FROM ACT OF GOD TO DUTIES OF STATE: THE NEW FATE OF VIS MAJOR

Sahinur Islam, LLM (Human Rights Laws), Tezpur University.
Advocate at District Court Murshidabad, Berhampore, Murshidabad, West Bengal.

Swati Deka, LLM (Human Rights Laws), Tezpur University.

ABSTRACT

The theoretical framework of disaster governance has fundamentally changed with the integration of artificial intelligence into India's disaster preparedness system. Hyper-local and near-real-time weather forecasting techniques challenge the legal concept of *vis major* (Act of God) which relied on foreseeability. High-resolution predictive AI technologies render certain extreme climate events legally foreseeable, reducing the operational domain of the *vis major*. Moreover, explicit safeguards against arbitrary or disproportionate actions under enforcement measures such as section 60A are not clearly defined. The determination of liability of AI driven forecasting is a major gap. This article posits that the operational domain is substantially reduced by the availability of high-resolution predictive technologies resulting in certain extreme climate events legally foreseeable. Through a doctrinal analysis of foreseeability and constitutional validity this paper examines these points of contention.

Keywords: Disaster Management, Vis Major, Act of God, Artificial Intelligence (AI)

1. Introduction

"The life of law has not been logic: it has been experience."[1]

-O.W. Holmes

Holmes' renowned statement serves as a reminder that laws change in response to shifting reality rather than in an abstract manner. Legal theory only last as long as they are in line with expertise and lived realities. Legal perspective must change as social and technical conditions do. At present the arena of disaster law is undergoing this kind of transition. In the last few decades, India has encountered more frequent and severe climate-related disasters. Numerous states saw recurrent floods, cyclones, heat waves, landslides, cloud bursting and resulted in significant loss of life, property, livelihood, displacement, environmental harm etc. Economic losses have been predicted to have exceed 1 lakh crore INR in 2023 alone.[2] Bihar, Assam, Kerela, Karnataka some of the states faced major floods and coastal cyclones. The India Meteorological Department is actively integrating AI and machine learning models to improve nowcasts and medium range predictions. The Bharat Forecasting system is adopted to meet the desire goal that provides 6-km grid forecasts for extreme rainfalls and cyclones.

2. Literature Review

- **Jos Chathukulam (2025)[3]:** The promise of creating a comprehensive legislative framework through the Disaster Management (Amendment) Act, 2025[4], has yet to be achieved. The majority of the Amendment Act's provisions simply increase the centralized and top-down approach, with insufficient mitigation techniques to address even modern-day climate-induced disasters, public health emergencies, and pandemics such as Covid 19.

- **Apoorva Misra (2026)[5]:** A Latin legal theory called *"vis major"*, meaning "superior force", exempts individuals from liability for damages caused by unforeseen natural

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[1] OLIVER WENDELL HOLMES, JR., THE COMMON LAW 1 (1881).

[2] George Mathew, *India suffered economic losses of over Rs 1 lakh crore in natural catastrophes in 2023, The Indian Express,* Jan 15,2025 at A1.

[3] Jos Chathukulam, *Disaster Management Amendment (Act), 2025: Old Wine in a New Bottle,* 60 EPW, 30 (2025).

[4] The Disaster Management (Amendment) Act, No. 10 of 2025 (India).

[5] Apoorva Misra, *Tort, theology, and the colonial mind: rethinking the 'act of god'*, FPOS,1-8 (2026).

disasters, such as earthquakes and floods. Originating in Roman law and influencing English common law through cases like Rylands v. Fletcher, the concept is similarly reflected in Indian law as the "doctrine of frustration[6]" under the Indian Contract Act, 1972. However, its applicability has been restricted, particularly in cases of negligence. Key elements include foreseeability, irresistibility, and externality, with the doctrine evolving alongside advancements in predictive technologies and crisis management, resulting in a more limited legal interpretation.

- **Mateo Clement (2024)[7]:** Incorporating AI into predictive analytics has greatly improved disaster management by enhancing planning, response, and recovery processes. AI models leverage large datasets and machine learning to forecast both natural and man-made disasters, allowing for proactive measures and better resource distribution. Nonetheless, challenges like data privacy, the necessity for high-quality data, algorithmic biases, and scalability issues remain.

- **Snehal Vinod Raut (2024)[8]:** Artificial intelligence is critical in disaster management, being widely utilized for predicting, preparedness, alerting, resource identification, and damage reduction, resulting in substantial changes in disaster response and recovery.

- **Manindra Singh Hanspal, Bijayananda Behera (2024)[9]:** The Disaster Management Act of 2005[10] has shortcomings, such as a lack of proactive measures and concerns with accountability and budgetary allocations, demanding an immediate modification to create a more effective framework.

2.1. Research Gap

A significant research gap can be seen on the thorough analysis of *vis major* in context of natural disaster. There is no suitable article or research paper found which emphasis the degree of liability when *vis major* failed in the growing scientific and advanced technological

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[6] The Indian Contract Act, 1872, No. 9 of 1872, S. 56 (India).
[7] Mateo Clement, *AI-Driven Predictive Analytics in Disaster Management: Advancements and Challenges,* (Feb. 25, 2026, 5:16 p.m.) Cloudflare https://www.researchgate.net/publication/391048370.
[8] Snehal Vinod Raut, *Artificial Intelligence Use in Disasters Management*, 9 IJISRT, 2928, 2928-2930 (2024).
[9] Manindra Singh Hanspal, Bijayananda Behera, *The Disaster Management Act, 2005: A Critical Review,* 5 DME Journal of Law,42, 42-53 (2024).
[10] The Disaster Management Act, 2005, No. 53 of 2005 (India).

integration in disaster management.

3. Statement of Problem

The DM (Amendment) Act, 2005 enhances the administrative and planning framework of the 2005 DM Act[11]; yet some deficiencies persist. While section 2(d) broadly defines "disaster," it fails to explicitly encompass developing and recurrent climate phenomena such as heatwaves, cold waves, urban flooding, and extended extreme temperature conditions resulted in significant loss of life in recent years. The amendment doesn't address criteria for the utilisation of modern forecasting technologies and fails to elucidate the impact of enhanced predictive power of legal liability[12]. Moreover, explicit safeguards against arbitrary or disproportionate actions under enforcement measures such as section 60A of the Disaster Management (Amendment) Act, 2025 empowers authorities to penalise non-compliance with algorithmic based disaster instructions are not very clear. Consequently, significant conceptual and constitutional enquires remain within the developing disaster governance farmwork.

4. Research Objectives

1. To analyse the limitation of *vis major* in the event of natural disaster despite advanced scientific and algorithmic technology.

2. To determine the extent of liability in the event of natural disaster due to technology based erroneous outcome and failure to take preventive measures.

5. Research Questions

1. How does the defence of *vis major* is gradually declining in the event of natural disaster despite advanced scientific and algorithmic technology?

2. How the liability and accountability be measured in the event of natural disaster due to technology based erroneous outcome and failure to take preventive measures.

6. Research Methodology

This piece of analytical work is based on doctrinal methodology, relied upon primary and

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[11] Id.

[12] Jos Chathukulam, *Disaster Management Amendment (Act), 2025: Old Wine in a New Bottle,* 60 Economic & Political Weekly, 30 (2025).

secondary sources of data. All footnotes and references in this paper conform to The Bluebook: A Uniform System of Citation (20th ed. 2015).

7. Scope and Limitations

This piece of work revisits the doctrine of *vis major* in the contemporary time of scientific advancement testing legal notion of foreseeability and accountability. This paper examines the legal framework; judicial viewpoints the application of vis major in disaster management. However, this work is only focused on natural disaster and it exclude man-made disaster. It doesn't contain any field study, technical evaluation or expert opinion.

8. The Doctrinal Basis of Vis Major

"*Vis major*" is a Latin legal doctrine which means "superior force", is a general defence originates in Roman law. This defence excused the liability available in case of harm or damage caused only by irresistible natural forces beyond human control. No person could be held liable in case of damage caused by natural forces without any human intervention or negligence; such as flood, storm, lightning, earthquake, volcanic eruptions etc. Another important aspect is that the incident must be inevitable, unavoidable, unpredictable or unforeseeable. If these conditions are satisfied the liability of the party becomes absolve.[13]

In the medieval England of commercial expansion, the situation came before the court to determine the contractual performance in case of non-performance of contractual obligation due to extraordinarily natural events. Thus, this doctrine incorporated in common law through the landmark case of Rylands v Fletcher[14]. J. Blackburn in this celebrated case formally recognised vis major as a defence against strict liability. This doctrine is strongly established in Nichols v Marsland[15], where the court accepted extraordinary heavy rain fall as an Act of God. In another case the judiciary considers epidemic like cholera outbreak as an Act of God and thus excuse contractual non-performance.[16] In early 20th century judicial inquiry limits this defence such as by rejecting defence in case of flood caused by alteration of stream, where negligence is involved.[17]

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[13] Apoorva Misra, *Tort, theology, and the colonial mind: rethinking the 'act of god'*, FPOS,1-8 (2026).
[14] Rylands v. Fletcher 3 L.R. Eng.& Ir. App. 330 (H.L.) (1868).
[15] Nichols v. Marsland 2 Ex D.1 (Eng.) (1876).
[16] Lakeman v. Pollard, 6 M. & W. 615, 151 Eng. Rep. 1121 (Ex.) (1839).
[17] Greenock Corporation v. Caledonian Railway Co., A.C. 556 (H.L.) (1917).

Foreseeability, irresistibility and externality are the three essential elements of *vis major*. It is unforeseeable when the event is so extraordinary that no person could with due diligence or with the available scientific knowledge able to anticipate. It is irresistible when the reasonable preventative measures failed to mitigate the damage. Externality, as the event is without any human intervention and purely caused by natural forces.

Vis major often referred to as Act of God in India. This doctrine has developed in India through the common law principles and gradually applied in tort and contractual performance with a progressive and restrictive approach.

Vis major or Act of God is not mentioned expressly in Indian Contract Act, 1972. This doctrine embodies under Indian Contact Act as "doctrine of frustration" under section 56 of the Act[18]. Court interpreted it as due to extraordinary natural circumstances the contracts which became impossible to perform.

The burden of proof is on the party seeking to be relieved from their legal obligations in order to exercise this defence. This usually necessitates comprehensive documentation of the incident viz., official records, experts' testimony and others relevant documents that back their claims to invoke this shield.

The apex court in of India rejected the defence stating lack of maintenance of clock tower contributed to harm is clearly human negligence and it is not totally natural and unforeseeable.[19] The court made it clear that not all natural occurrences are qualified. The defence may only be used for unpredictable circumstances and which are outside human control.[20] The court reaffirmed that it is a narrow defence and cannot be claimed where reasonable care could have prevented injury or loss.[21]

The threshold of foreseeability is contested in the public law, especially within disaster management governance with the emerging of early warning systems and predictive technologies. It clearly depicts the gradual transition of this doctrine. In the context of Indian judiciary and statute this defence shifts from shield to a narrowly confined defence.

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[18] The Indian Contract Act, 1872, S. 56 (India).
[19] Municipal Corporation of Delhi v. Subhagwanti, A.I.R. 1966 S.C. 1750 (India).
[20] The Divisional Controller, KSRTC v. Mahadeva Shetty, (2003) 7 S.C.C. 197 (India).
[21] M.P. Electricity Board v. Shail Kumari, (2002) 2 S.C.C. 162 (India).

9. Predictive Technologies and Foreseeability

The defence of *vis major* assume that certain natural incidents were inherently unpredictable. Natural disaster prediction has been greatly enhanced by the advancement of sophisticated satellite-based information, machine learning models and real time data collection analysis. It includes high-resolution weather models, flood simulations, seismic monitoring networks and AI based data analytics[22]. It makes unforeseeable events into foreseeable. The defence of *Vis major* is significantly impacted by this development. If reliable scientific warnings were made available, the legal uncertainty around the outcomes of natural disaster may be removed, even though the causes are beyond human control. As a result, courts are more likely to look into whether people or authorities made judgements on realistic forecast. Only really exceptional situations that are impossible to predict, even with the aid of modern technology, are still qualified for the defence.

AI driven technology is capable of providing early warnings, risk assessments, evacuations in case of heavy rainfall, heatwaves, cold waves, landslides, floods, cyclones at hyper local scales. What was unforeseeable a decade back, at present it became foreseeable. The predictive technologies raise the standard of due care and diligence and narrow down the defence of vis major which is based on foreseeability[23].

India has adopted many advanced scientific technologies in combating natural disaster. The Bharat Forecast[24] is one of the such latest sophisticated technology.

The disaster management in India shows a clear shift towards preventive governance. The NDMA works in coordination Union, State and local government.

Mitigation now becomes a core to disaster governance. Many measures have been in place to tackle with disaster, such as infrastructure standards norms, coastal protection strategy. India also adopts sector-based forecasting covering agriculture, marine, fisheries, urban structure, public health mechanism and alike.

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[22] Mateo Clement, *AI-Driven Predictive Analytics in Disaster Management: Advancements and Challenges,* (Feb. 25, 2026, 5:16 p.m.) Cloudflare https://www.researchgate.net/publication/391048370.
[23] Snehal Vinod Raut, *Artificial Intelligence Use in Disasters Management*, 9 IJISRT, 2928, 2928-2930 (2024).
[24]The Bharat Forecast System, (MoES -IITM HGFM) (Feb 25, 2026, 6:30 p.m.) https://srf.tropmet.res.in/srf/hgfm/rainfall.php.

The disaster management in India is based on federal structure. The states can make their own planning, management and can take decisions by its own along with the Union and can reach to the local authorities. The Odisha State has made its own prior warning system- "SATARK"[25], that can provide prior warnings regarding floods, droughts, lightning, heatwaves and likely such others information. Thus, this decentralised initiative increases the preventive measures and reduce vulnerability.

The unique model of Nagaland's Parametric Insurance[26] has got the attention very much in disaster governance. This insurance is based on pre-determined disaster criteria and not the post disaster loss verification. It enables speedy payments and transparency and also the insurance coverage is flexible.

Information is very crucial in combating natural forces and disasters. Today's technology and AI make it possible to collect data and manage to provide early warnings to prevent greater harm. The satellite-based monitoring, remote sensing, data driven forecast has made it possible. The government has successfully developed SACHET, a system through the early warnings can be given in one go in every phone device. It is very much effective as it is able to distribute last mile alerts within seconds.

Disaster preparedness, early warning systems, relief and other measures must be equal and not arbitrariness as provided in Article 14 of the COI[27]. Affirmative obligations are on the State to protect the environment, safety and dignity of life as guaranteed under Article 21[28] of the COI and the same has been confirmed by the Indian judiciary in time again and again.

It reshapes the doctrine of vis major and transition from strict liability to absolute liability.

10. The Sendai Framework

The Sendai Framework of 2015-2030 for disaster risk reduction is a global mechanism for mitigating disaster risks and increasing resilience through proactive governance. Its priorities

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[25] System for Assessing, Tracking, and Alerting Disaster Risk Information based on Dynamic Risk Knowledge (SATARK), OSDMA (Mar. 03, 2026, 1;37 p.m.) https://rimes.int/system-assessing-tracking-and-alerting-disaster-risk-information-based-dynamic.

[26] Taylor Mixides "Nagaland processes first claim under Parametric Disaster Insurance" (Mar. 03, 2026, 1;37 p.m.) https://www.reinsurancene.ws/nagaland-processes-first-claim-under-parametric-disaster-insurance/.

[27] INDIAN CONST. art. 14.

[28] INDIA CONST. art. 21.

on evaluating disaster risks through scientific research, data collection and early warning systems as well as coordination and accountability. It encourages on sustainable development and effective mitigation techniques based on "Build Back Better" principle. The availability of such predictable mechanism and of its ignorance weaken the defence of *vis major*.[29]

11. Disaster Vulnerability and Institutional Response in India

India is extremely vulnerable to disasters due to its adverse geoclimatic and socioeconomic circumstances. The Government of India adopted a holistic framework for disaster management that integrates prevention, mitigation, readiness, response and recovery. In the wake up of Indian Ocean Tsunami (2004) and the Gujrat Earthquake (2001), Parliament passed the Disaster management Act in 2005, designating the National Disaster management Authority (NDMA) as the apex entity responsible for institutionalising technology-driven and coordinated disaster governance throughout the nation.

Table 1: Disaster Vulnerability in India[30]

Vulnerability	27 out of 36 states/UTs
Earthquake Risk	58.6% of land
Flood Risk	12% land
Cyclone & Tsunami Risk	5,700 km of 7,516 km coastline
Urban Flooding	5,161 Urban Local Bodies
Landslide Risk	15% of landmass, hilly regions are more vulnerable
Drought Risk	68% of cultivable land

12. Case Studies

12.1 Infrastructure Failure

This is one of the earliest cases where the court recognised *vis major* as an exception to strict liability. In this case the heavy rainfall prompted man-made reservoirs to overflow, resulting

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[29] UNDRR, *What is the Sendai Framework for Disaster Risk Reduction?* (Feb 25, 2026, 6:05 p.m.) https://www.undrr.org/implementing-sendai-framework/what-sendai-framework.
[30] Annual Report (2024-2025), NDMA, Govt. of India. (Feb 25, 2026, 6:10 PM.) https://ndma.gov.in/sites/default/files/PDF/Reports/Annual_Report_2024-25_English.pdf.

in floods and destruction to the property[31]. The court taken the view that the incident is an unpredictable and beyond human foresight and qualified for vis major.

12.2 Earthquake and Tsunami

The 2004 Indian Ocean earthquake and tsunami is a terrifying reminder of nature's tremendous and unexpected wrath. In a matter of minutes 230,000 lives across 14 countries snuffed out in a moment. This tragedy caused huge economic loss and leads to terrible human misery[32].

The Fukushima Daiichi Nuclear tragedy of 2011[33], precipitated by an earthquake and tsunami. This shows how even the most advanced technology sometimes vulnerable before natural force.

12.3 Cosmic Force

Sometimes natural force far from our earth atmosphere, such as asteroids strike could have unimaginable consequences. In 1908 the Tunguska asteroid strike blown a devastating damage to a part of Siberian Forest, though there were no human casualties due to remote location[34].

12.4 Flood

In the US (1889), Johnstown flood[35] causes dam failure due to extreme rainfall and it is accepted   as the valid defence. In this case the natural inevitability is prioritised over human accountability.

12.5 Epidemic/ Pandemic

In recent times COVID-19 Pandemic[36] disrupted the economies, healthcare systems and life of common people on a world-wide scale. This is a sharp reminder that our very scientific and

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[31] Nichols, 2 Ex D.1 (Eng.) (1876).
[32] SRSG Kamal Kishore, "The 2004 Indian Ocean tsunami was a wake-up call for humanity" UNDRR (Mar. 03, 2026, 12:12 PM), https://www.undrr.org/news/2004-indian-ocean-tsunami-was-wake-call-humanity-srsg-kamal-kishore.
[33]"Fukushima Daiichi Accident", World Nuclear Association (Mar. 03, 2026, 12:19 PM), https://world-nuclear.org/information-library/safety-and-security/safety-of-plants/fukushima-daiichi-accident.
[34] John Uri, "115 Years Ago: The Tunguska Asteroid Impact Event" NASA (Mar. 03, 2026, 12:22 PM), https://www.nasa.gov/history/115-years-ago-the-tunguska-asteroid-impact-event/.
[35] "The Johnstown Flood of 1889: It rained and rained" Johnstown Heritage (Mar. 03, 2026, 12:22 PM) https://www.heritagejohnstown.org/education-materials/flood-museum-materials/the-johnstown-flood-of-1889/.
[36] Emmanuel Raju, et al. *"COVID-19 in India: Who are we leaving behind?",* 10 ScienceDirect, 1-7 (2021).

advance technology sometimes become ineffective to manage the calamity.

12.6 Table 2: Major Natural Disaster Incidents in India: [37]

Year	Event	Affected Area (States/UTs)	No. of People Affected (Million)	Deaths
2001	*Earthquake*	Gujrat	6.3 M	25,000
2004	*Tsunami*	Kerela, Tamil Nadu, A. P	2.79 M	10,749
2005	*Earthquake*	Kashmir		86,000
2008	*Kosi Flood*	Bihar	3.3 M	527
2008	*Cyclone (Nisha)*	Tamil Nadu		204
2019	*Cyclone (Fani)*	Odisha	20 M	50
2021	*Glacial Lake Outburst*	Uttarakhand	0.000024 M	250
2021	*Cyclone (Tauktae)*	Kerela, Karnataka and Ors.	0.7 M	198
2021	*Cyclone (Yaas)*	West Bengal, Odisha	1.6 M	19
2021	*Cyclone (Shaheen)*	Odisha, Andhra Pradesh, Telangana, Gujrat, Maharashtra	0.17 M	7
2021	*Storm (Jawad)*	West Bengal, Tripura, Odisha, Andhra Pradesh	1650	5
2023	*Cyclone (Biporjoy)*	Gujrat, Rajasthan	0.01 M	7
2023	*Storm (Michaung)*	Tamil Nadu, Telangana, Andhra Pradesh	4.3 M	20
2024	*Landslide (Wayanad)*	Kerala	0.01M	400

The above data significantly shows that no corner in this earth is left to test the fury of the natural forces. What is in our hand is to take necessary timely effective actions to mitigate the harm comes from natural forces.

13. Disaster Management Act (2005-2025): Two Decades of Development

The Disaster Management Act, 2005 signified an evolutionary shift in India's disaster management framework. It was a comprehensive legal mechanism and move from relief-centric approach. The first decade focused on institutional and capacity building leads to the formation of National Disaster Management Authority (NDMA), State and District Authority and National Disaster Response Force. During this time span many progressive guidelines

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[37] CRED, EM-DAT *(The International Disaster Database)* (Feb 25, 2026, 6:05 p.m.) https://www.emdat.be/.

came, such as on earthquake, cyclone, flood and chemical disaster management[38]. India's commitment to Sendai Framework (2015) shifts the focus on risk reduction, resilience and integration of early warning systems. During the COVID-19 this Act played a significant role in implementing nationwide measures. By 2025 the amendment incorporates climate resilience planning and predictive systems.

The 2025 amendment adds section 60A, which empowers authorities to punish non-compliance with disaster orders. The source of these instructions could be comes from the algorithmic projections which highlighted the tension of liability risk. But the liability in case of failure of providing alerts or safety instructions by the same algorithm is a grey zone. Therefore, Articles 14 and 21 must be invoked to evaluate whether such sanctions are constitutionally permissible.

13.1 The Legal Vacuum of Liability in AI-Driven Forecasting

Liability allocation in the event that AI forecasting fails is a significant unresolved topic. Important queries consist of:

Who is responsible if AI underestimates the severity?

Software developers?

Meteorological organizations?

District officials?

Is culpability stringent if authorities do nothing despite AI's risk prediction?

Is legal certainty equivalent to predictive probability?

These situations are not explicitly covered by the DM Act of 2005 or its 2025 amendment. This results in a regulatory disconnect between accountability frameworks and technology competence.

14. Vis Major Liability Model

The researcher has developed a 5-step model to determine *Vis Major* liability. This model is

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[38] Manindra Singh Hanspal, Bijayananda Behera, *The Disaster Management Act, 2005: A Critical Review,* 5 DME Journal of Law,42, 42-53 (2024).

evaluated on 3 notable events from different time period.

Table 3:

Step	Query	Elements	Answer	
1	**Unforeseeability**	*Human/Technology /AI*	Yes = (follow next step)	No = (Liability)
2	**Causation**	*Direct*	Yes = (follow next step)	No = (Liability)
3	**Nature Force/ Preventive Measures**	*Excessive/ Reasonable*	Yes = (follow next step)	No = (Liability)
4	**Legal Standard Followed**	*Contract/Tort/Statutory*	Yes = (follow next step)	No = (Liability)
5	**Liability**	Step 1,2,3 & 4	No/Partial/Full	

CASE 1: EVENT- TSUNAMI, YEAR- 2004, PLACE- INDIAN OCEAN

Table 3.1

Step	Query	Elements	Answer	
1	**Unforeseeability**	**Human**/Technology /AI [Technology /AI (Not so much advanced at that time)]	**Yes = (follow next step)**	No = (Liability)
2	**Causation**	**Direct**	**Yes = (follow next step)**	No = (Liability)
3	**Nature Force/ Preventive Measures**	**Excessive**/Reasonable	**Yes = (follow next step)**	No = (Liability)
4	**Legal Standard Followed**	**Contract/Tort**/Statutory	**Yes = (follow next step)**	No = (Liability)
5	**Liability**	Step 1,2,3 & 4	**No**/Partial/Full	

CASE 2: RYLANDS V FLETCHER[39], YEAR – 1868, PLACE- LANCASHIRE, ENGLAND.

Table 3.2

Step	Query	Elements	Answer	
1	**Unforeseeability**	**Human**/Technology /AI [Technology /AI (Not so much advanced at that time)]	Yes = (follow next step)	**No = (Liability)**
2	**Causation**	**Direct**	**Yes = (follow next step)**	No = (Liability)
3	**Nature Force/ Preventive Measures**	Excessive/**Reasonable**	Yes = (follow next step)	**No = (Liability)**
4	**Legal Standard Followed**	Contract/**Tort**/Statutory	Yes = (follow next step)	**No = (Liability)**
5	**Liability**	Step 1,2,3 & 4	No/Partial/**Full**	

CASE 3: EVENT - WAYANAD LANDSLIDE, YEAR: 2024, PLACE: KERALA.

Table 3.3

Step	Query	Elements	Answer	
1	**Unforeseeability**	**Human**/**Technology** /AI [Technology /AI (Not so much advanced at that time)]	**Yes = (follow next step)**	No = (Liability)
2	**Causation**	**Direct**	**Yes = (follow next step)**	No = (Liability)
3	**Nature Force/ Preventive Measures**	Excessive/**Reasonable**	Yes = (follow next step)	**No = (Liability)**
4	**Legal Standard Followed**	**Contract/Tort**/Statutory	Yes = (follow next step)	**No = (Liability)**

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[39] Rylands3 L.R. Eng.& Ir. App. 330 (H.L.) (1868)

| 5 | **Liability** | Step 1,2,3 & 4 | No/**Partial**/Full |

* This conclusion is derived by using the proposed vis major liability model and does not contradict any established judgment.

15. Indian Judiciary on *Vis Major*

A chronological survey of the leading case laws on vis major clearly shows the erosion of the doctrine. The courts stand became stricter when it decides on the liability of the state versus the reliance on the defence under the disaster management framework.

Table 4: Decline of *vis major* in Indian Courts

Year	Case	Court	Issue	Vis Major	Significance
1966	***Municipal Corporation of Delhi v Subhagwanti[40]***	SC	Collapse of clock tower due to high winds	***Rejected***	Negligence defeats *vis major*
1967	***Manindranath v Mathuradas[41]***	Cal, HC	Extreme rainfall causes damage	***Rejected***	Unforeseeability in strict sense
2002	***MP Electricity Board v Shail Kumari[42]***	SC	Electrocution during rain due to live wires	***Rejected***	Accountability on public utilities
2003	***The Divisional Controller KSRTC v Mahadava Shetty[43]***	SC	Road accident due to mechanical failure	***Rejected***	Preventive measures absent
2015	***Kailash Nath Associates v Delhi Development Authority[44]***	SC	Contractual impossibility and frustration	***Rejected***	Restrictive view of judiciary on force majeure

16. Findings:

1. The occurrence of natural disaster events has increased in the last decade.

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[40] Municipal Corporation of Delhi v. Subhagwanti, A.I.R. 1966 S.C. 1750 (India).
[41] Manindranath v. Mathuradas, A.I.R. 1967 Cal. 357 (India).
[42] M.P. Electricity Board v. Shail Kumari (2002) 2 S.C.C. 162 (India).
[43] The Divisional Controller, KSRTC v. Mahadeva Shetty, (2003) 7 S.C.C. 197 (India).
[44] Kailash Nath Associates. v. Delhi Development Authority & Anr., (2015) 4 S.C.C. 136 (India).

2. Fatality rate has declined but the number of affected people and economic loss hasn't declined that much.

3. The scope of DM Act has widened but lacks in imposing proportionate liability.

4. Modern and advanced technology has adopted in effectively mitigate inevitable accident.

5. The scope of *vis major* (Act God) has gradually limited by the Indian Judiciary.

6. The Indian judicial inquiry has taken the view point that vis major as an exception to the strict liability only can be claimed if natural calamity couldn't be prevented in exceptional and unforeseeable events even with the aid of advanced technology.

7. There is no liability under DM Act in case of technological error or failure of the authorities in making judgements on realistic forecast.

8. The power given to the authorities to impose liability in case of non-compliance of the guidelines probably extracted from the advanced technology is disproportionate.

17. Conclusion

The gradual development of disaster jurisprudence in India displays that the court no longer sees natural event as sufficient to escape the liability. The utmost important element before court is the foreseeability in the light of scientific and algorithmic application. Thus, the former established notion of *vis major* is no longer maintainable. NDMA and Indian Meteorological Department has adopted hyper local AI based forecasting with quantitative precision. Reasonable explanation and escaping from liability become tougher for the state in case of inactivity or delayed response of early warnings systems. AI, algorithm functions on probability, so it is not a foolproof technology. The future of disaster laws and management required to be balanced with the constitutional framework of justice, fairness and accountability by recognising technological improvements without compromising human oversight.

18. Suggestions

1. Inclusion of new section to determine the liability of the authorities in making realistic judgements on AI or machine-based output on early warning or forecast.

2. Further the determination of degree of liability will make the provision stronger.

3. Statutory liability should be concurrent with the article 14 and 21 of the COI in determining liability under 60A of DM (Amendment) Act.

4. Bharat Forecast, SACHET and SATARK systems are some of the positive developments and to build more systems there should be enough financial support and investment in the field of AI.

5. The degree of liability is should be proportional to preventative failure. Liability $\propto$ Preventive Failure.

6. Nagaland model of parametric insurance can be a breakthrough in disaster insurance policy.