The Great Flood of '99:

A Historiographical Outlook on the Great Deluge

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ABSTRACT

Key Words:

Kerala Flood, Mullaperiyar Dam

The Great Flood of 99, which occurred in July 1924, remains one of the most catastrophic natural disasters in the history of Kerala, India. This historiographic analysis delves into the causes, impacts, and long-term consequences of the deluge, offering a comprehensive understanding of its significance. The flood, driven by unprecedented monsoon rains, caused the Periyar River to overflow, leading to widespread devastation across various districts, including Thrissur, Ernakulam, Idukki, and Kottayam. The deluge destroyed key infrastructure, such as the Kundala Valley Railway and the Aluva-Munnar route, and resulted in significant human and economic losses, with at least 1,000 lives claimed and extensive damage to property and agriculture. Controversies surrounding the flood's causes, particularly the role of the Mullaperiyar Dam's sluice operations, highlight the complex interplay between natural and human factors. The aftermath saw extensive rebuilding efforts and policy changes aimed at improving disaster preparedness and response. The flood's legacy underscores the importance of sustainable environmental practices and robust disaster-management systems, lessons that remain pertinent as Kerala continues to face similar challenges in the 21st century. This article not only documents the historical events but also reflects on the broader implications for contemporary disaster resilience and infrastructure planning.

1.0 Introduction

The summer of 1924 saw Kerala, a state in southern India, experiencing one of the most catastrophic floods in its history. Referred to locally as "Thonnootti Onbathile Vellapokkam", the event is more commonly known as the Great Flood of '99. This name stems from the Malayalam calendar, where the flood occurred in the year 1099 ME (Malayalam Era). The Great Flood of 99 profoundly impacted Kerala's landscape, infrastructure, and collective memory. As we mark the centenary of this monumental disaster in 2024, it is an opportune moment to reflect on the enduring legacy and lessons learned from this event. Over the past 100 years, the flood has remained a pivotal reference point in the region's history, shaping both policy and public consciousness regarding disaster

preparedness and environmental management. This article examines the causes, impacts, and lasting legacy of the Great Flood of '99 from a historiographical perspective, exploring how it has influenced Kerala's development and resilience strategies over the past century.

1.1 Research and Argument

This article argues that the Great Flood of '99 was a pivotal event that reshaped Kerala's approach to disaster management and environmental planning. By examining both contemporary and modern analyses, the study highlights the evolution of resilience strategies over the past century. This historiographical approach underscores the importance of learning from past experiences to better prepare for future challenges.

1.2 Methods and Methodologies

This study employs a multi-method approach, combining archival research, historiographical analysis, and a review of recent scholarly work. Archival research involved examining primary sources such as government records, newspapers, and personal letters. Historiographical analysis helped trace the flood's impact over the decades, while reviewing recent publications ensured the study incorporates contemporary perspectives and findings.

1.3 The Prelude to Catastrophe

In July 1924, Kerala experienced unprecedented rainfall. The state received 3,368 mm of rain during the monsoon season, 64 per cent higher than normal, marking it as the highest recorded rainfall in the region. The heavy rains persisted for about three weeks, causing rivers to overflow and creating widespread flooding. This phenomenon was likely due to offshore vortices along the west coast and perturbations higher up in the troposphere, rather than any cyclonic disturbance in the Arabian Sea or the Bay of Bengal (Sanchita Sivaraman).

The meteorological conditions leading up to the flood were exceptional. The combination of intense monsoon rains and geographical factors created a perfect storm scenario (K.Krishnakumar). The heavy rains began in early July and showed no signs of abating, leading to a steady rise in water levels in the rivers and reservoirs. The state, primarily reliant on the agricultural economy, was unprepared for the magnitude of the disaster that was about to unfold. The persistent rain not only affected the plains but also the high-altitude regions, which are typically spared from severe flooding (Adrija Roychowdhury).

1.4 The Deluge Unleashed

The Periyar River, Kerala's longest river, played a central role in the disaster. The sudden opening of the Periyar sluices exacerbated the situation, leading to severe flooding. The restriction in flow, combined with blockages formed by debris and changes in river courses, caused flooding even in high-altitude areas like Munnar, which is situated about 1,500 meters above sea level. The deluge swept through the land, inundating towns, villages, and agricultural fields.

A significant casualty of the flood was Karinthiri Mala, a mountain that was completely washed away. The floodwaters destroyed the Kundala Valley Railway, India's first monorail system, and rendered the Aluva-Munnar route unusable (Srija et al.). This necessitated the construction of a new road from Ernakulam to Munnar, completed in 1931. The destruction of the Kundala Valley Railway was a significant loss for the region, as it was a crucial mode of transportation for the tea industry in Munnar. The floodwaters carried away tracks,

bridges, and stations, leaving behind a landscape of twisted metal and debris (Adrija Roychowdhury).

The Aluva-Munnar route, an essential link between the highlands and the lowlands, was also devastated. Landslides triggered by the incessant rains buried large sections of the road, cutting off Munnar from the rest of the state. This isolation had a severe impact on the local economy and the daily lives of the people. The necessity of constructing a new road underscored the long-term infrastructural challenges posed by the flood.

1.5 Human Toll and Resilience

The Great Flood of '99 claimed at least 1,000 lives and caused extensive damage to property and crops across Kerala. Districts such as Thrissur, Ernakulam, Idukki, Kottayam, Alappuzha, and Kuttanad were deeply submerged. The floodwaters also caused significant landslides, further compounding the destruction. Entire communities were washed away, and the survivors faced the daunting task of rebuilding their lives from scratch (Bobins Abraham). In Munnar, around 4850 mm of rainfall was recorded, leading to widespread devastation. The old Aluva-Munnar route through Kothamangalam-Kuttampuzha-Mankulam was abandoned due to landslides. Refugee and relief efforts were immense, with thousands of displaced families being fed at relief centres across the state. Temporary shelters sprang up in schools, churches, and community halls, providing refuge to those who had lost everything (Anand Kochukudy). The human cost of the flood extended beyond the immediate loss of life. The psychological impact on the survivors was profound. The trauma of witnessing the destruction of their homes, the loss of loved ones, and the uncertainty of the future left deep scars. Communities banded together in the face of adversity, displaying remarkable resilience. Neighbours helped neighbor, and the spirit of solidarity became a beacon of hope in the darkest times.

1.6 Impact of the Great Flood of '99 on Munnar

The Great Flood of 99 had a profound and lasting impact on Munnar, a picturesque hill station in Kerala renowned for its tea estates and lush landscapes. Despite its elevation of approximately 1500 meters above sea level, which usually protects it from severe monsoon floods, the extraordinary rains of July 1924 brought unprecedented devastation. Munnar experienced around 4850 mm of rainfall, overwhelming the area's natural drainage and causing numerous landslides that destroyed homes, tea plantations, and vital infrastructure. One of the most significant impacts was the destruction of the Kundala Valley Railway, the first monorail system in India, which played a crucial role in transporting tea. Floodwaters and landslides obliterated the railway tracks, bridges, and stations, severing the transportation lifeline that supported Munnar's tea industry. The old Aluva-Munnar route, an essential road connection, was also rendered unusable by landslides, isolating Munnar and hampering relief efforts. The flood devastated Munnar's economy, heavily dependent on its tea plantations, with vast swathes of gardens damaged and significant economic losses incurred by plantation owners and workers. While the precise number of casualties in Munnar is not well-documented, the flood caused significant loss of life and displacement, with temporary shelters set up to provide refuge. Rebuilding efforts were extensive but slow, including the construction of a new road from Ernakulam to Munnar, completed in 1931. The flood also led to a reevaluation of land use and environmental management practices, highlighting the need for sustainable development and soil conservation to prevent

future disasters. The memory of the flood remains a poignant reminder of the region's vulnerability and the importance of resilience and preparedness (KA Shaji).

1.7 Aftermath and Reconstruction

The destruction wrought by the flood necessitated major rebuilding efforts. The new road from Ernakulam to Munnar, surveyed and constructed under British guidance, was a crucial development in the aftermath. The flood also led to significant policy changes, including improved flood management strategies and infrastructure development to better withstand future natural disasters.   The reconstruction process was arduous and time-consuming, involving not only the physical rebuilding of infrastructure but also the restoration of livelihoods (Vimalkumar. C.L).

The aftermath of the flood saw an influx of international aid and government initiatives aimed at rehabilitating the affected areas. Relief efforts focused on providing immediate assistance to the displaced, including food, shelter, and medical care (Shivani Sarat). In the longer term, efforts were made to rebuild homes, restore agricultural fields, and revive the local economy. The construction of the new road from Ernakulam to Munnar was a significant milestone in these efforts, providing a vital lifeline to the highland regions.

The flood also served as a wake-up call for the need to develop better disaster preparedness and response mechanisms. The lack of early warning systems and coordinated emergency response had significantly contributed to the scale of the disaster. In the years following the flood, Kerala invested in improving its infrastructure, including building more robust flood defences, enhancing drainage systems, and developing early warning systems to better prepare for future natural disasters.

1.8 Historical Patterns and Modern Implications

The historical patterns of floods in India provide a broader context for understanding the Great Flood of '99 and its implications for Kerala. Analysis of flood data from the pre-HFA (Hyogo Framework for Action), HFA, and post-HFA periods reveals that the frequency and severity of floods have varied significantly over time. The cumulative number of flood events during these periods was 148, 119, and 80, respectively, with a slight increase in the annual average number of events during the Sendai period. From 1995 to 2020, floods emerged as the most frequent climate-related disaster in India, affecting 29 out of 36 states and UTs. States like Bihar, West Bengal, Assam, Manipur, and Tripura experienced the highest frequency of floods, with over 20 incidents in 26 years. Kerala, too, witnessed an increase in flood frequency, particularly during the post-HFA period. This trend underscores the ongoing vulnerability of the region to flooding, despite historical lessons (Gupta et al.).

The historiography of the Great Flood of '99 and recent flood data highlight the importance of continuous learning and adaptation in disaster management. Kerala's experience with floods, both historical and contemporary, underscores the need for robust infrastructure, effective early warning systems, and sustainable land use practices. As Kerala navigates the challenges of the 21st century, integrating lessons from past events with modern strategies is crucial for building resilience against future natural disasters.

1.9 Legacy and Lessons Learned

The Great Flood of 99 remains a poignant memory for the older generation in Kerala. It

marked a significant point in the region's history, influencing infrastructure development and disaster preparedness. The flood highlighted the importance of efficient water management systems and the need for rapid response mechanisms to mitigate the impact of such natural disasters (Sanchita Sivaraman and Bechu S).

The flood's legacy is evident in the numerous changes it prompted in Kerala's approach to disaster management. The importance of maintaining and upgrading infrastructure to withstand extreme weather conditions became a priority. The lessons learned from the flood of 1924 continue to inform contemporary policies and practices. For instance, the importance of early warning systems and coordinated response efforts cannot be overstated. Modern technology, such as satellite monitoring and real-time weather forecasting, has significantly improved the ability to predict and respond to similar events.

The flood also underscored the need for sustainable environmental practices. Deforestation, land mismanagement, and other human activities had exacerbated the flood's impact. In response, there has been a growing emphasis on conservation and sustainable development to reduce the vulnerability of communities to natural disasters. Reforestation projects, improved land use planning, and the protection of natural watercourses are some of the measures that have been implemented to enhance the region's resilience.

2.0 Recommendations

To better prepare for future flood events and mitigate their impacts, Kerala must focus on enhancing early warning systems, upgrading infrastructure, and implementing sustainable land use practices. Investing in state-of-the-art early warning systems, leveraging satellite imagery, weather modeling, and real-time data collection will improve the accuracy and timeliness of flood forecasts. Reinforcing dams, embankments, and drainage systems is crucial to withstand extreme weather events. Sustainable land use and agricultural practices should be enforced to reduce soil erosion, improve water absorption, and prevent landslides, especially in hilly areas like Munnar. Community preparedness programs that educate and train local populations on disaster response and resilience are essential for effective disaster management and recovery. Regularly reviewing and updating disaster management policies to incorporate new research findings and technological advancements will ensure strategies remain relevant. An integrated approach to water resource management, considering the entire watershed and coordinating between different regions and sectors, will help manage water resources more efficiently. Encouraging ongoing research and data collection on flood patterns, impacts, and effective mitigation strategies through collaboration between academic institutions, government agencies, and international organizations will enhance understanding and improve disaster management practices. By adopting these measures, Kerala can build resilience against future floods, honoring the lessons learned from the Great Flood of '99 and ensuring a safer future.

2.1 Conclusion

The historiography of the Great Flood of 99 provides valuable insights into the interplay of natural and human factors in shaping such disasters. Reflecting on the causes and impacts of the 1924 flood underscores the importance of preparedness and resilience in the face of natural calamities. As Kerala navigates the challenges of the 21st century, the lessons from the Great Flood of 99 remain ever relevant, guiding efforts to build a safer and more resilient

future. The Great Flood of 99 was not just a historical event but a defining moment that shaped Kerala's collective consciousness and resilience. The stories of survival, the lessons learned, and the subsequent changes in infrastructure and policy continue to influence the state's approach to disaster management. As we reflect on this monumental event, it is crucial to recognize the importance of continuous learning and adaptation to better prepare for and mitigate the impacts of future natural disasters. The legacy of the Great Flood of 99 serves as a testament to the strength and resilience of the people of Kerala and their unwavering spirit in the face of adversity. Marking 100 years since this catastrophic event, it is essential to honor the past, understand the present, and prepare for a future where such tragedies can be better managed and mitigated. The centenary of the Great Flood of 99 reminds us of the enduring importance of resilience, adaptation, and the unyielding spirit of the people of Kerala in overcoming adversity and rebuilding stronger communities.

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