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Toxic Torts in India

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The continuous release of chemicals and pollution into the environment over the past two centuries will likely pose one of humanity's most significant challenges (Jarrige et al., 2020). Estimates suggest that around 16% of human deaths globally in 2015 were caused by exposure to air, water, or land pollution (Landrigan et al., 2018). Significant financial, political, and legal resources will be needed to mitigate these challenges (Speth & Haas, 2006). Yet, governments and regulatory bodies responsible for forming and implementing international and national regulations to prevent contamination have struggled to keep up with the rate at which new and potentially harmful chemicals are produced and released into the environment (Barroso et al., 2019). The authority of such bodies has also weakened over the past two decades (Lockie, 2020; Speth & Haas, 2006). Considering increasing potential pollution and decreasing regulatory involvement, it is likely that the number of people worldwide exposed to environmental contamination will grow.

Toxic torts are one of the fastest growing segments of plaintiffs' filings in the American legal system. In the last century when chemicals became pervasive in our homes and workplaces, their impact was essentially unknown. Science, medicine, and the law are finally catching up, and we are rapidly learning about the massive, adverse impact of these chemicals on the health of all Americans. As the identification of exposure sources becomes increasingly comprehensive, the techniques available to measure the extent of exposure, determine the pathways by which exposure occurs, and establish causation have also greatly advanced.

Through a combination of governmental action (and inaction) combined with creative and aggressive lawyering, we are beginning to understand that few can escape the havoc wrought by toxic chemicals.

Historical Perspective

To fully understand how far we have come, we need to look back nearly one hundred years to the dawn of the "chemical era." The once obscure and seemingly invisible issue of toxic chemical exposure has now come to the forefront, with a greater understanding and heightened visibility of its presence in our lives.

The emergence of the chemical era was a product of the industrial revolution and its use of coal. After a century of relying on coal while turning a blind eye to the burden of smog on our environment and health, we turned to chemicals. This began with the widespread use of petroleum products and the birth of America's chemical giants, such as Dow Chemical Company in 1897 and Rohm and Hass in 1909. With the emergence of the chemical era new, insidious weapons found their way onto the battlefields of World War I, which gave rise to its anointment as "the chemist's war." World leaders acknowledged the horrors and public revulsion of the chemicals' effects, leading to their ban in the 1925 Geneva Protocol. Despite occurring nearly a century ago, the use of toxic substances similar to those deemed too repugnant for warfare continues to persist.

Legislation Addressing Environmental Hazards

Rising from the industrial revolution and urbanization, our way of life over the last century has surrendered to the ever-growing menace of pollution.

Part of human nature is adaptation and in 1970, recognizing that air pollution had long shaken the balance of our ecosystem, Congress enacted the Clean Air Act. Initially, the act successfully led to a decline in pollutants nationwide. Yet to this day, air pollution continues to be the single most dire environmental health risk, with carbon dioxide emissions failing to cease.

Two years later in 1972, inspired by the oil-induced flames on our nation's rivers and rage over record-breaking fish kills in our waters, the Clean Water Act was signed into law and directed more than $1 trillion in investments to restore and maintain clean and healthy waters. The act addressed the regulation of toxic chemicals and pollutants infesting our waters. While initially a success, the positive impact of the Act diminished over time. The goal of the Act was the complete elimination of pollution into America's waters by 1985. A half century after the passage of the Act, half of U.S. waterways are so polluted that they are classified as "impaired," a far

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cry from the original goal. (The Clean Water Act at 50: Promises Kept at the Half-Century Mark, Environmental Integrity Project).

In 1980, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) was signed into law by President Jimmy Carter. The act sought to clean up sites contaminated with hazardous waste, identified as "Superfund" sites, while imposing liability on the responsible parties. The wrongdoers are required to pay damages for the sites' cleanup. Expenditures under the Act are dependent on the direction chosen by the administration in power. For example, after President Obama made Superfund cleanups the EPA's number one priority, President Trump immediately cut the Superfund budget to its lowest level since its inception. The decrease was not because of a lack of pollution—in fact, the backlog of Superfund Sites awaiting funding for cleanup had grown to its highest number in 15 years. As of 2022, there were over 1,300 active Superfund Sites in the United States, with the vast majority having yet to be cleaned.

Denial, Acceptance, and the American Legal System

Despite the growing skepticism and legislation around ubiquitous toxic chemical exposure, the American government turned a blind eye in favor of the insurance industry, manufacturing interests, and the government itself. Our country has gone through significant periods of deep denial of the fact that toxic chemical exposure was creating victims deserving of compensation.

The global asbestos disaster stands as one of the most glaring examples of devastating consequences of such neglect. While asbestos has been used commercially for hundreds of years, the twentieth century brought asbestos to virtually every home, school and business in America. The link between asbestos and lung disease was reported in mainstream medical literature in the 1930s and 1940s. By 1964, almost sixty years ago, Dr. Irving Selikoff, a leading researcher at Mount Sinai Hospital in New York, published a major study of 17,000 shipyard workers confirming the dramatic increase in the number of cancers among asbestos exposed individuals.

Despite widespread knowledge, it wasn't until 1970 with the passage of the Clean Air Act that the EPA was permitted to regulate asbestos as a hazardous air pollutant. It took until 1974 for OSHA to set limits on workplace exposure to asbestos. In 1978, a South Carolina judge in *Barnett v. Owens-Corning Fiberglass* held that asbestos companies engaged in "a conscious effort" to suppress information on the dangers of asbestos. In 1989, the EPA completed a ten year long study announcing that it would begin a phase-out of asbestos in most products in the U.S. Unfortunately, in 1991, the Fifth Circuit Court of Appeals overturned the EPA's decision to phase-out the use of Asbestos. Asbestos is still legally used in many products in the United States despite the fact that more than 15,000 individuals die every year in the US from their exposure to asbestos. While asbestos has been banned in over fifty countries, it still manages to take over 250,000 lives per year globally. See Furuya S., et al., Global Asbestos Disaster. Int J Environ Res Public Health. 2018 May 16;15(5):1000. Asbestos remains a massive health and legal crisis.

Although many lawyers believe that the asbestos crisis has ended, nearly 5,000 new asbestos-disease cases are filed every year. Two thousand new mesothelioma cases were filed in 2021 alone. Despite a long history of toxic asbestos exposure leading to staggering numbers of illnesses and deaths, we have yet to fully learn and apply the lessons that should have been gleaned from this tragedy.

In 1961, the U.S. military began spraying an herbicide known as "Agent Orange" on the vegetation in Vietnam as part of "Operation Ranch Hand" to eliminate enemy food supplies and to destroy cover for military bases. Nineteen million gallons were sprayed with almost no regard for the impact on human life. When the Vietnam War ended in 1975, U.S. veterans returned home and raised concerns about their exposure to Agent Orange. It wasn't until 1984 that the chemical manufacturers agreed to a meager total settlement of $180 million dollars for all claims. The U.S. government initially invoked the "military service exception" to evade liability and continued to deny responsibility until 1994, when the U.S. department of Veteran Affairs finally agreed to provide limited compensation to some of the victims. It was not until 2014 that the U.S. Department of Veteran Affairs recognized fourteen different types of diseases caused by Agent Orange. This was yet another toxic exposure leading to a nearly fifty-year fight for recognition.

The most recent example of government denial appears in the pending Camp Lejeune litigation. By way of brief background, the drinking

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water supply at Camp Lejeune was contaminated with toxic chemicals beginning in the 1950s and lasting through the 1980s. Despite the government's knowledge of the water contamination, military men and women continued to receive orders stationing them and their families at Camp Lejeune. Our service men and women were, unbeknownst to them, exposed to toxic chemicals for almost four decades. Despite the mounting evidence of toxic water contamination, governmental negligence, and injured Camp Lejeune residents, the government continuously denied compensation to victims. Over the course of the following decades, victims, along with help from skilled attorneys, fought for their right to pursue justice through the legal system. Thirty plus years later, the American government finally passed the Camp Lejeune Justice Act. The act establishes liability on behalf of the United States for exposing hundreds of thousands of people to toxic water contamination. The litigation remains in its infancy, but it offers hope to victims of toxic chemical exposure. We anticipate several hundred thousand victims will file claims over the coming years.

Slowly but surely our legal system is catching up and compensating victims of environmental hazards. This is in large part due to significant progress in the world of science and medicine. The study of epidemiology made significant strides in the 1950s, as epidemiologists started to investigate chronic diseases with multiple etiologies. By the 1970s, the science of epidemiology had developed enough to allow the analysis and disaggregation of multiple causes of diseases caused by toxic substances. The 1990s introduced the Daubert Standard, which is the set of criteria used to determine the admissibility of expert witness testimony in federal court. The Daubert Standard created a heightened burden for expert testimony, which in turn has led to increased scientific and medical progress. Genetic testing, DNA testing, and blood testing have progressed, and we are able to identify toxins in the human body in a much more specific way. Additionally, we can now prove the amount of exposure, the route of exposure, and demonstrate causation; we are seeing Daubert decisions favoring plaintiffs as a result.

Recently in the Roundup litigation, the court noted that under Daubert, scientific evidence can be presented through expert testimony even when it is not based on disinterested research. The court noted that determinations go to the science's weight, not admissibility, even when the methodology is not subject to either publication or peer review and in cases where the theory's error rate is unknown. This was a substantial victory for Roundup plaintiffs, as the court's ruling paved the way for plaintiffs to show Roundup's link to cancer. Hopefully, this will lead to greater opportunity for future toxic exposure victims to prove their claims.

Have We Learned From the Past?

Like the environment, the law is ever evolving. We have seen this with global warming—with deniers hindering progress towards addressing this catastrophic problem. Those dismissing global warming simply say it's not real. Science has evolved to the point of virtual certainty. Whether rooted in politics or simply a lack of understanding, the denial of global warming, like the denial of the risks of toxic chemicals, continues to increase the risk of toxic exposure. This belief is not nuanced and it has transcended into our nation's courtrooms for decades. The courtroom has become the principle means to initiate change. The increase of toxic torts has led to the formation of MDLs, which make up over 40% of all civil cases pending in federal courts. Twenty years ago, that number was 16%. A cursory review reveals that hundreds of thousands of toxic tort cases have been filed and many are still pending in our legal system.

Asbestos was the first warning—and after over 50 years of litigation, it has served as a modest wakeup call for manufacturers, employers, and those falling victim to exposure. Similar crises have now come to light through America's legal system. The way in which lawyers, our government, and our courts handle these crises may dictate the future of our health and how we respond to the risks of toxic exposures.

The Future

Following in the footsteps of asbestos is the litigation centered upon exposure to Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS). Exposure to PFAS, a group of manufactured chemicals now ubiquitous in the environment, has been shown to cause a number of cancers and other serious injuries. Despite the ever-growing body of scientific and medical literature showing the dangers to the environment and human health, the companies that produce PFAS chemicals continue to deny their dangers. This battle has been portrayed in the feature film "Dark Waters," shedding light on the 20-year legal battle versus DuPont for contaminating a town with PFAS. Yet, the public and legislative response to the PFAS contamination crisis continues to lag.

Another classic example of America's unwillingness to heed obvious warnings is our continued use of Paraquat. Paraquat is an herbicide used primarily by farmers who spray the product on

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their crop fields to destroy everything except the crop. Paraquat has been used in the United States since the early 1960s and continues to be used on a widespread basis requiring only a routinely obtained license to buy and spray.

While our farmland is being coated with Paraquat even today, Paraquat has been banned in 58 other countries around the world. Despite mounting evidence of the connection between Paraquat exposure and Parkinson's disease, no steps have been taken to ban the product in the United States. There are now over 2,500 Paraquat lawsuits filed, primarily in MDL No. 3004, *In re Paraquat Products Liability Litigation*, and some in state courts, all alleging that Paraquat exposure led to the development of Parkinson's disease. Many more suits are likely to follow.

The Monsanto "Roundup" herbicide litigation proves to be another reminder. The litigation involves claims that glyphosate, the main ingredient in Roundup, causes non-Hodgkin's lymphoma. Three juries returned verdicts totaling over $2 billion, leading Monsanto to settle over 100,000 claims for a sum in excess of $13 billion. Yet—the denial continues. Monsanto unsuccessfully petitioned the Supreme Court to set aside the verdicts, claiming the EPA considers glyphosate to be safe. The Roundup litigation proves the circle continues: after widespread use since the 1960s, science has shown glyphosate causes bodily injury, arguments sounding in denial will be made at trial and the public realm, and regulatory action will fall decades behind. Roundup remains on shelves in the United States today.

The next threat is a product we encounter in everyday life: microplastics. Studies have already shown microplastics' causal link with bodily injuries such as infertility, early puberty, developmental issues, metabolic disorders, and cancer. (Legler, Juliette, Vethaak, A. Dick. Microplastics and human health, Science, 2021 Feb 12; Vol 371, Issue 6530). The warnings are the same, yet virtually no changes have been made. Like PFAS and asbestos, the presence of microplastics is pervasive. Like we have seen, wrongdoers will deny liability, stating that their product is safe. It will be the same song and dance—the risks of exposure are known, with the government playing catchup as victims fight for years to be compensated in our nation's courts.

Conclusion

We have only been able to highlight some of the examples from the burgeoning list of chemicals and toxic exposures which have led to toxic tort litigation in modern America. This crisis dates back more than 100 years and the impact of the multitude of toxic exposures on our environment and on our health is becoming clearer by the day. Despite all we know, our government, industry, and at times our legal system, move so slowly and deliberately that relief and resolution come too late, too little, and at times, not at all.

The costly, time consuming, and oftentimes brilliant work of litigators across the country helps bring the concerns about ongoing toxic exposures to light. However, we must all step back and evaluate the bigger picture. Has our virtually nonstop, growing use of every chemical and chemical combination imaginable been worth the price? Have we taken steps to understand the long-term costs? Can our legal system withstand the weight of the burden of attempting to resolve the problems we have created? As lawyers and citizens, what more can each of us do?