearing the Bayer label found in Auschwitz; records of doctors who were Bayer employees and who conducted experiments in the camps; and correspondence suggesting that Bayer officials knew about the experiments and collected results²⁵. The lawsuits name specific people as IG Farben employees, such as SS Dr. Helmut Vetter and Dr. Bruno Weber.²⁶ [Bayer denies the allegations.]

"In response to requests from Bayer, they experimented with drugs Bayer was in the process of developing," Kor's lawyer Richard Shevitz said. "This was [research and development] conducted in the context of the Holocaust."

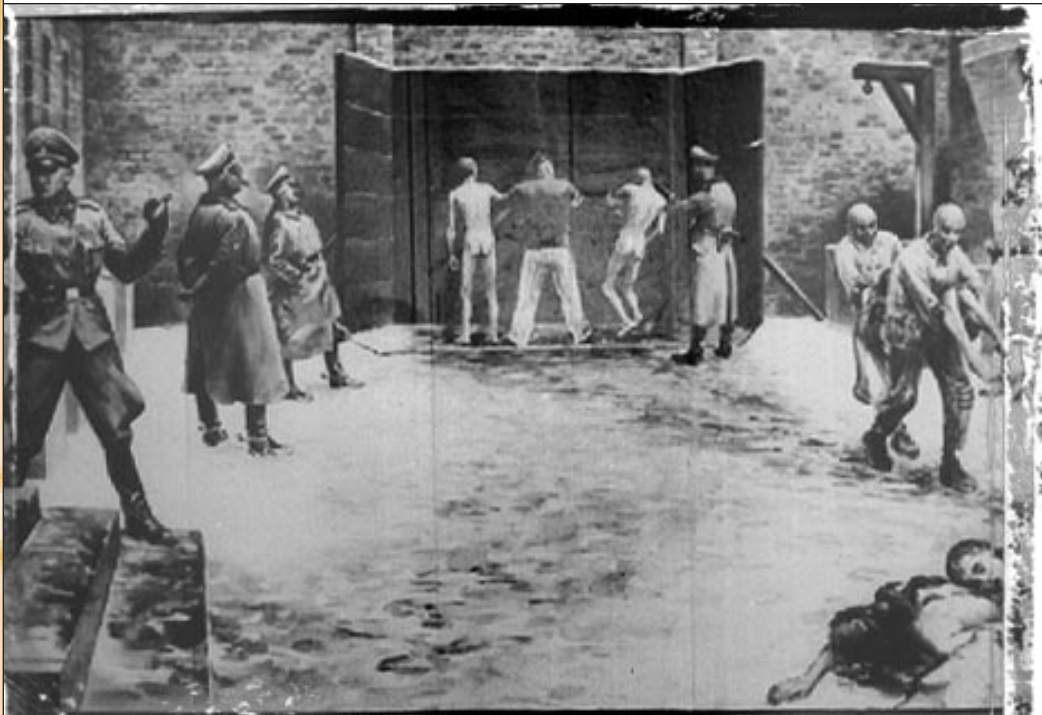
Some previously published documents seem to buttress parts of that argument. One of the most sensational is a Nov. 19, 1943, letter from an IG Farben official, Wilhelm Mann, to Otmar von Verschuer, Mengele's mentor. In the letter, Mann — director of pharmaceutical sales at Leverkusen — thanks Verschuer for acquainting him with Mengele, and says he found Mengele's demonstrations "very impressive." He says he will take up the question of funding, and refers to an enclosed "first check."²⁷

An Austrian association that maintains records from the Matthausen-Gusen camp system confirmed that Dr. Helmut Vetter did inject inmates with drugs labeled "Ruthenol" and "Praeparat 3582" in block 27 of the Gusen camp.

Shevitz says he believes the concentration camp experiments helped Bayer develop products that are in use today. "We know they were used to develop conventional medicines. It's a matter of asking Bayer how much profit can be traced to those experiments. It's a significant amount of money," he said.

As much as she wants — and believes she is owed — financial compensation and an explanation of what was done to her in Auschwitz, Kor believes her fight with Bayer has broader significance too. "Companies must treat human beings with respect."

While in no way diminishing the incomparability of the Holocaust, Michael Bazyler, a professor at the Whittier



Nazi guards executed concentration camp inmates for failing to keep up with the pace of work.

freight cars all day long at a running pace. Prisoners who broke down were beaten by the German IG foremen as well as by the kapos until they either resumed their work or were left there dead. I saw such cases myself. **I also noticed repeatedly, particularly during the time when the SS accompanied our labor unit themselves, that the German IG foremen tried to surpass the SS in brutalities.**"

Workers unable to keep up with the pace were put to death. Paul M. Hebert, one of the judges at the postwar

trial of IG Farben wrote: "It was Farben's drive for speed in the construction of Auschwitz which resulted indirectly in thousands of inmates being selected for extermination by the SS when they were rendered unfit for work..."³¹

IG Farben: A Human Rights Analysis

One thing the Farben case showed clearly was that the chemical industry's officials were capable of objectifying humans, even to the extent of making their lives expendable. And the industry's technologies had the capacity for large-scale killing. The atrocities of the era violated the Right against Genocide.

Some Farben officials were ultimately prosecuted for their part in the atrocities. At Nuremberg, twelve senior executives were jailed for terms ranging from one to eight years. The allies then split the company back into its original constituents: Hoechst, Bayer and BASF. One of the company's dominant figures, the scientist Fritz ter Meer, got seven years. When he emerged from jail, he was immediately appointed chairman of Bayer. IG Farben proved able to survive the political regimes with which it was intimately associated.

Philosopher Hannah Arendt, in attempting to understand the Nazi era, has written that evil was not only committed by fundamentalist zealots, but by people who were simply doing their jobs—embodiments of the "banality of evil." In this way, thousands of petty officials could fulfill their small, seemingly innocuous jobs, connected together

Law School in Costa Mesa, California said Kor's lawsuit and those of other survivors form a dramatic new front in the broader fight to hold corporations accountable for their conduct.²⁸

"Obtaining compensation from bankers and industrialists who profit from human rights abuses sends a message that they cannot hide behind the cloak of 'business as usual' when they become joint venturers with a dictatorial regime," he said.

IG Farben was the only business to operate its own concentration camp. IG Farben erected the Monowitz camp, with guard towers, barbed wire and gallows. The forced labor of inmates was used to erect the chemical operations. Norbert Wollheim, a German Jew who was brought with his wife and three-year-old son to Auschwitz in 1943, testified after the war that he was separated from his wife and child and taken to a camp.²⁹ There he was robbed of all possessions, deloused, registered, and tattooed with the number 107,984. The next day he was brought to a synthetic rubber plant being built for IG Farben³⁰ by slave labor of concentration camp inmates:

"As initiation, as was the general rule, we were given only the hardest and most strenuous work, such as transportation and excavation work. I came to the dreaded "murder detail 4," whose task it was to unload cement bags or construction steel. We had to unload the cement from arriving

1925

Major German chemical companies form IG Farben.

1933

First Nazi concentration camps built.

1938-1943

IG Farben made profits of 100-200 percent from stock holdings in Degesch, the manufacturer of Zyklon B.

1940

The building of Auschwitz begins with oversight by IG Farben officials, and labor from concentration camps.

1943

IG Farben official Wilhelm Mann writes letter expressing appreciation of S.S. Dr. Mengele's experiments.

in a vast machinery of brutality and injustice that sent millions of people to their deaths.

The Nazis' efficient technological and corporate structure was an effective mechanism both for removing individual responsibility and in dehumanizing its victims. Jews in transport trains to the death camps were called "pieces". Train officials processed 15,000 pieces from Hungary, 10,000 pieces from Greece, a million pieces from Poland, etc.

The IG Farben case is the only one in which chemical industry executives were prosecuted and convicted of crimes against humanity. The activities of Farben were undertaken on behalf of the most evil regime of the century, whereas the other case studies in this paper involve more purely commercial endeavors.

After the Nazi era, the chemical corporations shifted to justifying their most harmful activities not in terms of the need for extermination of people, but in terms of *acceptable risks* and the need to advance their product lines and profitability. Underlying both Nazi and corporate logic, however, a similar dehumanization finds expression. A certain group of human beings is made expendable, a certain amount of destruction must be tolerated, in the name of progress and profit.

One result of the Nazis' experimentation was the establishment of the Nuremberg Code, which provides that experimentation on human subjects shall not be committed without willing participation of the subjects. While that code was established in a medical context, the same ethical rationale applies to the industry's global experiment on involuntary humans. Yet, as far as we know, the obvious connection has yet to be made in any courts.



Zyklon-B, used to kill concentration camp inmates, was provided to the Nazis by IG Farben. This is a stockpile of Zyklon-B poison gas pellets found at Majdanek death camp in 1944 and close-up of the containers and a gas mask. The containers hold Zyklon-B pellets (hydrocyanic acid) that vaporize when exposed to air. Originally intended as a disinfectant and insecticide, the Nazis discovered through experimentation that the gas could be used to kill humans. Prisoners were forced into air-tight chambers disguised by the Nazis to look like shower rooms. The Zyklon pellets were dumped into the chambers via special air shafts or openings in the ceiling. The pellets would vaporize, giving off a noticeable bitter almond odor. Upon being breathed in, the vapors combined with red blood cells, depriving the human body of oxygen, causing unconsciousness, and death through oxygen starvation.



1944

The IG Farben industrial complex at Auschwitz is bombed by the Allies. Gassings end in November after more than a million are dead.

1948

Nuremberg trials convict twelve Farben executives of human rights violations, including Fritz ter Meer.

1953

IG Farben's assets divided between Hoechst, BASF, Bayer and other firms.

1956

IG Farben executive Fritz Ter Meet is released from jail and elected Chairman of the Board of Bayer.

1995

Ernest Krienke, chairman of IG Farben Board, rejects demands that the surviving IG Farben slave laborers be paid reparations by the company.

Globalization: Free Trade in Toxic Products, Technologies, and Wastes

Thor employs a lot of casual labor...and when they become ill from the poisons they are fired for carelessness.

- Eric Ncube, former shift leader at Thor Chemicals, South Africa, a plant that received mercury wastes from US and British manufacturers

Exporting Toxic Pesticides

Excerpt from "Human Rights Implications of the Export of Banned Pesticides," by Beth Gammie³³

A disturbing pattern has emerged. A chemical company will spend large amounts of money to manufacture a pesticide, and obtain its registration to be sold in the United States. The pesticide's harmful health and environmental effects then become apparent, either through incidents of pesticide poisoning or further research. After a slow and laborious process, the EPA eventually determines that the pesticide causes harm to human health or the environment, and the pesticide is removed from the American market. However, the chemical company continues to export the banned pesticide to foreign countries or transfers production out of the United States. Thus a "circle of poison" is created: a pesticide is manufactured in the United States, is exported, and returns to the United States on pesticide-tainted fruits and vegetables.

The unfortunate reality is that corporations often know or suspect the detrimental impacts of their products, but do not act on what they know.

Early studies by Shell and Dow revealed that DBCP caused sterility and precancerous lesions in lab animals.³⁴ However, these results were not revealed to the workers in the DBCP manufacturing plants nor to the agricultural workers who were exposed to DBCP in the field.³⁵ Widespread use of DBCP throughout the banana industry was prevalent in all major banana plantations during the

1970's. The EPA suspended the sale of DBCP for most uses in 1977 after Occidental workers brought suit for sterility in California. The potential for profit and the drive to keep businesses in operation too easily overrides the concerns about health. While Dow, Occidental, and Shell ceased production of DBCP after California banned its use, a smaller company, American Vanguard Corporation (Amvac), seized the opportunity to fill the vacuum in the DBCP market by manufacturing and exporting DBCP.³⁶ Amvac produced and

"[Q]uite frankly, without DBCP, Amvac would go bankrupt."

- Former Amvac executive

In a report to the U.S. Securities and Exchange Commission, Amvac stated:

[M]anagement believes that because of the extensive publicity and notoriety that has arisen over the sterility of workers and the suspected mutagenic and carcinogenic nature of DBCP, the principal manufacturers and distributors of the product (Dow, Occidental, and Shell Chemical) have, temporarily at least, decided to remove themselves from the domestic marketplace and possibly from the world marketplace. Notwithstanding all the publicity and notoriety surrounding DBCP, ... it was [our] opinion a vacuum existed in the marketplace that [we] could temporarily occupy... [we] further believed that with the additional DBCP, sales might be sufficient to reach a profitable level.³⁸

sold DBCP for export. Dow also profited; although the company no longer manufactured DBCP, it received a three percent royalty on all DBCP sold due to a patent agreement.³⁷

The effects of DBCP exports proved to be just what one would expect based on the numerous studies on DBCP exposure. DBCP sterilized many men, including those working in factories where DBCP was manufactured and those who applied DBCP in the field.³⁹ As of 1992, approximately 15,000 male banana workers in 12 banana-growing countries, including 12,000 in Costa Rica and the Philippines alone, had been sterilized by their exposure to DBCP in the field.⁴⁰ These men, unable to father children, suffer a wide-range of secondary effects, including depression, impotence, and divorce, as well as cancers possibly linked to their exposure.⁴¹

Approximately 29% of all pesticides sold abroad are either banned, restricted, or unregistered in the United States.⁴² Over a three-month period during 1990, an estimated 3.5 million pounds of banned, canceled, discontinued, or withdrawn compounds were exported, equaling almost a ton per hour.⁴³

These figures represent an enormous amount of exports of illegal pesticides. The effect of this pesticide “dumping” on foreign countries is considerable.

In 1990 it was estimated that 25 million people are severely poisoned every year by agrichemicals. The World Health Organization (WHO) estimated in 1985 that over 70,000 deaths resulted worldwide from accidental pesticide poisoning. Some specific instances illustrate the devastation of toxic chemical exports:

- DDT was sprayed heavily on cotton fields in Guatemala. Researchers found that villagers living near the fields had blood levels of DDT seven times higher than those living in urban areas, and thirty-one times higher than United States residents.⁴⁴
- Residues of heptachlor have been found in the breast milk of mothers in Perth, Australia, in amounts fifteen times international standards.⁴⁵

- The WHO estimated approximately 37,000 cases of cancer annually from pesticide exposure.⁴⁶

Free Trade in Poisons: A Human Rights Analysis

Respect for human rights is seldom an obstacle to the global trade in poisons. In our era of globalization, chemical companies increasingly move around assets, products and wastes on a global chessboard to maximize their profits and minimize their costs. Asbestos, long banned in the U.S. because of its devastating impacts on workers, is sold by Canadian companies to “developing” countries. Waste incinerators, discredited in the United States due to their emission of dioxins and other pollutants, are being financed by World Bank grants to more than 20 countries trying to grapple with their burgeoning waste streams. The chemical industry’s human rights violations are repeated in every corner of the Earth.

Chemicals that sterilize men or women, or otherwise endanger pregnant women and the health of the fetus in utero, violate the right to family. The Universal Declaration

of Human rights articulates this Right to Family: “men and women of full age ... have the right to marry and found a family.”⁴⁸ The U.N. recognized the Right to Family as including the right of parents to decide when and whether to bear children.⁴⁹ By taking away the opportunity to bear children, the chemical industry’s involuntary sterilizations of men and women violates this right.

The chemical industry’s shifting of pollution and products often constitutes a violation of the right against discrimination, in this context often referred to as environmental racism. This is the discriminatory imposition of

All persons have the right to freedom from pollution...and activities that adversely affect the environment, threaten life, health, livelihood, well-being or sustainable development within, across or outside national boundaries.

UN Commission on Human Rights⁴⁷

Type of Pesticide

Millions of Pounds Exported in 1995-1996

Banned or Forbidden in U.S.	21
“Never Registered”	9.4
“Extremely Hazardous”	28

Pesticide

Most Uses Banned by EPA

Export Year and Company

DDT	1973	1979-1980 Monsanto
Chlordane and Heptachlor	1978	1987 - mid-1989 Velsicol Chemical Company
DBCP	1977	Dow, Occidental, Shell - Pre-1977 American Vanguard Corporation (Amvac) - Post 1977

pollution on poor and minority ethnic populations.⁵⁰ This is frequently displayed in the movement of hazardous wastes, products and production technologies from richer to poorer locales. Waste disposal facilities and chemical production clusters are notorious for their locations in poor and ethnic minority neighborhoods. Wastes and toxic substances run “downhill” in the direction of poor countries and communities just as surely as water runs down a mountain.

Cancer causing pesticides banned in the U.S. and Europe have been freely exported to farmers in Asian, African and Latin American countries for many years. But pesticides exports are going through a transformation. Increasingly, chemical corporations are moving pesticide *production* facilities outside of traditional strongholds in the U.S. and Europe, especially for older technologies.⁵¹ The Bhopal pesticide plant was an early example of this tendency. Asia is seen as the choice region for expansion, especially India and China.⁵² Expansion in Latin America, where many large facilities already exist, remains strong.⁵³ In addition, transnationals are beginning to expand on a very small base in Africa, and to explore new opportunities in Eastern Europe.

Recently, the global trade in poisons has accelerated under the banner of Free Trade, and a new international agency called the World Trade Organization (WTO). Under this new regime, global corporations are free to export dangerous products and technologies to 134 nations, as they shop for the cheapest labor costs and weakest environmen-

tal and public health protections. When individual nations try to impose strict regulations to defend their citizens from toxic exports, the exporting nation can appeal to the WTO to strike down those environmental laws as an unfair restriction of trade.

In the course of enforcing its free trade policies, the WTO has ruled against the ability of nations to apply the Precautionary Principle in their decisions to regulate product imports. As Jim Puckett of the Asia Pacific Environmental Network has written, the Precautionary Principle is a common sense concept encapsulated in well worn adages passed on from generation to generation such as “a stitch in time saves nine”, “look before you leap”, “an ounce of prevention is worth a pound of cure,”

Precautionary Principle

“In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”

Principle 15 of the Rio Declaration on the Environment and Development



Containers of hazardous waste in New Jersey bound for Asia, Greenpeace investigation.

“fools rush in where angels fear to tread”, “better safe than sorry,” and “when in doubt, do without.”⁵⁴ Put in the language of public policy, the Precautionary Principle posits that: *where an activity raises serious or irreversible threats of harm to the environment or human health, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.*

The relevance to the activities of the chemical industry is clear. The industry over the last century has repeatedly shown the dire results of a nonprecautionary approach. By delaying action until there is scientific certainty, the public and environment suffer enormous harm.

Yet the WTO made a decision in 1998 that limits the ability of all governments that are party to the agreement to apply the precautionary principle. The WTO struck down a European Union ban on the sale of beef grown with artificial growth hormones. The European countries had adopted their ban based on studies that showed risks of cancer and male sterility for consumers of the beef. The issue is subject, as so many issues are, to continued scientific debate. However, the precautionary approach taken by the European countries was based on a conclusion that there was enough evidence to assert that the synthetic hormones should be considered unsafe until they are proven safe. Shockingly, the WTO barred this approach. It requires that regulating nations provide more scientific justification before acting. The WTO's approach threatens to leave humanity helpless to intervene in the face of indications of harm. The WTO has endorsed the chemical industry's nonprecautionary approach, under which scientific uncertainty becomes an excuse for inaction.⁵⁵ The rationale is cropping up in opposition before the WTO of various nations' efforts to keep toxic materials out of their economies and environments. As Peter Montague has written:

France wants to ban asbestos, but is being challenged by Canada on several grounds; one is that there is no worldwide scientific consensus that a ban is warranted. Denmark has announced its intention to ban 200 lead compounds, but the Clinton/Gore administration is challenging this as illegal because there are less trade-restrictive ways to achieve the same public health objective, Mr. Gore says. The European Union has said it wants to ban lead, mercury and cadmium in electronic devices, but the Clinton/Gore administration is challenging this before the WTO.⁵⁶

Current globalization trends erroneously allow profitability to trump health concerns, and corporate rights to supersede human rights. Fortunately, international human rights law may provide recourse against global trade trends that undermine human rights. For instance, the American law which authorizes the export of banned pesticides, the federal Insecticide, Fungicide and Rodenticide Act,⁵⁷ could be challenged in US courts as contravening human rights law.⁵⁸ Similarly, international human rights law may override inconsistent activities under international treaties, including trade treaties. In

international law, certain human rights including Rights to life, rights against genocide and against the arbitrary deprivation of life occupy a special status known as *jus cogens*.⁵⁹ These higher status rights are those for which violations are deemed to “shock the conscience of mankind” and thus are considered absolutely essential to the maintenance of the international community. Any treaty that contravenes a *jus cogens* norm is null and void.⁶⁰ Activities of trade organizations like the World Trade Organization and of financial institutions like the World Bank, in their prioritizing of economic interests above the sanctity of life, have quickly moved to a point of violating these *jus cogens* principles.

Unless human rights are enforced, we can expect global chemical and biotech companies to accelerate movement of their most harmful activities to the places where they can experiment or sell their wares most freely. Hazardous technologies and toxic substances may flow seamlessly across boundaries of geography and state with little recourse to those whose rights are irreparably harmed.

Tearing the Fabric of Life

When it comes to PVC, the breasts of breast feeding women are the tailpipe of the production, use, and waste stream of this product.

- Author Sandra Steingraber⁶¹

Disrupting the Human Body's Chemical Balance⁶²

At the end of the chemical century, all humans find themselves unwilling lab rats in a vast chemical experiment, committed on our bodies without our informed consent. Coursing through the blood of every child born today are dioxin, PCBs and about 500 other synthetic chemicals which did not exist before 1900. Our involuntary exposure to a vast and nefarious stew of chemicals violates the very integrity of our bodies, and threatens human health from the moment of conception.

Recent scientific findings indicate that the chemical industry's products can mimic the body's hormones and wreak havoc with reproductive and immunological systems. We are learning that at minute levels of exposure (levels dramatically below those that trigger cancer) certain chemicals can impact human hormonal signals in a mother's womb or in early development, disrupt the child's formative processes, and lead to permanent damage to reproductive, immunological, neurological and intellectual capacities. These endocrine disrupting chemicals represent chemical trespass into our children's future and a violation of the sacred relationship between mother and child.

A well-functioning endocrine system is essential to our ability to reproduce, to fend off disease, even to think. When the endocrine system is disrupted, a litany of ill effects are believed to result: weakened immune systems, reproductive problems, metabolic problems, impact on thyroid and other organs, reduced intelligence, and reduced sexual function.

Endocrine disrupting chemicals include many pesticides, ubiquitous heavy metals like lead and mercury, dioxins and furans, components of plastics including dental materials, and surfactants found in some soaps and detergents. A few of the substances have been banned in most industrialized countries but continue to persist in the environment and in our food and water. Others continue in use. We can't avoid them at home, at work, at play.

The presence of endocrine disruptors in the environment does not affect all people equally. Of special concern are indigenous peoples who continue subsistence hunting and fishing and rely on food from the top of the marine food web. Initial studies have found that Inuits living in the Canadian Arctic carry much higher levels of contaminants than even people living in polluted industrial areas. These studies have documented alarming health problems, such as impaired immune systems and high rates of ear infections in Inuit children. In the United States, American Indians living on the Great Lakes have been warned to discontinue traditional fish harvests because of contamination in the fish.

Excerpt from "Dow Brand Dioxin: Dow Makes You Poison Great Things," edited by Jack Weinberg

DOW BRAND DIOXIN

Dioxin is an extremely potent carcinogen, even in infinitesimal quantities. But recent research indicates that it is dioxin's effect on reproduction, child development, and the immune system that are of greatest concern. We now know that dioxin acts as a powerful "environmental hormone," disrupting the endocrine system which the body uses to delicately regulate a wide range of physiological functions. Dioxin has been implicated in interfering with the body's natural signaling hormones, resulting in such effects as feminization of male offspring, reduced sperm counts, altered sexual behavior, endometriosis, birth defects, reduced IQ in developing children, weight loss and "wasting" syndrome, and suppressed immune defenses against infectious disease.

Dioxins are troublesome not only because they are extremely toxic, but also because they are extremely persistent in the environment, and because they bioaccumulate in fatty tissues of living things. Dioxins resist degradation in the environment for decades or centuries. They are very soluble in oil, but not in water, and so are attracted to living tissues which then can not excrete them. Dioxins move up

the food chain and are magnified in concentrations, reaching levels in predator species (such as humans) that are millions of times greater than their concentrations in the ambient environment.

Dioxin now contaminates the air, water, and food chain of the entire planet. Human exposure takes place mostly through consumption of ordinary foods such as fish, meat, and milk. A growing body of evidence suggests that unless society effectively curtails dioxin generation and its environmental release, the long-term health, reproductive capacity and biological integrity of the human species may be seriously harmed.

Dow Chemical is one of the world's largest root sources of dioxin, considered by many to be the most toxic synthetic chemical known to science. Dioxin is formed when chlorine and chlorine-containing industrial chemicals are produced, used and disposed. And Dow Chemical, the second largest chemical company in the United States, is the top manufacturer of chlorine and chlorine-based products. Dow factories in the US, Canada, Germany, and Brazil have an annual production capacity of over 4.1 million tons of chlorine, or about ten percent of world production.⁶³

Dow is one of the world's largest producers of chlorinated pesticides in the U.S. and has produced dioxin-contaminated herbicides such as Agent Orange.⁶⁴ Dow is the world's largest producer of feedstock used to make PVC plastic, a substance that may be associated with more dioxin formation than any other product.⁶⁵ In addition, Dow is the nation's largest producer of chlorinated solvents that result in dioxin formation at numerous points in their lifecycle.⁶⁶



All humans now have dioxin in their body tissues. More critically, contaminated adults pass dioxin to the fetus while it is still in the womb and to the infant through mother's milk. Some of the highest concentrations of dioxin are in the breast milk of women worldwide. Both the fetus and the infant are much more sensitive to dioxin than is the adult; the full health impact on the child may not be expressed until maturity.

The global dioxin contamination poses a long-term, large-scale hazard to the health of humans and other

Women's Breasts: Ground Zero for Global Toxic Pollution

"The fact is that women are the first environment. We accumulate toxic chemicals like PCBs, DDT, Mirex, HCBs, etc., dumped into the waters by various industries. They are stored in our body fat and are excreted primarily through breast milk. What that means is that through our own breast milk, our sacred natural link to our babies, they stand the chance of getting concentrated dosages."

- Katsi Cook of the Mohawk Nation.

The Mohawks have had to curtail consumption of traditional foods from nature, especially fish, in order to reduce the level of contaminants in breast milk.⁶⁸

One of the worst offenses of the chemical industry has been the infiltration of its dangerous products into women's breasts. While our knowledge is incomplete, what we already know is devastating. For instance, we know that some of the most harmful products of the chemical industry accumulate in fat tissues, including the tissue in the human breast. There they may contribute to cancer, and may also be conveyed to infants through breast milk. Indigenous women whose traditional diet emphasizes fish end up with worst concentrations of chemicals such as PCB's in breast milk.


An estimated one million women die of breast cancer worldwide each year. The number of cases has been rising steadily over the years, as more chemicals have been introduced into the environment. Studies have shown that cancerous breast lumps tend to have higher levels of PCB's and other toxins than biopsied breast lumps that proved noncancerous. A recent study in Denmark reveals a relationship between breast cancer and the chlorinated pesticide dieldrin, of various compounds studied, only dieldrin was significantly elevated in the blood of women who developed breast cancer.⁶⁹

Women working in petroleum, chemical, pharmaceutical, and electrical equipment manufacturing industries have significantly higher rates of breast cancer than the general public, according to a 1992 Greenpeace study. Counties with hazardous waste sites were 6.5 times more likely to have elevated breast cancer rates than counties without such sites, according to a US EPA study.

Ironically, chemical companies such as Monsanto, Imperial Chemical Industries, and Dow Chemical, believed by many to be sources of pollution contributing to breast cancer, are the same companies producing drugs to treat cancer.

species. Indeed, the effects may be occurring already: we know that sperm counts have declined substantially across the world in the last 50 years, and rates of most types of cancer and endometriosis have also increased steadily.

During the mid-1980s, government authorities determined that dioxin discharges from Dow's Midland, Michigan, facility into the nearby Tittabawassee River had contaminated sediment and fish, and established limits on future discharges. Dow responded by threatening not to build a new aspirin plant in Michigan (the plant would not produce cancer-causing chemicals). A critic labeled this "classic corporate blackmail."⁶⁷



On this page in the printed version of the report, an excerpt from the Houston Chronicle appears here. The article discusses how Italy is prosecuting officials of Enichem for manslaughter, for exposing workers to Vinyl Chloride that is alleged to have led to their deaths. The article does not appear here due to copyright permission limitations.

You can read the article of the internet at:

<http://www.chron.com/content/chronicle/special/vinyl/italy.html>

Excerpt from Sandra Steingraber, *Living Downstream*

Suppose we assume for a moment that the most conservative estimate concerning the proportion of cancer deaths due to environmental causes is absolutely accurate. This estimate, put forth by those who dismiss environmental carcinogens as negligible, is 2 percent. Though others have placed this number far higher, let's assume for the sake of argument that this lowest value is absolutely correct. Two percent means that 10,940 people in the United States die each year from environmentally caused cancers. This is more than the number of women who die each year from hereditary breast cancer—an issue that has launched multi-million-dollar research initiatives. This is more than the number of children and teenagers killed each year by firearms—an issue that is considered a matter of national shame. It is more than three times the number of non-smokers estimated to die each year of lung cancer caused by exposure to secondhand smoke—a problem so serious it warranted sweeping changes in laws governing air quality in public spaces. It is the annual equivalent of wiping out a small city. It is thirty funerals every day.

None of these 10,940 Americans will die quick, painless deaths. They will be amputated, irradiated, and dosed with chemotherapy. They will expire privately in hospitals and hospices and be buried quickly. Photographs of their bodies will not appear in newspapers. We will not know who most of them are. Their anonymity, however, does not moderate this violence. These deaths are a form of homicide.

The Legacy of Agent Orange

Tens of thousands of U.S. veterans of the Vietnam War and three generations of Vietnamese point to Agent Orange as the cause of any array of illnesses, and of severe birth defects in their children and grandchildren.

Agent Orange was one of six defoliants sprayed by U.S. troops in South Vietnam from 1962 to 1971 to destroy vegetation where opposing troops could hide. During those nine years a series of United States Air Force missions, called Operation Ranch Hand, sprayed 18 million gallons of defoliants—11 million gallons of which were Agent Orange—over 3.6 million acres in South Vietnam.⁷¹

By 1969, the National Institutes of Health reported that Agent Orange, which contained the toxic chemical dioxin, caused birth defects in mice. Despite this warning, the two largest suppliers of Agent Orange, Dow Chemical and Monsanto, continued to produce the herbicide with high levels of dioxin.⁷² After the war, Dow suggested that many of the veterans' problems were merely psychological.⁷³ As U.S. veterans from the war began to succumb to a wide range of illnesses, a class-action suit was brought against seven chemical companies, including Monsanto and Dow Chemicals. In May 1984, the case was settled out of court for \$180 million for the veterans and their families.⁷⁴

In Vietnam, an estimated 100,000 to two million people in Vietnam are Agent Orange victims.⁷⁵ John Geoghegan, director of the International Federation of the Red Cross in Hanoi,

It was almost impossible not to recoil at the sight of Thoa Nguyen in her cotton summer dress. Even among the many tragically deformed youngsters in the Thanh Xuan Peace Village, near Hanoi, she stood out; her pretty face and slim body shockingly disfigured by patches of black scaly skin sprouting coarse animal-like fur. Thoa, who has a melanin disease, is living testimony to the horrific legacy of the Vietnam War; only one of countless children of a manmade apocalypse now blighting the lives of a new generation. Thoa's father, Thang Van, a former soldier in the army of Communist North Vietnam, well remembers the American planes which flew low over the villages, spewing poison into the lush terrain and sending coolie-hatted farmers harvesting rice in the paddy fields scuttling for cover. When they emerged from their secret tunnels the sky had turned pink and within days the lush leaves of the trees and shrubs had died. Eventually the jungle grew back. But a devastating time bomb had been sown into the crops and rivers upon which 80 percent of Vietnam's population depends.

- Kim Willsher⁷⁰

said: "Agent Orange planted chemical landmines deep in the very essence of life, in the genes of the men and women. Now the war is being fought again with the grandchildren of those involved in the conflict...Disturbingly, the effects appear to be cumulative. One former soldier who was burned by Agent Orange had a son who was born without a toe, and a grandson born without a leg."⁷⁶ Researchers attest that horrendous birth defects such as claw feet, twisted bones, skin disorders and eyes without pupils are linked to gene mutations caused by the chemicals in Agent Orange. Unfortunately, the worst affected areas are also the poorest, most isolated villages that have little access to medical facilities.

Tearing the Fabric of Life: A Human Rights Analysis

The Universal Declaration of Human Rights guarantees the right to "life, liberty, and security of person,"⁷⁷ as well as the individual's "right to a standard of living adequate for the health and well-being of himself and his family"⁷⁸ The right to health includes the right to protection against external risks likely to endanger health.⁷⁹ All of these rights surely encompass as well the right against poisoning – whether slow or fast – by the products of the chemical industry. But responding effectively is an enormous task when complete toxicological information is available on less than 10% of the roughly 80,000 chemicals in active use today.

Endocrine disruptors and other toxic substances that enter reproductive cycles – entering breast milk, depressing sperm counts, affecting the health and vitality of fetuses and infants – constitute a violation of human rights to reproductive health.⁸⁰ When we say 'reproductive health', we mean the ability of healthy women to bear healthy children with healthy men. Reproductive health also refers to the

ability of these healthy children to develop into healthy adults and then to bear healthy children themselves.

The child shall enjoy special protection and shall be given opportunitiesto enable him to develop physically, mentally, morally, spiritually and socially in a healthy and normal manner and in conditions of freedom and dignity...

*Declaration on the Rights of the Child,
1959 Principle 2*

We have a special obligation and sacred duty to protect the rights of children and of future generations. A global consensus exists on the need to leave our children a planet that is livable, and upon which they can thrive. This con-

sensus is reflected in international law and in many religious, moral and philosophical traditions.

To protect these rights, we must take precautionary action rather than wait for 100% cause-effect correlation between any one chemical and a specific adverse human health effect. Waiting for widespread impairment of our reproduction, neurological, social and immune systems before taking action is not acceptable.

Given the unprecedented array of likely health impacts and the effects on future generations from endocrine disruptors, governments need to phase out chemicals as their endocrine disrupting properties are discovered. The US government has made a first step in this direction, legislating a requirement for testing and identifying endocrine disrupting compounds by the year 2000.

But the chemical industry has once again geared up to defend its products and delay restrictive action. To this end, the chemical industry has built an infrastructure of scientists, public relations firms and sympathetic media to downplay the health risks of endocrine disrupting chemicals. For example, the Chemical Manufacturers Association has aggressively sought to discredit the literature on endocrine disrupters.

Dow Chemical's continued production of chlorinated chemicals is a powerful case in point. Extensive scientific literature has linked dioxin- and its numerous health impacts- to the production and incineration of chlorinated materials. However, Dow continues to produce a vast array of products made from chlorine, violating the human right to health on a vast scale.

The day may come when people link their health problems to dioxin and other endocrine disrupting exposures. Endometriosis sufferers, cancer patients, or parents of children who suffer reproductive birth defects could bring class action suits against Dow or other chemical companies. The chemical companies may find themselves in a situation similar to the tobacco companies- burdened by multi-billion dollar lawsuits. In the case of dioxin and endocrine disrupting chemicals, we are all potential plaintiffs, since we all carry the burdens of these chemicals in our bodies.

DuPont and the Ozone Layer: Action Deferred Brings Cancer to Millions

"To act without the facts – whether it be to alarm consumers, or enact restrictive legislation – is irresponsible"

– DuPont's two page magazine ads in 1975 opposing regulation of CFC's⁸¹

Excerpt from "How to Civilize Corporate Behavior,"
by Peter Montague:

DuPont's slogan says they produce "better things for better living." But there's a deep and abiding dark side to this leading corporate citizen.⁸²

It was 1974 when two chemists in California published a technical paper predicting that certain chemicals invented by DuPont, chlorofluorocarbons, or CFCs, would float upward in the atmosphere and begin to destroy the Earth's ozone shield, 10 to 15 miles up in the sky.⁸³

People have known for a long time that ultraviolet light is a powerful germ-killing disinfectant. Scientists now understand that life on land was impossible until the Earth's ozone shield developed 450 million years ago to fil-

ter out deadly ultraviolet rays streaming in from the sun. Until the ozone shield developed, life had to stay in the sea because ultraviolet radiation killed anything that ventured up onto the beach.

For these reasons, scientists in 1974 knew that loss of Earth's ozone shield would be a real catastrophe threatening to make Earth uninhabitable for humans. By 1976 the National Academy of Sciences (NAS)—the most prestigious body of scientists in America—announced their conclusion that CFC use was most likely going to lead to a 7% loss of the earth's ozone shield—a chillingly large change in a fundamentally important ecosystem⁸⁴ DuPont said, "Prove it" and continued CFC production, full steam ahead. In 1979 NAS revised its estimate to a 16.5% ozone loss. That year DuPont produced another 450 million pounds of CFCs and distributed them into the environment.

From 1974 through 1985 DuPont's CFC production held steady at 450 million gallons per year and its corporate position on ozone loss remained unchanged: nothing has been proven, full steam ahead.

Then in 1985 a British scientist named Joe Farman announced he'd recorded a 40% loss of ozone over the south pole and he revealed that his data had begun showing ozone depletion as early as 1977. Farman had a tiny research program (funded by the British government at \$18,000 per year) that had operated an instrument at the South pole for 25 years measuring ultraviolet radiation striking the ground.

The news stunned NASA scientists whose multi-million-dollar satellites had still found nothing. By the time NASA finally found it, the ozone hole was much larger than the area of the United States and taller than Mount Everest. It was such a huge hole that it would have been



EARTH FIRST! activists protest CFC pollution by DuPont in Antioch, California, USA.

visible from as far away as planet Mars if anyone had been there to look.

The international Montreal Protocol treaty was enacted in September 1987 and initially called for a 50 percent phase down in CFC production in developed countries by 1998. In 1989, DuPont conducted a campaign opposing CFC phase-out legislation in the U.S. Senate. In March 1988 the NASA Ozone Trends Panel provided the first scientific consensus that CFCs were linked to ozone depletion. Protocol came into force on January 1st, 1989, by when 29 countries representing approximately 82 percent of world consumption had ratified it. Despite the international agreement on the connection between ozone production and the health of the biosphere, by 1990 DuPont Chief Executive Officer Ed Woolard maintained, "In my opinion it has not been proven that CFCs are harmful to ozone..."

Each year since 1985, the ozone depletion problem has gotten worse. Many scientists have created mathematical models to predict the rate at which ozone loss will occur. All such models have been wrong. Each year the measured losses have been greater than mathematical models predicted.

In the fall of 1991, a panel of 80 scientists, gathered under the auspices of the United Nations, announced that ozone destruction is proceeding three times as fast as it did during the 1970s, and they said they expect the accelerated rate to hold throughout the 1990s.⁸⁵ No one had predicted this destructive acceleration. The same group also announced ozone loss can now be measured not only over the south pole but also, much more ominously, over the mid-latitudes where the U.S. mainland sits. And, finally, they said ozone loss can now, for the first time, be measured during spring and summer, when the sun's rays are strongest, when most people are outdoors and when many people are intentionally basking in the sun.

In April of 1991, U.S. Environmental Protection Agency tripled its earlier estimate of the number of skin cancers that ozone loss will cause in U.S. citizens. During the next 50 years, EPA said in April, ozone loss will cause 12 million skin cancers, causing 200,000 deaths. Worldwide, a billion (a thousand million) skin cancers are expected to result from ozone depletion, including 17 million deaths over the next 50 years. It is now clear that DuPont scientists have unleashed a human catastrophe that dwarfs all previous chemical disasters.

DuPont's Action Deferred: A Human Rights Analysis

Deferring the phaseout of CFC's may have made good business sense to DuPont. But it violated human rights to life and health by endangering the protective layer of the atmosphere and thereby exposing us all to heightened risks of cancer.

DuPont claims it has now ceased CFC production at all facilities around the world except in Brazil, where the government has requested continued production as allowable to developing countries under the Montreal Protocol. Most of the CFC alternatives Du Pont currently produces are hydrofluorocarbons (HFCs). Studies have shown that HCFCs also deplete the ozone shield though more slowly than CFCs. Not surprisingly, DuPont maintains that HCFCs do not harm the ozone layer. One of the new CFC substitutes, HCFC-123, has now been found to cause tumors in rats, but the company maintains humans are not at risk. The company also manufactures a few hydrochlorofluorocarbons (HCFCs), but according to DuPont, only those with the lowest ozone depletion potential.

DuPont's *action deferred* is part of a common, reckless pattern of the chemical industry. The Johns Manville Corporation continued producing asbestos and lead paint manufacturers continued putting lead in paint, even when research showed that their products were deadly. Dow Chemical has continued to market a pesticide called Dursban, even though it is recognized to be a neuro-toxin that especially effects small children. Making the chemical industry accountable for Human Rights means creating mechanisms for accelerating precautionary responses to likely harms, and finding ways of counteracting the industry's methods of procrastination.

1802	1928	1974	1974-1985	1976	1985	1987	1988	1991
DuPont is founded.	DuPont chemist Thomas Midgley, Jr. synthesizes first CFC compounds for refrigerator coolants.	Nature publishes paper predicting CFCs would float upward in the atmosphere and destroy the Earth's ozone shield.	DuPont produced a steady 450 million gallons of CFCs a year. Throughout this period, DuPont's position on ozone loss remained the same: nothing can be proven.	The National Academy of Sciences announced their conclusion that CFC use was most likely going to lead to a 7 percent loss of the earth's ozone shield.	Data showed a 40 percent loss of ozone over the South Pole.	Montreal Protocol mandates phase-out of CFCs and other man-made ozone depleting substances.	DuPont announces a phaseout of CFCs.	Study indicates ozone depletion was proceeding three times as fast as it did during the 70s.

From the Chemistry Lab to the Gene Pool: Chemical Corporations Shift to Biotech

"We will not accept the use of ... gene technologies that kill the capacity of our farmers to grow the food we need."

- joint statement by African delegates to the Food and Agriculture Organization negotiations 1998⁸⁶

Some of the same companies that have torn a hole in the fabric of life on the planet through their global chemistry experiment are now beginning to sell off their chemical divisions to raise cash for a shift to biotech. Monsanto, DuPont, Novartis and Zeneca and other companies have all taken out patents on hundreds of plants to completely reshape the nature of agriculture and pharmaceuticals based on genetically engineered organisms. In their new Biotechnology laboratories and divisions they are literally creating new organisms. For instance, they are mixing genes from different species (and even between plant and animal life) to produce new products. While it has all happened so fast that it still smacks of science fiction, some of the products of this bioengineering revolution have already penetrated into our environment, and especially into our food supply.

As with the corporations' prior ventures into new chemicals, in this experiment, the potential consequences are dire, but the industry is downplaying the risks and probabilities. It is "worth the gamble" to the biotech companies in potential profits and enhancing their control of the global food supply – even if it is not worth the gamble for humanity and the environment.

Chemical Company Monsanto Reinvents Itself Through Biotechnology

Excerpt from "Monsanto: A Checkered History"
by Brian Tokar-

Monsanto Chemical Company has combined the twin dangers of hazardous materials and dubious business practices

throughout the 20th century. In 1947, a French freighter carrying ammonium nitrate fertilizer blew up at a dock outside a Monsanto plant near Galveston, Texas, killing more than 500 people in what is known as the chemical industry's first major disaster. As early as the 1930s, Monsanto manufactured Polychlorinated Biphenyls (PCBs) for use in lubricants, waterproof coatings and liquid sealants. By the 1960s, PCBs were found to be potent carcinogens and linked to a wide array of reproductive and immune system disorders.⁸⁷ Although PCB production was banned in the U.S. in 1976, PCBs continue to persist in the environment and pose health dangers worldwide.⁸⁸ The town of East St. Louis, Missouri, was Monsanto's world's center of PCB production; today the city has one of the highest childhood asthma rates in the United States.

In the late 1940s, Monsanto began manufacturing the herbicide 2,4,5-T. Almost immediately, workers in Monsanto's factories started getting sick with skin rashes, inexplicable pains in the limbs, joints and other parts of the body, weakness, irritability, nervousness and loss of libido. Internal memos from the time show that the company knew the workers were at risk, but kept evidence hidden.⁸⁹ Dioxin was identified as the likely cause in 1957. Over the next three decades, Monsanto attempted to cover up dioxin contamination in a wide range of its products, including Agent Orange and household cleaners, and to deny liability from dioxin-contaminated sites⁹⁰. The town of Times Beach, Missouri, was contaminated by Monsanto's PCBs and the residents were forced to evacuate in 1982.⁹¹

Today, glyphosate herbicides such as Roundup account for at least one sixth of Monsanto's total annual sales and

half of the company's operating income. Monsanto has claimed that Roundup is a safe, general purpose herbicide for use on everything from lawns to tree farms.⁹² Yet Roundup is the third most commonly reported cause of illness among farm workers in California, and the most frequently reported cause of pesticide-linked casualties in the U.K. Residues of Roundup have been found in lettuce, barley and carrots that were planted one year after the soil was sprayed.⁹³

Biotechnology's Brave New World

Monsanto's aggressive promotion of its biotechnology products, from recombinant Bovine Growth Hormone (rBGH), to Roundup Ready soybeans and other crops, to its insect-resistant varieties of cotton, is seen by many observers as a continuation of its decades of ethically questionable practices.

Recombinant Bovine Growth Hormone (rBGH) was Monsanto's first genetically-modified product to go on the market⁹⁴. The purpose of rBGH is to genetically alter the physiological systems of cows so that they produce more milk than they naturally would. Farmers administer Monsanto's rBGH, sold under the brand name Posilac, by injecting cows daily.⁹⁵

Monsanto's rBGH⁹⁶ was approved by the FDA for commercial sale beginning in 1994. The following year, Mark Kastel of the Wisconsin Farmers Union released a study of Wisconsin farmers' experiences with the drug. Kastel found widespread reports of spontaneous deaths among rBGH-treated cows, high incidences of udder infections, severe metabolic difficulties and calving problems, and in some cases an inability to successfully wean treated cows off the drug. Many experienced dairy farmers who experimented with rBGH suddenly needed to replace large portions of their herd.

Rather than becoming defensive about the problems, Monsanto went on the offensive, threatening to sue small dairy companies that advertised their products as free of the artificial hormone, and participating in a lawsuit by several dairy industry trade associations against the first and only mandatory labeling law, Vermont's, for rBGH in the United States.⁹⁷

Roundup-Ready crops are genetically engineered to better withstand the affects of one of Monsanto's key products, an herbicide marketed under the brand name Roundup. Fields were traditionally sprayed with herbicides only at certain times of the year to prevent damage to the crop plants. Now, Roundup can be applied to Monsanto's genetically altered plants

15. All persons have the right to information concerning the environment. This includes... information necessary to enable effective public participation in environmental decision-making.

*UN Commission on Human Rights⁹⁷
(Ksentini Principles)*

throughout the growing season. Monsanto has already produced and marketed Roundup-Ready soybeans, canola, and corn. The company also has plans to introduce Roundup-Ready sugar beets, wheat and potatoes.⁹⁸

While Monsanto argues that its "Roundup Ready" soybeans will ultimately reduce herbicide use, the widespread acceptance of herbicide-tolerant crop varieties appears far more likely to increase farmers' dependence on herbicides. "It will promote the overuse of the herbicide," Missouri soybean farmer Bill Christison told Kenny Bruno of Greenpeace International. "If there is a selling point for RRS, it's the fact that you can till an area with a lot of weeds and use surplus chemicals to combat your problem, which is not what anyone should be doing."⁹⁹ Christison refutes Monsanto's claim that herbicide-resistant seeds are necessary to reduce soil erosion from excess tillage. Midwestern farmers have developed numerous methods of their own for reducing overall use of herbicides.

Monsanto, on the other hand, has stepped up its production of Roundup in recent years. With Monsanto's US patent for Roundup scheduled to expire in the year 2000, and competition from similar, generic products¹⁰⁰

already emerging worldwide, the packaging of Roundup herbicide with "Roundup Ready" seeds has become the centrepiece of Monsanto's strategy for continued growth in herbicide sales.¹⁰¹ The possible health and environmental consequences of Roundup-tolerant crops have not been fully investigated, such as allergenic effects, potential invasiveness or weediness, and the possibility of herbicide resistance being transferred via pollen to other soybeans or related plants.¹⁰² Despite these and other

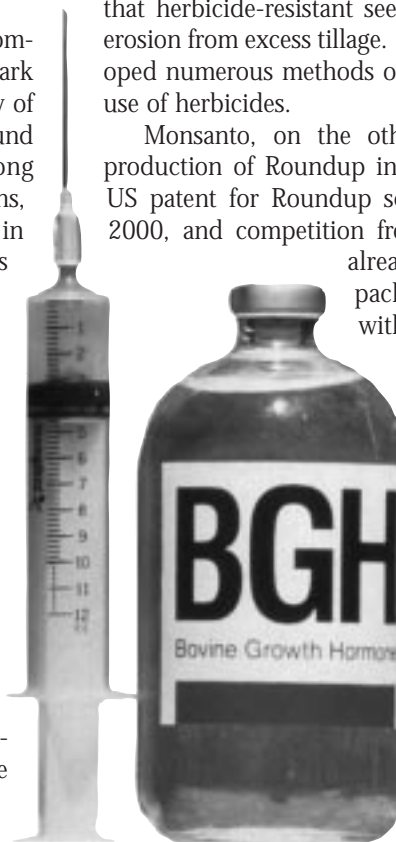


Photo courtesy of The Humane Farming Association

1901	1929	1930's	1940's	1947	1957	1960's	1971
Company Founded by John Francis Queeny.	Swann Chemical Company developed; Swann later bought by Monsanto.	Evidence of toxic effects of PCBs appear.	Monsanto becomes leading maker of plastics, synthetic fabrics, industrial chemicals.	A freighter loaded with ammonium nitrate fertilizer explodes at Monsanto's dock, killing 500 people in Galveston, Texas. One of chemical industry's first disasters.	Dioxin first identified as causing severe health problems.	Scientists begin to discover PCBs are potent carcinogens and may damage reproductive, developmental and immune systems. Monsanto herbicides containing dioxin are used in Agent Orange during the Vietnam War.	Dioxin contamination first discovered in Times Beach, Missouri; covered up by government and company officials.

issues, Monsanto is advancing the use of genetic engineering in agriculture by taking control of many of the largest, most established seed companies.¹⁰³

Monsanto's Biotech Future: A Human Rights Analysis

If the 20th Century was the chemical century, the 21st Century is likely to be the biotechnology century. The tools for manipulating genetic material have already been developed and are being continually refined. The approach taken historically by companies and regulators toward chemicals – market first, answer the hard questions later – has been adopted toward the genetic engineering industry as well.

Government is not effectively regulating this technology. It is acting more as a promoter than a watchdog. According to the New York Times, The U.S. Department of Agriculture “has not rejected a single application for a genetically engineered plant.” The Times documents how a virus-resistant strain of squash “was approved without rigorous study.” One possible concern that was not thoroughly addressed was the potential for the squash to generate “superweeds” that would spread in the environment. The government’s rubber stamp regulatory philosophy was summed up by an advisor to the agriculture secretary, “We feel like we’re making the best decisions that can be made on the basis of the information we have... We don’t claim to have this system totally worked out.” The result of this approach, the antithesis of a precautionary approach, is that the bioengineered squash may be spreading its doctored genes into the larger environment.¹⁰⁵ To cite another example, as discussed above in Chapter Four, the US government appealed to the World Trade Organization to successfully strike down the European Union’s ban on imports of beef raised with growth hormones, despite serious concern on potential human health effects. US agribusiness and chemical industry proponents of the hormones were the beneficiary of the ruling.

Public opposition to genetically engineered foods is growing. The industry’s major response is not to reflect on the necessity of GE foods, but rather to launch a multi-million dollar PR campaign to convince us to throw caution to the wind and accept their products and risks.¹⁰⁶ Monsanto promotes its genetically engineered seeds by public relations, claiming it is an environmentally responsible technology that would benefit poor farmers and feed the world. New studies have suggested that Monsanto’s herbicide tolerant seeds could cross-pollinate with weeds, leading to successive generations of herbicide resistant “superweeds.”¹⁰⁷

Farmers combating the new strains of weeds would end up using more and more herbicide, not less as Monsanto claims.

Monsanto was going to force farmers to buy new seeds each year through a “Terminator” technology that would render plants’ seeds useless. But farmers do not have the capital to buy seeds every year, nor the accompanying herbicides.¹⁰⁸ Monsanto agreed to drop research into this technology after public uproar. Some farmers are discovering that the use of Roundup-ready seeds is diminishing their yields.¹⁰⁹

Worldwide, people recognize and treat Monsanto’s and other chemical companies’ interest in genetic engineering as a threat to human rights. Protest groups have mushroomed all over Europe, the United States, Germany and elsewhere. Test crops have been uprooted by people across the social spectrum in India, Germany, Ireland, the United Kingdom and the Netherlands.

The Public’s Right to Know is a vigorously contested battleground. For instance, under pressure from companies such as Monsanto, in

1997 the U.S. government proposed letting Monsanto and other companies label their genetically engineered crops as “organic.” But the US Department of Agriculture received a record 220,000 comments, 99 percent of which denounced the proposal. The new standards were not adopted.

Another Right to Know fight focused on labeling of milk produced without rGBH. Under pressure from Monsanto, the US Food and Drug Administration (FDA) required that labels on dairy products may not simply say “rBGH-free” or “rBST-free.” They had to use the following complete text:

“Milk from cows not treated with rBST. No significant difference has been shown between milk derived from rBST-treated and non-treated cows.”

Several years after the US rGBH label decision, Canada banned rBGH in January 1999 after Monsanto study was obtained, showing that rats treated with rBGH suffered damage to several internal organs was leaked to the press.¹¹⁰

Diplomats from 24 African countries recently issued a

“Environmental issues are best handled with the participation of all concerned citizens...”

Rio Declaration on the Environment and Development, Principle 10

1976	1980's	1982	1984	1996	1997	1998	1999
The use of PCBs was banned in the United States.	Monsanto conducts studies on dioxin; later found to be manipulated to reduce Monsanto's liability.	Times Beach evacuated by US government due dioxin contamination; linkage suggested to PCBs manufactured by Monsanto.	\$180 million settlement between seven chemical companies and U.S. veterans of the Vietnam War over Agent Orange. Monsanto required to pay nearly half.	Monsanto's 1996 Environmental Review, CEO Robert Shapiro writes “Sustainable development will be a primary emphasis on everything we do.”	First shipments of Monsanto's genetically altered soybeans - unlabeled as to their genetic alterations - from U.S. to Europe. European consumers were outraged; soy market thrown into chaos.	Monsanto bought Delta & Pine Land two months after the seed giant and the USDA announced it had received a patent for the Terminator seed.	Monsanto announces under public pressure that it will not pursue marketing of seeds with the Terminator gene.

joint statement with NGO's objecting "strongly that the image of the poor and hungry from our countries is being used by giant multinationals corporations to push a technology that is neither safe, friendly, nor economically beneficial to us."¹¹¹

The mounting grassroots campaign for human rights and



against Monsanto's biotech products is taking a toll. The *Wall Street Journal* reported that Monsanto, "is now under siege from a far more moneyed crowd" to separate from its agricultural biotech business.¹¹² Stock managers are lobbying CEO Shapiro to spin off Searle, Monsanto's drug and gene engineering unit. One fund manager explained, "The whole controversy over crop biotechnology is weighing down the [Monsanto] stock."¹¹³

While chemical hazards and biotech hazards differ, the industry's political processes are strikingly similar. While some scientists identify problems and urge precaution, the industry engages in denials, funds its own science, and lobbies for continued marketing and experimentation. After recent studies found that contact with pollen from genetically engineered corn may kill monarch butterflies, the industry has launched press releases and counter studies to assert that the problem is not likely to occur in nature as it did in the laboratory.

Biotech poses threats to our human rights that are even more irreversible than the chemical industry's. Unlike chemicals, for which production may be halted, the release of new organisms could lead to self-reproducing problems. A new pest species or disease can take on a life of its own and spread itself through the biosphere. The result could undermine agriculture with new aggressive weed species or plague humanity with a global epidemic of a lab-generated disease.¹¹⁴

Linguistic Detoxification:

The Corporate Spin on Chemical Trespass

The chemical industry funds a wide variety of research bodies and advocacy groups to do the industry's bidding and provide its spin-control on various environmental and public safety issues. The official-sounding American Council on Science and Health (ACSH) is one such organization, funded by several of the largest chemical companies—including Dow, DuPont, Monsanto, Union Carbide Corporation—along with food, petroleum and pharmaceutical industries. ACSH bills itself as a "consumer education organization concerned with issues related to food, nutrition, pharmaceuticals, lifestyle, and the environment and health." However, the principal role of ACSH is to defend chemicals and additives.

Beginning in the 1970's, studies showed Alar, a chemical used to lengthen the amount of time that apples could be left to ripen on a tree, breaks down into a potent carcinogen when apples are heated. ACSH called the research as a "health scare." The ACSH alleges more than 25 "unfounded health scares," including dangers associated with saccharin, hormones in beef and DDT, and many other products manufactured by ACSH's chemical company sponsors. The United States government banned Alar from use in 1991, but ACSH continues to defend Alar, and to oppose the precautionary approach to regulation.

Source: National Environmental Trust

Back to the First Principles: Bridging the Gap Between Human Rights and Chemical Industry Behavior

The case studies in this report represent only a sampling of the chemical industry's human health disasters over the last century. Many more incidents of blatant industry recklessness and invisible violence against people and ecosystems have occurred worldwide.

It is clear that the chemical industry has violated our human rights. Even a cursory review of its activities forces us to go back to "first principles" - to recognize fundamental compacts among all humankind, and to examine why those rights are being so severely and repeatedly infringed.

The case studies document a systematic pattern of human rights abuses by the chemical industry. In case after case, the industry has sought to continue production, emissions or sales of chemicals long after they were known to threaten human health or ecosystems. The industry's narrow economic calculus is that a chemical company is entitled to produce, emit, and sell its products as long as a market demands it, and government regulation is effectively fought off. In cases where a government has finally banned or regulated products the industry has sought markets elsewhere, typically in developing countries, where environmental and public health protections are minimal. The net effect is to impose the most dangerous production factories and dump the most poisonous chemicals on people of color in Latin America, South America, Africa and Asia. Even when accidents do occur in those countries, as in the case of Bhopal, the liability for human and ecological damage costs is far less than Europe or North America. For the Bhopal accident, Union Carbide got away with paying \$470 million. If the accident had happened at its West Virginia factory in the U.S., the liability for immediate loss of life could have been high enough to put the company into bankruptcy. The lower potential liability in the less industrialized nations makes development a good risk for the chemical industry; and it continues to migrate there.

In addition to the chemical industry's globalized production and distribution system, this report has documented that the industry's toxic chemical exposures are also globalized. We all live downstream and downwind. The entire planet has been infiltrated by the chemical industry's waste and emissions. Inuits living in the Arctic region have the highest levels of PCB's of any group on Earth due to consumption of fish, yet production and use of PCB's occurred thousands of miles to the south. Toxins carried on wind and water circle the globe, accumulate in the food chain and eventually settle in our bodies.

Professor Catherine A. MacKinnon of the University of Michigan Law School has described the process of recognizing human rights abuses – an awakening of human conscience:

Human rights are a response to atrocity denied. Before they are recognized, the acts are considered, by people not subjected to them, as either too extraordinary to be conceivable or too ordinary to be atrocious. If the events are socially marked as unusual, the fact they happened is denied; if they are regarded as usual, the fact they are violating is denied. The basic psychology seems to be, if it's happening, it's not so bad, and if it's really bad, it isn't happening. In this way, acts that are common to human experience, like rape in war and rape in peace, are beneath notice because they are so familiar, while acts that are uncommon to human experience, like the Nazis' industrial murder and the Serbs' industrial rape, are beyond belief.¹¹⁵

While it was a wake up call, the Bhopal disaster has not served to end habitual human rights violations by the chemical industry. Denial, concealment, deferred protection of health and environment — these strategies were deployed by the chemical industry before and after Bhopal. As the industry's recent forays into biotechnology suggest, they remain "business as usual."

But can chemical industry activities be "human rights atrocities" if those same acts are widely recognized and even condoned by governments? The answer is yes. For instance, a state cannot assent to the violation of its peoples' right to life. Just as the Nazi state in Germany could not morally or legally kill its own citizens in concentration camps, state permission does not obviate public rights to life, health, family or security of person.

The first step toward recognition of the human rights abuses of the chemical industry is to recognize the overall patterns — the objectification of humans, the downplaying of risks, and other strategies framing the industry's massive experiments as "normal" or acceptable. So recognition of the human rights issue begins by noting the common threads weaving through the array of incidents examined in this report:

- The impacts are designated as uncertain, and this uncertainty justifies delaying precautionary action, or investment in safety is forestalled.
- Poisons are cast as "matters of degree" or "acceptable levels" — at least until the damage becomes so obvious that public outrage shatters that view.
- The most harmful decisions occur behind closed doors - sometimes in corporate boardrooms, and sometimes in collusion with government.
- While big production decisions occur at a single location (corporate headquarters) the worst effects are often dispersed and occur at relatively low visibility.
- Proving cause and effect is difficult and costly - allowing corporations to defer public intervention that would force preventive measures.
- The high financial stakes involved for the corporation are counterposed against mere "risk," low visibility of the impacts, and the vagaries of science.
- Corporate money and scientific expertise are deployed to thwart enforcement of existing laws and to prevent new laws to curb their abuses.

Taking on the human rights abuses of the chemical industry, means untangling these activities, bringing them into focus, and recognizing them for what they are — a strategy deployed by corporations to convert "externalized risks and damage" into corporate profits at the expense of human rights.

Taking on the industry's human rights abuses also means interpreting and clarifying existing rights in a manner that

reflects the harms posed by the chemical industry. For example, we assert that the right to health includes the right to be born without toxic synthetic chemicals in our bodies that will undermine our capacities for health. The right to reproduction and to family include the right to our reproductive health and reproductive capacities. The right to "security of person" includes the right not to have the integrity of our bodies jeopardized by the products of the chemical industry.

A Strategy for Restoring Human Rights and the Sanctity of Life on Earth

Based on our review, the following are some of the actions and policy changes needed to restore human rights and protect the sanctity of life on earth.

1. CORPORATIONS MUST RESPECT HUMAN RIGHTS.

Corporations must be required to respect and comply with human rights. Most fundamental are the rights to life, health, a healthy environment, the rights to family and against genocide. In addition, corporations must respect other important human rights including political and economic rights. Governments and international organizations, including international human right bodies, must address corporate compliance with human rights norms.

2. RESTORING PUBLIC SOVEREIGNTY OVER CORPORATIONS.

The fundamental human rights embodied in national and international law have been longstanding. What has been lacking are effective mechanisms for corporate accountability and enforcement. We often forget that corporations were created by acts of government, and that government retains the authority to control their behavior or even eliminate their license to do business.

A. Restoring basic sovereignty over corporations. The rights of nations, states and local communities to define the form and existence of corporations must be restored as a pre-eminent right. Corporations are legal bodies created by the public; governments have an absolute right to remake corporations or, with cause, to revoke the privileges of corporations doing business within their borders. A corporation that violates human rights on an epic scale such as Union Carbide in Bhopal, or causes other abuses as discussed in this report, has no entitlement to continue doing business. Its license to operate, the corporate charter granted by governments, can and should be revoked. If corporations stray from respect for human rights to lesser degrees, lesser remedies may be called for – including public review and revision of corporate charters, boards, bylaws and operating procedures to eliminate those corporate features exhibiting disrespect for the sanctity of life and the rights of humanity.

B. Eliminating corporate influence over governance. Today corporations exercise enormous influence over regu-

Excerpt from *Demanding Human Rights to Fight Corporate Power* by Ward Morehouse and Richard Grossman –

Most of the assaults by global corporations on life, liberty and property are considered legal, even necessary and essential, and so are rarely defined as grievous assaults on human rights. These corporations have propagated systems of values, thought, and law which favor the rights of property and capital over the rights of humans, including the rights of people to own property and their own work, to be in charge of themselves. A century of legal precedent in the United States, essentially unchallenged, is now being spread around the world through corporate control of information, penetration of education and codification of law in international trade and investment agreements such as the World Trade Organization, North American Free Trade Agreement, and proposed Multilateral Agreement on Investment.

Fashioning responses to these assaults on human rights requires clear understanding of the extent to which giant business corporations violate human rights, not just by visible pollution, sweatshops, use of child and prison labor, and destruction of livelihoods of indigenous peoples but more subtly by infiltrating and subverting governments. We must help people to see that their human rights have been violated when corporations conspire with governments to write rules, to define values, to propagandize people's minds, and to deny people their fundamental right to self-governance. Such work will require a different kind of human rights discourse and action, one which exposes and strips corporations of the unconstitutionalized governing functions which they have seized from governments and ultimately from us.

latory processes through various degrees of legal and illegal bribes, campaign finance contributions, and other forms of financial influence. Strategies to restore human rights must include analysis of the mechanisms by which these influences operate, as well as policies geared to rooting out and eliminating corporate power over government officials.

C. Community Organizing to Defend Environmental Health. One positive result of the age of globalization is that the resistance movement to toxic chemicals has also become globalized. Well established and effective networks and organizations exist to assist communities addressing a whole array of chemical assaults, from petro-chemical factories to medical waste incinerators to toxic trade in pesticides. Without these non-governmental networks and organizations, the poisoning of the earth would be worse than it is today. These include international grassroots organizations such as the Pesticides Action Network, Basel Action Network, Indigenous Environmental Network, Health Care Without Harm, and the Southwest Network for Economic and Environmental Justice (US and Mexico) and many others educating and mobilizing people worldwide to defend their human and environmental rights. Grassroots advocacy focused on the chemical industry remains the most powerful defense against the industry's abuses. Such advocacy needs to be expanded and strengthened. There is tremendous power when communities across different continents link forces to confront the same industry.

3. JUDICIAL RECOURSE FOR CORPORATE HUMAN RIGHTS VIOLATIONS.

A. The enforcement of human rights in national courts. Victims of the human rights abuses of the chemical industry

should pursue recourse in domestic courts. Both national and international human rights can be enforced in the domestic courts of a nation. The courts have been active in interpreting the scope of human rights and their relevance to the protection of the environment. Indeed, a global trend is emerging toward recognizing and defining the right to a clean environment.¹¹⁶

B. Seeking Recourse in International Tribunals. People harmed by chemical industry atrocities can seek redress by filing complaints with international tribunals or committees. Allegations can be raised within the United Nations system¹¹⁷ and also within other international law forums such as the Organization of American States. A human rights complaint or petition can be directed against a national government for failing to take measures to prevent a pattern of ongoing human rights violations. Those complaints can also include a focus on the companies and corporate officials who commit the abuses.

C. Extending Corporate Liability. Corporations are currently structured so that many who profit from corporate wrongs shoulder no degree of personal responsibility. To improve incentives for precaution, the major beneficiaries of corporate wealth should be at risk along with the environment and human health. Corporate directors, officers, and major shareholders must be made subject to civil and criminal liability for acts of the corporation. Precedents are emerging. For instance at a facility in Italy currently operated by Enichem, 150 men have died from vinyl chloride related deaths. Company officials are being tried for manslaughter. In a global economy, corporate officials can have no "safe havens" against prosecution for wrongs in other countries. Emblematic of this issue is the longstanding effort of people in India to extradite former Union



Calling attention to prenatal poisons, Representatives of the International Persistent Organic Pollutants (POPs) Elimination Network greeted United Nations delegates to the intergovernmental negotiating conference on POPs in Montreal, 1998

Carbide CEO Warren Anderson to stand trial for the deaths at Bhopal.

D. Jurisdiction/Statute of Limitations. Human rights violations committed by corporations should have no statute of limitations, but should be subject to liability until victims' suits are resolved. Victims of corporate wrongs must be entitled to their choice of jurisdiction to seek recourse - any in which the corporation has done business.

4. LEGISLATING PRECAUTION.

Regulatory laws must be overhauled to protect to secure *real* protection of human rights to life and health, including the rights of children and of future generations. For example:

A. Shifting to Nontoxic Strategies. Users and producers should be required to systematically move away from the most damaging chemicals and those with the worst potential for irreversible impacts on ecosystems or organisms, and adopt safer alternative approaches.¹¹⁸ For instance, as substances are identified as likely endocrine disruptors, they should be phased out. Public policy should not assume that chemicals are needed to solve problems currently addressed by high technology solutions or toxic chemicals; rather, nonchemical alternatives should be reviewed and applied.¹¹⁹

B. Applying the Precautionary Principle. If credible evidence suggests that a chemical or new biotechnology may be capable of wreaking havoc on the fabric of human life or on ecosystems, preventive action should be taken. The burden of proof should be on industry to prove it is safe before it is marketed or released, not on government to justify restrictive action.

C. Toxic chemical safety thresholds should be calibrated toward children and fetuses, whose systems are much more susceptible to toxic chemical exposures.

D. The Public's Right to Know should be expanded to reflect precaution. The public has a right to know about every chemical that can effect the developing fetus — in products, inert ingredients and residues on food products. In addition, corporations should be required to prepare annual corporation-wide environmental and human rights reports which, among other things, disclose in detail how they are applying the precautionary principle and respecting human rights. In addition, new mechanisms are needed to prevent corporate concealment and denial of information that would lead to precautionary measures. This should include the opportunity for stakeholder evaluation of corporate activities, through mechanisms for access to facilities, documentation and resources for independent review and assessment. Such evaluation processes, under supervision of community and workforce stakeholders have been successfully conducted at numerous facilities.¹²⁰

E. The Polluter Pays Principle should be applied. Industries and their officers should be required to pay the full social costs of their harmful activities, so as to increase incentives for prevention.

F. Public oversight of new technologies. The introduction of new technologies and materials must be guided by the precautionary principle and by democratic oversight. New technologies should be subject to citizen technology review panels, through which public concerns about new tech-

nologies are aired, evaluated and moved into public decision making. Where serious concern exists about substantial irreversible impacts from the new technologies, precaution must prevail over profits in guiding decision-making. The burden should be on the proponents of such technologies to prove that they are safe.

Using Human Rights Law to Protest Chemical Corporations' Violations

On October 18, 1989, at Velsicol's heptachlor-manufacturing plant in Memphis, Tennessee, Greenpeace activists protested the manufacture and export of the banned pesticide heptachlor. They broke into the plant, scaled a tower, and hung a banner proclaiming: "The Circle of Poison Starts Here - Velsicol: Stop Making Heptachlor."¹²¹ The activists were arrested and charged with criminal trespass and malicious mischief. It is possible that these and similar protesters could have successfully incorporated international human rights law into their defense of criminal charges arising from their protest activities. The common law principle of "necessity" is based on the principle that a person should not receive punishment when an act of violating the law prevents more harm than it causes. This principle originated in English common law and has a long history in American jurisprudence. A number of defendants have successfully incorporated the presence of a violation of a higher level international law and the prevention of human rights violations as justifications for their actions.

- Beth Gammie

5. WORKERS' RIGHTS.

A. Right to Organize. Workers right to organize trade unions must be supported by government at all levels and by community residents where chemical industries operate. The presence of an effective union can go a long way to ensuring effective monitoring of chemical factories, and to creating internal workforce watchdogs for safety and fairness. In the absence of a real right to organize, workers who raise safety complaints fear management retaliation and are often helpless to correct problems they have identified.

B. Just Transitions. The toxicity of many chemicals cries out for regulatory efforts to curb their production and use. But in shifting away from toxic production our society faces a conflict with the economic interests and rights of workers whose jobs will be lost in the process. Under current legal and regulatory structures, corporations may actually receive compensation for their need to phase out or halt production, but workers may join the unemployment lines, with little opportunity to attain a job equivalent to the one lost. A proposal to address this inequity and provide recourse for the economic rights of workers comes from the leading U.S. union for chemical workers, the Paper, Allied-Industrial Chemical and Energy Workers Union (PACE, formerly Oil,

Chemical & Atomic Workers). Their proposed “*Just Transition Fund*” would guarantee workers who lose their jobs due to any environmental regulation or incident their full wages and benefits until a comparable job can be found. In other words, workers would be made whole in terms of wages and benefits. The Just Transition Fund would also provide full tuition and fees — in addition to wages and benefits — to every environmentally-displaced worker who wants to further his or her education. As a matter of public policy, workers should be encouraged to start their lives all over again if they wish, to go back to school and earn advanced degrees that will help them find a job in the expanding, knowledge-intensive sectors of our economy.

6. GLOBALIZATION AND HUMAN RIGHTS.

Most of the abuses described in the report occurred before the current era of globalization. Yet dynamics that allowed these abuses to occur are actually intensifying with globalization. Current trends are enhancing the lack of corporate accountability, and worldwide movement of toxic products, wastes, and technologies with blatant disregard for human rights. Before globalization goes further - for example by accelerating liberalization of chemicals tariffs under the WTO, or investment in obsolete incinerator technology in developing countries through multilateral development bank loans - nations and international organizations must first address the issue of the pattern of human rights abuses that globalization allows. The international agencies' activities should be revised to reflect explicit respect for the primacy of the human right to life and the necessarily related right to a healthy environment. In order to attain this goal, international financial and trade organizations must assess the impacts of their activities on human rights. In particular, such organizations must take account of the role they play in allowing human rights abuses of corporations to go unchecked. Global institutions must be realigned and their rules revised to ensure corporate transparency, sovereignty by state and local governments over corporations, and the right and duty of governments and communities to exercise precaution. For example, the WTO should ensure that efforts by importing countries to gain information on toxic or hazardous substances, including wastes, and where necessary, to restrict trade in such substances are not undermined by the WTO rules and that governments have the right to place the burden of proof on corporations to demonstrate safety of their products and activities.

Defending Our Human Rights Globally and Locally

There are encouraging signs of global action to defend people and other species from the chemical industry's products are emerging. The United Nations is sponsoring a treaty process on Persistent Organic Pollutants (POPs) to eliminate from global production twelve of the worst persistent toxins in commerce. This list includes dioxin, PCBs, DDT and several pesticides, many of which are already banned in Europe and the U.S. Organizing around this treaty process is a new network called the International POPs Elimination Network (IPEN) that has built a coalition from more than 50 countries to lobby together for the strongest possible treaty.

The IPEN coalition, and other international efforts like it, point to the need to develop global policies and global citizen initiatives to defend human rights from the chemical industry's violations. As we enter the next century, citizens from all nations must join together to highlight the human rights violations of this industry in international legal fora, in the highest courts of justice, community forums, and in the streets.

Action to defend people's rights against pervasive toxics trespass must occur at a local and global level. Justice is not served if a chemical is banned in one country or region only to be sold in another region. Banning chemicals in one region is also only a partial solution because chemicals travel easily across national boundaries. It would have been completely ineffective, for example, to ban CFCs in Europe and the U.S., since CFCs used anywhere in the world eventually finds their way into the stratosphere and destroys ozone molecules.

The environmental health crisis and the chemical trespass into our lives is too advanced to allow the chemical industry to continue to define the issue as one of “acceptable risk” and permissible levels” of poisons in our bodies. People all over the world need to reframe the conflict over a healthy environment and a healthy family as one of basic human rights. These rights supersede corporate profits and market share. They are the foundation for all notions of sustainability and an ecologically sound economy. It is not possible to have sustainable economies if toxic chemicals violate the sacred web of life on earth.

Bhopal is not only a symbol of the technological failures and corporate abuses of the twentieth century, but a powerful warning sign for the next century. Are we willing to continue to enjoy the commodities of the global market at the expense of species extinction, poisoned children and ecological destruction of epic proportions? Are we willing to sacrifice all that is sacred, including our own genetic heritage and the genetic diversity of the planet, so that a few powerful corporations can become wealthier than most of the world's nations? Bhopal calls us to mourn for the dead, but it also challenges us to fight for the living, both in Bhopal and around the globe. ♦

RESOURCES

Alliance for Democracy
(populist organization)
681 Main St.
Waltham, MA 02451
Tel: 781 894-1179
email: peoplesall@aol.com
web: www.afd-online.org

Basel Action Network Secretariat
(waste trade)
c/o Asia Pacific Environmental Exchange
1827 39th Avenue East
Seattle, Washington 98112 USA
Tel./ Fax: 206-720-6426
email: info@ban.org

Bhopal Action and Resource Center
(Bhopal victims support/Union Carbide
accountability)
777 United Nations Plaza
Suite 9A
New York, NY 10017 USA
Tel: 212-972-9877

Center for Health, Environment
and Justice
(Environment, Toxins, and Community
Action)
150 South Washington
Suite 300 (P.O. Box 6806)
Falls Church, VA 22040 USA
Tel: 703-237-2249
Website: www.essential.org/cch

Center for International Environmental Law
(Environment, Law, and International
Financial Institutions)
1367 Connecticut Avenue, N.W.
Suite 300
Washington, D.C. 20036 USA
Tel: 202-785-8700
Fax: 202-785-8701
Website: www.econet.apc.org/ciel/

Earthjustice Legal Defense Fund
(Litigation and United Nations)
180 Montgomery Street
Suite 1400
San Francisco, California 94101 USA
Tel: 415-627-6700
Fax: 415-672-6740
email: eajusintl@earthjustice.org
Website: www.earthjustice.org

EarthRights International
(Environment, Human Rights and Law)
U.S. East Coast Office
2012 Massachusetts Avenue, N.W.
Washington, D.C. 20036 USA
Tel: 202-466-5188
Fax: 202-466-5189

EarthRights International
Southeast Asia Office
P.O. Box 12
Lard Phrao Junction
Bangkok 10901 Thailand
Tel./Fax: 66-2-512-2051

Environmental Health Fund
(Health and Toxics)
Gary Cohen
41 Oakview Terrace
Jamaica Plain, MA USA
Tel: 617-524-6018
email: gcohen@igc.org

Focus on the Global South
(Globalization)
c/o CUSRI,
Chulalongkorn University
Bangkok 10330 Thailand
Tel: 66-2-218-7363
Fax: 66-2-255-9976
Website: www.focusweb.org

Friends of the Earth
(Environment and Trade)
1025 Vermont Avenue, N.W.
Suite 300
Washington, D.C. 20005 USA
Tel: 202-783-7400
Fax: 202-783-0444
email: foe@foe.org

Good Neighbor Project
(Toxics, Labor and Community)
P.O. Box 79225
Waverly, MA 02479 USA
Tel: 617-489-3686
Fax: 781-891-6889
email: gnproject@earthlink.net
Website: www.enviroweb.org/gnp

Greenpeace
(Toxics, Climate, Forests)
1426 "U" Street, N.W.
Washington, D.C. 20009 USA
Tel: 202-462-1177
Fax: 202-462-4507
email: greenpeace.usa@wdc.greenpeace.org
Website: www.greenpeace.org

Human Rights Watch
(International Human Rights)
33 Islington High Street
N1 9LH London, UK
Tel: 171-713-1995
Fax: 171-713-1800

Human Rights Watch
1630 Connecticut Avenue, N.W., Suite 500
Washington, DC 20009 USA
Tel: 202-612-4321
Fax: 202-612-4333
Website: www.hrw.org

INFACT
(Corporate Responsibility)
46 Plympton Street
Boston, MA 02118
Tel: 617-695-2525
Fax: 617-695-2626
email: infact@igc.apc.org
Website: www.infact.org

Institute for Food and Development Policy
(Food Security)
398 60th Street
Oakland, California 94618 USA
Tel: 510-654-4400
Fax: 510-654-4551
email: foodfirst@foodfirst.org
Website: www.foodfirst.org

International Forum on Globalization
(Globalization)
1558 Pacific Avenue
San Francisco, California 94109 USA
Tel: 415-771-3394
Fax: 415-771-1121
email: ifg@ifg.org
Website: www.ifg.org

International Rivers Network
(Dams)
1847 Berkeley Way
Berkeley, California 94703 USA
Tel: 510-848-1155
Fax: 510-848-1008
email: irnweb@irn.org

Multinationals Resource Center
(Corporations, Toxics, and International
Financial Institutions)
P.O. Box 19405
Washington, D.C. 20036 USA
Tel: 202-387-8030
Fax: 202-234-5176
email: mrc@essential.org
Website: www.essential.org

Oilwatch
(Oil Development in the Tropics)
Alejandro de Valdez N24-33 y
La Gasca
Casilla 17-15-246-C
Quito, Ecuador
Tel: 593-9-700-712
Fax: 593-2-547-516
email: oilwatch@uio.satner.net

Rainforest Action Network
(Forests and Indigenous Rights)
221 Pine Street, Suite 500
San Francisco, California 94104 USA
Tel: 415-398-4404
Fax: 415-398-2732
email: rainforest@ran.org

Strategic Counsel on Corporate Accountability
(Corporate Responsibility and Law)
Sanford Lewis, Esq.
P.O. Box 79225
Waverly, MA 02479 USA
Tel: 617-489-3686
Fax: 781-891-6889
email: gnproject@earthlink.net
Web: www.home.earthlink.net/~gnproject/
consulting.htm

Third World Network
(Globalization)
228 Macalister Road
Penang 10400 Malaysia
Tel: 60-4-226-6728
Fax: 60-4-226-4505
email: twn@igc.apc.org
Website: twnet@po.jaring.my

Transnational Resource and Action Center
(Transnational Corporations)
P.O. Box 29344
San Francisco, California 94129 USA
Tel: 415-561-6568
Fax: 415-561-6493
email: trac@igc.org
Website: www.corpwatch.org

Draft Principles on Human Rights and the Environment

(E/CN.4/Sub.2/1994/9/Annex 1)

Preamble

Guided by the Charter of the United Nations, the Universal Declaration of Human Rights, the International Covenant on Economic, Social and Cultural Rights, the International Covenant on Civil and Political Rights, the Vienna Declaration and Programme of Action of the World Conference of Human Rights, and other relevant international human rights instruments,

Guided also by the Stockholm Declaration of the United Nations Conference on the Human Environment, the World Charter for Nature, the Rio Declaration on Environment and Development, Agenda 21: Programme of Action for Sustainable Development, and other relevant instruments of international environmental law,

Guided further by the Declaration on the Right to Development, which recognizes that the right to development is an essential human right and that the human person is the central subject of development,

Guided by fundamental principles of international humanitarian law,

Reaffirming the universality, indivisibility and interdependence of all human rights,

Recognizing that sustainable development links the right to development and the right to a secure, healthy and ecologically sound environment,

Recalling the right of peoples to self-determination by virtue of which they have the right freely to determine their political status and to pursue their economic, social and cultural development,

Deeply concerned by the severe human rights consequences of environmental harm caused by poverty, structural adjustment and debt programmes and by international trade and intellectual property regimes,

Convinced that the potential irreversibility of environmental harm gives special responsibility to prevent such harm,

Concerned that human rights violations lead to environment degradation and that environmental degradation leads to human rights violations,

Declare the following principles

Part 1.

1. Human rights, an ecologically sound environment, sustainable development and peace are interdependent and indivisible.
2. All persons have the right to a secure, healthy and ecologically sound environment. This right and other human rights, including civil, cultural, economic, political and social rights, are universal, interdependent and indivisible.
3. All persons shall be free from any form of discrimination in regard to actions and decisions that affect the environment.
4. All persons have the right to an environment adequate to meet equitably the needs of present generations and that does not impair the rights of future generations to meet equitably their needs.

Part 2.

5. All persons have the right to freedom from pollution, environmental degradation and activities that adversely affect the environment, threaten life, health, livelihood, well-being or sustainable development within, across or outside national boundaries.
6. All persons have the right to protection and preservation of the air, soil, water, sea-ice, flora and fauna, and the essential processes and areas necessary to maintain biological diversity and ecosystems.
7. All persons have the right to the highest attainable standard of health free from environmental harm.
8. All persons have the right to safe and healthy food and water adequate to their well-being
9. All persons have the right to safe and healthy working environment.
10. All persons have the right to adequate housing, land tenure and living conditions in a secure, healthy and ecologically sound environment. All persons have the right to a safe and healthy working environment,
11. (a) All persons have the right not to be evicted from their homes or land for the purpose of, or as a consequence of, decisions or actions affecting the environment, except in emergencies or due to a compelling purpose benefiting society as a whole and not attainable by other means.

(b) All persons have the right to participate effectively in decisions and to negotiate concerning their eviction and the right, if evicted, to timely and adequately restitution, compensation and/or appropriate and sufficient accommodation or land.

12. All persons have the right to timely assistance in the event of natural or technological or other human-caused catastrophes.

13. Everyone has the right to benefit equitably from the conservation and sustainable use of nature and natural resources for cultural, ecological, educational, health, livelihood, recreational, spiritual and other purposes. This includes ecologically sound access to nature. Everyone has the right to preservation of unique sites consistent with the fundamental rights of persons or groups living in the area.

14. Indigenous peoples have the right to control their lands, territories and natural resources and to maintain their traditional way of life. This includes the right to security in the enjoyment of their means of subsistence.

Indigenous peoples have the right to protection against any action or course of conduct that may result in the destruction or degradation of their territories, including land, air, water, sea-ice, wildlife or other resources.

Part 3.

15. All persons have the right to information concerning the environment. This includes information, howsoever compiled, on actions or courses of conduct that may affect the environment and information necessary to enable effective public participation in environmental decision-making. The information shall be timely, clear, understandable and available without undue financial burden to the applicant.

16. All persons have the right to hold and express opinions and to disseminate ideas and information regarding the environment.

17. All persons have the right to environmental and human rights education.

18. All persons have the right to active, free and meaningful participation in planning and decision-making activities and processes that may have an impact on the environment and development. This includes the right to a prior assessment of the environmental, developmental and human rights consequences of proposed actions.

19. All persons have the right to associate freely and peacefully with others for purposes of protecting the environment or the rights of persons affected by environmental harm.

20. All persons have the right to effective remedies and redress in administrative or judicial proceedings for environmental harm or the threat of such harm.

Part 4.

21. All persons, individually and in association with others, have the duty to protect and preserve the environment.

22. All States shall respect and ensure the right to a secure, healthy and ecologically sound environment. Accordingly, they shall adopt administrative, legislative and other measures necessary to effectively implement the rights in the Declaration.

These measures shall aim at the prevention of environmental harm, at the provision of adequate remedies, and at the sustainable use of natural resources and shall include, inter alia

-Collection and dissemination of information concerning the environment;

-Prior assessment and control, licensing, regulation or prohibition of activities and substances potentially harmful to the environment;

-Public participation in environmental decision-making;

-Effective administrative and judicial remedies and redress for environmental harm or the threat of such harm;

-Monitoring, management and equitable sharing of natural resources;

-Measures to reduce wasteful processes of production and patterns of consumption; -

-Measures aimed at ensuring that transnational corporations, wherever they operate, carry out their duties of environmental protection, sustainable development and respect for human rights; and

-Measures aimed at ensuring that the international organizations -and agencies to which they belong observe the rights and duties in this Declaration.

23. States and all other parties shall avoid using the environment as a means of war or inflicting significant, long-term or widespread harm on the environment, and shall respect international law providing protection for the environment in times of armed conflict and cooperate in its further development.

24. All international organizations and agencies shall observe the rights and duties in the Declaration.

Part 5.

25. In implementing the rights and duties in this Declaration, special attention shall be given to vulnerable persons and groups.

26. The rights in this Declaration may be subject only to restrictions provided by law and which are necessary to protect public order, health and the fundamental rights and freedoms of others.

27. All persons are entitled to a social and international order in which the rights in the Declaration can be fully realized.

Endnotes

¹ Mehta, Suketu. "Bhopal Lives: The 1984 Union Carbide Toxic-Gas Disaster Killed 10,000 People—and Has Changed Everything for its Survivors," *The Village Voice*, pg. 50, December 3, 1996.

² ICMR is an agency of the Indian government. It carried out 25 research studies from 1985 to 1994. Unfortunately several of the ICMR studies have been prematurely terminated and the remainder were ended in December 1994. Six monthly morbidity surveys by ICMR from 1987 to 1991, show that the number of people with ailments from exposure to the toxins has actually increased over time. According to one study, there were three times more persons with respiratory symptoms in 1991 as compared to 1987. The damage to the respiratory system, and particularly the lungs, comprises the most obvious and significant part of the overall health damage. A study carried out by 14 medical specialists from 11 different countries reported in January 1994 that significant multi-organ symptoms persist among the exposed population. Clinical examinations revealed significant lung impairment, marked reduction in control over limb movements and reduced memory due to exposure. A group of independent doctors from Bombay also found that nearly 40% of those exposed suffered from post-traumatic stress disorder.

³ The government programs for economic rehabilitation were badly designed and only a few have been implemented. While an estimated population of 50,000 is in need of alternate jobs, currently less than 100 gas victims have found regular employment under the government's scheme. A program offering women survivors tailoring jobs ran successfully from 1986 to 1992 employing 2,300 women and yielding a yearly profit. The rehabilitation centers where these jobs were offered were also places where women survivors could gather, share their concerns and organize themselves. However, this programme was terminated in July 1992.

⁴ See B.G. Ramcharan, *The Concept And Dimensions Of The Right To Life*, in *The Right to Life in International Law 3* (B.G. Ramcharan ed., 1985) (discussing the content of the right to life). Page 14.

⁵ The U.N. Sub-Commission on Prevention of Discrimination and Protection of Minorities recognized the link between environmental degradation and the right to life in a recent report entitled "Human Rights and the

Environment." Human Rights And The Environment, Final report prepared by Mrs. Fatma Ksentini, Special Rapporteur, U.N. ESCOR 46th Sess., Agenda Item 4, at U.N. Doc. No. E/CN.4/Sub.2/1994/9 (1994) [hereinafter Human Rights And The Environment]. The report quoted Professor Gallicki's comment to the Special Rapporteur that "the right to life is the most important among all human rights legally guaranteed and protected ... this right, like no other, may be directly and dangerously threatened by detrimental environmental measures. The right to life and the quality of life depend directly on positive or negative environmental conditions."

⁶ *Sajida Bano et. al. v. Union Carbide Corporation*, Filed Nov. 15, 1999 in the US District Court, Southern District of New York.

⁷ A look at two studies suggests that thousands of chemical accidents occur annually around the globe. A study of the U.S. Emergency Response and Notification System (ERNS) found 34,500 reported accidents involving toxic chemicals in a 5-year period; this translates to 19 accidents per day every day. A study by the New York State Attorney General's office found 3496 accidents during a 3-year period; only 496 of these were reported to the ERNS. Dr. Peter Montague calculates: "...[T]he true picture of chemical accidents in the U.S. may approach 240,000 per year, or 130 per day, or 5 per hour around the clock." The United States contains about one fourth of the world's chemical industry...If we extrapolate the ERNS figures to the rest of the world, the total number of accidents is on the order of 27,600 per year. If we extrapolate from the New York State study...our estimate could approach 1 million accidents, worldwide, annually. A study...based on U.S. OSHA data estimates 389 serious accidents in the U.S. annually in all sectors using hazardous chemicals...These involve 265 fatalities, 901 injuries and 336.9 million in property damages. Source: Kenny Bruno, "Banning Killer Chemicals - Greenpeace Submission to the fourth Session of the London tribunal on Industrial Hazards and human Rights on the Occasion of the Tenth Anniversary of the Bhopal Tragedy," Greenpeace Amsterdam Nov. 1994.

⁸ Memorandum to Walter Chen through Shift Supervisor from hourly employees at Formosa Plastics.

⁹ As this report went to press the charges were still pending, and the union had postponed an election until after the charges are resolved. The company had previously entered a "Sustainable Development Agreement" with members of the public. But public members Diane Wilson and Jim Blackburn quit the agreement after the union busting emerged. Wilson asserted that the company's agreement was proving to be "greenwashing." According to Wilson, "The company's union busting and its other environmental and safety abuses are not the behavior of a sustainable company."

¹⁰ Source: <http://www.webshells.com/ocaw/txts/doc99996.htm>

¹¹ The following section draws heavily on the law review article, "Human Rights Implications of the Export of banned Pesticides" by Beth Gammie for information on international human rights law.

¹² The U.N. Charter has been called the "constitution of the world, the highest instrument in the intertwined hierarchy of international and domestic documents [and that it] prevails expressly over all other treaties, and implicitly over all laws, anywhere in the world." See, Louis B. Sohn, *The New International Law: Protection of the Rights of Individuals Rather Than States*, 32 Am. U. L. Rev. 1, 9 (1982) at 13.

¹³ U.N. Charter, *supra* note 113, preamble., 59 Stat. at 1035.

¹⁴ *Id.*, art. 55(c), 59 Stat. at 1046.

¹⁵ The principles were prepared by the Special Rapporteur Fatma Zohra Ksentini for the United Nations Subcommittee on Prevention of Discrimination and Protection of Minorities of the Commission on Human Rights. UN Doc E/CN.4/Sub.2/1994/9 (6 July 1994). In May 1994 an international group of experts on human rights and the environment, including Ms. Ksentini, met in Geneva and produced the principles. The Draft Declaration, with its twenty-seven environmental human rights principles, is the first international instrument to comprehensively address the environmental dimensions of human rights. See Neil Popovic, "Pursuing Environmental Justice through International Human Rights and State Constitutions," *Stanford Environmental Law Journal* Vol 15:338 1996.

¹⁶ Typical cases have involved suits against individuals who perpetrated human rights

abuses in their capacity as foreign government officials. Recently in the case of *Doe v. Unocal*, 963 F.Supp. 880 (C.D. Cal. 1997), a court has also recognized that the ATCA can also be used to bring cases against multinational corporations, where the host government commits human rights abuses as part of carrying out the company's project. The court noted that where a corporation jointly commits human rights violations with a host country government, the corporation can be held liable under the ATCA for violations of international law as a state actor. The court also recognized that some violations, such as forced labor, do not require state action.

¹⁷ Printed in *Minamata*, Smith and Smith, 1972. p. 13.

¹⁸ Much of Allchin's article draws from the book of former *Life* photographer Eugene Smith, and his wife, Aileen, who lived in Minamata for several years. (*Minamata*, Smith and Smith 1972, 1975; Ishimure 1990.) Allchin also cites Ishimure, Michiko, *Paradise in the Sea of Sorrow*, English translation by Livet Monnet, 1990.

¹⁹ W. Eugene Smith and Aileen M. Smith. 1975. *Minamata*. Holt, Rinehart and Winston (New York).

²⁰ Draft Principles on Human Rights and The Environment, July 6, 1994 (Ksentini Principles)

²¹ "Gov't to subsidize Chisso payouts to Minamata victims", *Mainichi Shimbun*, Thursday, June 10, 1999, <http://www.mainichi.co.jp/english/news/news04.html>.

²² Primo Levi, *Survival In Auschwitz*, Collier Books, (New York) 1976, pg. 73.

²³ In return, Hitler guaranteed the company cost plus 5 percent, plus marketing support for sales of excess production.

²⁴ More than 3,000 twins were subjected to painful and sometimes bizarre experiments by the Nazi doctor Josef Mengele, labeled the "Angel of Death" for consigning thousands of Jews, Gypsies, and other targeted people to the gas chambers at Auschwitz.

²⁵ Eva Mozes Kor-a Romanian-born survivor of Auschwitz-filed a civil lawsuit against Bayer on February 17, 1999 in U.S. District Court. Her lawsuit comes amid a host of other Holocaust survivor lawsuits against large corporations- GM, Chase-Manhattan, Volkswagen and others-that charge these companies profited from Nazi extortion, slave labor and murder.

²⁶ Kor's lawyer Shevitz said the case will offer new evidence that was not available at Nuremberg, much of it from archives opened up after the collapse of communism. "There are lots of smoking guns," Shevitz said.

²⁷ Mann's letter was published in German researcher Peter-Ferdinand Koch's book, *Menschenversuche* ("Human Experiments").

²⁸ For example, a recent settlement between Holocaust survivors and Swiss banks was \$1.25 billion, the largest settlement of a human rights case in U.S. history.

²⁹ This discussion is based on *Auschwitz 1270 to the Present* by Deborah Dwork and Robert Jan van Pelt, W.W. Norton & Company, New York and London, 1996.

³⁰ IG Farben's management were strong supporters of Hitler since 1935, and staunch advocates of the National Socialist blood and soil ideology. Dr. Otto Ambros, chairman of the Committee for Rubber and Plastics at IG Farben, viewed IG Farben's involvement with Auschwitz as fulfilling "a high moral duty to ensure...a powerful and healthy Germanism in the east."

³¹ Judge Hebert's view was a dissenting opinion. The majority of the tribunal accepted the contention that slave labor used by IG Farben occurred within the framework of cruel and inhuman regulations imposed by the Reich government.

³² Jim Gomez, Associated Press reporter, *Banana Workers Suing U.S. Firms Over Pesticide: Chemical tied to sterility in Filipinos*, *Chicago Tribune*, November 6, 1997, News Section, pg. 8.

³³ Gammie, Beth. "Human Rights Implications of the Export of Banned Pesticides," *Seton Hall Law Review*, Seton Hall University School of Law: 1994.

³⁴ The full chemical name of DBCP is 1,2-dibromo-3-chloropropane. Circle of Poison: Impact of U.S. Pesticides on Third World Workers: Hearings on S. 898 Before the Comm. On Agriculture, Nutrition and Forestry, 102nd Cong., 1st Sess. (1991) [hereinafter Circle of Poison Prevention Act: Impact of U.S. Pesticides on Third World Workers] (statement of Sen. Leahy) pg. 5.

³⁵ Id. The results of the earlier studies were confirmed by researchers at the National Cancer Institute, Soviet researchers, and by another Dow-Shell study. Id. at 5. Studies revealed that workers at a DBCP plant "with more than 90 days exposure had markedly impaired sperm counts, and as many as 70 percent were sterile." Id., pg. 6.

³⁶ In a report to the U.S. Securities and Exchanges Commission. Form 10-K, American Vanguard Corp. (Amvac), December 31, 1977, U.S. Securities and Exchange Commission, reprinted in part in David Weir & Mark Schapiro, *Circle of Poison* (1981), pg. 21.

³⁷ Id. pg. 22.

³⁸ Source: Form 10-K, American Vanguard Corp. (Amvac), December 31, 1977, U.S. Securities and Exchange Commission, reprinted in part in David Weir & Mark Schapiro, *Circle of Poison* 20-21 (1981); Note 29, pg. 21.

³⁹ There were approximately 250-300 known cases, mainly in the United States, Mexico, and Israel. Lori Ann Thrupp, *Sterilization of Workers From Pesticide Exposure: Causes and Consequences of DBCP-Induced Damage in Costa Rica & Beyond* 8-9 (1990) (World Resources Institute), reprinted in Note 27, pg. 27.

⁴⁰ See, Misko and Siegel, *The Legacy*, 1994.

⁴¹ Id. pg. 4; Circle of Poison Prevention Act: Impact of U.S. Pesticides on Third World Workers, (testimony of Mario Zumbado), supra note 27, pg. 52.

⁴² According to a Government Accounting Office (GAO) report.

⁴³ Figures from a study performed by researchers for the Foundation for Advancement in Science and Education (FASE), an organization which studies the health effects of chemical exposure. The amounts are stated to be conservative due to reporting loopholes. The precise volume of banned pesticides exported from the United States is not well known. Pesticide manufacturers and exporters are not required to release to the public how much of a toxic chemical they export, or to which countries they are exporting.

⁴⁴ Ruth Norris, *Pills, Pesticides & Profits* 6 (1982). pg. 17.

⁴⁵ Sandra Marquardt, *Exporting Banned Pesticides: Fueling the Circle of Poison - A Case Study of Velsicol Chemical Corporation's Export of Chlordane and Heptachlor* 7 (1988). pg. 4.

⁴⁶ J. Jeyaratnam, *Acute Pesticide Poisoning: A Major Global Health Problem*, 43 *World Health Stats. Q.* 139, 141 (1990). pgs. 139-44.

⁴⁷ Draft Principles on Human Rights and The Environment, July 6, 1994 (Ksentini Principles).

⁴⁸ G.A. Res. 217A, U.N. GAOR, 3d Sess., at 56, U.N. Doc. A/810 (1948) [hereinafter *Universal Declaration*], art. 16 recognizes the family as "the natural and fundamental group unit of society and is entitled to protection by society and the State." R.S. Pathak, "The human rights system as a conceptual framework for environmental law," in *Environmental Change and International Law: New Challenges and Dimensions* 280 (Edith Brown Weiss ed. 1992) ("The right to life implies the negative obligation not to practice any act that can endanger one's health, thus linking this basic right to physical and mental integrity and to the prohibition of torture and of cruel, inhuman, or degrading treatment").

⁴⁹ It stated at the 1968 Conference on Human Rights that "parents have a basic human right to determine freely and responsibly the number and spacing of their children." Teheran Proclamation on Human Rights, in Final Act of the International Conference on Human Rights, at 4, U.N. Doc. No. A/Conf. 32/41, U.N. Sales No. E.68.XIV.2 (1968)

⁵⁰ In a report examining the link between human rights and the environment, the U.N. Sub-Commission on Prevention of Discrimination and Protection of Minorities found that "in the environmental context, the right to health essentially implies ... freedom from pollution. such as the continuous discharge of toxic and hazardous substances into air, soil and water."

⁵¹ Source: "Where Does the Circle Begin? The Global Dangers of Pesticide Plants," by Angus Wright. Based on examination of industry data and recent research reports: Barbara Dinham, "Interim Report: Presenting the Evidence. A Project of the Pesticide Trust to monitor the impact of trade controls on hazardous pesticides," Pesticides Trust in England: 1994.

⁵² In 1993 alone, BASF, Bayer, Ciba, Du Pont, Cyanamid, Hoechst/Roussel Uclaf, Monsanto, Sumitomo Chemical and Zeneca all made moves to establish manufacturing facilities or expand existing facilities in China. At least eight multinational chemical companies have facilities in India.

⁵³ No less than twelve of the world's largest pesticide manufacturing companies have facilities in Brazil, some with large and multiple facilities.

⁵⁴ Jim Puckett, *When Trade is Toxic: The WTO Threat to Public and Planetary Health*, Asia Pacific Environmental Network (1999), p. 8.

⁵⁵ The WTO also has ruled that a country cannot discriminate in trade based on methods of production, thereby preventing importing countries from enforcing pollution prevention requirements.

⁵⁶ "The WTO Turns Back the Clock." RACHELS Environment & Health Weekly #675, Nov. 4, 1999.

⁵⁷ 7 U.S.C. 136o.

⁵⁸ Concept from Gammie, *supra*.

⁵⁹ The Vienna Convention defines *jus cogens* as: [A] norm accepted and recognized by the international community of States as a whole as a norm from which no derogation is permitted and which can be modified only by a subsequent norm of general International Law having the same character. These rules derive from "principles that the legal conscience of mankind deem absolutely essential to the coexistence in the

international community." Other examples include prohibitions on piracy, slavery and genocide. U.N. Conference on the Law of Treaties, U.N. GAOR 1st and 2d Sess., Vienna, Mar. 26 - May 24, 1968, U.N. Doc. A/CONF/39/11/Add. 2 (1971) (statement of Mr. Suarez (Mexico)). For instance, Genocide is recognized as a crime against humanity. G.A. Res. 96(I), U.N. GAOR 1st Sess, addendum pt. 1, at 188-80, U.N. Doc. A/64 (1946). In the Roach Death Penalty case the Inter-American Commission on Human Rights held that genocide "achieves the status of *jus cogens* precisely because it is the kind of rule that it would shock the conscience of mankind ... for a state to protest."

⁶⁰ Karen Parker & Lyn Beth Neylon, *Jus Cogens: Compelling the Law of Human Rights*, 12 *Hastings Int'l. & Comp. L. Rev.* 411, 417 (1989). pg. 443-44; Brownlie describes *jus cogens* norms as "rules of customary law which cannot be set aside by treaty or acquiescence but only by the formation of a subsequent customary rule of contrary effect." Ian Brownlie, *Principles of Public International Law* 3 (4th ed. 1990). Page 513; The Vienna Convention on the Law of Treaties states:

[a] treaty is void if, at the time of its conclusion, it conflicts with a peremptory norm of general international law. The Vienna Convention on the Law of Treaties, in force Jan. 27, 1980, 1155 U.N.T.S. 331 [hereinafter the Vienna Convention].

⁶¹ "Designing Sustainable Building Materials into the Coming Millennium," Nov, 10th, 1998, sponsored by the Lowell Center for Sustainable Production.

⁶² The following section draws heavily from work of the World Wildlife Fund, including "Special Session For Journalists on Endocrine Disruptors," February 17, 1998. Presentation by Julia Langer, Director of the Wildlife Toxicology Program at WWF Canada and "Chemicals that Compromise Life: A Call to Action," Issue Brief by the World Wildlife Fund, Washington, DC, September 1998.

⁶³ Dow's factories currently have production capacities of 2,476,056 metric tons/year of chlorine in the U.S. and 710,000 mt/y in Canada. In Germany the figure is 66,000 mt/y and in Brazil, 300,000 mt/y. For overall world production see Joe Thornton, "The Product is Poison: The case for a chlorine phase-out," Greenpeace USA, 1991. Cited in *Greenwash: The Reality Behind Corporate Environmentalism*, Jed Greer and Kenny Bruno, Third World Network, 1996.

⁶⁴ Agent Orange may be one of the largest historical sources of dioxin in the environment. The wastes from the manufacture of the herbicide contained even higher dioxin concentrations. At least 27 pesticides made by Dow now or in the past are known or suspected of dioxin contamination.

⁶⁵ Nearly half of all the chlorine Dow produces ends up in the production of PVC feedstocks.

⁶⁶ Dow's production capacity for these solvents totals 1.78 billion pounds per year- 38 percent of the U.S. total.

⁶⁷ David Waymire, "Dow accused of 'corporate blackmail' over permit," Bay City, 2 April 1984. Also see USEPA report "Dow Chemical Wastewater Characterization Study, Tittabawassee River Sediments and Native Fish," 15 July 1986, esp. pgs.1-3.

⁶⁸ Winona LaDuke, *All Our Relations: Native Struggles for Land and Life*, South End Press: 1999. Pages 18-20.

⁶⁹ The prospective study examined blood taken in 1976 from 7712 women enrolled in the Copenhagen City Heart Study. In the following 17 years, 268 of the women developed breast cancer. The blood samples drawn in 1976 were analyzed in 1993 for 46 chlorinated chemicals, including 28 individual PCBs [polychlorinated biphenyls], and 18 other chlorinated compounds such as DDT, mirex, aldrin, dieldrin and others. Beta-hexachlorocyclohexane (beta-HCH) was also elevated in women with breast cancer, compared to those without breast cancer, but the finding was not statistically significant. Annette Pernille Hoyer and others, "Organochlorine Exposure and Risk of Breast Cancer," *LANCET* Vol. 352 (December 5, 1998), pgs. 1816-1820.

⁷⁰ Willsher, Kim, "Children of the Apocalypse," *Associated Newspapers Ltd.*, (pg. 52), November 15, 1998.

⁷¹ Clark Brooks, "Fatal flaws; How the military misled Vietnam veterans and their families about the health risks of Agent Orange" *The San Diego Union-Tribune*, November 1, 1998, Page A-1. Also see "The Vietnam War Almanac" by Harry G. Summers, National Academy of Sciences.

⁷² Dow Chemical knew that Agent Orange contained dioxin for six years before reporting to the U.S. government. Jack Weinberg, Editor, "Dow Brand Dioxin: Dow Makes You Poison Great Things," Greenpeace, 1995.

⁷³ *Id.*

⁷⁴ Hugh Warwick, "Agent Orange: The Poisoning of Vietnam," *The Ecologist*, Sept/Oct 1998.

⁷⁵ Kim Willsher, *supra*.

⁷⁶ *Id.*

⁷⁷ Universal Declaration, *supra* note 41, art. 3.

⁷⁸ *Id.* art. 25 (emphasis added), as cited in Gammie, *supra* note 26.

⁷⁹ "The integrity of man is in the first place the integrity of his body and ... the protection of the body, however simplistic this may appear, is of itself the beginning of personal freedom." *The Right to Health as a Human Right* 139 (comments of L. Schwarzenberg at workshop) (Renacut and Jean Dupuy ed., 1978), as cited in Gammie, supra note 26.

⁸⁰ Various UN documents affirm the right to reproductive health, such as those produced in the UN International Conference on Population and Development and the Fourth World Women's Conference. For instance, the Convention on the Elimination of All Forms of Discrimination of Women, 1979 declares in Article 11 (f) "The right to protection of health and to safety in working conditions, including the safeguarding of the function of reproduction." Similarly the 1995 Declaration of the UN's Fourth World Conference on Women, states in article 17.. "We are convinced that the explicit recognition and reaffirmation of the right of all women to control all aspects of their health, in particular their own fertility, is basic to their empowerment."

⁸¹ Paul Brodeur, "Annals of Chemistry: In the Face of Doubt," *New Yorker*, July 9, 1996, Page 73. Cited in Jack Doyle, "Hold the Applause: A case study of corporate environmentalism as practiced at DuPont," *Friends of the Earth*: 1991, Page 38.

⁸² Doyle, Id.

⁸³ The Earth's ozone shield is a thin layer of peculiar oxygen molecules (O3 instead of normal O2)

⁸⁴ Sharon Roan, *Ozone Crisis: The 15-year Evolution of a Sudden Global Emergency*, 1989.

⁸⁵ William K. Stevens, "Summertime Harm to Shield of Ozone Detected Over U.S.," *New York Times*, October 23, 1991, Pg A1. See also R. Monastersky, "Summer ozone loss detected for the first time," *Science News*, Vol. 140 (November 2, 1991), pg. 278, and R. Monastersky, "Antarctic ozone hole sinks to a record low," *Science News*, Vol. 140 (October 19, 1991), Pgs. 244-245.

⁸⁶ Joint statement by African delegates to the Food and Agriculture Organization negotiations June, 1998 on the International Undertaking for Plant Genetic Resources

⁸⁷ Michelle Allsopp, Pat Costner and Paul Johnson, "Body of Evidence: The Effects of Chlorine on Human Health," University of Exeter, Greenpeace Research Laboratories, May 1995.

⁸⁸ Theo Colborn, Dianne Dumanoski and John Peterson Myers, *Our Stolen Future*, Penguin Books: 1996, pg. 90.

⁸⁹ Brian Tokar's personal communication with Peter Sills, author of a forthcoming book on dioxin.

⁹⁰ Cate Jenkins, "Criminal Investigation of Monsanto Corporation- Cover-up of Dioxin Contamination in Products-Falsification of Dioxin Health Studies," USEPA Regulatory Development Branch, November 1990. "Monsanto Corporation: A case study in greenwash science," in Jed Greer and Kenny Bruno, *Greenwash: The Reality Behind Corporate Environmentalism*, Third World Network:1996, pg. 141.

⁹¹ Times Beach Action Group, "Citizen Inquiry Uncovers Blatant Violation of Environmental Law Surrounding the Proposed Times Beach Incinerator," St. Louis, 1995.

⁹² Testimony of Champion Paper Company, Vermont Forest Resources Advisory Council, Island Pond, Vermont, June 26, 1996.

⁹³ "Monsanto at a Glance," Corporate Genomics, August 1999.

⁹⁴ This paragraph from information in "Bovine Growth Hormones" by Paul Kingsworth in *The Ecologist*, Sept./Oct. 1998.

⁹⁵ The drug alters the gene expression of glucose transporters in the cow's mammary gland, skeletal muscle and mental fat-transferring more glucose to the mammary gland, and thus producing more milk.

⁹⁶ Also known as recombinant bovine somatotropin.

⁹⁷ The court in that case ruled perversely that the labeling law it violated an ostensible constitutional free speech right of corporations "not to speak".

⁹⁸ This paragraph from information from "Roundup: The World's Biggest-Selling Herbicide," by Joseph Mendelson in *The Ecologist*, Sept./Oct. 1998.

⁹⁹ Mark Arax and Jeanne Brokaw, "No Way Around Roundup," *Mother Jones*, January-February 1997.

¹⁰⁰ The general category of herbicides are known as glyphosates.

¹⁰¹ Monsanto Company 1997 Annual Report, pgs. 16, 37.

¹⁰² "Roundup Ready Soybean: A Critique of Monsanto's Risk Evaluation," Greenpeace (Chicago 1997).

¹⁰³ Monsanto now owns Holdens Foundation Seeds, supplier of germplasm used on 25-35 per cent of US maize acreage, and Asgrow Agronomics, which it describes as "the leading soybean breeder, developer and distributor in the United States" This past spring Monsanto

completed its acquisition of De Kalb Genetics, the second largest seed company in the United States and the ninth largest in the world, as well as Delta and Pine Land, the largest US cotton seed company. With its Delta and Pine acquisition, Monsanto now controls 85 per cent of the US cotton seed market. In 1997, Monsanto bought Sementes Agroceres S.A., described as "the leading seed corn company in Brazil," with a 30 percent market share.

¹⁰⁴ Draft Principles on Human Rights and The Environment, July 6, 1994

¹⁰⁵ Carol Kaesuk Yoon, "Squash With Altered Genes Raises Fears of 'Superweeds'" *New York Times* Nov. 3, 1999 pg. 1.

¹⁰⁶ David Barboza, "Biotech Companies Take On Critics of Gene-Altered Food," *New York Times* Nov. 12, 1999 p.1. The industry is aware of the poor reputations of many of the individual companies. "There's a feeling that some of the companies have been vilified, and so it's more credible if scientists and academics and farmers stand up on the issue," said Carl Feldbaum, president of the Biotechnology Industry Organization in Washington, which is lobbying on behalf of Monsanto and others. "If it's the company people say, 'Well, it's got a commercial interest.' So it's better this way."

¹⁰⁷ Gene Watch, February 1999, Summary of studies authored by Joy Bergelson and Allison Snow.

¹⁰⁸ Unfortunately it seems likely that this technology will be developed over time by some researcher or corporation unless it is banned.

¹⁰⁹ Monsanto's cotton varieties have had particular problems. A variety engineered to emit a toxin against cotton pests ("Bollgard") produced low yields, spotty germination, misshapen plants and poor resistance to cotton bollworms. Monsanto paid millions of dollars to compensate the farmers economically harmed by the product's failings. Farmers who planted Roundup resistant varieties of cotton also suffered crop failures and other growing problems.

¹¹⁰ That study had never surfaced in the United States, because the FDA does not require companies to report such information unless the company determines there may be safety issues meriting further tests. Ironically, Michael Taylor, the FDA official who handled regulation of rGBH has been employed before and again after these decisions as an attorney at King and Spaulding, a prominent Atlanta law firm, where Monsanto was among his clients.

¹¹¹ Joint statement to the UN Food and Agriculture Organization Special Session on Plant Genetic Resources, August 1, 1998, available from Gaia Foundation, London.

¹¹² "Monsanto Faces Pressure to Break Up the Company" by staff reporters Scott Kilman and Thomas M. Burton, October 21, 1999.

¹¹³ In addition to Wall Street, the consumer market is also being affected. Demand for traditional, unmodified corn and soy has created a two-price system for crops in the U.S. — a higher price for traditional, unmodified crops, and a lower price for genetically modified crops. For example, Archer Daniels Midland is paying some farmers 18 cents less per bushel for genetically modified soybeans, compared to the traditional product. "Melody Petersen, "New Trade Threat for U.S. Farmers," NEW YORK TIMES August 29, 1999, pgs. A1, A18. Cited in Rachel's Hazardous Waste News.

¹¹⁴ Even more extreme and morally problematic scenarios need to be recognized and responsibly governed - for instance the cloning of humans, or efforts to merge human and animal genetic material.

¹¹⁵ MacKinnon, Catherine A. "Becoming Human," *Law Quadrangle Notes*, Fall/Winter 1999, University of Michigan Law School.

¹¹⁶ For instance in India in the case of *Vellore Citizens Welfare Forum, Petitioner Vs. Union of India & Ors.*, Respondents, the court interpreted provision in the Indian Constitution protecting a person's right to fresh air, clean water and pollution free environment, and found that these were derived from common law. Accordingly, the court required the government to convene an authority to correct tannery pollution by implementing the "precautionary principle" and the "polluter pays" principle. In Chile the courts apply Article 19, No. 8 of the Political Constitution of the Republic; that is, the right of people choosing to live in an environment free of contamination. In the US, the State Supreme Court of Montana found in October 1999 that this right, embodied in the State Constitution, meant that the state needs a compelling reason to allow activities that would degrade the environment, and that the threshold was not met in an approval of mining activity at the Seven up Pete Mine.

¹¹⁷ Written and oral complaints, or "interventions" can be made during sessions of the United Nations Human Rights Commission and its Sub-Commission about situations involving human rights violations. The Sub-Commission seems an especially receptive arena for interventions alleging human rights violations caused by the chemical industry because it has already demonstrated the link between environmental degradation and human rights.

¹¹⁸ This approach is adopted by a growing number of government agencies. For instance, the International Joint Commission has called for the Virtual Elimination of industrial uses of chlorinated compounds due to the hazards posed to the Great Lakes ecosystem and to the millions of people who live in that region.

¹¹⁹ Government and industry should also focus on *developing* safer alternatives, and provide systems of support for people to make the transition. This approach, as Sandra Steingraber has written, "looks toward the day when the availability of safer choices makes the deliberate and routine release of chemical carcinogens into the environment as unthinkable as the practice of slavery." Sandra Steingraber, *Living Downstream*, Addison-Wesley, (1997) P. 271.

¹²⁰ For additional information, see the Good Neighbor Project website at www.enviroweb.org/gnp

¹²¹ Tom Charlier, Protest at Velsicol Cites Pesticide, Memphis Com. Appeal, Oct. 20, 1988, pg. B1.



This report is dedicated to the children of the world and to future generations. May their rights to health and to a toxics-free environment be realized.

Environmental Health Fund
41 Oakview Terr.
Jamaica Plain, MA 02130 USA
617 524-6018
gcohen@igc.org

Strategic Counsel on Corporate Accountability
PO Box 79225
Waverly, MA 02479 USA
617 489-3686
gnproject@earthlink.net