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Regenerative Tourism: The Key to Sustenance and Crisis Management in the Coastal State of Odisha

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Abstract

The transitioning socio-economic and cultural setup of regional tourism-based economies along the Eastern Coast of India is often triggered by tropical cyclones emerging in the Bay of Bengal. The coastline is a powerhouse of tourist attractions, comprising biodiversity hotspots, architectural marvels, pilgrimage sites, and abundant scenic beauty. These tourist destinations are annually devastated by cyclonic storms and sea surges, causing floods. The disruption caused by this impacts the regular tourist flow. Its subsequent impact on the dynamics of the prevalent socio-economic setup in the region has put a question mark on the existing growth model of the tourism industry. The study delves into the prospects of regenerative tourism in the coastal state of Odisha, which had been historically facing the wrath of annual cyclonic occurrences just before the massive gathering of tourists during the festival of Rathayatra. Additionally, it houses the Ramsar site of Bhitarkanika mangroves, which accounts for substantial tourist footfall by virtue of its environmental significance, flora, and fauna. The findings from this study shed light on sustainable practices that serve local communities, preserve the environment, and ensure economic viability. A holistic approach is imperative, comprehensively addressing the complexities of long-term management. The study also probes into nuanced interventions like "biovillages" and regenerating mangrove ecosystems, both of which have been pivotal aspects for local communities, influencing their approach to preservation, regeneration, and tourism.

Keywords: biovillages; crisis management; cyclones; regenerative tourism; sustainable tourism

1. Introduction

The urgency to adopt more sustainable and resilient tourism models has grown significantly in recent years, especially in ecologically sensitive and disaster-prone regions (Watson & Deller, 2022). Traditional tourism models often prioritize economic gain over environmental health and social equity, inadvertently leading to the degradation of natural resources, cultural homogenization, and socio-economic imbalances in local communities (Zhang et al., 2022) (P D & P, 2015). While sustainable tourism aims to reduce harm, regenerative tourism promotes active restoration and enhancement of ecological, cultural, and socio-economic conditions (Espiner et al., 2017)(Farsari, 2023). This approach not only aims to counterbalance the adverse impacts of tourism but also seeks to contribute positively to the overall well-being of the destination. For coastal regions like Odisha, regenerative tourism offers a transformative pathway to align tourism development with ecological resilience and crisis management (Biggs et al., 2015). The need for a resilient and regenerative approach to tourism is particularly pronounced in cyclone-prone regions like coastal Odisha. This eastern Indian state, with its expansive coastline along the Bay of Bengal, is a hub of natural beauty and cultural heritage and one of India's most vulnerable regions to cyclonic storms (Mandal & Dey, 2022b). Odisha frequently experiences severe cyclones, often leading to devastating impacts on infrastructure, local communities, and natural ecosystems (Mandal & Dey, 2022b). Each year, cyclones disrupt the livelihoods of communities dependent on agriculture, fishing, and tourism and cause extensive damage to biodiversity-rich areas, including mangroves and coastal forests that serve as natural barriers against storm surges (Yadav & Barve, 2017) (Tripathy, 2023). Against this backdrop, regenerative tourism offers a compelling framework to transform Odisha's tourism sector into a force for environmental restoration, socio-economic resilience, and disaster preparedness.

Cyclones have had a cascading impact on Odisha's coastal economy, with each severe storm leaving behind extensive environmental degradation and disrupting critical ecosystems. Mangrove forests, coral reefs, and dunes, vital for coastal protection, are often stripped of their resilience by powerful storm surges, exacerbating erosion and habitat loss (Mandal & Dey, 2022a). Traditional tourism practices in these areas, which emphasize high visitor volumes and rapid infrastructure expansion, strain these fragile ecosystems, reducing their ability to recover from cyclone impacts. Currently, the mass-tourism model fails to address these vulnerabilities and amplifies the risks by contributing to ecosystem degradation in many cases (Mandal & Dey, 2022a). Regenerative tourism presents a proactive alternative by prioritizing environmental renewal and long-term resilience over short-term gains (Shukla & Shamurailatpam, 2023)(Hartman, 2023).

One innovative approach within regenerative tourism that holds promise for cyclone-prone coastal regions is the development of **biovillages** (Kesavan & Swaminathan, 2020). These communities are built on ecological resilience and self-sufficiency principles, integrating sustainable agriculture, waste management, renewable energy, and conservation practices into the local way of life (Kesavan & Swaminathan, 2020). In coastal Odisha, biovillages can be crucial in reinforcing natural defences and fostering community resilience (Kesavan & Swaminathan, 2006). Biovillages, often established in collaboration with local communities, government agencies, and NGOs, focus on activities like mangrove restoration, organic farming, and artisanal fishing, which collectively reduce environmental pressure and support biodiversity. These villages are designed to withstand and recover from natural disasters, incorporating storm-resistant construction techniques and natural buffers like mangroves and coastal wetlands that provide critical storm protection (Kesavan & Swaminathan, 2006).

Biovillages offer immersive experiences for tourism where visitors engage in hands-on conservation efforts and learn about sustainable coastal living. In Odisha, biovillages could be designed to allow tourists to participate in local activities such as reforestation of mangroves, learning traditional fishing methods, or exploring cyclone-resistant architectural styles. Such experiences enhance awareness of environmental issues and allow tourism revenues to flow back into the community, funding ongoing restoration efforts and disaster preparedness initiatives. As tourists engage with the landscape and culture in meaningful ways, they contribute to the resilience of local ecosystems and economies, reducing the burden of natural disasters on the state.

Cyclones highlight the interconnected vulnerabilities of ecosystems, tourism, and local communities. Regenerative tourism, mainly through biovillages, aligns with Odisha's need for a more adaptive, resilient tourism model to sustain and restore its rich biodiversity and culture. As Odisha looks to the future, there is an opportunity to embed regenerative principles within the tourism sector, transforming it into a means for disaster resilience and ecological health (Konietzko et al., 2023). Regenerative tourism models in Odisha can not only enhance the state's economic stability but also ensure that tourism plays an active role in rebuilding natural defences, creating cyclone-resilient communities, and supporting a tourism model that genuinely respects and revitalizes the environment (Konietzko et al., 2023) (Alhitmi et al., 2024).

This paper will examine the strategic integration of regenerative tourism in Odisha, focusing on how the biovillage model and other regenerative practices can be tailored to address the specific challenges posed by recurring cyclones. Through a detailed analysis of regenerative tourism's potential to reduce vulnerability, enhance environmental stewardship, and promote socio-economic resilience, this study provides a framework for Odisha to transform its tourism landscape into a source of strength in the face of future storms.

1.1 Examples of Regenerative Tourism Practices and Their Implications

Regenerative tourism practices have started securing their spot globally and in India, proving effective in enhancing disaster resilience by restoring ecosystems, empowering communities, and building sustainable infrastructure supporting recovery in crisis situations. Some notable examples are listed in *Table 1*.

Table 1. Examples of Regenerative Tourism Practices and their Outcomes

Geographical Region	Disasters	Key Initiatives Taken	Outcomes	References
Kaikōura, New Zealand	Earthquake	- Restoration of coastal ecosystems - Community-led marine conservation projects focusing on native wildlife	- Revitalized local tourism economy - Strengthened community resilience - Increased awareness and preparedness for future natural disasters	(Neeraj et al., 2021)
Hawaii, USA	Hurricanes and Tsunamis	- Malama Hawaii initiative for environmental stewardship - Volunteer programs for reforestation, beach clean-ups, and native cultural preservation	- Restoration of coral reefs and native forests - Increased ecological awareness among tourists - Enhanced coastal resilience	(Zaman et al., 2023)
Nicoya Peninsula,	Hurricanes and Floods	- Regenerative agriculture integrated	- Stabilized degraded lands	(LOCATELLI et al., 2014)

Geographical Region	Disasters	Key Initiatives Taken	Outcomes	References
Costa Rica		with ecotourism - Reforestation projects to prevent erosion	- Increased flood protection through natural buffers - Created sustainable income sources for local farmers and artisans	
Sundarbans, India & Bangladesh	Cyclones	- Mangrove restoration and community-based ecotourism - Tourist participation in plantation programs	- Strengthened natural barriers against cyclones - Improved local livelihoods through ecotourism - Enhanced biodiversity in mangrove ecosystems	(Ray et al., 2024)
Meghalaya, India	Monsoon Floods	- Conservation and promotion of living root bridges - Community-led tours and maintenance	- Sustainable infrastructure for flood resilience - Increased income for local communities - Preservation and sharing of indigenous knowledge on flood-resistant practices	(Bhattacharjee, 2025)
Bhimashankar, Maharashtra, India	Landslides and Seasonal Flooding	- Biovillage model for organic farming and forest regeneration - Tourist involvement in sustainable agriculture and handicraft production	- Enhanced environmental and community resilience - Increased community incomes through tourism - Improved ecological stability and disaster preparedness for landslides and flooding	(Mokashi & Diemont, 2021)

These examples of regenerative tourism showcase the potential for disaster resilience by aligning tourism with environmental restoration and community empowerment. In Odisha, implementing regenerative tourism could similarly strengthen resilience by focusing on coastal ecosystem restoration, empowering communities through biovillages, and fostering a culture of environmental stewardship among tourists. The recurring devastation caused by cyclones along Odisha's coast has exposed the limitations of traditional tourism models, which often overlook the need for ecological restoration and community resilience. This study seeks to explore in the area of the following research questions:

a) How can regenerative tourism, particularly through biovillage models, enhance disaster resilience in cyclone-prone coastal Odisha?
b) What are the practical challenges and opportunities in implementing regenerative tourism interventions like mangrove regeneration and community-based tourism in Odisha?
c) How do these interventions impact local livelihoods, ecological restoration, and disaster preparedness?

2. Background of the Study

Regenerative tourism presents a promising pathway for enhancing disaster resilience in Odisha, a state that combines rich cultural and natural attractions with significant vulnerabilities due to its geographical location. The Eastern Indian state, situated along the Bay of Bengal, is uniquely positioned as a major tourist destination as well as a high-risk zone for frequent cyclonic activity (Mandal & Dey, 2022b). Odisha's beaches, mangrove forests, wildlife sanctuaries, and historical sites attract millions of visitors every year, supporting local livelihoods and contributing substantially to the state's economy (Mandal & Dey, 2022a). However, its location on the eastern coast makes it susceptible to cyclones, flooding, and coastal erosion. Regenerative tourism offers Odisha an innovative solution that addresses the environmental, economic, and social dimensions of disaster resilience.

2.1 Geographical Location and Cyclone Proneness

Odisha's position along the Bay of Bengal exposes it to recurrent cyclones, with storms often developing over the bay and intensifying before landfall. Cyclones like Remal and Dana (2024), Yaas (2021), Fani (2019), Phailin (2013), and Super Cyclone (1999) have caused widespread devastation, highlighting the need for resilient systems to protect vulnerable coastal communities (Mandal & Dey, 2022b). These storms bring high-speed winds, storm surges, and intense rainfall that cause extensive damage to natural habitats, infrastructure, and tourism assets (Yadav & Barve, 2017). The intensity of these cyclones is exacerbated by climate change, which has contributed to rising sea levels and more frequent extreme weather events. Given these risks, regenerative tourism can be leveraged to restore Odisha's natural coastal defences, such as mangrove forests, and strengthen the ecological resilience of its landscapes, thus reducing vulnerability to future cyclones.

2.2 Importance of Tourism to Odisha's Economy and Culture

Tourism plays an important role in Odisha's economy, providing employment for thousands and generating significant revenue. Key attractions include the Konark Sun Temple, Puri's beaches and temples, Chilika Lake's unique ecosystem, and the Bhitarkanika Mangroves—one of India's richest biodiversity hotspots. Puri's Jagannath Temple draws numerous pilgrims throughout the year, which escalates during the annual Rathayatra[1] festival in July. Despite its economic significance, tourism often intensifies environmental pressures on Odisha's coastal areas. Regenerative tourism can help balance economic benefits with ecological responsibility, turning tourism into a tool for restoration rather than degradation (Konietzko et al., 2023). Odisha can attract environmentally conscious tourists while enhancing the state's resilience to natural disasters by promoting practices that actively regenerate the ecosystem, such as reforestation, beach clean-ups, and habitat restoration.

2.3 Existing Disaster Mitigation Approaches

Odisha has made significant strides in disaster management, implementing early warning systems, community training programs, and evacuation infrastructure, saving countless lives in recent years. The state has been internationally recognized for its disaster preparedness, particularly in reducing casualties during cyclonic events. However, while these efforts have effectively saved lives, they do not fully address the long-term environmental and socio-

[1] The Ratha Yatra of Puri, is considered the oldest and largest Hindu chariot festival celebrated annually, on the bright half of the lunar month of Ashadh (June–July).

economic impacts of recurrent disasters (Mandal & Dey, 2022b). Regenerative tourism can complement Odisha's existing disaster mitigation strategies by building natural resilience into the landscape and empowering local communities to participate in sustainable practices. For instance, reforestation and mangrove restoration initiatives could serve as natural barriers against storm surges. At the same time, community-driven biovillage projects could create sustainable livelihoods that are less dependent on environmentally harmful practices (Kesavan & Swaminathan, 2006) (Kesavan & Swaminathan, 2020).

2.4 Methodology for setting the Discourse of the Study

This study adopts a qualitative, case-based approach to investigate the potential of regenerative tourism for enhancing disaster resilience in Odisha, drawing directly from the region's unique geographical, socio-economic, and ecological context. Odisha, situated along the Bay of Bengal, is highly vulnerable to recurring cyclones, flooding, and coastal erosion, which threaten both its rich biodiversity and the livelihoods of communities dependent on tourism, agriculture, and fishing. The methodology is anchored in an in-depth review of secondary data, including government reports, academic literature, and documented case studies of cyclone impacts and disaster mitigation in Odisha. Special focus is given to the analysis of biovillage initiatives and mangrove regeneration projects, as these represent innovative, community-centered interventions that integrate sustainable livelihoods, ecological restoration, and disaster preparedness. The study systematically examines how these regenerative tourism models have been implemented, their contributions to environmental renewal, and their role in fostering socio-economic resilience. Comparative analysis is employed to draw lessons from similar interventions in other cyclone-prone regions, such as the Sundarbans and international examples like Kaikōura and Hawaii, to contextualize Odisha's experience. This comprehensive approach enables the identification of best practices and challenges, offering a holistic framework for integrating regenerative tourism into Odisha's broader disaster management and sustainable development strategies.

3. Case Examples Across the Globe

Recent studies (*Table 2*) highlight regenerative tourism as a paradigm that actively restores and enhances ecological and social systems, moving beyond the "do no harm" ethos of sustainability (Alhitmi et al., 2024). International best practices include community-driven conservation in Costa Rica (Miller et al., 2023). Bhutan's high-value low-impact tourism (Becken & Kaur, 2022), and Saudi Arabia's Red Sea Global, which integrates ecosystem restoration and renewable energy (Filippi & Mazzetto, 2024). However, critiques persist regarding the lack of standardized definitions, inconsistent outcome measurements, and risks of greenwashing if initiatives focus solely on outcomes rather than holistic transformation (Bellato et al., 2023) (Alhitmi et al., 2024). Despite these debates, regenerative tourism's global adoption is expanding, with measurable benefits for biodiversity, community resilience, and economic diversification.

Table 2. Recent examples of regenerative tourism practices across the globe

Region/Country	Initiative/Model	Key Actions/Strategies	Outcomes/Impacts	Reference
Costa Rica (Osa Peninsula)	Lapa Ríos Lodge	Community-based ecotourism, reforestation, education	Forest restoration, visitor engagement, biodiversity	(Miller et al., 2023)
Saudi Arabia (Red Sea)	Red Sea Global	Coral regeneration, renewable energy, community training	Enhanced marine health, local jobs, 100% solar power	(Filippi & Mazzetto, 2024)
Bhutan	High-Value, Low-Impact Tourism	Conservation mandates, cultural preservation	Maintained >60% forest cover, community well-being	(Becken & Kaur, 2022)
UK (Broughton Sanctuary)	Nature Recovery & Community Engagement	Sustainable agriculture, wellness tourism	Community empowerment, nature conservation	(Paddison & Hall, 2024)

3.1 Measures of Regenerative Tourism Contextualizing Odisha

Odisha's proactive approach to disaster management has positioned it as a leader in coastal resilience and disaster preparedness. Odisha has successfully mitigated the impacts of frequent cyclones by leveraging new-age interventions like biovillages and mangrove regeneration, benefiting both the environment and local communities. Odisha has demonstrated how ecological restoration can complement traditional disaster management techniques by focusing on nature-based solutions and community-centred approaches. Here are some examples in *Table 3* and

Table 4 of how Odisha has utilized biovillages and mangrove regeneration to enhance its disaster resilience.

Here's a table summarizing the case studies in Odisha, organized by location, purpose, contributions to sustainable regenerative tourism, and disaster mitigation impact.

Table 3. Mangrove Regeneration Projects in Odisha

Location	Purpose of the Project	Immediate Cause/ Support/ Grant	Contributions to Sustainable Regenerative Tourism	Impact on Mitigating Disasters	References
Bhitarkanika National Park	Restore degraded mangrove ecosystems to protect against cyclone impacts	The intervention was taken after the Super Cyclone of 1999. Supported by government agencies, NGOs, and local communities.	- Involves tourists in mangrove planting and habitat restoration - Educates visitors on conservation and resilience - Promotes ecotourism initiatives	- Natural buffer against storm surges - Reduced coastal erosion - Minimized cyclone damage in nearby communities during Cyclone Phailin in 2013	(Kadaverugu et al., 2021) (Dhyani et al., 2023)
Pentha, Kendrapara District	Develop a dual coastal protection system with a geo-synthetic embankment and mangrove cover	Undertaken with support from the World Bank and the Integrated Coastal Zone Management	- Highlights hybrid nature-based infrastructure as a tourism model - Engages visitors in mangrove education and	- Enhanced protection from storm surges and erosion - Limited seawater intrusion during Cyclone Fani in 2019	(Elias & Shirlal, 2021) (Kar et al., 2021)

		Project (ICZMP)	restoration activities - Involved in constructing a geo-tube embankment to mitigate erosion and an extensive mangrove plantation to further buffer against storm surges.		

Table 4. Biovillage models implemented in Odisha

Location	Purpose of the Project	Immediate Cause/ Support/ Grant	Contributions to Sustainable Regenerative Tourism	Impact on Mitigating Disasters	References
Ganjam District (Biovillages)	Promote disaster-resistant livelihoods through sustainable practices	M.S. Swaminathan Research Foundation	- Encourages ecotourism focused on organic farming, handicrafts - Strengthens community resilience through alternative livelihoods	- Reduced dependency on non-ecofriendly resources - Quick recovery due to self-sufficiency in food and housing	(Report, 2005) (Prasad, 2006)
Chilika Lake	Restore the Chilika Lake ecosystem, promote sustainable fishing, and protect biodiversity	Chilka Development Authority, along with support from local communities	- Ecotourism opportunities like birdwatching and dolphin conservation - Empowers locals through sustainable tourism-linked livelihoods	- Stabilized lake ecosystem buffers cyclonic floods - Faster economic recovery for locals due to tourism income	(Lakshmi, 2011)

These examples illustrate the effectiveness of Odisha's regenerative tourism and ecological restoration strategies in building disaster resilience. Odisha has created a disaster resilience model that protects natural habitats, supports sustainable livelihoods, and promotes environmental stewardship by assimilating mangrove regeneration, biovillages, and ecosystem restoration with community-centered tourism. These interventions also reduce reliance on external disaster aid, as communities are better equipped to manage crises and recover using local resources and sustainable practices.

Odisha's success highlights how a balanced approach that combines natural and built resilience strategies can significantly mitigate the impacts of cyclones and other coastal disasters. Through these new-age interventions, Odisha has transformed its vulnerability into an opportunity to strengthen community resilience and environmental health, setting an example for other coastal regions facing similar challenges.

4. Critical Analysis and Discussion

Other regions along the Odisha coast can draw valuable lessons from the regenerative tourism practices in Bhitarkanika, Pentha, Ganjam, and Chilika, integrating these approaches with their existing disaster mitigation frameworks to create a more resilient and sustainable model of coastal management and tourism.

4.1 Adopt Hybrid Coastal Protection Using Natural and Engineered Solutions

Pentha's Geo-Synthetic Embankment and Mangrove Regeneration: Coastal regions can replicate the dual-layered defence approach of using embankments alongside mangrove plantations. This hybrid model combines structural resilience with the natural buffering capacity of ecosystems, protecting against storm surges, erosion, and flooding.

Integration with Existing Infrastructure: Such measures can complement existing dykes, levees, and seawalls, adding natural resilience that lessens maintenance costs and improves long-term efficacy. For instance, areas already using seawalls could strengthen these with coastal reforestation or mangrove planting.

4.2 Establish Biovillages to Build Community Resilience and Alternative Livelihoods

Promote Sustainable Livelihoods: Inspired by the biovillage model in Ganjam, other coastal villages can adopt regenerative practices that diversify income sources, such as organic farming, sustainable fishing, and eco-friendly handicrafts. This approach builds economic resilience, enabling communities to recover faster post-disaster.

Community-Led Disaster Preparedness: Establishing biovillages with sustainable practices empowers communities to be more self-sufficient and environmentally conscious. Training in eco-friendly construction and disaster-resistant housing, for example, would enhance resilience and community strength during cyclonic events.

4.3 Leverage Mangrove Regeneration as a Natural Buffer Against Cyclones

Replicate Bhitarkanika's Mangrove Conservation Efforts: Coastal regions with suitable conditions can implement mangrove restoration as part of their tourism and disaster management strategies. Mangroves absorb storm surges, reduce coastal erosion, and stabilize shorelines, providing invaluable protection during cyclones.

Involve Tourists in Restoration Activities: The engagement of tourists in conservation and plantation programs can aid communities in funding and promoting the maintenance of these natural barriers. It's a regenerative tourism approach that supports ecological resilience and educates visitors on the importance of natural storm defences.

4.4 Promote Ecotourism That Supports Conservation and Community Engagement

Chilika's Ecotourism Model: Chilika's focus on ecotourism, such as birdwatching and dolphin conservation, can serve as a blueprint for other coastal areas. Promoting similar activities encourages environmental stewardship and generates sustainable income without stressing fragile ecosystems.

Integrate with Conservation-Based Revenue Models: Tourism revenue can be reinvested into conservation and disaster management initiatives, creating a sustainable cycle of income and

protection. For instance, creating sanctuary zones where tourists participate in cleanup drives or monitoring activities would increase awareness while supporting disaster mitigation.

4.5 Develop Coastal Bioregions with Resilient, Eco-Friendly Infrastructure

Incorporate Disaster-Resistant Designs into Tourist Infrastructure: Using Ganjam's biovillage model, other regions can adopt eco-friendly, disaster-resistant architecture in coastal resorts, shelters, and community centers. Building structures that blend with the local ecology and withstand harsh weather makes these bioregions safer for residents and tourists.

Collaborate with Local Stakeholders for Sustainable Planning: Local governments, NGOs, and community groups can work together to ensure new tourism infrastructure does not disrupt ecological balance. Involving local stakeholders in the planning and implementation stages ensures that tourism grows sustainably and inclusively.

4.6 Integrate Disaster Education into Tourism Programs

Educational Initiatives as Part of Tourism Activities: Coastal regions can embed disaster education within tourism programs, similar to how Bhitarkanika incorporates conservation knowledge. Educating tourists on local challenges, emergency procedures, and ecological importance can contribute to local preparedness.

Build Community Awareness Through Visitor Engagement: Community-led disaster preparedness sessions, conservation tours, and hands-on activities can cultivate an informed tourism base supporting the region's long-term resilience and ecological health.

4.7 Implement Policy Frameworks That Support Regenerative and Resilient Tourism

Enact Supportive Policies for Regenerative Tourism: Local governments can establish policies that promote mangrove regeneration, biovillage development, and sustainable tourism, incorporating these practices into broader disaster management policies. Offering incentives for eco-friendly tourism operations can encourage private investment in resilience-building initiatives.

Integration with Disaster Mitigation Policies: Policies supporting regenerative tourism should be aligned with existing disaster preparedness plans to create a cohesive resilience strategy. This alignment ensures that tourism development does not interfere with evacuation routes, emergency infrastructure, or critical natural resources.

5. Conclusion

In conclusion, Odisha's evolving approach to disaster resilience, particularly along its vulnerable coastline, demonstrates the powerful synergy between regenerative tourism and traditional disaster mitigation. Odisha's coastal regions, historically susceptible to the relentless impact of cyclones and flooding, have embarked on a path that fortifies physical barriers and strengthens community resilience through ecological stewardship. Integrating the natural restoration process with community-driven, eco-conscious tourism has enabled the state to redefine disaster preparedness, illustrating a model that protects and revitalizes.

Initiatives such as the mangrove regeneration projects in Bhitarkanika and the biovillage development in Ganjam reveal how regenerative tourism can transform challenges into

sustainable opportunities. These practices reinforce natural defences, provide alternative livelihoods, and promote awareness, allowing communities to withstand and swiftly recover from disasters. Mangrove forests, for example, serve as nature's fortifications, reducing storm surge impacts while maintaining biodiversity, a dual role that embodies regenerative tourism's potential to serve economic and ecological interests.

Moreover, Odisha's model extends beyond immediate disaster protection. It demonstrates a long-term vision where tourism becomes not merely a source of revenue but an integral part of resilience planning. Through inclusive policies, education, and community participation, tourism transforms into a vehicle for environmental restoration and disaster readiness. Tourists engage with the landscape meaningfully, supporting conservation and becoming active participants in the preservation of Odisha's cultural and natural heritage.

As climate change intensifies the frequency and severity of natural disasters, Odisha's regenerative tourism initiatives offer a scalable blueprint for coastal resilience. Incorporation of regenerative tourism practices as part of a broader disaster mitigation strategy, Odisha is building a sustainable, resilient future where the coast, community, and economy are interconnected and protected.

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