

A TALE FROM GODS OWN COUNTRY: WALKING WOUNDED HILLS AND STRATEGIES TO RESTORE THE PARADISE

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Abstract: This article examines how a destination in crisis recoup after a devastating disaster and how the stakeholders are impacted by the disaster and explores the need of a strong destination governance policy in crisis situation. In the crisis settings the study includes a qualitative approach to understand the stakeholders' impact and disaster assessment process that examines various facets of the natural disaster through a structured discussion with the impacted stakeholders. The study's primary focus is on the crisis management strategies adopted by the impacted district, Wayanad; to tackle the challenges that localities face within the devastating situation. This study proposes a framework that could facilitate speedy crisis management responses. The findings indicate the role of governing bodies, in handling crisis management scenario over internal strategies and strategy formulation. The dynamics of stakeholder engagement and tactical perspectives adopted by the state in the given prominence. This study examines how the Governing bodies and practitioners of the local governing authority; interpret the crisis situation and explores the tactical and strategic management initiatives for repositioning and rebranding tourism. The natural calamity has had a significant impact on the Livelihood and Topography of Wayanad, Kerala, India, making it extremely susceptible. This study aims to investigate how community resilience and rehabilitation were impacted by the natural catastrophe and the response of the key stakeholders. Design/ Methodology/ Approach – The study analyses the impact of disaster and examine a multi-stakeholder assessment to capture varied dimensions of the disaster through a structured conversation. The research engages a qualitative approach and the data is captured through semi-structured interviews from the local community, tour operators, and destination management companies in Wayanad. A conceptual framework for community resilience competencies is proposed in the study, which may help with quick crisis management responses. The study's sample consists of key stakeholders; including representatives from the tourism industry, including leaders from the community, and local residents. The qualitative findings identify the disaster recovery strategies while, handling crisis management scenarios and examines the resilience mechanism adopted at the disaster struck regions by the stakeholders. The results strongly indicate; an imperative need for a good governance as an archetype for practitioners to lead with tactical and strategic measures to sustain the vulnerabilities. Lack of pre-disaster communications and protocols were missing elements leading to the devastating scenario during the disaster. Mechanisms for boosting tourism was lead well with the help of travel influencers and repositioning the destination image. Along with possible strategies and ideas that can help Wayanad's tourism industry, particularly in the post-disaster phase, this paper indicates strategies to restore the destinations brand identity and reputation. The study supports the "New phase of Normalcy" by including ideas and mitigative measures that the public sector should implement to address safety concerns. The State has well begun with the new reinstating tourism strategy through the new campaign "Ente Keralam, Ennum Sundaram" (My Kerala Ever Beautiful).

Keywords: disaster management, destination resilience, community sensitization, destination management theory, Stakeholder Alliance

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INTRODUCTION

Climatic change has considerably affected the ecological balance and according to the UN report 2023, 90 percent of natural disasters are the outcome of weather and water related impact on the environment resulting in floods, landslides, drought, wildfires and pollution. It is important that we acknowledge and act understating the underlying interactions between human settlements and environment and the long term endurance of nature and its counter reactions on exploitative human activity on environment. In addition to being the most populated nation on Earth, India is one of the top emitters of gases that warm the globe today and is regarded as one of the most climate-vulnerable areas globally. Every year India grapples with torrential rains along with flash floods and landslides in almost every part of the country. In the

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Indian state of Himachal Pradesh, located in the Himalayas, excessive rainfall caused the deaths of over 400 people last year. Climate change has been linked to increased unpredictability in India's monsoon rains, according to several research. Environmentalists fear the impact of monsoon downpours will lead to devastating impacts, and cause landslides and floods, until fossil fuels are replaced by renewable energy. In the next decades these issues will intensify with changes in topographic and geological changes and will have a socioeconomic impact on mankind as well as the entire biosphere.

The Centre for Science and Environment in New Delhi, a public interest advocacy organization, monitored extreme weather events in India in 2022. Based on the data, it was found that extreme weather events occurred on 314 of India's 365 days, meaning that at least one was recorded in some part of the country every day. According to the report's results, these disasters caused almost 2 million hectares of damage, over 3,000 fatalities, over 69,000 cattle deaths, and about 420,000 dwelling damages in 2022 (Perinchery, 2024). According to a study published by the UN Intergovernmental Panel on Climate Change in 2022 India is one of the countries which would have devastating effects of climatic change.

This is very evident from the recent changes in the intensity of natural disasters in the southern states of India especially in Kerala. Kerala, the southernmost state of India was insulated from extreme climatic conditions and extreme natural disasters on a regular basis until 2018, but 2018 witnessed devastating floods and landslides which had an intensive impact on the state's social, economic and ecological balance. This paper intends to open a discussion on the fact that societies and states have varied mechanisms for responding to environmental changes and calamities, the ideology of the society and the governance systems contribute to the alternates, proactiveness and resilience in these hard times in the backdrop of the devastating landslides that washed out 3 panchayaths in the district of Wayanad.

Climatic Change and Ecological Imbalances

Climatic change has affected societies and reshaped civilizations over the history and extensive literature points out on how climatic changes have wiped out civilisations and led to topographical changes (Yang et al., 2021; Chen et al., 2022). The recent incidents of landslides and floods that have been sweeping the country is more related to industrial activity which does not confirm to the norms of environmental sustainability. Industrial mining operations and related activities have a detrimental and sometimes irreversible effect on ecosystems (Sutrisno et al., 2024). It's important to consider the diversity, of trees found in the area, and the migration of species along topographical gradients, since unrestrained quarrying has an impact on the region's vegetation and geology (Becken & Hughey, 2013; Cehan & Iaşu, 2024). Spatial variation with diversity is seen throughout the elevational regions among the hilly ecosystems that are experiencing a major ecological degradation (Chrobak & Cebulski, 2014). Tree diversity is spatially variable in hilly habitats that are undergoing significant ecological degradation, as shown across the elevational gradient (Thakur et al., 2022; Yang et al., 2021). Mountains are ecosystems that are vulnerable and have unique features, so they must be carefully preserved. About 25% of the terrestrial biological variety on Earth is dependent on these environments for survival. Moreover, mountains are home to over half of the world's biodiversity hotspots (Singh et al., 2023).

The coexistence of unique species of flora and fauna varies across the mountain ranges depending on the climatic conditions, but they are also susceptible to any extreme changes in their habitat due to urbanisation, quarrying, deforestation, industrialisation and other scrupulous human activities that can result in massive natural calamities wiping off them from their natural occurrence (Coops et al., 2020; Sutrisno et al., 2024). Large studies have demonstrated the spatial distribution of species, which protect the ecosystem in hilly ranges, are negatively impacted by industrial activities (Huang et al., 2007; Biggs et al., 2012; Hall, 2010; Suhud et al., 2024). Any changes in the context lead to devastating effects. Typically mining and quarrying activities are placed at vulnerable and ecologically sensitive and semiarid places and these activities generate a lot of pressure on the ecological balance and creates climatic changes, this coupled with rapid industrialisation and boom in new age tourism activities and real estate results in ruthless exploitation (Gössling et al., 2018). The scientific community faces issues in assessing the consequences of climate change on the natural environment, and policymakers and decision-makers are faced with difficult choices on protection and sustainability aspects (Ritchie, 2008; El Gamil, 2023).

Study Setting: Kerala and the state of Wayanad over the years; a brief history of topography changes

Western Ghats mountain range, which is older than the Himalayan range, is home to important geomorphic features. The site's high montane forest habitats have an impact on the Indian monsoon weather pattern and with its unique biophysical and biological processes the location provides counteracting the surrounding area's tropical temperature with good monsoon. It boasts great endemism and biological diversity, making it one of the eight "hottest hotspots" of biological diversity in the world. The Ghats are a range of mountains that cut through the Indian states of Kerala, Tamil Nadu, Karnataka, Goa, Maharashtra, and Gujarat. They run parallel to the country's western coast and are about 30 to 50 kilometres inland. With the exception of the 30 kilometre Palghat Gap at approximately 11°N, this 1,600 km long range of mountains covers an area of over 140,000 km² (Western Ghats, UNESCO Report, 2012).

Kerala, the southernmost state is nestled between the Western Ghats making it highly prone to negative impact of climatic change. The 2018 weather-related disaster showed the vulnerability. The eastern part of Kerala, which is surrounded by the western flank of the Western Ghats, is one of the key areas in the country that is most prone to landslides. Landslides are prone every year along with monsoon season in the 1500 sq. km. vulnerable Western Ghats region. The state has not faced floods like those in 2018 for a century, which left 483 people dead and significant damage to the state. A landslide that occurred in Puthumala, Wayanad in 2019 added to the tragedy with a death toll 17 lives and misery. In 2021 53 people died because of landslides and heavy rains, while 18 people died and considerable property damage was caused by additional landslides and floods in 2022 (ET, Aug1, 2024). Kerala had the most landslides in India between 2015 and 2022.

Trajectory of Series of Devastating Events

On August 8, 2019, Kerala saw devastating floods and landslides because of heavy rainfall. Puthumala a plantation community in Meppadi panchayath, situated at an elevation of 1230 meters above mean sea level and 20 kilometres from Kalpetta in the Wayanad district was hit by a massive landslide. The landslide's epicentre was 290 meters high on the mountain, and it descended 20 hectares of land, pushing it out to a distance of roughly 2 km. An initial smaller landslide that happened deep within the forest was the Puthumala landslide. A massive landslide resulted from the crushing of rocks and dirt under pressure. It was noticed that a sizable section of the hill had collapsed and that a vast stretch of the valley was covered with boulders, mud, and other debris. Several factors contributed to the occurrence of landslides in this area were excessive rainfall that caused the soil to break down, deforestation, shallow soil depth that allowed water to seep into soil piping or cavities, cardamom farming on the mountainside that caused the soil to become loose, disappearing stream lengths from construction and occupation, and mining and construction done without following scientific methods that altered the soil's structure (Desai et al., 2020). Around 100 acres of tea plantation land was washed away affecting the villagers livelihood as agriculture was their main means. In July, 2024 Kerala witnessed another devastating landslides claiming 420 lives, 119 people missing and massive damage to the entire villages of Punjrimuttom, Mundakkai, Chooralmala, Vellarmala of Meppadi panchayath in Wayanad highlighting the area's continued battle with natural disasters. The people who live in the villages of Mundakkai, Chooralmala, Attamala, and Lulupura have been severely impacted. About 1,721 dwellings were impacted by the landslide in Meppadi Grama Panchayat wards 10, 11, and 12. 1,424 individuals in 601 households in Ward 10-Attamala, 1,247 individuals in 451 households in Ward 11-Mundakkai, and 2,162 individuals in 671 households in Ward 12-Chooralmala. Under the direction of Uralungal Technology Solutions, 25 damaged structures, including homes and other buildings, have been identified by GIS mapping. Severe rainstorms are causing damage to standing crops and vegetables, water logging on highways, tree uprooting, and decreased visibility. The severe downpour caused damage to electricity cables and the loss of five transformers, which resulted in an interruption in the supply of power.



Figure 1. Satellite image of Wayanad landslide – July 2024 (Source: A: Wayanad Tragedy: Satellite Map Shows 'Crown' Of Landslide, Impact, Outlook Web Bureau (2023); B: Wayanad landslides: Here's what all happened so far, The Indian Express (2023); C: Wayanad Tragedy: Satellite Map Shows 'Crown' Of Landslide, Impact, Outlook Web Bureau (2023))

The only bridge that connected Mundakkai to nearby Chooralmala and the outside world was destroyed in the landslide that unleashed a new, ferocious river stream, leaving the village isolated for hours. Everything in its path, including the Vellarmala Government Vocational Higher Secondary School (GVHSS) at Chooralmala, was washed down by the "new" torrent of debris (Figure 1A). In just the Vellarmala GVHSS, 32 children lost their lives and Ten are still missing, according to the teachers who survived only 22 bodies were found ((Figure 1B). The headmaster of the school, Unnikrishnan who survived the calamity, told the media that they were devastated and still cannot recover from the shock of an overnight calamity claiming the entire quiet village and its people ((Figure 1C). Before and after images, released by NRSC of ISRO, of Chooralmala, in Wayanad district of Kerala, which was hit by a landslide on July 30, 2024 (Figure 1A, B and C).

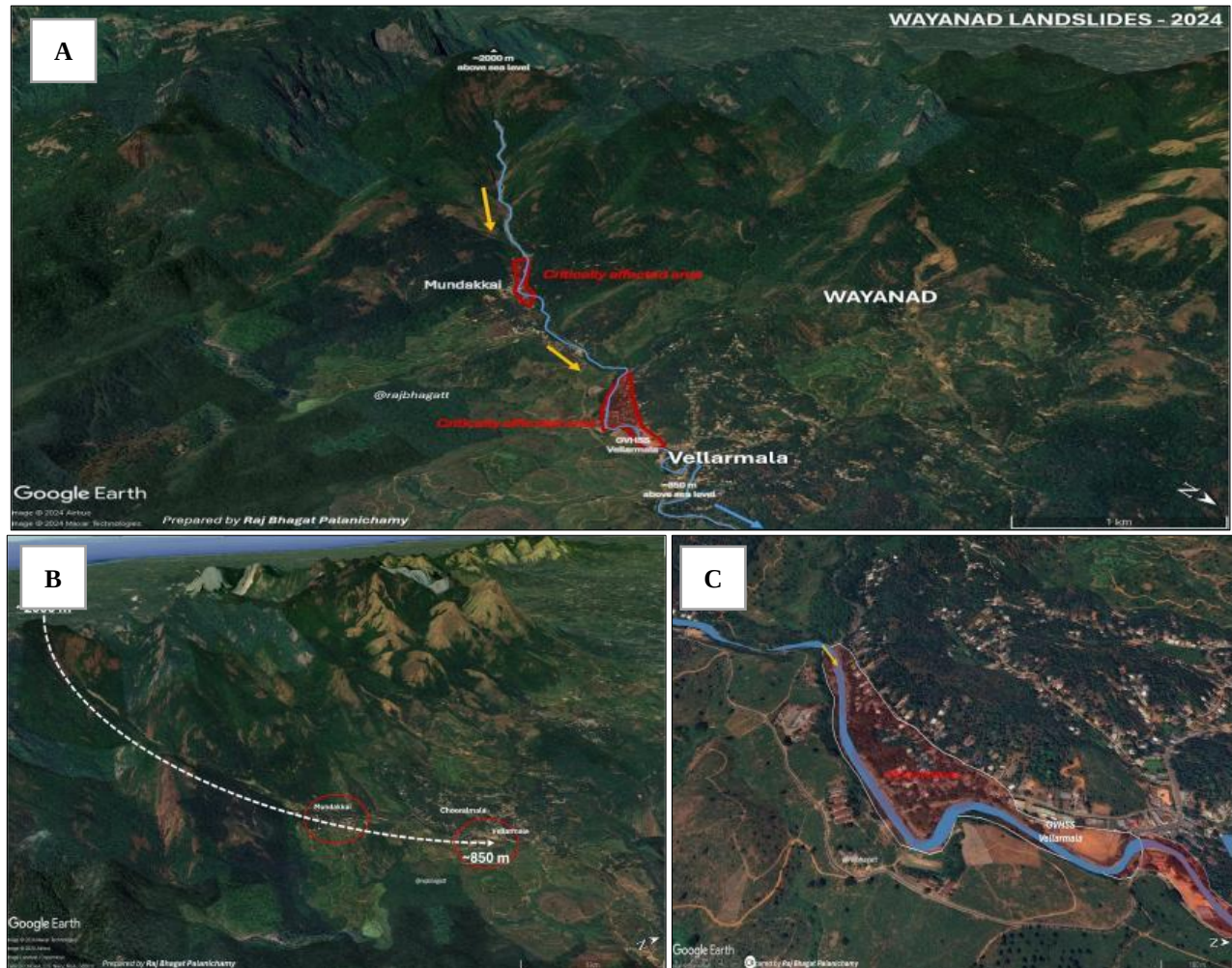


Figure 2. Landslide that hit Wayanad on July 30, 2024; A - Landslide-affected areas in Wayanad; B - Increased velocity due to a steep slope; C - Inundated areas in Wayanad (Source: <https://theprint.in/theprint-essential/explained-with-maps-how-topography-human-density-led-to-devastation-in-keralas-wayanad/2202631/>)

Landslides and cloudbursts have become a phenomenon in the Western Ghats over the last decade. A landslide can be defined as a downward movement of rock, soil, or both on the surface of a rupture, which might be planar (translational slide) or curved (rotational slide). Most of the material in a landslide travels as a coherent or semi coherent mass with minimal internal deformation (Highland et al., 2008). Note that other kinds of movement can also occur during landslides in some circumstances, either at the beginning of the failure or afterwards if the characteristics change as the displaced material goes downslope. The series of natural calamities in the form of landslides are mostly caused by human population growth settling on newly acquired land and developing cities, towns, and neighbourhoods along with mining and quarrying. Removing vegetation, undermining slopes, and altering natural drainage patterns are prominent human-induced factors that can cause landslides. Additional instances include undercutting the bottom of a slope and loading the top of a slope above the bearing capacity of the soil or other component material, causing oversteepening of the slope. Five years on after the landslide erased two hamlets in Wayanad's Meppadi panchayat — Pachakkad and Puthumala, a popular tourist destination and called as 'Mini Ooty' once upon a time things has not changed much, the negligence of the authorities in rebuilding the lives of the people who were hit by the landslides and in ensuring alertness and in regulating the unscrupulous environment degradation activities which was highlighted by the Western Ghats Ecology Expert panel also known as Gadgil commission has today become a death kennel for the Meppadi panchayat, the tragedy haunts again through the landslide that hit the Meppadi panchayat on 31, July 2024 claiming a greater catastrophe than the earlier one. The Google Earth images (Figure 2A, B and C) portrays the disastrous impact of the landslide on the hilly areas of wayanad.

The Loss and grief engulfed the whole hamlet, a few of the affected people who were coming into terms with reality and shared their harrowing experiences. Participant 1 said that all she could remember was that when she was brought to the relief camp none of her family members were there all have vanished, she also said that she hadn't got the time to gather her sense to think what was actually happening around. Another person said that they have lost all their earnings and are not sure of how to rebuild their lives. An endless stream of tales of grief, shock, and loss pour out of the relief camps. Families struggle with the shock of losing their houses and close ones. There is pain on every face, and some people are so broken-hearted that they can hardly come in terms with the tragedy. Parents cling to their children as if the kids are newborn as they feel haunted of losing dear ones. Elderly people have blank look on their face overwhelmed by the sudden loss of all their near ones and their entire savings of life which vanished overnight.

Every political party, religious organization, and social group has actually sent volunteers to Wayanad, in addition to Civil Defence, which is a civilian rescue force that is trained and operated by the Kerala Fire and Rescue Services department and the Kerala State Disaster Management Authority. The volunteers worked tirelessly and shared their experience of unearthing deceased people from the debris. According to data from the Accidental Deaths and Suicides reports published yearly between 2003 and 2022 by the National Crime Records Bureau, the recent landslide in Wayanad represents the highest death toll recorded in Kerala in over 20 years.

Gadgil Committee and Kasturirangan Committee Reports - Still Whose Apathy It Is?

According to the Gadgil committee report recommendation, eighty percent, of the Western Ghats should be declared an ESA. Further it sub-categorised the protected region into three zones and provided permissible activities for each zone. The Madhav Gadgil-led group suggested classifying Ecologically Sensitive Areas and Zones throughout the Western Ghats in its report. The ESZ - I and ESZ - II regions have explicit limitations and regulations on construction activity. The report suggested that red category industry and quarrying should be prohibited in ESZ-I. Sand mining, quarrying, and mining in sensitive places should be prohibited and strict regulations, on constructions for infrastructure development, were suggested in the report in these zones. With regards to the report's effect on livelihoods and development, numerous local groups and governments—including Kerala's—opposed it. It also recommended that quarries be at least 100 meters distant from populated areas in regions where quarrying was allowed. But eventually, the government shortened it to just 50 meters.

Later, the Gadgil report was rejected by the Union Government, and Kasturirangan chaired a new group tasked with producing a report. It has been suggested by the Gadgil panel that the Western Ghats as a whole be declared ESAs. However, the Kasturirangan committee limited the ESA's coverage to 37% of the Western Ghats. The Gadgil study had acknowledged the importance of the Western Ghats for the ecosystem. But for inconsequential political reasons, successive governments rejected it. People were worried that the implementation of this report would snatch them of their property, in fact many people from south Kerala had migrated to the forest ranges of Wayanad in the earlier times and have settled in this land undertaking agricultural and plantation activities (Jithendra Kumar, 2023). Due to the politically influential interests driving the region's voracious "development" initiatives through quarrying and mining coupled with deep-seated and widespread dissatisfaction with the way in which guidelines on these limited and allowed activities are implemented in the region. People who live in other places that have been designated as ecologically sensitive zones (ESZ) experienced harassment and denial of rights, especially the impoverished (Narain, 2024). Local communities have become more polarized and they do not want to partake in conservation. Wayanad comes under the Ecologically sensitive zone as per the WGEEP report and Vythiri, Mananthavadi and Sultan Bathery come under ESZ - I. Meppadi panchayat comes under Vythiri and hence it is under ESZ-1(The New Indian express, July 20, 2024). According to Gadgil, if the report's suggestions had been followed, the July 2024 catastrophe might have been averted. He pointed out that landslides have been caused by development and resort construction in the Western Ghats' delicate and exceedingly vulnerable areas. He said, referring to the catastrophe as "man-made," that "such activities should be prohibited."

Irrespective of whichever political party came to power in Kerala, all of them equally projected the committee's report to preserve the fragile Western Ghats as anti-people. The recurring landslides in this region are an indication that nature can no longer withstand the exploitation of its core in the name of developmental activities posed by unscrupulous human activity and the government's lack of Eco consciousness in acting upon the Western Ghats ecology expert panel report.

METHODOLOGY

The paper explores the reasons for recurring landslides and natural calamities over the past five years in Wayanad through extensive literature review, further the vulnerability and risk preparedness of the community and governance system is analysed through documented evidence, documentaries and an extensive analysis of community perspective towards responding to notifications and arrangements made for rehabilitation is explored (Figure 3). The methodology followed a rigorous systematic review of literature from peer reviewed journals followed by the primary observations about the destination pre and post the disaster (Issakov et al., 2025). This step was followed by the development of the tool for data collection and the actual data collection phase. The demographic profiling of the sample (Figure 4) shows the multitude of stakeholders from the region covered for the study. The study also focussed on assessing the various strategies and techniques used by Destination Management Organizations across the globe to ascertain the sustainable and resilient business practices adopted by them (Sukran et al., 2025; Šambronská et al., 2025). The key findings of the study was compared and contrasted with various prominent literature in the field of disaster management and destination management to develop a deep learning framework for Destination Management Organizations (Mokhtari & Hattab, 2025). The impact of these natural disasters and the need for A Deep learning Framework For Destination Management, which results in evaluating the mitigative measures and risk preparedness strategies are evolved through this study.

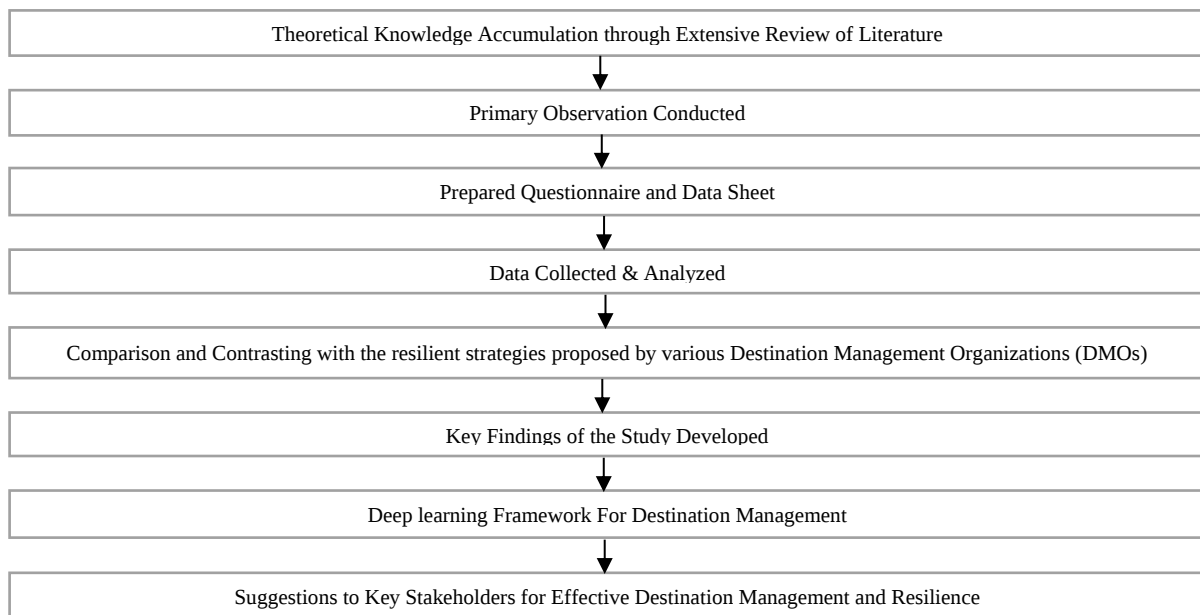


Figure 3. Flowchart of Research Methodology adopted in the present study(Source: Compiled by the authors)

Research Objective

- To explore the risk reduction measures in the pre-disaster stage and examine the effectiveness of adaptive policies for disaster recovery.
- To suggest strategies and indicate a support system to be provided by stakeholders which improves communication and understanding.

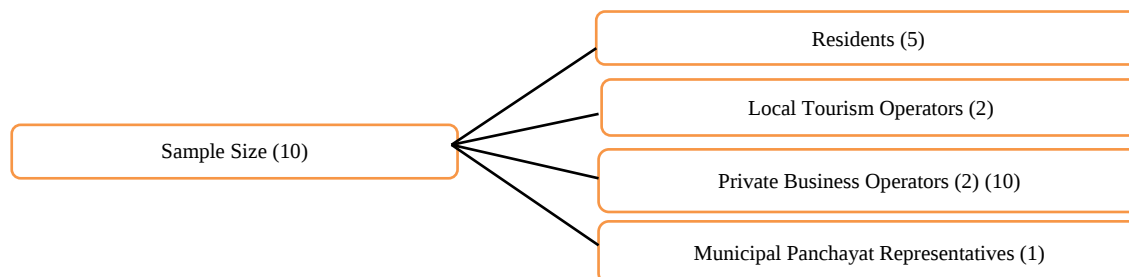


Figure 4. Demographic profile (Source: Compiled by the authors)

Data Analysis

The interview questions were primarily analysed and administered by each author, who then created distinct categories. "Member Checking" was used to ensure that transcripts were accurate and to validate data.

Table 1. Profile of respondents (Source: Compiled by the authors)

Respondents	Age / Gender	Position in the Organization	Years of Settlement
Respondent 1	53 / M	Local Resident	3 Generations
Respondent 2	48 / F	Local Businessmen	All Generations
Respondent 3	40 / M	Hospitality Business, Owner	25 Years
Respondent 4	41 / F	Local Resident	All Generations
Respondent 5	42 / M	Local Resident	All Generations
Respondent 6	45 / F	Taluk Office	21 Years
Respondent 7	38 / F	Local Resident	All Generations
Respondent 8	25 / M	Local Businessmen	All Generations
Respondent 9	44 / M	Travel Agent	All Generations
Respondent10	65 / F	Local Resident	4 Generations

The methodology comprised of a Word Cloud using Atlas.ti and with the data set an Sankey Diagram using the visualization tool was employed for the investigation. The data was analyzed using Atlas.ti as the authors engaged in data assessment process with an interpretive approach. First and foremost, a data table was made, and each author examined the information and made a note of the various participants' experiences. After the initial review, the following general research questions were poised:

- Challenges faced by the community in the district of Wayanad as a result of Infrastructural development and government apathy affecting socio-environmental concerns?

- b) What strategies can destinations implement to enhance their crisis preparedness and recovery plans post disaster?
- c) What lessons can be learned from past crises and how can the crisis planning and destination management bring in an resilience?

FINDINGS AND DISCUSSION

After cross-examining the data, the results revealed that the Wayanad as a destination faced enormous pressure due to the approved and non-approved mining that took a toll with the downfall of the place. The destination was drastically affected with heavy monsoon and led to landslides with devastating loss of life. Furthermore, the stakeholders engagement were overseen with the feeling of temporariness and the aspiration that situations to go back to normalcy. Some of the emergent patterns as described in the Sankey Diagram were revealed by the in-depth interviews.

Table 2. Results of thematic analysis of the respondents (Source: Compiled by the authors)

Main Themes	Subthemes and Coding
Perception of the Stakeholders	Concerns - Political Will - Responsibility of Stakeholders - Geographic Vulnerabilities - Poor Crisis Preparedness - Magnanimity of Disaster
Relationship between Crisis and Coping Strategies	Concerns - Unified Risk Recovery Measures - Stakeholder Alliance - Mitigation Process
Barriers to Risk-Reduction Process and Conservational Measures	Policy & Regulatory - Lack of Policy Enforcement - Exploitation of Rules

Vulnerability and Risk Preparedness of the Community

As destinations experience a disaster; despite alerts and warnings, the receptibility towards risk preparedness and coping strategies are significant (Buhalis & Carlos, 1996). This is one of the many factors that damage a destination's reputation and the sense of security that residents and visitors have in it. Therefore, in order to allay fears of this kind, any destination must be prepared to handle any emergency; then leading to a devastating situation (Buhalis & Costa, 2005). In view of the tragedy that struck Wayanad, where intense rains and landslides resulted in flash floods that engulfed four towns of the district, causing severe damage, fatalities, and devastating situation among the locals (Mikušová & Horváthová, 2019). The vulnerability of the locale is one of the main issues without proper contingency planning. For any vulnerable and fragile tourist site, disaster management is crucial; especially in the face of a crisis. Specific calamities that affect any town, with natural disasters demands a risk management approach in a pre-disaster stage (Hunt & Menon, 2020). Every possible location is vulnerable to one or more of the aforementioned risks, which may raise concerns about the security for locals and damage the profile of the destination's reputation largely (Ramachandra.T.V. et. al, 2023; Prideaux & Cooper, 2002). As such, it is imperative that all stakeholders should analyse the disaster and its intensity and thereby create backup plans in order to respond to varying levels of threats initiative (Barbhuiya & Chatterjee, 2020).

After a devastating disaster, the wounded hills of Wayanad recommend a number of actions for disaster management (Pyke et al., 2018). The challenges for the administrators of the State and local authorities are to examine the details of disaster and disaster management strategies (Faulkner, 2001). The current situation ideates the degrees to which emergency services are initiated and examines the recovery phase when crisis overrules. Perhaps, those factors do not represent the totality of disaster-stricken hills; but can impact the burnout among the stakeholder (David et al., 2019). Certainly, the prime concern can extend to the strategies imbibed as to; how to bring the destination back to normal, how to handle destination marketing during a crisis, and the significance of destination management by putting Destination Management System in place with Destination Management Organizations (DMOs) and conduct a marketing campaign to restore its image and recover its market from the damage caused by these events (Haldon et al., 2018; Varghese, 2016).

This study examines the effects of Wayanad on the disaster and offers the various steps that constitute an effective disaster management plan. Figure 3: A Deep Learning Framework for Disaster Management aims to provide a tactical and strategic method for disaster recovery through a systematic approach that will aid in restoring the destination's success. Taneja et al., (2014) states Furthermore, the paper discusses marketing strategies and campaigns to repair the destination's damaged reputation and, in the end, suggests the significance of destination management through the establishment of Destination Management systems through a DMO (Wright et al., 2013; Gurtner, 2007).

Case Profile: Walking Wounded Hills and The Methods to Reinstate Its Glorious Past

The Western Ghats are known worldwide for their significant contribution to the preservation of biological variety. In addition, they include regions with exceptional geological, cultural, and aesthetic significance. The location provides one of the best depictions of the monsoon system in the world, counteracting the surrounding area's tropical temperature. It boasts an exceptionally high level of endemism and biological diversity, making it one of the eight "hottest hotspots" of biological diversity in the world. Wayanad is the most picturesque destination attracting a lot of tourist for an attractive and immersive touristic experience. In the last 3 decades, Wayanad has witnessed large and massive infrastructural changes with high-end resorts with large scale developments. Land sharks were drawn in by the expanding tourism sector, and they built hotels,

Strategic measures are taken during the Pre-Disaster Stage to reduce damage to individuals, properties, and the environment (Kim et al., 2020). This means that it is necessary to find out what steps are taken to mitigate the disaster's consequences on people and property before it happens (Zhou & Ramli, 2025). The implementation of an efficient warning system ahead of time and improved preparation are key components of effective crisis management and governance (Huang et al., 2007). The current situation is crucial for preparedness since it dictates whether or not workable contingency plans are in place to handle the current disaster. Here, locals and state representatives must be aware of what to do in case of an emergence (Yadav et al., 2018; Gaki & Koufodontis, 2022). The deep learning framework for disaster management in the study contributes to developing effective strategies to control and mitigate the impacts of landslides and ensure crisis management and governance plans to be executed at the disaster prone areas (Figure 6).



Figure 7. Original images of concrete plastering at steep hills (Source: Captured by the authors) Image A, B and C: Landslide aftermath near Chooralmala village, Wayanad district, Kerala; Photo taken on August 2, 2024, at 10:30 AM (IST). Location: 11.690°N, 76.265°E)

Following the disaster, rescue missions by the Armed Forces launched by the authorities in an effort to rescue victims, provide rehabilitation, and measures to facilitate financial support and ways to reconstruct the destination is the need of the hour (Varghese et.al 2022). A wide range of strategies, including building control booths, acting in line with the action plan, and disseminating crisis information, are taken to facilitate relief efforts and make the process of improved readiness more efficient (Hunt & Menon, 2020). In addition to getting things back to normal in the Post-Disaster Stage, it's also critical to make sure that the damage is limited in the terrible event that the disaster recurs (Ziari & Mosleh, 2025). Assistance, rehabilitation, and reconstruction are all included in restoration (Figure 7A, B and C). Rebuilding facilities with more competency than those constructed prior to the tragedy is deemed crucial during the Revival stage (Chennattuserry, 2022). The government can take fewer steps in order to properly prepare for the revitalization of the impacted communities. Rebuilding

the impacted area and returning people's lives to normalcy is a lengthy process, made more difficult by the severe financial limitations that present (Mikušová & Horváthová, 2019). Adopting a suitable strategy to restore the destination's viability in the midst of a crisis is one appropriate way to make sure that destination is aided to recover soon (Arinta et al., 2023). The strategies to effectively manage the destination before, during and post the disaster is diagrammatically represented in Figure 8.

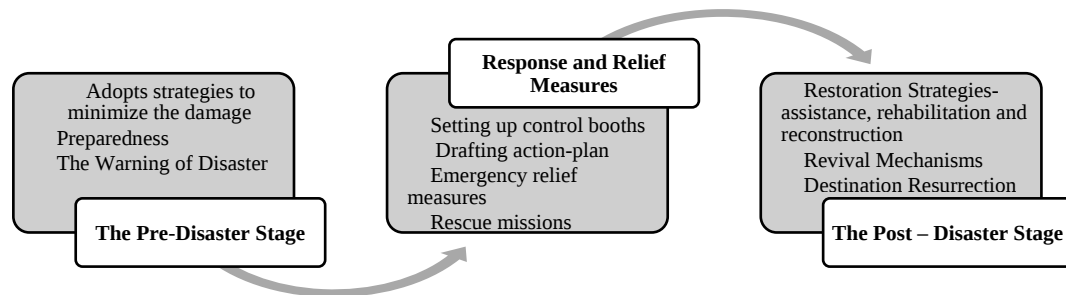


Figure 8. Disaster Management Framework (Source: Compiled by the authors)

CONCLUSION AND IMPLEMENTATION

A Sankey diagram (Figure 9) encapsulates a clear visual representation of intricate flows and relationships, making it a vital tool in crisis management. This technique presents a good comprehension for strategic measures that facilitate decisions by navigating through complex aspects of the crisis. The crisis scenario demands a good governance structure for effective destination management and speedy recovery. The higher and effective Environmental Impact Assessment connects well with a good strategy for ecological surveillance and restoration during a crisis (Pyke et al., 2018; Lazzari, 2023). Perhaps, the ideal crisis strategy accentuates the need for a scientific process of risk reduction measures in a complex situation like this and furthermore, with a comprehensive destination audit and an effective tactical planning the devastating results of predictive disasters can be controlled (Varghese & Chennatuserry, 2022). Hence an integrated approach with a disaster management framework can be the best in fostering risk-reduction and mitigation processes (Barbhuiya & Chatterjee, 2020).

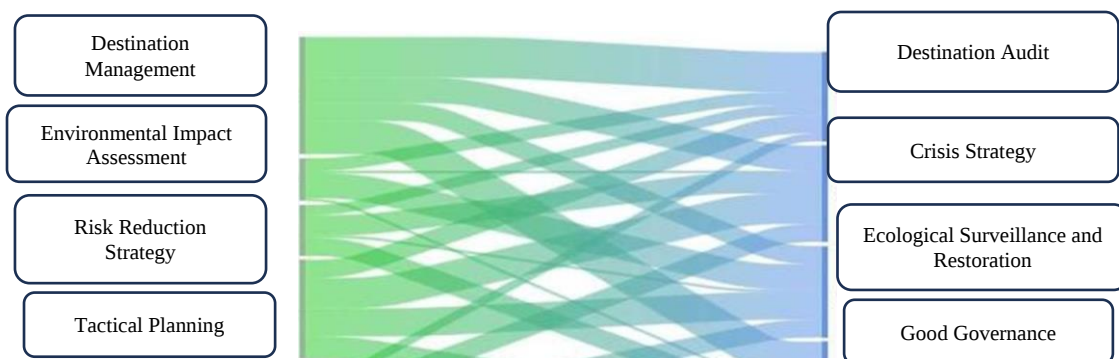


Figure 9. Sankey Diagram: (Source: Compiled by the authors)

Further, the focus and vested political interest in creating unrest among local communities stating issues of livelihood and economic growth has led to the different governments of the state ignoring and protesting the devastating consequences of ecological imbalance created by quarrying, mining and other detrimental activities in the region. The greed and vested interest of the political parties need to be curbed through social sensitisation and alternate government financial aid and rehabilitation support from the union government. The latest development as reported in Deccan herald daily on September 20, 2024 points out how all political parties have unified to protest against the sixth draft notification of the Western Ghats Eco Sensitive Area (ESA) which is an indicator of the politically triggered unrest with absolutely no concern on the issues and tragedies the people on the hills have met, The future is not just about restoration of livelihoods of people when a tragedy strikes but on building a holistic ecosystem that balances between human needs and environmental fragility.

Appendix

Broad Queries – Questions Posed to the Participants

- A-What were the main challenges you encountered while residing in this region?
- B- During the most recent natural disaster, what were the primary challenges you encountered? C- What were the public announcement policies in place prior to the crisis?
- D- What coping strategies were employed, and how well was the discomfort managed?
- E- What were the government reports' primary problems, and how were they resolved?
- F- During the crisis, did you suffer any personal losses? How well does the government help people get over it?
- G- What steps should the municipality take during the disaster?

Note: I= Key Community Concerns; II= Governance and Policies; III= Distress and Community Sensitization

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