INTERNATIONAL JOURNAL OF LAW

MANAGEMENT & HUMANITIES

[ISSN 2581-5369]

Volume 6 | Issue 6

2023

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Cross-National Disaster Governance: Comparative Insights from India and Japan

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ABSTRACT

This abstract provides a concise overview of the comparative study titled "Cross-National Disaster Governance: Comparative Insights from India and Japan".The study explores disaster governance approaches in India and Japan, highlighting key similarities and differences in their strategies, policies, and practices. By examining these two diverse countries, the research sheds light on the complex interplay of cultural, institutional, and socioeconomic factors that shape disaster management systems. Through a comprehensive analysis of case studies, policy frameworks, and stakeholder engagement, this study aims to contribute to a deeper understanding of effective disaster governance in varied contexts. The findings underscore the significance of adaptive strategies that account for unique national circumstances while promoting international collaboration and knowledge exchange for building resilient societies in the face of disasters. This comparative exploration serves as a valuable resource for policymakers, researchers, and practitioners seeking to enhance disaster preparedness, response, and recovery on a global scale.
Key words: Disaster, Disaster management, preparedness, mitigation,

I. INTRODUCTION

(A) Background of study

Disasters are natural and anthropogenic i.e., caused by humans which are likely to cause extensive loss of life, infrastructure damage, and socio-economic disruptions. Recognizing the need for effective disaster management, nations have implemented legal frameworks to mitigate risks and enhance resilience. This study explores the disaster management laws in India and Japan, two countries with contrasting experiences in disaster management.

Disasters, regardless of their origin, can unleash immense devastation, threatening lives, livelihoods, and societal stability. Recognizing the urgency of efficient disaster management, India and Japan have put in place legal frameworks to tackle these formidable challenges. This study conducts a comparative analysis of disaster management laws in both the countries, which

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seeks to identify their pros and cons[3].

India's Disaster Management Act, enacted in 2005, represents a pivotal milestone in the country's approach to disaster management. Its comprehensive structure embraces all aspects of disaster management, from proactive measures like mitigation and preparedness to reactive responses and the efforts after happening of disasters. The formation of the "National Disaster Management Authority (NDMA)" which is supervised by the Prime Minister of India, demonstrates India's commitment to top-level coordination and policy formulation for adequate disaster management. Furthermore, the presence of "State Disaster Management Authorities (SDMA)" and "District Disaster Management Authorities (DDMA)" facilitates decentralized decision-making and localized disaster responses, considering India's diverse geographical and demographic landscape.

Japan's Basic Act on Disaster Control Measures, with its origins dating back to 1961, reflects the country's long-standing experience and expertise in dealing with various natural calamities. The statute emphasizes a comprehensive and systematic approach to management of disasters in Japan, encouraging conceptualizing of all-encompassing plans for disaster management that span prevention, mitigation, preparedness, response, and recovery. Central to Japan's Disaster Management structure is the "Disaster Management Council", having its head the Prime Minister, to foster collaboration among relevant ministries and agencies. The "Local Disaster Management Councils" compliment this approach by ensuring that disaster management measures align with local needs and specific risks.Both India and Japan share commonalities in their disaster management strategies. They prioritize collaboration between central and local governments,recognizing the need for multi-level coordination to effectively respond to disasters. Additionally, both nations place significant emphasis on disaster prevention education, raising public awareness and fostering a culture of preparedness[4].

However,India and Japan also face unique challenges in their disaster management endeavours. India's vast geographical spread and diverse demographics present hurdles in implementing uniform disaster management measures across the entire country. Balancing the needs of densely populated urban areas with those of remote rural regions poses intricate policy challenges. Furthermore, India grapples with limited resources, necessitating innovative approaches to optimize disaster preparedness and response capabilities[5].

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[3]Kitagawa Kaori, "Continuity and change in disaster education in Japan", Vol. 44, No. 3, "Journal of the History of Education Society", 371–390, (2015).

[4] Okubo Noriko, "Disaster Management in Japan: Towards Comprehensive and Collaborative Flood Control", Vol. 9, No. 1,CCLR, pp. 32-39 (2015).

[5]Nambiar M.A., "Decade of Disaster Risk Management in India", Vol. 50, No. 5, Economic and Political Weekly,

Japan, while celebrated for its disaster preparedness, is no stranger to the complexities of managing frequent and intense natural calamities. The country's geographic location makes it vulnerable to multiple types of disasters, requiring a finely tuned and dynamic approach to disaster management. Japan's experiences with catastrophic events, like the "Great East Japan Earthquake" and "Tsunami in 2011", continue to influence and refine its disaster management laws and practices[6]. By conducting this comparative study between India and Japan, we aim to contribute valuable insights in area of managing disasters. Identifying the strengths and weaknesses of each country's legal framework can inform policymakers and practitioners worldwide, fostering cross-national learning and collaboration. As the threat of disasters looms ever larger in an increasingly interconnected world, shared knowledge and cooperative approaches become essential in building resilient societies capable of weathering the storm.

(B) Purpose and Goals

The primary objective of this research is to conduct a relative study of the disaster management legislations of India and Japan, shedding light on their respective approaches to handling natural and man-made calamities. By closely examining the institutional structures, roles of various authorities, and disaster response mechanisms in both countries, we aim to identify the similarities and differences in their disaster management frameworks. Through this comprehensive comparative analysis, we seek to gain a deeper understanding of the factors that contribute to effective disaster management in different contexts.

A significant focus of this research is to assess the strengths and weaknesses of the disaster management laws and practices in India and Japan. By evaluating the successes and challenges faced by each nation in lessening, arranging, acknowledging and recuperating from the disasters, we aim to unearth valuable insights into their disaster resilience strategies. By understanding the factors that have contributed to their respective successes and limitations, we can offer constructive feedback and recommendations for improvement in their disaster management systems[7].

Another critical aspect of this study is to draw lessons from the experiences of India and Japan in disaster management. By examining how each country's legal framework has influenced community participation, public awareness, and adaptive capacities, we aim to uncover best practices that can be applied globally. Understanding how different geographical locations and

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pp. 36-40 (2015).

[6] Banerji, Priyanka, and Nidhi Singh., "Comparative Analysis of Disaster Management between Japan & India", Volume 13, Issue 6,, IOSR-JBM, PP 62-74. (2013).

[7] Mehryar, and Surminski, "National laws for enhancing flood resilience in the context of climate change: potential and shortcomings", "Climate Policy- Taylor & Francis". (Eds.) (2020).

historical contexts have shaped their disaster management strategies will provide valuable knowledge for policymakers and practitioners seeking to enhance disaster resilience in their own regions.

Based on our findings, this research aims to develop evidence-based policy recommendations to strengthen disaster management capabilities in both India and Japan. By suggesting potential areas of improvement, policy reforms, and resource allocations, we hope to contribute to the enhancement of their disaster management systems and further fortify their resilience against future disasters.

Beyond the individual countries under study, this research also seeks to explore the implications of the comparative study on a global scale. By examining how lessons learned from India and Japan's experiences can be applied in other countries and regions facing similar disaster challenges, we aim to promote the importance of cross-national collaboration and knowledge exchange[8]. Encouraging international cooperation in disaster management will foster a collective efforts to build a robust disaster response network and enhance the overall global capacity to mitigate and respond to disasters effectively.

Thus, this research endeavors to contribute to the advancement of disaster management theory and practice by providing a comprehensive understanding of the legal frameworks and strategies employed by India and Japan. Through rigorous analysis and evidence-based recommendations, we hope to empower policymakers, disaster management practitioners, and international organizations to strengthen disaster resilience and protect communities from the devastating impacts of disasters.

II. APPROACH TO STUDY: METHODOLOGY AND TECHNIQUES

(A) Gathering Information: Data Acquisition Strategies

A Comparative Study with reference to Japan is designed to provide a comprehensive and nuanced understanding of the two countries' disaster management approaches. By adopting a comparative study design, the research aims to analyze and contrast the legal frameworks, policies, and strategies employed by India and Japan in handling various natural and man-made disasters. To gather relevant data, a multifaceted approach is taken. A thorough literature review was conducted to explore existing academic papers, reports, policy documents, and legal

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8 Singha, Ashok Kumar, Saroj Kumar Nayak, N.C. Kar, Swapna Tripathy, and Barendra Krushna Sahoo "Anticipating and Managing an Unwelcome Guest: Climate Smart Approach in Disaster Management", Springer (2015).

statutes related to disaster management in both countries. This review will help to establish a foundation for the research and identify gaps.

The research has involved an in-depth legal analysis of "Disaster Management Act, 2005" of India and the "Basic Act on Disaster Control Measures" of Japan, along with any relevant regulations and policies. By closely examining the legal provisions and mechanisms for disaster recovery ,preparedness and response with the study aim to identify key similarities and differences between the two nations' disaster management frameworks.

Moreover, the actual -world case studies of specific disaster events in India and Japan are examined. These case studies have offered valuable insights into the practical implementation of disaster response and recovery measures, providing context and depth to the analysis. To ensure a comprehensive perspective, data is sourced from various reliable resources.

Ultimately, this research aims to contribute to a broader understanding of disaster management practices and serve as a valuable resource for policymakers, disaster management practitioners, and international organizations working towards building disaster resilience and effective response strategies. By uncovering lessons from India and Japan's experiences, the study seeks to facilitate cross-national learning and collaboration in disaster management to address global challenges effectively.

(B) Contrasting Perspectives: In-Depth Comparative Examination

The correlative study of Disaster Management Laws of India and Japan presents a thorough examination of the legal frameworks and approaches taken by both countries to address the challenges caused by natural and anthropogenic disasters. The analysis focuses on several key aspects, including institutional structures, roles of various authorities, disaster response mechanisms, funding arrangements, public awareness and community engagement.

In India, the Act of Disaster Management 2005, established the Disaster Management Authority at the nation-wide level, the states have established Disaster Management Authority at the state level and the districts have established Disaster Management Authority at the district level[9]. These authorities are responsible for making laws, policies, plans and guidelines for managing disaster and coordinating disaster response efforts at their respective levels[10].

Similarly, Japan's Act on Special Measures Concerning Countermeasures against Disasters[11]

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9 Herwig Alexia and Marta Simoncini, "Law and the Management of Disasters: The Challenge of Resilience", Routledge, Taylor and Francis group (2017).

[10]Picard Mary, "Disaster management, risk reduction and international disaster response laws in the Commonwealth", "Commonwealth Law Bulletin" (2018).

[11] Basic Act on Disaster Control Measures, 1961.

sets up the "Disaster Management Council" which is directed by the Prime Minister, to formulate disaster management policies and coordinate efforts among relevant ministries. Local Disaster Management Councils are also established at the local level to implement disaster management measures. The official structures in both countries emphasizes on central and local government collaboration for effective disaster management[12].

The disaster response mechanism in India and Japan have specialized disaster response forces dedicated to swift and efficient feedback of disasters. " India's National Disaster Response Force (NDRF)" and Japan's local disaster management offices are specifically trained and equipped to handle rescue and relief operations during disasters.

Both countries have provisions for dedicated disaster response funds. India's "National Emergency Relief Fund (NERF)" and "State Disaster Response Fund (SDRF)" are created to finance cure and rehabilitation measures amid disasters. Japan follows a similar approach, with the central and local governments allocating funds for disaster response and recovery efforts.

Further, India and Japan place significant emphasis on disaster prevention education and public awareness campaigns. Educating the public about disaster risks, preparedness measures and evacuation procedures is integral to building resilient communities.

The comparative analysis acknowledges the diverse geographical and contextual factors influencing disaster management in both countries. India's vulnerability to a broad range of disasters, includes earthquakes, cyclones, floods and droughts requires a comprehensive and flexible approach. In contrast, Japan's location on the Pacific Ring of Fire exposes it to frequent earthquakes, tsunamis, volcanic eruptions, and typhoons, necessitating specialized disaster preparedness measures.

Therefore, the study of disaster management laws in India and Japan offers valuable lessons and policy implications for both countries and other regions facing similar disaster challenges. Identifying successful strategies, best practices and areas for improvement in disaster management contributes to enhancing resilience and response capabilities.

Hence, the relative study of Disaster Management Legislations in India and Japan highlights their efforts in mitigating disaster risks, ensuring effective response mechanisms, and fostering community engagement. By drawing on the strengths of each country's approach and learning from their experiences, disaster management policymakers and practitioners can further

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[12] Ishiwatari M., "Disaster Risk Management at the National Level". "ADBI" Working Paper-448. Tokyo-"Asian Development Bank Institute" (2013).

enhance disaster resilience and contribute to global disaster risk reduction efforts[13].

III. DISASTER MANAGEMENT LANDSCAPE IN INDIA: STRATEGIES AND PRACTICES

(A) Legislative Architecture: Shaping the Framework

The legislative structure of Disaster response and mitigation in India is primarily governed by the Act of Disaster Management in 2005 that came into power on 23rd December, 2005, this extensive law establishes a robust formation for disaster management across the nation. At its core is the authority for National Disaster Management (NDMA), guided by the Prime Minister, which formulates blueprint, strategies, and advice for disaster management at the national level. Additionally, the legislation directs the formation of "State Disaster Management Authorities (SDMA)" in each state, led by the Premier, and authorities District Disaster Management (DDMA)in every district. These authorities are liable for implementing disaster management measures and coordinating response efforts at their respective levels. To enhance disaster response capabilities, the Act driven for the formation of the "National Disaster Response Force (NDRF)", a esoteric "The Disaster Management Act, 2005", represents an important milestone in India's disaster management efforts, as it takes a comprehensive and integrated approach to address the myriad challenges posed by various types of disasters. The Act emphasizes not only reactive measures for disaster response but also proactive measures for disaster mitigation and preparedness. By establishing the NDMA, SDMA and DDMA the legislative framework ensures a clear hierarchy and coordination between the federal, state, and community level in disaster management planning and implementation[14]. This structure facilitates effective communication, resource allocation and decision-making during all stages of disaster management.

The creation of the NDRF as a specialized disaster response force reflects India's commitment to ensuring a swift and professional response to emergencies. With trained personnel and state-of-the-art equipment, the NDRF plays a crucial role in rescue operations, medical assistance and disaster relief efforts across the country. The Act also emphasizes the importance of disaster management plans which serve as blueprints for disaster preparedness and response activities. These plans are regularly updated, taking into account changing risk profiles and lessons learned from past disasters.

The Disaster Management Act ensures that disaster response efforts are adequately funded

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[13] S.Ghosh, "Litigating Climate laims in India", 114-Ajil Unbound 45 (2020).
[14] "Grossman Margaret Rosso", "Climate Change and the Law", Vol. 58-"The American Journal of Comparative Law", pp.223-255 (2010)

through the NDRF and SDRF. This financial provision enables quick and impressive relief and improvement measures during emergencies. Moreover, the act's focus on public awareness and training fosters a culture of preparedness among citizens, empowering them with knowledge about potential risks and appropriate actions to take in emergencies. Over the years, the legislative framework has facilitated improvements in India's disaster management capabilities, resulting in more coordinated and efficient responses to disasters. However, as the country continues to face evolving challenges, such as climate change and urbanization, ongoing efforts are required to enhance disaster resilience. India's legislative framework for disaster management is a testament to the country's commitment to safeguarding its population and assets from the impacts of disasters. By focusing on proactive measures, interagency coordination and public engagement, India objects to shape a more resilient society that can withstand and recover from the diverse range of disasters it faces. As India's disaster management approach evolves with changing circumstances, the act will continue to serve as a cornerstone in the country's pursuit of disaster resilience and reduction of disaster-related risks. force dedicated to rescue and relief operations. Moreover, the legislation guarantees financial allocations by establishing the "National Disaster Response Fund (NDRF)" and "State Disaster Response Fund (SDRF)," aiming to provide financial relief and rehabilitation measures during calamities. The Act of Disaster Management emphasizes on the formulation of disaster management ideas at various levels, defining the roles and duties of different contributors. By promoting public awareness and conducting training programs, the act seeks to strengthen disaster preparedness and response capabilities across the country. Overall, this legislative framework underscores India's commitment to proactive disaster management and building resilience in the face of natural and man-made calamities[15].

(B) Central Entities and Authorities: Pillars of Governance

In India, the establishment of institutional mechanisms for disaster management includes key entities such as the "National Disaster Management Authority (NDMA)," "State Disaster Management Authorities (SDMAs)," and "District Disaster Management Authorities (DDMAs)." These entities play essential roles in crafting policies, coordinating efforts, and executing disaster management measures at the national, state, and community levels, respectively.

"National Disaster Management Authority (NDMA)" is the highest government for disaster management in India. It came into force under the "Disaster Management Act, 2005". The

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[15] Ibid.

"NDMA" is chaired by the Premier or Prime minister of India and comprises different experts and representatives from relevant ministries and departments. Its primary responsibilities include:

a. The NDMA formulates blueprints, tactics and indication for disaster management at the national level. It lays down the overall framework and direction for the disaster readiness, acknowledgement and reconstruction in the country.

b. The NDMA facilitates coordination and cooperation between central and state governments, various ministries and other contributors involved in management of disaster.

c. The NDMA focuses on disaster hazard devaluation and preparedness initiatives to minimize the impact of disasters. It promotes measures to strengthen infrastructure, build capacity and enhance community resilience[16].

d. The NDMA undertakes capacity-building activities including training programs, workshops and knowledge sharing to enhance the disaster management capabilities of various stakeholders.

The Act of Disaster Management mandates the composition of "State Disaster Management Authorities (SDMAs)" in every state and union territory of India. The "SDMAs" are led through the Chief Minister or the Administrator of the Union Territory. Their key functions include:

a. The SDMAs are responsible for applying disaster management, measures within their respective states or union territories.

b. The SDMAs prepares State Disaster Management Plans that align with the national framework. These plans outline strategies and actions for misfortune readiness, comback and recovery at the state level.

c. The SDMAs allocate resources and reserves for disaster management activities in coordination with the "National Disaster Response Fund (NDRF)" and "State Disaster Response Fund (SDRF)".

d. The SDMAs collaborate with the NDMA and other central authorities for effective disaster response and resource mobilization during emergencies.

Further, the "Disaster Management Act" mandates the conception of "District Disaster Management Authorities (DDMAs)" in every division of India. The DDMAs are headed by the District Magistrate or District Collectors. Their key responsibilities include:

a. The DDMAs develop and implement district-level disaster management plans that align with

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[16] Xu Jiuping & Yi Lu , "Towards an earthquake-resilient world: from postdisaster reconstruction to pre-disaster prevention", environmental Hazards, 17:4, 269-275, (2018).

the state and national frameworks.

b. The DDMAs coordinate disaster response efforts within their respective districts, involving various departments, agencies and stakeholders.

c. The DDMAs mobilize local resources and coordinate with higher authorities to access additional resources for disaster response and relief operations.

d. The DDMAs are responsible for raising public awareness about disaster risks, preparedness measures and evacuation procedures at the district level.

Together, the NDMA, SDMAs and DDMAs form a multi-tiered institutional mechanism that enables effective disaster management in India. This hierarchical structure ensures coordination, collaboration and efficient utilization of resources to address the diverse challenges posed by natural and anthropogenic disasters.

IV. JAPAN'S DISASTER MANAGEMENT APPROACH: STRATEGIES AND IMPLEMENTATION

(A) Foundations of Legislation: Constructing the Framework

Japan's legislative framework for management of disaster is deeply rooted in the nation's historical experiences related to natural calamities. The "Basic Act on Disaster Control Measures" establishes a detailed and multi-faceted techniques to disaster alterness, acknowledge, and restoration. The Cabinet Office and the "Disaster Management Council" acts as the center of disaster coordination, ensuring a swift and well-coordinated response across government agencies. At the local level, prefectures and municipalities have a critical role in disaster management planning and implementation, tailoring strategies to address region-specific risks[17].The Japan Meteorological Agency's have sophisticated monitoring and early warning systems which enables rapid dissemination of critical information to the public and authorities helping minimize loss of life and property. During large-scale disasters the Self-Defense Forces swiftly deploys, providing essential support in rescue operations and logistical assistance.

Public awareness and education campaigns foster a tradition of readiness and community persistence. Regular drills and training programs ensure that citizens are well-prepared to respond effectively during emergencies. Furthermore, the legislative framework emphasizes disaster risk reduction and mitigation measures, recognizing the importance of preemptive

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[17]Gupta Anil Kumar, "Disaster Governance and Legal Systems in India", "Disaster Risk Governance in India" and Cross Cutting Issues, Disaster Risk Reduction, Springer, (2018).

actions to lessens the impact of disasters[18].The spirit of volunteering and societal solidarity is deeply ingrained in Japan's disaster management approach. Local communities actively participate in disaster response and recovery efforts, working in tandem with governmental bodies and non-governmental organizations.

Japan's legislative framework reflects a deep commitment to proactive disaster management, drawing on a comprehensive network of resources and expertise. As a result, Japan has been able to develop a robust disaster management system, which has significantly handed out in lowering the impact of disasters and enhancing the nation's resilience in the face of future challenges. The uninterrupted amendment and adaptation of this legislative framework exemplify Japan's unwavering determination to protect its citizens and preserve its social and economic stability in the event of calamities.

(B) Central Entities and Authoritative Bodies: Navigating Disaster Management

Disaster management system of Japan relies on a network of key institutions and authorities that works in unity to safeguard the nation from a wide range of hazards. The Cabinet Office assumes a central role in disaster preparedness and response, setting overall policies and coordinating disaster management endeavors on a nationwide scale. Supporting the Cabinet Office, the "Disaster Management Council", consisting of experts and representatives from relevant ministries, formulates strategic disaster management plans and ensures their swift implementation. The Japan Meteorological Agency (JMA) acts as a watch dog which continuously monitors meteorological conditions and issuing timely warnings for potential disasters like typhoons, heavy rainfall and earthquakes. At the local level, prefectures and municipalities, in conjunction with fire and Disaster Management Agencies, take charge of disaster response and relief activities within their jurisdictions. The Japan Coast Guard plays a crucial role in maritime safety which undertakes search and rescue operations during coastal disasters. Additionally, the National Police Agency assists with public order and traffic management during emergencies. The Self-Defense Forces stand as a pillar of strength, promptly deploying in times of large-scale disasters to provide crucial support in rescue operations, medical services and transportation. This collaborative and multi-layered approach ensures Japan's resilience and swift response to disasters, protecting its citizens and minimizing damage in times of crisis[19].

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[18] Fisher David , "The Law of International Disaster Response: Overview and Ramifications for Military Actors", Volume 83, International law studies (2006).

[19] "Jimee G.K.", "Meguro", and "Dixit, "Learning from Japan for Possible Improvement in Existing Disaster Risk Management System of Nepal". "Open Journal of Earthquake Research", 8, 85-100. (2019).

V. CONTRASTING PERSPECTIVES: AN IN-DEPTH COMPARATIVE EXAMINATION

(A) Converging Approaches: Common Ground in Indian and Japanese Disaster Management Systems

This section identifies and analyzes the common aspects between the disaster management structure in India and Japan. It explores shared approaches, legal provisions, institutional mechanisms and policy initiatives that contribute to effective disaster threat attrition and response. The disaster management systems in India and Japan share several similarities, which makes effort for effective disaster peril rebate and response.

India and Japan have established comprehensive legislative frameworks to address dissimilar expression of disaster management. In India, the Act of Disaster Management 2005 serves as the primary legislation, while in Japan has the "Basic Act on Disaster Control Measures" that brings the lawful base for disaster management. These laws outline the roles and responsibilities of various contributors, risk assessment processes, emergency response mechanisms and provisions for recovery and rehabilitation[20].

Both countries have established dedicated institutions are responsible for disaster management at the central and sub-national levels. In India, the "National Disaster Management Authority (NDMA)" serves as the highest authority, while "State Disaster Management Authorities (SDMAs)" and "District Disaster Management Authorities (DDMAs)" are answerable for implementing disaster management policies at the state and community level, respectively. Similarly, Japan has the Cabinet Office and the "Fire and Disaster Management Agency (FDMA)" as central coordinating bodies, along with native authority responsible for disaster management. Risk Assessment and Planning: Both India and Japan emphasizes on the importance of risk assessment and planning in their disaster management frameworks. They promote the use of scientific methods to assess various hazards, vulnerability mapping and the development of disaster management plans at various levels[21]. These plans include strategies for early warning systems, evacuation procedures and resource allocation during emergencies.

They recognize the significance of communal contribution in disaster management. They emphasize the awareness of local communities in disaster preparedness, feedback and resumption activities[22]. Community-based organizations, such as volunteers and local self-help groups, play a vital role in disseminating figures, assisting in evacuation and providing support

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[20] "Parthasarathy Devanathan", "Informality, Resilience, and the Political Implications of Disaster Governance", Vol. 88, Pacific Affairs, pp. 551-575 (2015).

[21] Glenn W. Russell, "Disasters' challenges and opportunities", ANU Press, JTOR (2023).

[22] Dutta Soumya Pratik, "Is Disaster Really Manageable in India", 7 INDIAN J.L. & Just. 193 (2016).

during emergencies. India and Japan actively engage in international cooperation for disaster management. They participate in regional and global forums, share best practices and collaborate with other countries in areas such as early warning systems, capacity building and post-disaster recovery efforts. Both countries have also developed a framework for sharing information and experiences with international organizations and neighbouring countries.

India and Japan emphasize the use of technological innovations for disaster management. They leverage advancements in information and communication technologies, remote sensing and geospatial mapping to improve early warning systems, real-time monitoring and efficient response coordination. Thus, both the nations invest in research and development to enhance technological capabilities for disaster risk reduction.

(B) Divergent Approaches: Contrasting Indian and Japanese Disaster Management Systems

This part examines the differences among the disaster management systems in India and Japan. It analyzes variations in legal frameworks, institutional structures, policy formulation, public participation and the effectiveness of response and recovery efforts.While there are similarities between the disaster management laws in India and Japan, there are also significant differences that arise from variations in legal frameworks, institutional structures, policy approaches and cultural contexts.

India's disaster management legal structure is primarily conducted by the Act of Disaster Management 2005, focuses on an inclusive approach to disaster management. In contrast, Japan's legal framework consists of multiple acts, including the Basic Act on Disaster Control Measures, which delineates specific responsibilities for different levels of government and focuses on a hierarchical command structure during emergencies.

The structural framework for disaster management varies between India and Japan. Within India, the "National Disaster Management Authority (NDMA)" operates as the apex body, supported by "State Disaster Management Authorities (SDMAs)" and "District Disaster Management Authorities (DDMAs)" at the state and district levels respectively. In contrast, Japan's disaster management is coordinated by the Cabinet Office and the "Fire and Disaster Management Agency (FDMA)" at the national level, with substantial involvement from local governments in executing disaster management measures.[23].India's disaster management policies emphasize community-based approaches and encourages the community participation

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[23] Panda Architesh, "Assessing Vulnerability to Climate Change in India", Vol. 44, No. 16, Economic and Political Weekly, pp. 105-107 (2009).

in disaster management activities. There is a focus on decentralized decision-making and empowering local communities. In contrast, Japan's policies emphasize top-down command and control structures, with a strong emphasis on government-led disaster response and coordination[24].Cultural Factors: Cultural factors play a role in shaping the disaster management systems of both countries. In India, the cultural diversity and decentralized governance structures present unique challenges for disaster management. The need to accommodate multiple languages, cultural practices and community-based organizations requires tailored approaches. In Japan, the cultural values of discipline, collective responsibility and respect for authority influence disaster management practices including adherence to evacuation orders and efficient coordination during emergencies.

India and Japan have different levels of engagement in international cooperation for disaster management. While both countries participate in regional and global forums, Japan has a long-standing tradition of providing assistance and expertise in disaster management to other countries, sharing its knowledge and technological advancements. India, on the other hand, has been more focused on strengthening its domestic disaster management capabilities, although it has recently increased its engagement in international collaborations. They face different types of disasters due to their geographical locations. India is prone to a broad range of disasters, which includes floods, cyclones, earthquakes and droughts. Japan is highly susceptible to earthquakes, tsunamis, volcanic eruptions and typhoons. These varying risk profiles influence the priorities and strategies adopted by each country in their disaster management laws and policies.

Therefore, understanding these differences is crucial for policyframers and practitioners to learn from each other's experiences and adapt best practices to their respective contexts. The exchange of knowledge and collaboration between India and Japan can help enhance disaster management capacities and promote effective response and resilience in both countries[25].

(C) Gleaned Insights from Japan: Lessons from a Comparative Examination

Japan's approach to disaster management has yielded valuable lessons that serve as a model for countries world-wide. The nation's proactive preparedness, with regular drills and public awareness campaigns have instilled a culture of readiness among its citizens. The integrated and coordinated response involving various institutions and authorities ensures a swift and

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[24]Dutta S.P, "Is Disaster Really Manageable in India", Indian J.L. & Just. 193 (2020).

[25] S. Avadi, and Seth, R., "Positing Indian military for disaster response: Comparative analysis of military involvement pre- and post-adoption of National Disaster Management Framework 2005", Defence Studies, Taylor and Francis,(2020).

efficient action during emergencies. Japan's advanced early warning systems, exemplified by the Japan Meteorological Agency have saved countless lives by providing timely alerts for weather-related disasters. The country's commitment to continuous improvement and adaptation, learning from past events, keeps its disaster management strategies up-to-date and effective. Community resilience, fostered through local involvement and support, plays a vital role in disaster response and recovery. Japan's innovative use of technology in disaster management, coupled with pre-emptive measures and risk reduction efforts, significantly reduces the impact of disasters. The nation's transparent approach and willingness to share information facilitate international cooperation and collaboration during crises. The lessons derived from Japan's experience underscore the importance of preparedness, coordination, and community engagement in building resilience and safeguarding societies from the impact of disasters world-wide[26].

VI. GUIDING STEPS FOR INDIA: PROPOSED MEASURES AND ACTIONS

(A) Fortifying the Legal Framework: Enhancing Disaster Management

The lawful frameworks for disaster management in India is of utmost importance due to the nation's vulnerability to various natural and man-made hazards. To address this need, India must enact a comprehensive legislation that consolidates existing laws and addresses gaps in disaster management. A new Disaster Management Act should encompass all aspects of disaster management, integrating justification, preparedness, comback and readjustnment measures while considering lessons pick-uped from previous disasters and global best practices.

India's legal framework should explicitly address climate change adaptation, recognizing the increasing impact of climate-related disasters. The legislation should mandate climate risk assessment, early warning systems and adaptation strategies to bolster the country's flexible to climate-induced disasters.

Furthermore, strengthening institutional mechanisms is crucial. The "National Disaster Management Authority (NDMA)," along with the "State Disaster Management Authorities (SDMAs)" and "District Disaster Management Authorities (DDMAs)," need clear mandates, sufficient resources, and enhanced coordination to ensure effective disaster response and recovery efforts. Promoting private sector involvement is essential to harness additional resources and innovative solutions during emergencies. Legislation should incentivize businesses to invest in disaster preparedness and define their roles in disaster response.

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[26]Badrinarayana Deepa, "The Emerging Constitutional Challenge of Climate Change": India in Perspective", Vol.19 No.1, Fordham Environmental Law Review, pp. 1-38 (2009).

Investing in advanced technology and early warning systems is imperative to improve disaster forecasting and response. The legal framework must prioritize the establishment of a comprehensive national early warning system that effectively reaches vulnerable communities. Community engagement is pivotal in disaster management. The legal framework should empower local communities and incorporate their perspectives in disaster planning and decision-making. Establishing Local Disaster Management Committees with local representatives, NGOs and community-based organizations can ensure grassroots involvement.

Further, the disaster risk reduction (DRR) should form the core of India's legal framework. Regular risk assessment, land-use forecasting and construction cyphers prioritizing safety and resilience must be mandated at all levels of governance. The post-disaster reprive and reclamation provisions are essential for effective recovery. Legislation should ensure equitable distribution of relief measures and efficient delivery of services to affected communities, with special attention to protecting vulnerable populations.

Thus, enhancing India's legal frameworks for disaster management through comprehensive legislation and targeted measures is crucial to building resilience and reducing the impact of disasters. By prioritizing community engagement, initial cautioning systems, climate change variation and disaster peril reduction, India can better protect its citizens and infrastructure in the face of various hazards. A robust legal framework will empower the nation to respond to disasters efficiently, promote unity and compassion and facilitate a safer and more secure future for all.

(B) Elevating Public Awareness and Engagement: Empowering Disaster Preparedness

Promoting civic alertness and concurrence in disaster management is essential for building a resilient and proactive society. Education and training programs should be conducted regularly at schools, workplaces and community centres to inform people about potential hazards and teach disaster preparedness and response measures. Multimedia public awareness campaigns using television, radio, social media and other platforms can effectively disseminate information about disaster risks, safety measures and evacuation procedures. Involving local communities in disaster management planning through Local Disaster Management Committees ensures that their perspectives are considered, fostering community engagement. Additionally, emphasizing the significance of early warning systems and encouraging timely responses during drills can save lives during emergencies. Public-private partnerships, volunteers programs and media engagement further enhance public involvement in disaster

management efforts[27]. Now a days mobile applications can provide real-time information on disaster alerts and safety tips, promoting widespread adoption for better preparedness. Regular community drills and exercises help familiarize people with response procedures and assess the effectiveness of disaster plans. Incentives and recognition, such as awards or tax benefits, encourage individuals and communities to actively participate in disaster preparedness and response initiatives. By implementing these strategies, governments and organizations can empower citizens with the knowledge and skills to protect themselves, their families, and their communities during disasters, ultimately reducing the impact of calamities and fostering a more resilient society.

VII. SUMMING UP: INSIGHTS AND REFLECTIONS

(A) Key Discoveries Unveiled: Summary of Results

India:

India's Disaster Management Act of 2005 establishes a complete criminal framework for disaster management, focusing on proactive measures, interagency collaboration, and public involvement. The establishment of the National Disaster Management Authority (NDMA), State Disaster Management Authorities (SDMAs) and District Disaster Management Authorities (DDMAs), ensures a well-described hierarchy and coordination between country wide, nation, and district degrees in catastrophe control planning and execution. India's dedicated disaster reaction force, NDRF, possesses educated employees and contemporary gadget, facilitating fast and professional responsiveness in emergencies. The enactment of the Disaster Management Act which ensures adequate funding for catastrophe reaction efforts through the National Disaster Response Fund (NDRF) and State Disaster Response Fund (SDRF).

Despite having a robust legislative framework, effective utilization of disaster management dimension at the ground level are hindered by bureaucratic inefficiencies and limited resources. Public awareness about disaster risks and preparedness measures is not uniform across all regions in India, leading to potential gaps in response during emergencies. Also, rapid urbanization has put immense pressure on infrastructure, often lacks proper disaster-resilient design, which thereby increases vulnerability to disasters in urban areas.

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[27]Macchi Mirjam, Amanda Manandhar Gurung, "Community perceptions and response to climate variability and change in the Himalayas", Climate and development, Taylor and Francis (2014).

Japan:

Japan has a strong emphasis on proactive preparedness, with regular drills, public awareness campaigns, and education programs, instilling a culture of readiness among citizens. The Japan's Meteorological Agency (JMA) has a sophisticated monitoring and early warning systems, issuing timely alerts for weather-related disasters, reducing potential impacts on lives and property. Its approach emphasizes community engagement and involvement in disaster response and recovery efforts, enhancing social cohesion and effective response during crises. Thus, Japan leverages advanced technology and innovation in disaster management, enabling real-time data collection, analysis and dissemination for improved forecasting and response.

(B) Culmination and Reflection: Concluding Thoughts

The comparative study of disaster management laws in India and Japan reveals valuable insights into the strengths and areas for improvement in India's approach. India's Act of Disaster Management 2005" contributes a comprehensive juridical framework, and its institutional mechanisms facilitate coordinated disaster management efforts. However, challenges lie in the effective implementation of measures and raising public awareness. Japan, on the other hand, excels in proactive preparedness, advanced early warning systems, and community engagement. Both nations demonstrate their commitment to disaster resilience through legislative advancements and innovative strategies. By learning from each other's experiences, India and Japan can further strengthen their disaster management systems, fostering more resilient societies prepared to tackle future challenges effectively. As disasters continue to pose threats globally also, the study highlights the significance of continuous improvement and cooperation in mitigating the impacts of natural and man-made calamities.

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