



## SIGNIFICANCE OF THE DEFAULT: CRITICAL ANALYSIS OF VIZAG GAS LEAK AND IT'S CRUCIAL IMPACT ON ENVIRONMENT

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### ABSTRACT

Negligence and violations of fundamentals rights have taken many lives, which is morethan any pandemic country has faced.

The lesson we have learned from the Bhopal gas tragedy has become a robust now and the gross negligence from the part of environmental and administrative authorities has seen more common. After the Bhopal disaster in 1984, the Supreme Court has made clear balance between the strict and absolute liability. Despite this, another catastrophic has occurred on 7<sup>th</sup> May, 2020 in Vishakhapatnam due to Styrene gas leak causing death of 13 people and 1000 people were hospitalised.

When the industries rushing to meet their targeted profit, they are silent on the safety, and security of their employers and the health of people residing near the industries. As for any developing nation, development process is necessary but not at the cost of exploitation of environment, therefore, India needs a full check on the clearances of hazardous industries and whether they obtained the environmental impact assessment as per the protocol of the Centre and State or else their activities must be restrained. Apart from this, a scrutiny and evaluation on type and amount of chemicals to be stored can be helpful for avoiding such hazards. Also the implementation of protocols of Health Safety Environment and Quality Assurance should strictly maintain.

This article seeks to evaluate the entire incident from the legal perspective and present a comprehensive study of how the country failed in ensuring environmental protections through clearances to these industries, what shall be the legal steps ahead and the compensation which shall finally be the only way to fathom the misery of the victims.

**Key words:** Styrene, Industries, hazardous, Visakhapatnam, Pandemic, Negligence

***“A little neglect may breed great mischief”***

***Benjamin Franklin***

back seat. Lack of social discipline and poor progress in implementation of law are the main causes for the same. Social discipline is nothing but respect the law.

### CHAPTER I

#### 1.1 INTRODUCTION

.During the recent years our Country has witnessed many environmental problems. As we are living in the globalisation era, with peak technologies, projects, multinational companies, industries along with contemporary inventions, the environmental protection took a

The industrialisation is very much necessary for the sustainable development of the country. The environment must be preserved and protected for the future generations and it is analysed through the people’s way of participation. Recently many environmental legislations have been made in India, nothing is found very effective and met the set goal.

Though the technological development has progressed well, it is sad to say that it has exploited the nature. If man is able to transform the desert into oasis, he is also responsible for leaving the desert in its place.

## 1.2 FACTUAL BACKGROUND

The Bhopal gas leak resulted in the immediate death of thousands of people in the surrounding areas. The exact death toll remains a matter of debate, but it is estimated that at least 3,800 people died shortly after the incident. The toxic gas exposure also led to injuries and long-term health issues for many thousands more, causing significant morbidity and premature death over the years. The disaster not only had a profound impact on the victims and their families but also raised serious questions about industrial safety standards, corporate accountability, and the need for better regulations in the chemical industry. The aftermath of the Bhopal tragedy sparked legal battles, compensation claims, and demands for justice for the affected community.<sup>1</sup>

The Visakhapatnam gas leak, occurred on May 7, 2020, at a polymer plant owned by LG Polymers India Private Limited in Visakhapatnam (also known as Vizag), Andhra Pradesh, India. The gas leak resulted in the tragic loss of 13 lives, including a child, and caused injuries to thousands of people in the surrounding area.

The gas involved in the leak was styrene gas, which is a hazardous chemical used in the production of various plastics and synthetic materials. Styrene gas exposure can lead to health issues, including respiratory problems, eye irritation, and central nervous system effects.

The incident raised concerns about industrial safety standards and the need for effective risk management and emergency response protocols. Like the Bhopal tragedy, it highlighted the importance of stringent safety measures and strict regulations in industries dealing with

hazardous substances to prevent such disasters.<sup>2</sup>

The committee identified a runaway reaction within the M6 tank that held the styrene monomer, as the main cause of the gas leak<sup>3</sup>

Additionally, due to COVID-19, it was very difficult to monitor this disaster, though; Andhra Pradesh government had tried its best to cope up the situation. However, such an occurrence will mandatorily be followed by legal implications, which are being deliberated upon in this article.<sup>4</sup>

Prima facie, it was found that the gas leak was due to the failure of the LG Polymers to fulfil the statutory procedures that are required to be complied with, in case of emergencies.<sup>5</sup>

## 1.3 NEED OF THE STUDY

Firstly, as the nation develops through industrialisation, the human negligence also becomes the symbol of catastrophe which results in crucial environmental damage and threat to human life. It has thus served as an alarm clock. Normally the companies oppose their role to the accidents and denies the effects to human health and environment and also been reluctant to pay the economical compensation to the victims.

Secondly, it become very difficult to reveal the "exact truth" of the disaster as there are still different opinion exists even in the case of Bhopal tragedy, therefore there is an urgent need to analyse such hazards with the expert committee of all dimensions, materials to know the real cause.

Thirdly, in every Injury analysis must be done with the conception, process of the incident, pre and post events phases along with the compliance of environmental laws, procedures, as made by the statutory bodies. Last but not least, in order to reduce the fatal and casualties it the need of medical authorities, WHO to plan the prevention measure especially during pandemic

#### 1.4 AIMS AND OBJECTIVES OF THE STUDY

The main objectives of the research paper are:

- To study the various causes of such disasters and the company's compliance of Law
- To find out the short term and long term effects on human, animal and on environment.
- To explore the Safeguards against chemical disasters in India.
- To discuss the liabilities and compensations
- To analyse the preventive measures of such incidents

#### 1.5 HYPOTESIS

H<sub>0</sub>: Non compliance to the Environmental Clearance under Environmental Impact Assessment is the reason for the disaster.

#### 1.6 RESEARCH METHODOLOGY

The researcher follows Doctrinal method of research which requires gathering relevant data from the specified documents and compiling databases in order to analyze the material and arrive at a more complete understanding and analysis of the causes and violation of various environmental protection protocols which led to the disaster ,thus, imputes the secondary sources as a method of tool collection. An analysis of reports, documents and case-laws, in reference to the Environment Acts, Role of NGT, EIA and available resources within other Online Library scientific databases, along with various bookcum-compendiums, were referred to.

#### 1.6 SCOPE OF THE STUDY

The research paper, in its very essence, is of a socially responsible pertinence. But, the topic being an important field of applicability and socio-economic, industrial growth, and employment concerns and their significance cannot be confined; thus, the research has met some unavoidable limitations and limited to the Indian laws only.

#### 1.7 JURISPUDENTIAL ASPECT

#### i) SOCIOLOGICAL SCHOOL v. VIZAG GAS TRAGEDY

##### Social Solidarity Theory

If a man wishes to live in a society, he must compliance with the social law and solidarity which are his social duties. The theory suggest that," a man must so act that he does nothing which injure the social solidarity as he depends on it, and he must do the trends which must naturally promotes social solidarity..<sup>6</sup>

The Legal system in India is very much similar to this theory of Duguit. The Fundamental rights and duties conferred in our Constitution provide the idea how the environment should be protected. The industrial hazard occurred in Vizag Gas leak in Vishakhapatnam was against the social solidarity theory. It has been rightly said that the man is nature's worst friend as well as worst enemy.<sup>7</sup>

#### 1.8 REVIEW OF LITREATURE

##### i) Prithvi, Tirupati (2020)

The article talks about the primary reason of such incidents are the greed of the industries with their poor management by passing the mandatory procedures. They believe that it may cut down the costs and will increase their profits, which is a wrong concept. Finally results in the creation of huge loss to people's lives that stays in the proximity of such industries and also damage the environment.

##### ii) Arpita Pattanaik &et al, (2020)<sup>9</sup>

This article discusses the various litigations in India regarding the environmental clearance role of NGT under strict and absolute liabilities, compensations for the victims under civil suits for the carelessness functioning with inherently hazardous chemical substances. It also endures the about the 'Public Liability Insurance Act'<sup>10</sup> and its benefit for the weaker sections.

##### iii) Anurag Yadhav,(2020) <sup>11</sup>

This article talks about the malpractices occurred during the pandemic period which

took away the life of innocent people. It also discusses the judiciary changes that have newly bought in India which balanced the strict and absolute liabilities and the bona fide action took for the sufferers.

### Edward Broughton (2005)<sup>12</sup>

This article re-elects on the Bhopal tragedy and the pointed the need enforceable international standard for the environmental protection and preventive measure which can prevent such damages in future. It also talks about the new policies which the government has bought as a result of this disaster to reduce the degradation.

## CHAPTER II

### 2.1 MAJOR REASONS FOR THE INCIDENT AND THE COMPLIANCE OF LAW

#### i) Negligence & Violations

The major causes for the accident was old and faulty tank with improper design, irregular maintenance and also the safety norms, operating procedures were not followed. The leaked Gas's internal temperature was abnormally high and there was no provision to measure it.<sup>13</sup>

#### ii) The Government Committee Report

Apart from these, the Government appointed committee found violations of nineteen Rules and Acts, and held LG Polymers was liable for under seven Central and State laws, such as Petroleum Act, 1934, Factories Act, 1948, the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996, Pollution) Act, 1981, Water (Prevention and Control of Pollution) Act, 1974 and Andhra Pradesh Fire Service Act,<sup>14</sup>

#### iii) Chemical Reaction

The report by fact-finding committee says that the "runaway reaction" inside the M6 tank that held the manometer was the main cause as such reaction generates more heat up to the boiling point of (145 degree °C) which resulted

in the auto-polymerisation of styrene manometer, caused to vaporise.<sup>15</sup>

#### iv) Lack of Environmental Clearance

The affidavit submitted by LG Polymers to the State Government EIA authority on May 10, 2019, admits that the plant was in function from 1997 to 2019 without having the mandatory environment clearance certificate<sup>16</sup>

### 2.2 VARIOUS IMPACT OF THE VIZAG GAS INCIDENT

According to the report prepared by the "High-Power Committee" the impacts of the incident were as follows:

#### i) The aftermath

The disaster caused 585 people injured, death of 13 people and 1000 were hospitalised. Several people were found with semi-conscious, unconscious, blurred vision, irritated skin, nausea, and vomiting, breathing difficulties. The police and the disaster management team hospitalised 600 immediately to the nearby hospital. Additionally, overall 20,000 people from 17,000 homes in affected villages were evacuated to the rehabilitation centre.

Additionally, the assessment report also showed the impacts on natural environment like water bodies, air shields, soil, farms, and vegetation and the local flora, fauna, live stock were also found to have certain short and long term impacts<sup>17</sup>.

#### ii) Short-term impacts

According to the report of State Animal Husbandry Department report 34 animals were found dead. The report ascertained by (NEERI), (CBRN) and (NDRF) that, the all the nearby trees of the M6 tank, were dried fully or partially and the team noted the trees were dried up to level of styrene vapour and the area was found engulfed.

As per the horticulture report 50% of the crops within five kilometre of the accident site were damaged and the advice was give to the

farmers not sell or consumes the remained crops. Moreover, the drinking water supply was also contaminated. The Greater Visakhapatnam Municipal Corporation (GVMC) took sudden action and the main lines and reservoirs were sanitised, disinfected 6,318 houses in the affected area and supplied mobile water tankers

### iii) Long-term impacts

#### Test Conducted: National Environmental Engineering Research Institute (CSIR-NEERI)

A strict monitoring and analysis was done for two years to ensure the long term effects Styrene vapour on future health, anomalies and abnormalities in pregnant women, newborn, livestock and on elements of the biota like air, water, cow milk, soil, flora and fauna.<sup>18</sup>

### iv) Identifying health hazards

According to WHO and The International Cancer Research Agency associated with the World Health Organization, has recently reported and many other studies reported Styrene is a carcinogen but the effects on embryo still needs a long study. As there was 3 tons of Gas leaked and it's long exposure in human results as:

- Acute Effects: The mucous membrane, eye irritation and GI effects.
- Chronic Effects : Impacts on the central nervous system (CNS), leading to headaches, fatigue, weakness, depression, CSN dysfunction, hearing loss, and peripheral neuropathy.<sup>19</sup>

## CHAPTER III

### 3.1 SAFEGAURDS RELATED TO CHEMICAL DISASTERS IN INDIA

#### Provisions for storing any chemicals in the Plants:

##### a) Bhopal Gas Leak ( Processing Claims) Act:

This Act confers the power on Central Government to secure claims related to the Bhopal gas tragedy and those claims are dealt

with promptly and reasonably under the provisions of this Act.

b) **Environmental Protection Act, 1986** : After the Bhopal tragedy , the SC has issued the guidelines for the storage of hazardous chemical through the provisions of these acts.

##### c) **Manufacturers, Storage , and Import of Hazardous Chemical Rules, 1989:**

Under this Act Styrene are classified as 'Hazardous 'and EIA,186, rule says as "Set discharge and safety standards-pollution-restricting source standards; manufactured products product standards and ambient air and water standards to check the environmental protection and quality of life. Additionally, it provides that the importers must submit a detailed report about the chemical to the competent authorities and must obey the new rules of while on the transportation such chemicals.

d) **Hazardous Waste Management, Handling, and Trans-boundary Movement Rules, 1989:** It says that every industry must submit a report to the assigned authorities in every six months about the preventive measures and about the possible hazards.

e) **Factory Amendments Act, 1987:** This provision monitors the health of the staffs, nearby residents and the location of dangerous units, emergency plans regulations at the site and steps manage disasters.

f) **Public Liability Insurance Act, 1991:** Imposes a non -fault responsibility on manufacturer of chemical hazardous substances and the victims will be compensated by the owner regardless of any negligence or default. Also the owner must take policies for the workers which cover the potential incidents.

g) **Chemical Accidents (Emergency, Planning, Preparedness and Response Rules,1996** : A centre crisis group will be formed by the Centre for chemical accident management and establish a rapid crisis mechanism alert system ; each State must also establish the same and report on its work.

**h) The National Environment Appellate Authority Act, 1997:** Hears the appeals related to the formation of industries in the restricted areas, its operation, groups, which are carried against EPA, 1986.

**i) National Green Tribunal Act:** It provides tribunal for the successful and swift disposal of any dispute related to environment protection and forest conservation<sup>20</sup>.

### 3.2 LEGAL ACTION TAKEN ON VIZAG GAS TRAGEDY

#### i) Cases & Arrests

As the revenue officer of Vekatapuram village lodged a complaint on 7<sup>th</sup> May against LG polymers management as per the Indian Penal Code sections 278, 284, and 285 and also according to the HPC report to the Chief Minister of Andhra Pradesh on the incident, the CEO along with 12 officials were arrested by the police.<sup>21</sup>

#### The National Green Tribunal (NGT)

The NGT took suo motu cognizance of the Visakhapatnam gas leak incident involving LG Polymers in Andhra Pradesh. "Suo motu cognizance" means that the NGT initiated the legal proceedings on its own, without any formal complaint being filed. To investigate the incident, the NGT formed a committee led by a retired judge from the Andhra Pradesh High Court. The committee's primary responsibilities were to:

- ii) Investigate the cause of the gas leak.
- iii) Inspect the site of the incident.
- iv) Assess the damage caused to human life, environment, and health.
- v) Determine the appropriate procedure for compensation to the affected individuals and communities.

Additionally, the NGT directed LG Polymers to deposit Rs. 50 crores (Indian currency) with the district collector. This decision appears to be based on considering the financial worth of the company and the extent of damage caused by the gas leak. The purpose of this deposit could be to provide immediate relief to the affected parties and

ensure that funds are available for compensation and remedial measures.

The NGT's involvement and actions in this incident indicate the authority's commitment to ensuring environmental protection, holding the responsible party accountable, and providing justice to those affected by the gas leak. Such actions by regulatory bodies are essential in maintaining corporate accountability and protecting the interests of both the environment and affected communities.<sup>23</sup>

#### i) Human Rights Commission

The Notice was issued both on Centre and State of A.P., by the National Human Rights Commission (NHRC) about the accident and for the violation of human rights including right to life.<sup>24</sup>

### 3.3 LIABILITY FOR ENVIRONMENTAL DAMAGE

#### i. Polluter Pays Principle (PPP)

This is an important principle of Environmental law, which says that the person who damages the environment should also bear the cost of repairing that damage and this has a vital role in the moderation of environmental degradation. It covers the liabilities, cost of compensation and also cover the pollution prevention and control measures.

One of the judgements of Supreme Court held that, redemption is being one of the part of process of sustainable development and the polluter is therefore liable to pay the cost of sufferers as well as the cost remedial charge.<sup>24</sup>

#### ii. Doctrine of Strict Liability

It was coined in the famous case of Ryland v Fletcher<sup>25</sup> and, Blackburn, J. was held that any person for his own purposes brings on his land, collects and keeps anything likely to mischief, if get escaped must keep it at his peril and if not, prima facie answerable for the damage which is the natural consequences of its escape, except in case of 'Act of God', Fault of 3<sup>rd</sup> party and Consent of plaintiff<sup>26</sup>.

#### iii) Doctrine of Absolute Liability In 1986,

When the Oleum Gas Leak Case happened in Delhi after the Bhopal tragedy, the application of Strict Liability was rejected by the SC to in area involving leather industries. Justice PN

J, Bhagwati quoted that “Strict liability” doctrine that holds a party liable for damages or injuries caused, regardless of their fault or negligence. In the context of hazardous chemicals, it means that if a plant or industry engages in activities involving hazardous substances, they are held absolutely liable for any harm or damages that result from the escape of toxic gas or other incidents, which operate vis a vis tortuous principle of strict liability under the rule of **Ryland’s v. Fletcher**.”<sup>27</sup>

#### iv) **Strict Liability vs. Absolute Liability**

According to the Indian jurisprudence, the principle of strict liability as given in Ryland V, Fletcher has, evolved over the period and the principle of absolute liability is given by SC. The principle of no fault is applied even in the incidents without negligence and the compensation is to be paid without any exceptions. India follows the utmost standards of liability when the accidents like industrial gas leakage leads to any harm to the people.

Therefore, it is evident that the LG Polymers Company is liable to compensate all the victims who suffered damage or loss due to the disaster as it stored the chemicals within premises. There is no extra proof required for their improper act in the court as the loss suffered itself is the biggest evidence.

This case also predicts that as per ‘strict liability’ no expenses or defences are allowed like in other countries, as there is a legal standard of ‘stare decisis’ is applicable to this case like M.C.Metha case. Hence, L.G. Polymers is supposed to not only the deaths compensation but also the illness suffered by the people their hospital expenses, loss of crops and cattle and the environmental damage.

The Indian judiciary has decided such incidents through many precedents and stated that there is no need to apply strict liability big companies

as they are financially bound to pay under ‘absolute liability’; the ‘strict liability’ should be applicable for small companies, due to their financial constraints.<sup>28</sup>

## CHAPTER IV

### COMPENSATION, REMEDY, PREVENTIVE MEASURES AND CASE LAWS

#### 4.1 COMPENSATION

##### i) **Government**

The Andhra Pradesh Government announced a compensation of Rs.1Crore for the members of the persons died in this disaster, Rs.1Lakh for the hospitalised people who need long treatment, under ventilation support and Rs.25,000 for those who required primary treatment.<sup>29</sup>

##### ii) **Company**

The victims claims against the LG polymer are taken care by the Central and State government on the behalf of them and the compensation was distributed as per the courts order.<sup>30</sup>

##### iii) **Public Liability insurance**

Apart from the compensation given by the company, the victim also can be claimed compensation under Public Liability Insurance Act, 1991 within five years of the incident to the district collector. It is an easier method for getting compensation through the court<sup>31</sup>

#### 4.2 REMEDIES USED

The neutralization of the gas in the plant was done with antioxidant 4-tert-butylcatechol (PTBC) by the special team of National Disaster Response Force (NDRF) along with the support of the plant.<sup>32</sup>

#### 4.3 CASES

##### i) **K.Nagireddi v. Union of India (1982)**

This was the first case in which the Indian court hinted towards the modification of strict liability according to the Indian conditions.<sup>33</sup>

**ii) M. C. Mehta v. Union of India (1987)**

This is a landmark case known as Oleum Gas Tragedy in the history of environmental law in India. The SC took one step ahead in solving with remedies for solving such drastic incident by forming NGT for the speedy disposal off disputes and J.Bhagawathi, expanded the scope of no fault liability principle with its precedent<sup>34</sup>.

**iii) Union Carbide Corporation v. Union of India (Bhopal Gas Tragedy Case) (1990)**

As there was unreasonable delay in concluding the settlement of claims for 470 million US dollars. The Supreme Court gave monetary importance relief over legal principle and procedures through this case.<sup>35</sup>

**iv) Indian Council for Enviro-Legal Action v. UOI (1996)**

The Sc has upheld the concept of polluter pay principle and absolute liability through this case. The court ordered the company which manufacture  $H_2SO_4$  and other toxins to compensate the victims if they do not follow the safety procedures during toxic waste disposal and pollution caused by them<sup>36</sup>.

**v) Srinagar Bandh Samiti & Anr.V. Alakananda hydro Power Co. Ltd (2014)**

In this case NGT Section 17(3) was given in a broader way to extend it to the cases which do not use hazardous industries and made it applicable to even for them.<sup>37</sup>

**4.4 PREVENTIVE MEASURES**

➤ In terms of industrial safety India can have one of the best standards and protocols but in reality they are sometimes bypassed one way or other. As a prudent citizen if certain measures followed regularly in the chemical factories which might save life of thousands.

➤ The Central and state environment clearance certificate must be strictly checked regularly for keeping any scheduled hazardous chemicals and also for any type extension in the plant.

➤ An appraisal committee with scientific technological experts must be formed to evaluate whether the companies are following the amended lines of Factory Act and the corruption must be stopped, instead better training must provided.

➤ The 2017 amendments in EIA, definitely by passes the 2006 Environmental Impacts Assessment (EIA) rules. And the new EIA 2020 document that is being drafted goes even further impractical which may the violation all the set rules.

➤ Cost cutting to maximise profit is a dangerous decision and must not be encourages by the management team of a company, especially in terms of hazardous chemicals as happened in the Bhopal tragedy.

➤ Every factory must ensure proper maintenance of the corroded pipes, rust machinery, temperature ascertain etc regularly.

➤ As the Vizag incident happened in the Lockdown period, company must alert to prevent such mishaps with anticipated safety precautions in the plant as well as for employees.

**4.5 FINAL OUTCOME OF THE STUDY AND SUGGESTIONS**

After analysing through various article, journals, statutes, books, opinions this study has come in to the conclusion that set hypothesis ( $H_0$ ) is found to be true as there was non-compliance with the rules and regulations which was the reason for the hazardous incident happened in Vizag as well as other such gas leak cases which takes lives of many people, makes many more sick and destroys the environment surrounding them.

Therefore, it can be suggested that the massive gap in monitoring and compliance of safety laws and parameters in factories must be regularised by SPCBs and the Factory Safety Boards.



Apart from this, it is recommended that the 'Environment' must be included in the concurrent list that empowers State to enact laws, especially in more polluted areas and according to their needs and it also allows the Centre legislation to allow minimum environmental standards in the country.

#### 4.6 CONCLUSION

In India the role of Multinational companies and giant industries has not changed even after these many years. Majority of the companies have the motto of profit earning than providing safety as a social responsibility. The Vizag tragedy taught us to be more democracy, more public oriented and be more secured for the workers are the only way to make business. As we failed to learn the lesson with Bhopal case, Vizag tragedy is seen as collective guilt.

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