CLIMATE CHANGE AND COMPOUND DISASTERS IN UTTARAKHAND - A CRISIS LACKING ADEQUATE POLICY AND LEGAL ACCOUNTABILITY?

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ABSTRACT

This paper critically examines the escalating crisis of climate change and its role in aggravating natural disasters in India, with a focused case study on Uttarakhand which is currently in 2025 highest disaster prone area. Despite the existence of legal frameworks such as the Disaster Management Act, 2005 and various climate action plans, current policies appear insufficient in effectively mitigating climate induced displacement and recurrent disasters. Contributing factors such as deforestation, unregulated construction for tourism infrastructure, including roads, hotels, and settlements in high-risk zones, destabilizes the terrain, this study assesses the adequacy of India's legal and regulatory mechanism in addressing the intersection of climate change and disaster risk, evaluates judicial responses and identifies critical gaps in policy implementation. Here in this paper what is to be seen is to what extent does India's existing legal framework and judicial intervention particularly in Uttarakhand, suffice to prevent and mitigate the compounded crises posed by climate change and aggravated disasters, and what legal reforms are imperative to establish a sustainable and accountable disaster regime? The paper advocate for strengthened, integrated legal measures prioritizing prevention, sustainable development and protection of vulnerable communities.

Keywords: Climate change, disaster prone area, judicial response, legal reform, post-disaster rehabilitation, policy enforcement challenges, sustainable development

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INTRODUCTION

"In nature, nothing exists alone,… proclaimed the noted environmentalist Rachel Carson in her seminal work '*Silent Spring 1962'* the prescience of her words certainly rings true today; it's a humble reminder to man and his anthropogenic , Carson in her work tried to warn human against its tendency to treat environment as separate, isolated part which is absolutely impossible because at the end no part of nature operates in isolation and when human disrupt one link, the entire chain , including human society and nature has to suffer with its consequences.

Uttarakhand, nestled in the fragile Himalayan ecosystem, has emerged as one of the most climates – vulnerable states in India. Well the reasons lies in the benefits arising from the state (Uttarakhand), over the past decade, the region has witnessed recurrent disasters – from the catastrophic Kedarnath floods of 2013 to the chamoli glacier burst of 2021 and most recent august 5, 2025 Dharali Village disaster, each exposing the delicate balance between broader impacts of climate change, including glacial retreat, erratic rainfall and rising temperatures. While these disasters do highlight before the government the urgent need for adaption and mitigation, they also raise critical questions about the adequacy of India's legal and regulatory framework. Existing constitutional mandates, environmental legislations and judicial interventions attempt to address ecological concerns, yet gaps in enforcement, unchecked development and weak disaster preparedness and here I don't mean post but pre disaster preparedness because at the end of the these continue to place Uttarakhand at risk.

This paper examines the intersection of climate change and recurrent disasters in Uttarakhand through the lens of law and governance, with the aim of evaluating existing frameworks and proposing pathways for building a climate-resilient legal regime.

UTTARAKHAND IN FOCUS: *From scared Geography to Disaster Epicenter*

Uttarakhand holds a place of immense significance in India's national framework due to its strategic location, ecological wealth, culture heritage, and economic contributions. Geographically, the state shares international borders with foreign nation i.e., China (Tibet) and Nepal, making it a vital frontier for India's defense and security. Several key defense establishments, including cantonments and Indian Military Academy, highlight its strategic relevance. In a geopolitically sensitive region like the Himalayas, Uttarakhand serves as a

buffer zone and a critical safeguard for India's northern frontiers. Ecologically, Uttarakhand forms part of the fragile Himalayan ecosystem and is origin home to vital glaciers and rivers(Ganga, Yamuna, Bhagirathi, Mandaknini, Aalaknanda, sarswati) , these rivers are lifelines for millions across North India, sustaining agriculture, industry and drinking water needs far beyond the state's borders. Its forests, national parks such as Jim Corbett and Valley of Flowers, and rich biodiversity. Further underscore its role as ecological treasure trove and a carbon sink, making its preservation essential to India's environmental security.

Culturally, Uttarakhand is often referred as DEVBHUMI or the "Lands of the Gods", housing the chardham shrines- kedarnath, badrinath, Gangotri and Yamunotri – that attract millions of pilgrims or bhakts each year. This not only strengthens India's cultural and spiritual fabric but also supports a thriving tourism economy.

Economically, the state contributes through hydropower generation, horticulture; organic farming and forest produce, while religious and eco-tourism remain major sources of revenue. However, the same features that make Uttarakhand important- its rivers, glaciers, mountains and religious hubs – also make it highly vulnerable to disasters. Any ecological imbalance or climate-induced event in Uttarakhand has cascading consequences for the entire Indo-Gangetic plain, directly affecting the water, food and economic security of India.

Uttarakhand, nestled in the fragile Himalayan ecosystem, has emerged as one of the most climates – vulnerable states in India. Well the reasons lies in the benefits arising from the state (Uttarakhand), over the past decade, the region has witnessed recurrent disasters – from the catastrophic kedarnath floods of 2013 to the chamoli glacier burst of 2021 and most recent august 5, 2025 Dharali Village disaster, each exposing the delicate balance between broader impacts of climate change, including glacial retreat, erratic rainfall and rising temperatures.

LAW & MOUNTAIN – *Constitutional Mandates and Environmental Litigation in the Himalayas State of Uttarakhand*

"Human activities, including unscientific mountain cutting and blasting for construction, are exacerbating the crisis"[2]

[2] Timesofindia-indiatimes-com.

Our Indian constitution and its incredible framework with judicial interpretation furnish a remarkably strong foundation for protection of environment, even though climate change and disaster as a distinct concern has not been expressly articulated within the text of the constitution. Through progressive judicial interpretation, however Supreme Court either through PIL or Supreme Court has suo moto expanded constitutional provisions to embed the principal of climate justice and environmental jurisprudence, thereby situating environmental protection within the broader realm of fundamental rights and constitutional duties. This evolving body of jurisprudence underscores the judiciary's recognition of the profound interdependence between integrity and the enjoyment of basic human rights.

At the heart of this framework lies Article 21[3], this guarantees the right to life and personal liberty. Judicial pronouncement have repeatedly affirmed that this right encompasses the entitlement to a clean and wholesome environment – embracing unpolluted air, safe drinking water, ecological balance and the pursuit of sustainable development. As the article states in this specific and clear words Article *21 – Protection of life and personal liberty – no person shall be deprived of his life or personal liberty except according to procedure established by law.* But whatever is happening in Uttarakhand isn't it depriving people life or infringing to clean healthy environment, glacial retreat, reckless construction, hydropower projects, deforestation, and policy failures and most importantly exploitative and unsustainable tourism all of this particularly alarming contributor to such disasters in our region because Uttarakhand has no sustainable tourism, blind and poor construction practices in ecologically sensitive zones such as hotels and resort for excessive tourism.

Though, judiciary Landmark rulings such as *Subash Kumar v. State of Bihar* [4]and *M.C. Mehta series of cases* transformed environmental protection from a policy aspiration into an enforceable, justiciable right. Thus Judicial creativity is reinforced by Directive Principles of state policy under Article 48A[5], which obligate the state to protect and improve the environment, and by Fundamental Duties under Article 51A(g)[6], which enjoin every citizen to safeguard natural resources, forest, and wildlife. Although these provisions are formally non-

[3] Article 21 - Protection of life and personal liberty – no person shall be deprived of his life or personal liberty except according to procedure established by law
[4] 1991 AIR 420;1991 SCR(1) 5
[5] Article 48A- Protection and improvement of environment and safeguarding of forests and wild life , Indian Constitution
[6] Article 51A(g) – Fundamental Duties – to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures.

justiciable, the judiciary has consistently drawn upon them to amplify the state's constitutional responsibility and justify far-reaching environmental regulations. But they do make it clear that every citizen has right under Article 21 but it's also his duty under Article 51A (g) to protect and improve the natural improvement, so how far citizens are responsible in this aggregative climate disaster in Uttarakhand. Heavy traffic in high sensitive landslide areas, excessive tourism, pollution, illegal construction in risky area to attract tourist, breaking not just law but duties for self-satisfaction and enjoyment, disturbing ecosystem, wildlife, flora fauna. How we going to rectify and reconstruct the environment we are messing with?

But then Judiciary and international conventions by its significant incorporation of jurisprudential doctrines introduced principles such *as Polluter Pays Principle, the Precautionary Principle, and the Public Trust Doctrine* to rectify our mistake and acts responsible to nature. In Vellore Citizens Welfare Forum v. Union of India, the Supreme Court formally entrenched these doctrines into Indian environmental law, thereby expanding the scope of legal accountability for industry pollution and ecologically destructive development. More recently, In *Paryavaran Suraksha Samiti v. Union of India*[7], the court underscored the imperative of proactive climate governance, emphasing the state's accountability in mitigating climate risks. Alongside, the National Green Tribunal (NGT) has emerged as a pivotal forum for adjudicating environmental disputes, particularly those linked to deforestation, unregulated construction, and hydropower expansion in Himalayan States such as Uttarakhand, where ecological fragility magnifies disaster risks.

STATUTORY ARCHITECTURE - Of Environmental and Disaster Governance in Uttarakhand

Uttarakhand fragile Himalayan terrain makes it acutely vulnerable to climate-induced disasters such as floods like Kedaranth and Dharali village such as glacial lake outburst floods (GLOFs), flash floods, landslides, forest fires, and heat waves, which caused huge loss to the region, economy and humankind. In India legislative framework encompasses a wide range of statutes designed to safeguard the environment and manage disasters, collectively aimed at regulating human activities that exacerbate climate related risks and ensuring accountability. These laws provide the legal foundation for preventive, remedial, and punitive measures in response to environmental degradation and disaster events. The state's governance framework combines

[7] Paryavaram Suraksha Samiti v. Union of India 20 December 2023

national environmental and disaster laws with state-specific legislations and institutions, creating a layered statutory architecture for prevention, regulation, accountability, and resilience.

Let's see what these legislative frameworks are and state Uttarakhand specific governance framework:

1) At the national level, **The *Environment (Protection) Act, 1986 (EPA*)** functions as the umbrella legislation empowering central authority to set pollution standards, regulate hazardous activities and enforce environmental safeguards. Owing to its broad scope, the EPA functions as a critical enforcement tool which is enabling the imposition of penalties for violations and compelling polluters to undertake remedial measures

2) Complementing the EPA, ***The Water (Prevention and control of pollution) Act, 1974 and Air (Prevention and control of Pollution) Act, 1981*** empower the *Uttarakhand Pollution Control Board (UKPCB)* to regulate and monitor local industries and urban pollution. These provisions are crucial in mitigating degradation that magnifies disaster vulnerabilities, particularly in the state's river basins and expanding hill towns. Because of high tourism and industries establishing in high risk Himalayan region leading to urban pollution and its main example is excessive uncontrolled tourism which comes from different states to enjoy forgetting how important Himalayan region for environment .

3) Uttarakhand grapples with a bifurcated pollution burden. On one front, concentrated industrial emissions and hazardous effluents emanate from clusters such as SIDCUL in Haridwar and allied industrial estates, compounded by extractive operations including stone – crushing units and indiscriminate riverbed and hillside mining[8]. On the other hand, rapid urban expansion in hill towns generates escalating environmental stress through untreated or inadequately treated sewage, poorly managed municipal solid waste, re-suspended road dust, and proliferating vehicular emissions. Together all of this in Uttarakhand pressures perpetuate chronic air and water quality degradation, produce localized hotspots of toxic discharges, and trigger episodic pollution surges

[8]https://www.greentribunal.gov.in/sites/default/files/news_updates/REPORT%20BY%20UTTARAKHAND%20SPCB%20IN%20OA%20NO.%20627%20of%202024%20GOPAL%20CHANDRA%20VANWASSI%20VS%20UTTARAKHAND%20POLLUTION%20CONTROL%20BOARD.pdf

during festivals, seasonal stubble burning in the adjoining plains, and recurrent forest fires. Both official monitoring records and academic inquires consistently identify Haridwar's industrial belt and Dehradun's urban basin as persistent pollution hotspots, with recurrent episodes of river and riparian contamination underscoring the systematic fragility of the state's environmental management framework[9]

4) ***The Disaster Management Act, 2005*** institutionalizes disaster governance across India through the National Disaster Authority (NDMA) and state bodies. Uttarakhand supplements this with its own legislation which includes the *Uttarakhand Disaster Management and Mitigation Act, 2005,* which establishes the *Uttarakhand state disaster management authority (USDMAs).* These bodies are tasked with vulnerability assessments, early warning systems, capacity building, and climate sensitive disaster preparedness. But still despite this statutory architecture, the integration of climate change consideration into disaster management plans remains a continuing challenge.

5) Certain specific laws further shape climate governance in Uttarakhand. ***The Forest (Conversation) Act, 1980***, alongside *state level Van Panchayat Rules*, restricts deforestation and empowers local forest councils to sustainably manage community forests, thereby mitigating landslide and soil erosion risks. *The mines and Minerals (Development and Regulation) Act, 1957*, read with the Uttarakhand Minor Mineral Concession Rules, regulated quarrying and riverbed mining such activities that directly contribute to river instability and flood hazards. Likewise, *the Uttarakhand Water Management and Regulatory Act, 2013* establishes the *Uttarakhand Water Resources Regulatory Commissions (UWRRC)* to oversee water use, basin level planning, and conflict resolution in a state where erratic rainfall, cloudburst, and melting glaciers threaten hydrological security. Not only this but state government into addressing climate change more directly, Uttarakhand has formulated the state level plans known as *State Action Plan on Climate Change (SAPCC)* and more recently the *State Action Plan on Climate Change and Human Health (SAPCCHH, 2023)*. These policy frameworks though have no binding statutes or binding authority derives authority from the EPA and DM laws, mandating mainstreaming of climate considerations into disaster

[9] https://timesofindia.indiatimes.com/city/dehradun/ukhand-hc-stops-new-stone-crushers-expansion-pending-zoning-guidelines/articleshow/121396444.cms

management, health preparedness, and sectoral planning.

JUDICIARY ROLE - In shaping doctrines of climate and environmental accountability

Courts in several jurisdictions have embraced judicial activism to fill legislative and executive gaps in environmental protection, especially when these branches fail to uphold or enforce climate-related responsibilities. Through, cases such as M.C. Mehta v. Union of India and Massachusetts v. EPA in the United States, courts have expanded constitutional rights to include the right to a healthy environment and mandated governmental action against pollution.

Key doctrines shaped by the judiciary include:

Public trust doctrine: governments are considered trustees of natural resources and must protect them for public use; Polluter Pays Principle: entities responsible for environment harm must bear compensation and cleanup costs; Precautionary Principle: Preventative action is required even in the absence of scientific certainty about the threat of environmental harm; Absolute Liability: Any enterprise dealing with hazardous activities is strictly liable for resulting environmental damage, as seen in the Oleum gas leak and Union Carbide Cases; Sustainable Development: Courts balance environmental protection against economic growth, enforcing regulations that promote long-term ecological sustainability. Now through the table given below lets understand all the landmark judgments by Supreme Court, NGT, and High Court of Uttarakhand for balancing environment, law and justice through establishing principles of environment jurisprudence.

Case	***Year***	***Principle established***	***Significance***
Subhash Kumar v. state of Bihar	1991	Right to pollution free water and environment under Article 21	First explicit recognition of clean environment as a fundamental right
M.C. Mehta v. Union of India (oleum gas leak)	1987	Absolute liability doctrine	Hazardous industries absolutely liable for damage caused
M.C. Mehta v. Union of India(Ganga Pollution)	1988	Closure of polluting industries to protect rivers	Linked water pollution control with Article 21
M.C. Mehta v. Union of India (Taj Trapezium)	1997	Protection of heritage through pollution control	Balanced cultural heritage and environmental rights

Indian Council for Enviro-legal Action v. Union of India	1996	Polluter pay principle	Industries liable for remediation of environmental damage
Vellore citizens welfare forum v. Union of India	1996	Precautionary principle & polluter pays integrated into law	Introduced sustainable development into constitutional law
M.C. Mehta v. Kamal Nath	1997	Public Trust Doctrine	Natural resources cannot be privatized, state as trustee of environment
A.P. Pollution control Board v. Prof. M.V. Nayudu	2001	Importance of scientific expertise in environmental regulation	Strengthened judicial role in ecological governance
Paryavaran Suraksha Samiti v. Union of India	2017	Accountability of state for pollution control and treatment facilities	Reinforced Article 21 obligations in the context of modern environmental risks

These cases decided by Supreme Court on PIL and some Suo Motu. While judiciary cannot create policy directly, it interprets laws in ways that drive climate accountability. The courts interpretative role enables them to expand jurisprudence to cover emergent climate issues, provided there is a legal basis in existing law. Courts have obliged other branches to take urgent preventative action or rectify failures to implement climate policies, as demonstrated in landmarks cases. Apart from these cases, the Uttarakhand High Court and the NGT have given landmark judgments and relief in the highly aggravated climate disaster of Uttarakhand. Let's analyse these landmark cases.

Case	***Year***	***Principle Established***	***Significance for Uttarakhand***
Mohd. Salim v. State of Uttarakhand	2017	Recognized Ganga & Yamuna rivers as legal persons with rights	First time in India rivers were granted legal personhood; emphasized cultural ecological linkage
Alaknanda hydropower co. ltd. v. Anuj Joshi	2013	Stressed on disaster preparedness and environmental clearance	Ordered review of hydropower projects after Kedarnath floods linking development to disaster risk

Char Dham Highway expansion case	2019 2021	Debate over eco-sensitive road widening vs. national security	Highlighted tension between strategic development and fragile Himalayan ecology
Narendra Singh v. state of Uttarakhand	2018	Recognized animals as legal entities with rights	Extended environmental personhood doctrine; reinforced ecological ethics in law
Re. Alaknanda Riverbed Mining	2015	Prohibited illegal sand mining in Alaknanda river	Directly linked unsustainable mining to disaster risks in Uttarakhand
People's right v. Union of India (Forest fire case)	2016	Directed state to take preventive measures against forest fire	Recognized climate linked forest fire hazards as threat to Article 21 rights

However, the Judiciary faces constraints that it must respect the doctrine of separation of powers, acting only when legal texts allow, enforcement of judicial orders often depends on executive follow through, where bureaucratic delay, weak compliance mechanisms and political resistance remain challenges and most importantly Courts cannot invent new rights without legislative backing, although their interpretations significantly influence policy and practice.

June 1 to August 3, 2025 65% of monsoon days witnessed extreme weather, up from 59% in 2024, with flash floods and landslides claiming at least 48 lives and over 100 missing in Uttarkashi's latest disaster.[10] Record high temperature and intensified rainfall have followed global climate change trends, turning Uttarakhand monsoon into the warmest since 1901.

YEAR	EXTREME WEATHER DAYS (MONSSON)	LANDSLIDES (ESTIMATED)	FLASH FLOODS AND CLOUDBURSTS (ESTIMATED)	DEATHS (MONSOON)
2021	22 days	328	Data limited	Data limited
2022	33 days	Increased from 2021	Increased from 2021	Estimated - 56

[10] Downtoearth.org.in

2023	47 days	1100+ monsoon	Increased	104
2024	59 days	Continued high levels	Continued high	Data limited
2025	65days(till august)	High, precise unknown	Several flood and cloudbursts	48 + confirmed

The graph illustrates the rising trend of climate change-induced disasters in Uttarakhand from 2021-2025. The number of extreme weather days during the monsoon season has more than doubled, signalling intensifying rainfall and weather unpredictability. This trend underscores Uttarakhand growing vulnerability to climate impacts, emphasing the urgency for robust adaptation, timely early warning systems, and sustainable development policies to mitigate future risks. This table indicates all the extreme deaths and landslides, flash floods and cloudbursts which have happened in last 5 years (2021-2025).

Let's analyses most climate aggravated disasters happened in Uttarakhand and its legal accountability:

- **Uttarakashi Flash Floods, August 5, 2025 – Dharali Village**

Event: on the afternoon of 5 August a flash floods and mudslides overwhelmed Dharali Village in Uttarkashi which turned into a deadly force of nature around 1:45 pm local time. Ked Ganga came crashing down from hill through Dharali village what was once a gentle flew suddenly became a raging torrent carrying rocks and thick sludge. Killing people and leaving dozens musing among which exact no of casualties is yet to be confirmed. Resource workers from army, NDRF, SDRF, ITBP conducted major operations but blocked roads and debris hampered their efforts.

Causes: Extreme rainfall over vulnerable topography propelled massive silt and concrete into rivers, triggering flash floods and landslides.[11] Initially it was considered as cloudburst, but later on data made it clear that it was rainfall below cloudburst thresholds, underscoring local geomorphological frailty and thus focusing on complexity of disease.

Legal accountability: The disaster prompted scrutiny over unchecked construction and human interference in eco-sensitive zone and law activist and demand for better and stricter

[11] Timesofindia.indiatimes.com/climate change or Himalayan curse

enforcement and accountability for official overlooking protective regulation.

- **Wildfire and forest management , 2024**

Event: Since 2023 to July 2025 Uttarakhand has experienced almost over 900 forest fire incidents, damaging almost more than 1100 hectares of forest.

Causes: Most of fires were man-made and root causes of such damage include forest mismanagement illegal logging, land manipulation and lack of preventive action.

Legal accountability: The forest department has failed direct disciplinary actions, which lead to penalizing employees for negligence and Supreme Court observed the chronic failure to act on environment protection measures, calling for collaboration with central empowered committee and long term action over reliance on last minute relief. But this can be overlooked by community engagement improved monitoring, strictest legal regulation and investment in modern firefighting technologies as essential for future resilience in protecting environment.

- **Climate change – drives extreme rainfall and landslides, 2024**

Event: in Uttarakhand district like Rudraprayag, Dehradun, Pauri and Tehri Garhwal saw heavy rainfall reselling in extensive landslides and property loss.

Causes: With 50mm in an hour major area which is sensitive geomorphology where even moderate rain caused heavy damage, infrastructure collapse.

Legal accountability: despite so many technical difference heavy rain and cloudbursts, accountability lapses in preventive infrastructure plan and regulation enforcement contributing to high rise of disaster.

- **Kedarnath Flood Disaster, 2013**

Event: Heavy massive rainfall and glacial lake outburst floods resulted in thousands of death uncountable and widespread destruction.

Legal accountability: After the event which lead to such high loss of property and humankind specially environment, has later on high pointed criticism of government failure to regulate hydroelectric projects, inadequate warning system and slow victim compensation.

Compensation Mechanism*:* compensation relief in Uttarakhand covers immediate financial support and long-term rehabilitation planning, backed by increased budgetary allocations focused on climate disaster recovery and adaption[12]; let's understand how the government provides them:

- **Immediate relief**

Recently, disaster of 5th august 2025 Dharali Disaster where Chief Minister Pushkar Singh Dhami of Uttarakhand announced 5 lakhs immediate assistance each to the next of kin of those who dies in the Dharali disaster, and families who lost their homes in floods and landslides and also ordered disbursement of ex-gratia payment to victim within 72hours to reduce hardship and delay in relief. Government also formed a 3 member committee for rehabilitation, overall revival, strengthening of sustainable livelihood of villages affected by disaster.

- **Systemic Funds**

State Disaster Response Fund (SDRF) – This Fund from state where central government covers 90% of SDRF for Himalayan states, ensuring robust funding for disaster relief and compensation. This relief also covers relief cyclones, droughts, earthquakes, floods, cloudbursts, landslides and other natural disasters. [13]

National Disaster Response Fund (NDRF) - Provides additional assistance for severe disasters, based on assessments by inter-Ministerial central teams. NDRF disburses funding for recovery, reconstruction and resettlement.

- **Mitigation Funds**

The XV Finance commission formalized state and national disaster mitigation funds (SDMF, NDMF) for risk reduction projects, including infrastructure and resettlement post disaster.

Estimate Combined allocations for 2021-2026 has been Rs. 1.6 lakh crore for SDRMF, Rs.68, 463 crore for NDRMF and with the major aim for projects specifically covering relocation and rebuilding in disaster hit states. But despite growing legal recognition and establishment of

[12] https://www.newsonair.gov.in/uttarakhand-govt-announces-%E2%82%B95-lakh-aid-for-victims-of-dharali-disaster/
[13] Ndmindia.mha.gov.in

improved relief frameworks in Uttarakhand, significant practical shortcomings persist. Slow disbursement of disaster relief funds, inconsistent assessment protocols, and limited judicial follow through hinder timely and equitable support, problems that are particularly acute for marginalized and displaced communities, who often remain under compensated or overlooked in recovery measures. At the same time innovative legal doctrines such as the public trust principle, intergenerational equity, and rights of nature are increasingly invoked by courts and advocates to hold the government accountable for climate related risks and post disaster obligations. Yet, the practical translation of these doctrines from legal text to on the ground action remains incomplete, as preventive planning, local capacity building, and proactive enforcement continue to lag behind evolving jurisprudence and theoretical commitments.[14]

CONCLUSION

The recurrence of infrastructural failures in disaster-prone zones, despite available engineering solutions and predictive data, reveals a profound gap in the legislative and policy frameworks governing disaster management in India. Empirical evidence indicates that critical points of failure remain unaddressed across multiple disaster events, reflecting not a lack of scientific understanding, but the inadequacy of law and practice in mandating and executing durable preventive measures.

From the legal perspective, this persistent cycle of reactive, minimal interventions often sanctioned under the guise of progress this highlights systematic shortcomings in oversight and enforcement. The Indian legal architecture, while equipped with statutory instruments such as the Disaster Management, Act 2005, has yet to fully integrate climate risk assessments and enforce rigorous standards in high-risk environments. Moreover, procurement practices and regulatory mechanisms frequently favor expedient and economically motivated fixes over sustainable resilience, undermining both the intent and the letter of disaster management legislation. The legitimacy and effectiveness of disaster management law depend upon its capacity to compel transparent governance, rigorous planning and sustained public interest protection. International best practices confirm that robust legal frameworks must move from a relief-centric approach to one emphasing prevention, preparedness and accountability. Policy and legislative reform, therefore, is not merely desirable but essential to resolve the

[14] Narendra Sethi/newindianexpress.com ; 16 august 2025

juxtaposition of development and destruction.

These aren't just natural disaster, they are repeat scams, what trucked me while researching on this work was that 80% of the place where roads and infrastructure broke were same points as that of 2023 flood this year, I suddenly felt it's not totally unpredictable if we look at rivers as an engineering problem we do have physical data parameters, the contour, the depth, the bends, the Simulation can show where the rivers will press hardest, which banks will take the most share, which points need enforcement. The solution are simple either the system can strengthen those spots which take this impact load or if it's not possible don't build anything there at all to such high risk zone area only for sake of progress. At first we see this isn't practiced, but after studying report I realized the stimulation are accurately done. The real problem is different, they know these failures yet they still build the lightest fixes and the cycle repeats. This isn't impossible terrain, Switzerland has built its prosperity and valleys more fragile than ours, the issue is that our legislation looks away, procurement rewards shortcuts and a big scam beats itself in name of natural disaster. We want progress we want development but do progress brings destruction with itself? And if yes than now its government duty to have a sustainable plan to reinforce it and protect what's necessary. Ultimately unless legal architecture is swiftly strengthened and harmonized across climate and disaster domains, society's domains, society will continue to confront a growing crisis "without policy" – one marked by reactive responses, avoidable destruction and missed opportunities for justice and resilience.[15] In conclusion, unless existing legal and policy frameworks are swiftly fortified and harmonized across climate and disaster domains, society will continue to confront preventable crises marked by avoidable destruction, missed opportunities for justice, and repeated cycles of loss. It is imperative that legal mechanism evolve to prioritize sustainability, enforce preventive regulation, and deliver on the social contract of protection owed to vulnerable populations in disaster-prone regions.

"We are the 1st generation to feel the effect of climate change and last generation who can do something about it" – Barak Obama

[15] Legal framework and disaster management in India /Rajendra Kumar Pandey/issue 2016