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#### **DOCTRINE OF ABSOLUTE LIABILTY & CRITICAL STUDY OF ITS IMPACT ON INDUSTRIES**

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## **ABSTRACT**

The paper delves deeply into the intricate evolution and profound significance of absolute liability within legal frameworks, with a particular focus on its application in the context of gas leak incidents in India. Commencing with a comprehensive examination of fundamental legal doctrines such as strict and absolute liability, the paper navigates through seminal cases like Rylands v. Fletcher and M.C. Mehta v. Union of India to elucidate the nuanced development and practical application of these doctrines. Utilizing a doctrinal research methodology, the study meticulously dissects the concepts of strict and absolute liability, meticulously analyzing their ramifications in the realm of gas leak cases. This meticulous approach aims to offer a thorough understanding of the legal principles at play, thereby providing valuable insights into their practical implications and societal ramifications.

A critical aspect of the paper is the discernment of key distinctions between strict and absolute liability. While both doctrines embody a form of liability without fault, absolute liability stands out for its uncompromising nature, devoid of any possibility for defendants to invoke defenses. This stark contrast underscores the severity and rigidity of the legal standard under absolute liability, emphasizing its pivotal role in ensuring accountability and justice, particularly in cases involving hazardous activities. Moreover, the paper underscores the imperative for the modernization of legal frameworks to effectively address contemporary challenges, especially in light of rapid industrialization. By shedding light on the necessity for legal evolution, the paper highlights the dynamic nature of jurisprudence and the ongoing need for adaptive legal doctrines to uphold societal values and protect public interests. Central to the narrative is the pivotal role of the Indian judiciary in embracing absolute liability as a means to foster accountability and justice. Through landmark decisions and progressive interpretations of legal principles, the judiciary has played a central role in shaping the trajectory of legal discourse, particularly in the realm of environmental and constitutional law.

In conclusion, the paper portrays absolute liability as a cornerstone of contemporary legal discourse, reflecting society's evolving demands for accountability and justice. By offering a comprehensive exploration of its evolution and significance, the paper underscores the enduring relevance and profound impact of absolute liability within the broader spectrum of legal frameworks.

## **CHAPTER-1**

#### **INTRODUCTION**

Absolute liability represents a standard of legal responsibility found in various legal systems, encompassing both criminal and tort law.

In specific instances, individuals may find themselves legally accountable for resultant damages without evidencing negligence or an intention to inflict harm. An exemplary case underscoring this legal doctrine is *RYLANDS V. FLETCHER*<sup>2204</sup>, which introduced the principle of

<sup>&</sup>lt;sup>2204</sup> Rylands v. Fletcher (1866) LR 1Exch 265, (1868) LR 3 HL 330



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strict liability, colloquially termed "No Fault Liability." This legal tenet represents a departure from the traditional negligence paradigm within tort law, where liability typically hinges upon the demonstration of negligent conduct. Under the auspices of strict liability, even in instances where defendants have diligently implemented reasonable precautions, they remain susceptible to liability for losses stemming from perilous conditions present on their property. Thus, this doctrine accentuates a more expansive scope of accountability, ensuring redress for harm irrespective of culpable intent or negligence, thereby fostering a heightened standard of duty towards safeguarding against potential hazards.

"Absolute liability, a facet of negligence in tort law, holds that when a business engages in inherently risky activities and harm occurs as a result, such as a toxic gas leak, that business is strictly and absolutely liable for compensating those affected. This liability doesn't exempt the business from exceptions applied to strict liability", as outlined in the **Rylands v. Fletcher**<sup>2205</sup> case.

In the Indian legal landscape, the principle of absolute liability was underscored in the Oleum Gas Leak Case (M.C. Mehta v. Union of India)2206, In the realm of legal adjudication, there has been a notable judicial emphasis placed on the notion of accountability in cases involving hazardous incidents, surpassing the exceptions initially carved out in the landmark decision of Rylands v. Fletcher. This heightened focus on accountability seeks to serve as a deterrent against acts of negligence, thereby fostering a heightened standard of care. Moreover, this enhanced accountability extends liability to encompass situations where thirdparty errors contribute to the endangerment of public safety, thereby ensuring comprehensive approach to risk mitigation and safeguarding communal well-being.

In Union Carbide Company v. Union of India 2207, "the Indian judiciary tried to make great efforts to strengthen the protection of its citizens. The evolution of absolute liability, from its roots in civil law to its incorporation into constitutional and environmental law principles, underscores its significance. Derived from strict liability, absolute liability mandates absolute responsibility for actions causing harm, irrespective of intent. Its evolution is marked by legal precedents and tort law practices, shaping it into the unique concept it is today. "

Absolute liability epitomizes the unambiguous accountability imposed upon individuals who engage in inherently hazardous activities, resulting in harm to the public, irrespective of their underlying intentions. It embodies the notion of imputed knowledge of wrongdoing and subsequent culpability for the adverse consequences of one's actions. This legal concept has matured over time through the accumulation of countless legal precedents and the insights of practitioners within the broader spectrum of tort law. Such evolution has endowed absolute liability with its distinct and autonomous identity within contemporary legal discourse.

The multifaceted evolution of absolute liability reflects not only its adaptability to changing societal norms and legal paradigms but also its enduring significance in fostering accountability and ensuring the protection of public interests. Thus, a comprehensive exploration of this doctrine serves as a testament to the dynamic nature of legal principles and their profound impact on shaping jurisprudential frameworks.

## 1.1 STATEMENT OF PROBLEM

The study at hand delves into the repercussions of gas leaks in India on nearby residents, focusing on absolute liability. It aims to elucidate the concept of absolute liability alongside related topics like strict liability through case studies.

<sup>&</sup>lt;sup>2205</sup> Supra Note 1

<sup>&</sup>lt;sup>2206</sup> 1987 AIR 1086 1987 SCR (1) 819 1987 SCC (1) 395 JT 1987 (1) 1 1986 SCALE (2)1188

<sup>&</sup>lt;sup>2207</sup> 1990 AIR 273 1989 SCC (2) 540 1989 SCALE (1)932



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#### **1.2 HYPOTHESIS**

The hypothesis posits that while strict and absolute liability are often seen as exceptions within the law, individuals may still be held liable even in the absence of guilt. Hence, the study aims to explore the workings of absolute liability through case studies.

## 1.3 RESEARCH QUESTION

- What is strict liability and absolute liability and what are the difference of both?
- What are the landmark judgements related to the absolute liability?
- What happened in Vishakhapatnam gas leak and what are the outcome of the same?
- What do the laws concern the gas disasters?
- Detailed study on the three major gas leaks in India.
- What is the Surge in industrial accidents in India?
- Can any defence be brought against absolute liability?

#### 1.4 RESEARCH METHODOLOGY

The research methodology for this study will be doctrinal, focusing on understanding the meaning and application of absolute liability through case studies.

## 1.5 SCOPE OF STUDY

Overall, this study aims to elucidate the concepts of absolute and strict liability and their application in gas leak cases in India.

#### CHAPTER -2

#### **EXPLAINING STRICT & ABSOLUTE LIABILITY**

## 2.1 RULE OF STRICT LIABILITY

Exploring the origins of absolute liability involves delving into the concept of "strict liability." Absolute liability, often interchangeably termed as strict liability without exceptions, is deeply intertwined with the principles of strict liability. The groundwork for this legal concept was laid

in the landmark case of *Rylands v. Fletcher*<sup>2208</sup> in 1868, as decided by the House of Lords.

As the doctrine of strict liability evolved from subsequent rulings, certain criteria emerged as essential for its application. Firstly, there must be a presence of dangerous substances or objects on the premises, broadly defined as items capable of causing harm if released. This notion was exemplified in Rylands v. Fletcher, where the stored water in reservoirs posed a potential hazard. Secondly, there needs to be an actual escape of these hazardous materials from the premises, leading to harm or damage to others. However, if harm results due to the plaintiff's negligence, strict liability does not apply, as seen in cases like Read v. Lyons and Co. 2209 Thirdly, the use of the land must be deemed "non-natural," indicating exceptional purpose that elevates the risk to individuals and property. While activities like chimney fires may be considered normal land use, storing substantial quantities of hazardous substances constitutes an unnatural use.

To put it in pointers, the essentials of Strict Liability would be"

- i) **Dangerous thing-** The first requirement for applying this principle is the presence of dangerous objects in the premises. As a general rule, anything that is taken out of the country and that may cause harm to others or property is defined as "dangerous goods." As mentioned in his **Rylands v Fletcher** case, the danger is having substantial amounts of water stored in reservoirs and if leaked, Substances such as gases, explosives, chemicals, and similar materials, which have the potential to endanger others, are classified as hazardous.
- ii) Escape of Such Dangerous Thing-Another essential condition for establishing liability is the actual escape of hazardous objects from the premises under the control of their owner. Liability hinges on the tangible departure of these perilous substances from their container and location, thereby posing a

 $<sup>^{2208}</sup>$  Rylands v. Fletcher (1866) LR 1 Exch 265, (1868) LR 3 HL 330  $^{2209}$  Read v Lyons [1945] KB 216



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potential danger to individuals or property beyond the owner's boundaries. However, if an incident occurs as a result of the injured party's negligence subsequent to the escape of the hazardous object, the individual in possession of such materials will not be held legally accountable. In the legal precedent of Read v. Lyons and Co, "the plaintiff, Mr. Read, served as an employee of the defendant, a company specializing in ammunition manufacturing. During his employment, a hand grenade, manufactured by the defendant, detonated while he was on duty, causing him significant harm. The court's decision absolving the defendant of liability rested on the fact that the hazardous object-the grenade-did physically exit the defendant's premises. Consequently, the application of the liability principle was deemed inapplicable, as the hazardous material did not breach the confines of the owner's property. This ruling, underscores the necessity for a tangible escape of hazardous substances to trigger liability, thereby delineating the boundaries within which legal accountability is established in cases involving dangerous objects"2210.

Non-Natural use of Land- The third iii) condition of strict liability is unnatural land use. In his Rylands v. Fletcher, there was a large amount of water in the reservoir, resulting in unnatural land use. For a use to be considered "unnatural use" it must be for an exceptional purpose, after which there is an increased risk to persons and property. The court also ruled that chimney fires are normal use of the property and strict liability does not apply if the fire spreads outside the property. Supplying electricity through power lines, cooking gas through pipes, etc. are natural land uses, but when people store substantial amounts of nitrous oxide in their homes, it is considered as unnatural use of land. Therefore, things should be used in such a way that they are not used in this property in the normal course of life.

#### 2.2 RULE OF ABSOLUTE LIABILTY

Transitioning to the concept of absolute liability, having the above knowledge, it makes is easier to understand the concept of Absolute Liability. It clearly becomes evident that it builds upon the foundation of strict liability while addressing its limitations. Unlike strict liability, which allows for exceptions such as force majeure or acts of parties, absolute liability imposes unmitigated responsibility on individuals for the consequences of hazardous substance escapes. Within the realm of tort law's no-fault concept, the second principle concerns absolute liability, is caused by the escape of dangerous goods in unnatural use of land, similar to the origin of its name. We hold individuals absolutely accountable for their actions without exception. This principle was underscored in India following tragic incidents like the Bhopal gas leak and the Oleum gas spill, prompting the judiciary to advocate for a more stringent legal framework to hold accountable those responsible for such disasters.

In India, the principle of strict liability, initially thought to suffice, proved inadequate in the face of evolving industrial and societal dynamics. The need for a more comprehensive legal standard became apparent, especially considering the country's rapid industrialization and widespread use of hazardous substances. Furthermore, the concept "unnatural use" of land, as delineated in early legal precedents, became less applicable in the context of modern agricultural practices and industrial activities. Thus, the adoption of absolute liability served as a proactive measure to address emerging challenges and ensure greater protection for both citizens and the environment.

## 2.3 NECESSARY PARAMETERS OF ABSOLUTE LIABILITY

The doctrine of absolute liability shares a foundational resemblance with the concept of strict liability, as both entail the presence of a hazardous condition, its escape, and ensuing harm. However, a notable departure exists



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regarding the prerequisite of "non-natural land use," which is integral to strict liability but not mandated in absolute liability. In the seminal case of *Rylands v. Fletcher*, Blackburn J initially advocated broad interpretation, for а suggesting liability for any substance leakage irrespective of the mode of land utilization. This stance was later refined by Lord Cairns, who restricted liability to instances of "unnatural use" of land. Ultimately, the House of Lords established a framework endorsing liability within this context. This evolution underscores the nuanced interpretation and refinement of legal principles within the realm of tort law, highlighting the dynamic nature of jurisprudence in adapting to evolving societal and judicial perspectives. Further developing Blackburn J's concept, absolute liability does not distinguish between natural or non-natural use of land in determining its applicability. So, the basics of absolute liability are:

- 1. Dangerous Thing
- 2. Escape
- 3. Hazardous or Intrinsically Hazardous Substances

Central to the underpinnings of absolute liability is the presence of hazardous or inherently perilous substances upon a property. This fundamental tenet dictates that in instances where a defendant maintains possession of such substances, irrespective of their intended purpose, the defendant bears full liability should these substances escape from the premises. Importantly, this liability does not hinge upon the manner or intended function of the substances in question, but rather rests upon their inherent hazardous nature. This principle underscores the notion that culpability is intrinsically tied to the nature of substances or objects themselves, rather than the specific manner in which they are utilized or employed. This nuanced understanding of liability within the context of hazardous substances underscores the imperative of ensuring heightened vigilance and accountability in safeguarding against potential risks to public safety and well-being. Dangerous Goods, within the meaning of section 2 of the *Public Liability Insurance Act 1991*, means "any specified substance which may be defined and notified as a hazardous substance under the *Environment (Protection) Act, 1986 (No. 29 of 1986)"*.

#### 2.4 NEED FOR ABSOLUTE LIABILITY

The rationale behind the shift towards absolute liability also reflects a growing recognition of social responsibility, particularly concerning industries dealing with hazardous materials. As these industries play a crucial role in national development, their operations must align with stringent safety standards to safeguard public well-being and environmental sustainability. Consequently, the imposition of absolute liability underscores a commitment prioritizing societal welfare amidst rapid industrial and technological growth advancements. The two biggest driving forces were two incidents, the Bhopal gas incident<sup>2211</sup>, and the Oleum gas spill. This made India aware that a new principle of responsibility was needed to meet its industrial and economic demands.

#### CHAPTER - 3

#### LANDMARK JUDGEMENT & ITS CASE STUDY

## 3.1 OLEUM GAS LEAK CASE

M.C. MEHTA & ANOTHER versus UNION OF INDIA & Ors.<sup>2212</sup>

#### 3.1.1 BACKGROUND

In December of 1985, a harrowing incident unfolded as oleum gas escaped from a unit within a factory, resulting in severe harm to those unfortunate enough to be exposed. This event sent shockwaves through the community, igniting widespread concern about the safety and environmental standards maintained by the factory and the potential risks posed to the surrounding populace. Nestled within the

<sup>&</sup>lt;sup>2211</sup> 1990 AIR 273 1989 SCC (2) 540 1989 SCALE (1)932

 $<sup>^{2212}</sup>$  1987 AIR 1086 1987 SCR (1) 819 1987 SCC (1) 395 JT 1987 (1) 1 1986 SCALE (2)1188



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densely populated confines of Kirti Nagar in Delhi stood the Shriram Food and Fertilisers Ltd., a privately owned fertilizer plant. With approximately 200,000 individuals calling this area home, the plant's chemical processes emitted hazardous substances, notably oleum gas, creating a palpable public nuisance.

The Oleum gas leak, originating from the facilities of Shriram Food and Fertiliser Industries, a subsidiary of Delhi Cloth Mills Limited (previously known as Delhi Textile Mills), unfolded within the bustling heart of Kirti Nagar, densely populated residential commercial area in Delhi. The incident, marked sudden and devastating impact, reverberated throughout the community, leaving a profound trail of harm. The noxious fumes permeated the air, triggering widespread panic and concern among neighboring residents, who were compelled to evacuate their homes amidst imminent danger. The ensuing chaos disrupted normalcy in the area, prompting swift responses from emergency services and authorities as they grappled with containing the situation and attending to the needs of the affected populace.

Following the Oleum gas leak, legal actions were swiftly set in motion, initiating a series of protracted legal proceedings that would shape the course of justice for years to come. The Oleum gas leak case, propelled into the limelight by the severity of its consequences, discussions assumed a central role in surrounding corporate responsibility liability standards. Public outcry and calls for accountability heightened pressure regulatory bodies to enact stringent regulations and oversight measures aimed at preventing similar incidents in the future. This landmark case acted as a catalyst for reforms in industrial safety protocols, underscoring the imperative of prioritizing the well-being of communities neighboring industrial facilities and influencing the trajectory of corporate liability standards in the realm of environmental and public health protection.

#### 3.1.2 ISSUES<sup>2213</sup>

A panel of three Hon'ble Judges in the oleum gas leak case permitted Shriram to restart its power plant and other plants, subject to specific conditions. However, they referred the applications for compensation to a larger Bench of five Judges due to the involvement of significant constitutional issues. These issues include:

- The scope and extent of the jurisdiction of the Supreme Court under Article 32, as the applications for compensation were sought under that Article.
- Whether Article 21 (Right to Life) applies to Shriram, owned by Delhi Cloth Mills Limited, a public company limited by shares, the company is engaged in an industry vital to the public interest. It has the potential to impact the life and health of people.
- Determining the level of liability of an enterprise involved in a hazardous or inherently dangerous industry, where accidents may result in loss of life or injuries. The question is whether the rule established in **Rylands v.**Fletcher (1866 Law Report 1 Exchequer 265) applies or if there is another principle that should govern the determination of liability in such cases.

## 3.1.3 JUDGEMENT<sup>2214</sup>

Chief Justice Bhagwati argued that despite the liability doctrine established in *Rylands v. Fletcher*, a different doctrine could be enforced in this case. The court stated that the rule, handed down in an 1866 precedent, was that "anyone who is on his own land for his own purposes and who collects and keeps there anything that may cause havoc shall be entitled to the right that it escapes." If he does so, he shall hold it at his own risk, and if he fails to do so, he shall be prima facie liable for the damage which is a natural consequence of his

<sup>2214</sup> Judgement dated 20.12.1986

 $<sup>^{2213}</sup>$  As framed by the 5 Judge bench in the case of M.C. Mehta and Another versus Union of India and Others 1987 AIR 1086 1987 SCR (1) 819 1987 SCC (1) 395 JT 1987 (1) 1 1986 SCALE (2)1188



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escape."2215 It was done at a time when science and technology had not yet reached the level of its time, and it was decided that the law should not prevent it because of age-old practices.

After considering the applications, the Court made the following rulings in the Oleum gas leak case:

## Scope of Application of Article 21 to Private Corporation Like Shriram Foods & Fertilizers Industries

The question of whether a private corporation like Shriram falls within the scope and ambit of Article 12, making it amenable to the discipline of Article 21, is left for further detailed consideration at a later stage if necessary.

The Court referred to various previous cases, including Rajasthan Electricity Board v. Mohan Laf<sup>2216</sup>, Sukhdev v. Bhagwat Ram<sup>2217</sup>, Ramanna Shetty v. International Airport Authority<sup>2218</sup>, Ajay Hasia v. Khalid Mujib<sup>2219</sup>, and Som Prakash v. Union of India<sup>2220</sup>, among others, for relevant legal context and precedents.

Please note that the Court has not conclusively decided in the oleum gas leak case on whether Shriram is subject to the discipline of Article 21 (Right to Life) under Article 12. They have kept this question open for potential further examination if required in the future.

#### Compensation for Victims of Oleum Gas

The Delhi Legal Aid and Advice Board is instructed to handle the cases of all individuals who claim to have suffered due to the oleum gas leak. The Board should file actions on their behalf in the appropriate Court to claim compensation. The Delhi Administration is also

directed to provide the necessary funds to the Board for this purpose.

## Public-Spirited Individuals and Social Action Groups as Plaintiffs

In cases where there is a violation of a fundamental or legal right of a person or a group of people who are unable to approach a court of law for justice due to poverty, disability, or social and economic disadvantages, any public-spirited individual or social action group can take action on their behalf. This can be done by filing regular writ petitions under Article 226 in the High Court or under Article 32 in the Supreme Court. Alternatively, even if a letter is addressed to an individual Judge of the Court, it should be entertained, provided it is on behalf of a person in custody, a woman, a child, or a class of deprived or disadvantaged persons.

"The Court provided further instructions regarding letters addressed to individual Justices of the Court:

- 1. Letters addressed to individual Justices of the Court should not be rejected solely based on the absence of a preferred form of address.
- 2. The Court should not rigidly require letters to be supported by an affidavit for them to be entertained. Requiring an affidavit as a condition for entertaining letters would defeat the purpose of the epistolary jurisdiction. This jurisdiction aims to facilitate easy access to the Court for poor and disadvantaged individuals and social action groups. Requiring affidavits might make it difficult for such individuals and groups to approach the Court."

The Court cited previous cases, including *Bandhua Mukti Morcha v. Union of India & Ors*<sup>2221</sup>., *S.P. Gupta v. Union of India*<sup>2222</sup>, and *Union for Democratic Rights & Ors. v. Union of India*<sup>2223</sup>, as references for these instructions in MC Mehta versus Union of India.

 <sup>&</sup>lt;sup>2215</sup> By Justice P. N. Bhagwati, Hon'ble Chief Justice of India
 <sup>2216</sup> 1967 AIR 1857, 1967 SCR (3) 377, AIR 1967 SUPREME COURT 1857,
 1968 (1) SCJ 461, 21 FACLR 59, 1968 (1) LABLJ 257, 1967 3 SCR 377
 <sup>2217</sup> 1975 AIR 1331, 1975 SCR (3) 619, AIR 1975 SUPREME COURT 1331,
 1975 (1) SCC 421, 1975 LAB. I. C. 881, 1975 (1) LABLJ 399, (1975) 1 SERV
 L R 805, 1975 (1) SERVLR 605, 47 FJR 214, 45 COM CAS 285, 30 FACLR
 283, 1975 3 SCR 619

 <sup>2218 1979</sup> AIR 1628, 1979 SCR (3)1014, AIR 1979 SUPREME COURT 1628,
 (1981) 1 LAB LN 270, (1979) 2 LABLJ 217, 1979 (3) SCC 489, 1979
 LAWYER 11 136, (1979) SCWR 210

<sup>&</sup>lt;sup>2219</sup> (1981) 1 SCC 722

<sup>&</sup>lt;sup>2220</sup> (1981) 1 SCC 449

<sup>&</sup>lt;sup>2222</sup> AIR 1982 SC 149, 1981 Supp (1) SCC 87, 1982 2 SCR 365

<sup>&</sup>lt;sup>2223</sup> 1982 AIR 1437, 1983 SCR (1) 456



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## Article 32: Powers and Obligations of the Court

The Court made the following observations in the oleum gas leak case regarding the powers and obligations under Article 32:

- "Article 32 not only empowers the Court to issue directions, orders, or writs for the enforcement of fundamental rights, but it also imposes a constitutional obligation on the Court to protect the fundamental rights of the people. To fulfil this obligation, the Court has the authority to develop new remedies and strategies to enforce fundamental rights, especially for the poor and disadvantaged, who are often denied their basic human rights".
- "The power of the Court is not limited to preventing the infringement of fundamental rights but also includes providing remedial relief against a breach of fundamental rights that has already occurred".
- "The Court can award compensation in appropriate cases as part of remedial relief. However, such infringement must be evident, gross, and affecting many people or should appear unjust or harsh for those financially or socially disadvantaged to pursue action in Civil Courts".
- "Ordinarily, a petition under Article 32 should not be used as a substitute for claiming compensation through the regular process of Civil Courts. Compensation may be awarded in exceptional cases under Article 32."
- "The applications for compensation in the present writ petition seek enforcement of the fundamental right to life under Article 21 of Constitution. In dealing with such applications, the Court must avoid a hypertechnical approach defeating justice's ends. The substance of the claim should be considered, not just the form."

The Court refers to various previous cases, including Bandhua Mukti Morcha v. Union of India & Ors<sup>2224</sup>., S.P. Gupta v. Union of India<sup>2225</sup>,

Union for Democratic Rights & Ors. v. Union of India<sup>2226</sup>, and Rudul Shah v. State of Bihar<sup>2227</sup>, as references for these observations.

## Modernizing Liability in Hazardous Industries

Historically, the principle established in Rylands v. Fletcher delineated a liability standard wherein individuals were held accountable if they introduced hazardous substances onto their land, which subsequently escaped and inflicted harm upon others. However, this principle was circumscribed by its application solely to instances of non-natural land use and featured exemptions such as acts of God, actions by third parties, or the consent of the injured party.

The jurisprudential landscape surrounding Rylands v. Fletcher crystallized during the 19th century, a period characterized by limited scientific and technological advancements. Consequently, the applicability of this doctrine in contemporary contexts, aligned with modern constitutional norms and the exigencies of the contemporary economy and society, is called into question.

In today's industrialized milieu, characterized by heightened scientific acumen and technological prowess, hazardous and inherently perilous industries assume paramount importance in the trajectory of societal development. Hence, it is incumbent upon the judiciary, particularly evidenced in the case of MC Mehta vs U.O.I., not to be unduly fettered by antiquated notions of strict liability and absolute liability when adjudicating matters concerning enterprises engaged in such activities.

## The Dynamic Nature of Law and Expanding **Human Rights Jurisprudence**

The legal framework must undergo continual evolution to effectively respond to the dynamic needs of a swiftly transforming society and to remain congruent with the economic

<sup>2224 (1997) 10</sup> SCC 549

<sup>&</sup>lt;sup>2225</sup> AIR 1982 SC 149, 1981 Supp (1) SCC 87, 1982 2 SCR 365

<sup>2226 1982</sup> AIR 1437, 1983 SCR (1) 456

<sup>&</sup>lt;sup>2227</sup> 1983 AIR 1086, 1983 SCR (3) 508, 1983 SCC (4) 141, 1983 SCALE (2)



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advancements within the nation. It is imperative that the law does not remain static but rather adapts and innovates in tandem with societal changes. The judicial mindset should not be constrained by sole reliance on the legal precedents of England or any other foreign jurisdiction.

While the judiciary may draw upon diverse sources of jurisprudential insight, it bears the responsibility of cultivating its own legal doctrine, forging novel principles, and establishing norms that aptly address the emerging challenges inherent in a highly industrialized economy. In instances where existing legal provisions prove inadequate, the Court is duty-bound to formulate new legal principles tailored to the exigencies of unique situations prevalent in hazardous or inherently perilous industries characteristic of an industrialized economy.

## **Expanding the Scope of Article 12**

Throughout its jurisprudential journey, this esteemed Court has extensively interpreted Article 12 with the overarching goal of fostering a corporate environment that prioritizes human rights and societal awareness. This doctrinal expansion is driven by the primary objective of advancing human rights jurisprudence. The incorporation of private corporations into the scope of Article 12, thus subjecting them to the of Article 21 concerning provisions fundamental rights to life and personal liberty, does not intend to undermine the fundamental purpose of corporate establishment or inhibit private entrepreneurial initiatives. As articulated by this Court in the landmark Oleum gas leak case, such an approach aims to bolster the rights movement through human application of innovative legal interpretations and advocacy strategies. Any unfounded concerns voiced by proponents of maintaining the status quo should not impede the inexorable progress of human rights within the Indian legal landscape. This progressive judicial stance reflects a commitment to ensuring that rights corporate entities uphold human

principles in their operations and engagements. By encompassing private corporations within the ambit of Article 12 and Article 21, the Court seeks to hold them accountable for their actions and cultivate a culture of responsibility and accountability. Moreover, this paradigm shift underscores the Court's acknowledgment of the evolving societal role of corporations and the imperative to balance economic interests with the protection of fundamental rights. Ultimately, the Court's jurisprudential evolution in this regard serves to fortify the democratic fabric and uphold the dignity and rights of all individuals, irrespective of their association with corporate entities.

## Strict Liability and Compensation in Hazardous Industries

A company involved in industries with inherent hazards or risks, which pose potential dangers to both its workforce and the local community, assumes an absolute and non-delegable responsibility for community safety. It is incumbent upon such a company to ensure that all hazardous activities are conducted with strict adherence to safety protocols and standards. In the event of any harm resulting from these activities, the company is obligated to provide compensation, irrespective of having taken all reasonable precautions and demonstrating no negligence.

When a company is granted authorization to carry out hazardous or inherently risky operations for profit, it should be presumed that such authorization includes the expectation that the company will bear the financial burden of any accidents arising from these activities as part of its operational costs. As the entity possessing the necessary resources and expertise, the company is best positioned to identify and mitigate potential hazards, as well as to inform others about potential dangers.

The determination of compensation in such cases should be proportional to the size and capabilities of the company, with the goal of acting as a deterrent. Larger and more financially robust companies should bear a



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greater responsibility in terms of compensating for harm resulting from accidents during their hazardous activities. This approach ensures that companies are held accountable for the risks they undertake and encourages them to prioritize safety in their operations.

## Relevance of the American Doctrine of State Action in Indian Courts

The historical background from which the American doctrine of State action arose holds limited relevance for Indian Courts, particularly in light of Article 15(2) of the Indian Constitution. However, the foundational principles that underpin the doctrine of State aid, control, and regulation, which attribute private activity with characteristics akin to State action, could be and selectively assimilated thoughtfully integrated into Indian constitutional jurisprudence.

It's important to acknowledge that Indian Courts are not bound by the interpretation of constitutional law in the United States. The provisions of the American Constitution may not always have direct applicability to the Indian context or align with the provisions outlined in the Indian Constitution. While certain principles articulated in American legal decisions may offer valuable insights, strict adherence to these principles when applied to the Indian Constitution may not be advisable. This is because the social context in India differs significantly from that of the United States. Hence, while the historical development of the doctrine of State action in the American context may provide some guidance, Indian Courts must exercise discretion and caution in selectively incorporating these principles into their jurisprudence. A nuanced approach that considers the unique socio-cultural dynamics of India is essential to ensure the effective and constitutional equitable application of principles within the Indian legal framework.

Cases like Ramanna Shetty v. International Airport Authority<sup>2228</sup>, Jackson v. Metropolitan Edison Co.<sup>2229</sup>, Air India v. Nargesh Mirza<sup>2230</sup>, and General Electric Co. Maratha v. Gilbert<sup>2231</sup> provide relevant insights and serve as a guide for Indian Courts while adapting and incorporating the principles of State action in the Indian context.

## CONCLUSION

The Oleum Gas Leakage case revolved around the operations of a privately-owned fertilizer plant, namely Shriram Food and Fertilisers Ltd., situated within the densely populated locality of Nagar in Delhi. Emitting hazardous substances into the atmosphere, the plant posed not only a The Oleum Gas Leakage case revolved around a privately-owned fertilizer plant, known as Shriram Food and Fertilisers Ltd., situated in the densely populated area of Kirti Nagar in Delhi. The emission of hazardous substances from the plant not only caused public nuisance but also raised grave concerns potential health risks approximately 200,000 residents living nearby.

In response to these urgent issues, public interest lawyer MC Mehta took decisive action by filing a writ petition invoking Articles 21 and 32 of the Indian Constitution. Mehta's petition demanded the immediate closure relocation of the factory's Shriram Caustic Chlorine and Sulphuric Acid Plant, which was held responsible for the hazardous emissions. However, amid the legal proceedings, a tragic incident occurred when an Oleum Gas Leak transpired at one of the factory's plants, resulting in severe injuries to those exposed and tragically claiming the life of a lawyer practicing at the Tis Hazari Court.

Prompt action was taken by the Delhi Magistrate, who swiftly ordered the cessation of manufacturing activities involving lethal

 <sup>2228 1979</sup> AIR 1628, 1979 SCR (3)1014, AIR 1979 SUPREME COURT 1628,
 (1981) 1 LAB LN 270, (1979) 2 LABLJ 217, 1979 (3) SCC 489, 1979
 LAWYER 11 136, (1979) SCWR 210

<sup>&</sup>lt;sup>2229</sup> 419 US 345 (1974)

 $<sup>^{2230}</sup>$ 1981 AIR 1829, 1982 SCR (1) 438, AIR 1981 SUPREME COURT 1829, 1981 LAB.I.C. 1313

<sup>2231 429</sup> US 125 (1976)



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substances, including Chlorine, Super Chlorine, Oleum, Phosphate, and others, in accordance with the provisions laid down in Section 133 of the law. Furthermore, applications for compensation were filed on behalf of individuals who had suffered harm due to the gas leak, highlighting the urgency and gravity of the situation.

Throughout the legal proceedings, crucial questions emerged, including the extent of the Supreme Court's jurisdiction under Article 32 and the applicability of Article 21 to private corporations engaged in industries deemed essential to the public interest. Additionally, the Court deliberated on the appropriate measures of liability for enterprises involved in hazardous activities and emphasized the need to modernize liability standards to better address contemporary challenges and requirements.

In essence, the Oleum gas leak case underscored the imperative of striking a delicate balance between industrial development, public safety, and environmental conservation. It served as a stark reminder of the inherent complexities and responsibilities associated with industrial operations in densely populated areas.

#### CHAPTER -4

## CRITICAL STUDY IN CONSONANCE WITH THE LAWS IN INDIA

## 4.1 SURGE IN INDUSTRIAL ACCIDENTS IN INDIA

The surge in industrial accidents in India, as outlined in your description, highlights a critical issue that requires immediate attention from both the government and the industries involved. The statistics presented, particularly the number of fatalities and injuries, underscore the urgent need for improved safety measures and stricter regulations in the industrial sector.

## Several key points stand out:

• **Magnitude of the Problem:** The numbers speak for themselves. With thousands of fatalities and injuries reported over just a few

years, it's evident that industrial safety standards need significant improvement.

- Regional Concentration: States like Gujarat, Maharashtra, and Tamil Nadu are particularly vulnerable, with a significant portion of industrial accidents occurring in these regions. Identifying the reasons behind this concentration can help tailor solutions to address specific challenges in these areas.
- Nature of Accidents: The examples provided, such as the GAIL Pipeline Blast and the Bhilai Steel Plant Gas Leak, illustrate the diverse range of hazards present in industrial settings. From chemical leaks to fires, each incident underscores the need for comprehensive risk assessment and mitigation strategies.
- Impacts Beyond Human Lives: Industrial accidents not only result in loss of life and injuries but also have broader societal implications. The Delhi Gas leak incident, for instance, led to the hospitalization of hundreds of school children, highlighting the potential for widespread harm beyond the industrial premises.

"According the National Disaster to Management Authority (NDMA), within the recent past, over a hundred thirty vital chemical accidents are reportable within the country, that have resulted in 259 deaths and caused major injuries to over 560 folks. There are over 1,861 Major Accident Hazard (MAH) units unfold across 301 districts and twenty-five states and 3 Union Territories altogether zones of the country. Further, there are thousands of factories, each in union and unorganised sectors, addressing dangerous materials. a number of the wide reportable accidents within the past 5 years are<sup>2232</sup>:

i) 2014, GAIL Pipeline Blast. On twenty seven June 2014, a huge fireplace bust out following a blast within the underground gas pipeline maintained by the Gas Authority of Asian country restricted (GAIL) at Nagaram, East Godavari district of province.

<sup>2232</sup> www.ndma.gov.in



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- ii) 2014, Bhilai mill Gas Leak: This accident in June at Bhilai mill in Chhattisgarh's Durg district killed six folks and disjointed over forty. This was thanks to a leak during a methane series gas pipeline at a pump house.
- *iii)* 2017, Delhi Gas leak: A chemical leak within the Delhi's instrumentality depot close to 2 colleges resulted in hospitalization of 470 college kids.
- *iv)* 2018, Bhilai mill Blast: A blast within the state-owned plant killed 9 folks and disjointed fourteen.
- v) 2019, Chemisynth Chemical industrial plant Explosion: On August twenty-eight, **Associate** in Nursing explosion during a chemical industrial plant in Maharashtra's Dhule killed thirteen and disjointed seventy two. The blast was caused by a leak during a chemical-filled barrel within the plant, that triggered explosions in many different barrels and element cylinders. Native residents had complained to district authorities regarding foul fumes coming back from the plant fortnight before the incident, however they were unnoticed.
- vi) 2019, fireplace at the ONGC plant: large fireplace at a plant off the coast of Bombay killed four and disjointed a minimum of 3 folks.

## Addressing this issue requires a multifaceted approach:

- a) Regulatory Enforcement:
  Strengthening and enforcing existing regulations is crucial to ensure compliance with safety standards across industries.
  Regular inspections and penalties for noncompliance can act as deterrents.
- b) Investment in Safety Infrastructure: Industries must prioritize investment in safety infrastructure and training programs for employees. This includes regular maintenance of equipment, implementation of safety

protocols, and provision of personal protective equipment (PPE).

- **Public Awareness** and **Participation:** Engaging with local communities and raising awareness about industrial safety can foster a culture of vigilance and accountability. Encouraging reporting of safety concerns and providing avenues for public participation monitoring can complement regulatory efforts.
- d) **Technological Solutions:** Leveraging advancements in technology, such as monitoring systems and predictive can help analytics, identify potential hazards before they escalate into accidents. Investing in research and innovation for safer industrial processes is essential for long-term risk reduction.
- e) Collaboration and Information Sharing: Government agencies, industry associations, and academic institutions should collaborate to share best practices, lessons learned, and emerging trends in industrial safety. This collaborative approach can lead to more effective policies and interventions.

In conclusion, addressing the surge in industrial accidents requires a concerted effort from all stakeholders, including government, industries, and the public. By prioritizing safety, implementing robust regulations, and fostering a culture of prevention, India can mitigate the risks associated with industrial activities and ensure the well-being of its workforce and communities.

## **CHAPTER - 5**

#### **CONCLUSION & SUGGESTIONS**

## **5.1 ANY DEFENCE**

In legal contexts where strict liability is applicable, defendants cannot utilize any defenses to absolve themselves of responsibility. This stands in stark contrast



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to cases involving absolute liability, where defenses such as Act of God or Act of the person may be permissible.

Under strict liability principles, the focus is primarily on holding parties accountable for their actions or omissions, irrespective of intent or fault. This means that even if a defendant can demonstrate that they took all reasonable precautions or that unforeseeable circumstances contributed to the incident, they are still held liable for any resulting harm or damage.

In contrast, absolute liability imposes liability regardless of fault or intent, with no possibility for defendants to escape liability through defenses. This underscores the severity and inflexibility of the legal standard under absolute liability.

The distinction between these two legal concepts is crucial, as it shapes the legal landscape in terms of accountability and recourse for victims of accidents or incidents. While strict liability focuses on ensuring accountability without room for excuses, absolute liability takes it a step further by imposing liability regardless of the circumstances surrounding the incident.

## **5.2 SUGGESTIONS & CONCLUSION**

The principle of strict liability has long been entrenched within legal systems as a fundamental pillar, epitomizing a standard accountability of that transcends considerations of fault. However, to effectively uphold the ideals of justice, the concept of liability must evolve in harmony with the dynamic contours of society. As societal norms shift and technological landscapes undergo rapid transformation, certain legal doctrines may become antiquated, proving inadequate confronting the exigencies of contemporary challenges. A prominent illustration of this phenomenon lies in the doctrine of strict liability, which, while still operative, may harbor vulnerabilities that can be exploited in the modern era. Consequently, the imperative emerges to modernize legal frameworks, aligning them more closely with the multifaceted demands of the present moment.

The emergence of the doctrine of Absolute liability represents a paradigmatic departure from conventional notions of culpability. Departing from the confines of the strict liability paradigm, Absolute liability imposes an unequivocal burden of accountability without affording recourse to potential defenses. This departure from established principles of natural justice, where individuals typically enjoy the right to mount a defense against allegations, marks a significant departure in legal philosophy.

While the doctrine of strict liability may have sufficed in bygone epochs, contemporary milieu characterized rapid industrialization necessitates comprehensive reassessment of foundational legal principles. The existence of exceptions within the strict liability framework may inadvertently avenues for enterprises to circumvent responsibility, thereby undermining the efficacy of the legal framework in ensuring accountability.

Absolute liability, akin to strict liability but devoid of exceptions, serves as a potent safeguard against exploitation and injustice towards aggrieved parties. Given the seismic advancements in technology and industry since the formulation of strict liability, there arises a pressing need for a legal doctrine that grapples more effectively with the complexities of the modern era.

The decision of the Indian Judiciary to embrace the doctrine of Absolute liability signifies a significant stride towards legal progression. This decision assumes particular significance in light of the



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potential for corporate entities to exploit legal loopholes, thereby eluding accountability and perpetuating systemic injustices.

Nevertheless, there remains ample scope for refinement in the application Absolute liability, particularly concerning the determination of compensation. While Absolute liability may indeed engender augmented restitution for claimants, the manner in which compensation apportioned may inadvertently result in disproportionately severe penalties smaller enterprises, thereby undermining the fundamental principle proportionality in liability. To rectify this dissonance, it is advisable to tether compensation more closely to the extent of losses sustained by claimants, particularly within the purview of smaller commercial entities.

The evolution of Absolute liability, as exemplified through seminal cases such *as M.C. Mehta v. UOI*, underscores the judiciary's pivotal role in ensuring the resonance and efficacy of legal doctrines in contemporary society. Sustaining the integrity and applicability of legal precepts necessitates a proactive and sagacious approach on the part of the judiciary.

In summation, while the conception of Absolute liability may not always have been bereft of exceptions, its evolutionary trajectory underscores a commitment to recalibrating legal frameworks to accommodate the evolving exigencies of society. The judiciary's stewardship in sculpting and honing legal principles stands as an indispensable bulwark in the pursuit of justice and accountability across all strata of jurisprudence.

#### **REFRENCE PAGE**

## A. BOOKS USED:

- Five Past Midnight in Bhopal: The Epic Story of the World's Deadliest Industrial Disaster by Dominique Lapierre and Javier Moro
- Environment protection act, 1986 (bare act)
- Environmental Law and Policy in India:
   Cases, Materials, and Statutes by Shiyam Divan
- International Environmental Law by U. Beyerlin.
- Bhopal Action Resource Centre BHOPAL AND ITS AFTERMATH: A SELECTED BIBLIOGRAPHY. New York: The Centre (1986).
- Coppa and Avery Consultants. A BIBLIOGRAPHICAL GUIDE TO DISASTER PLANNING, MANAGEMENT, INSURANCE, AND THE CASE OF BHOPAL, INDIA. Monticello, IL: Vance Bibliographies (1985).
- MacSheoin, Thomas. "Bhopal: a bibliography." 16 INTERNATIONAL JOURNAL OF HEALTH SERVICES 441–469 (1986).
- MacSheoin, Thomas. "The export of hazardous products and industries: a bibliography." 15 INTERNATIONAL JOURNAL OF HEALTH SERVICES 145–155 (1985).

#### B. ARTICLES

- Bergman, David. "Union Carbide's sabotage theory." 138 NEW LAW JOURNAL 420–422 (June 17, 1988).
- Bhopal Working Group. "The public health implications of the Bhopal disaster: report to the Program Development Board, American Public Health Association." 77
   AMERICAN JOURNAL OF PUBLIC HEALTH 230–236 (1987).
- Bordewich, Fergus M. "The lessons of Bhopal: the lure of foreign capital is stronger than environmental worries." 259 ATLANTIC 30–33 (March 1987).
- Bowander, B. "The Bhopal incident: implications for developing countries." 5 THE



#### **VOLUME 4 AND ISSUE 1 OF 2024**

APIS - 3920 - 0001 (and) ISSN - 2583-2344

**Published by** 

## Institute of Legal Education

https://iledu.in

ENVIRONMENTALIST 89-103 (1985).

- Bowander, B., Kasperson, Jeanne X., and Kasperson, Roger E. "Avoiding future Bhopals." 27 ENVIRONMENT 6–13, 31–37 (September, 1985).
- Boyce, David. "Foreign plaintiffs and forum non conveniens: going beyond Reyno." 64 TEXAS LAW REVIEW 193–223 (1985).
- Butler, Lisa F. " Parens patriae representation in transnational crisis: the Bhopal

tragedy." 17 CALIFORNIA WESTERN INTERNATIONAL LAW JOURNAL 175 – 207 (1987).

 Chinen, Mark A. "Jurisdiction: foreign plaintiffs, forum non conveniens, and litigation against multinational corporations." 28 HARVARD INTERNATIONAL LAW JOURNAL 202–209 (1987).

#### C. MONOGRAPHS

• Aidala, James V., et al. THE ACCIDENT IN BHOPAL, INDIA: IMPLICATIONS FOR U.S. HAZARDOUS CHEMICAL POLICIES, rev. ed. Washington,

DC: Congressional Research Service (1985).

• Aidala, James V., et al. AFTER BHOPAL: PREVENTING AND RESPONDING TO

CHEMICAL EMERGENCIES. Washington, DC: Congressional Research Service (1985).

• Air Pollution Control Association. AVOIDING AND MANAGING ENVIRONMENTAL DAMAGE FROM MAJOR INDUSTRIAL ACCIDENTS: PROCEEDINGS, AN INTERNATIONAL CONFERENCE; NOVEMBER, 1985—

VANCOUVER, BRITISH COLUMBIA. Pittsburgh: The Association (1986).

 Alomar Serrallach, Gaspar. RIEGOS Y PATOLOGIA POR ISOCIANATOS [RISK AND MEDICAL PROBLEMS ASSOCIATED WITH ISOCYANATES]. (M.D.

Dissertation) Barcelona: University of Barcelona (1987).

• Ashfaq Ali, Syed. A GUIDE TO BHOPAL: A RESEARCH PUBLICATION WITH ILLUSTRATIONS DEPICTING A SOCIO-CULTURAL SCENE OF BHOPAL WITH SPECIAL REFERENCE TO THE GAS TRAGEDY OF

BHOPAL. Bhopal: Jai Bharat Publishing House (1987).

- Asia Pacific Peoples' Environment Network. THE BHOPAL TRAGEDY: ONE YEAR AFTER. Penang, Malaysia: Sahabat Alam Malaysia (1986).
- Ayres, Robert U. and Rohatgi, Pradeep K. BHOPAL: LESSONS FOR TECHNOLOGICAL DECISION MAKERS. Laxenburg, Austria: International Institute for Applied Systems Analysis (1987).
- Banerjee, Brojendra Nath. BHOPAL GAS TRAGEDY: ACCIDENT OR EXPERIMENT. New Delhi: Paribus Publishers (1986).
- Banerjee, Brojendra Nath.
   ENVIRONMENTAL POLLUTION AND BHOPAL
   KILLINGS. Delhi: Gian Publishing House (1987).