

Report of the Janakeeya Padana Samithi (JPS)

OUR BEACHES, OUR SEA:

**HERITAGE OF FISHING COMMUNITIES,
USUFRUCT OF ALL CITIZENS**



**Impact of the
Vizhinjam International Seaport
on the Beaches, Coastal Sea, Biodiversity, and the Livelihoods
of Fishing Communities in Thiruvananthapuram District**

November 2023

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FOR FULLER DETAILS OF EACH CHAPTER PLEASE REFER
TO THE FULL REPORT OF THE
JANAKEYYA PADANA SAMITHI**

PREAMBLE

This report indeed highlights a critical issue that is increasingly relevant in today's world, where concerns about investments that jeopardize the environment and society are growing. It focuses on a distressing situation in Kerala, where a massive port project has been causing extensive environmental and social harm, including coastal erosion, home displacement, and the destruction of fishing livelihoods.

The response from those in power, who often attribute these issues to global climate change or employ solutions that worsen the problems, is certainly troubling. The impacts extend far beyond the immediate communities, affecting biodiversity and tourism, which have been essential to the region's economy and cultural identity.

The report is not an attempt to obstruct development that benefits the state but is a heartfelt plea for development that is both environmentally and socially sustainable. It underscores the importance of striking a balance between economic interests and the preservation of fragile ecosystems and traditional occupations.

The financial aspect of the project is indeed concerning, with a significant financial burden being placed on the government and financial institutions. This has come at the expense of fishing communities and the broader population, putting their collective well-being at risk.

In essence, this report serves as a wake-up call for more sustainable development, one that safeguards the environment, values and protects communities, and ensures a brighter future for generations to come. It underscores the need for a responsible and considerate approach to development in Kerala, one that serves the best interests of the environment and its people.

1. INTRODUCTION

There is a profound ecological connection between sandy beaches, the coastal sea, and the fishing communities whose livelihoods and cultural heritage are intertwined with these coastal ecosystems. The report emphasizes the importance of protecting these ecosystems, not only for environmental conservation but also as a matter of fundamental human rights, as recognized by international agreements and declarations of the United Nations. Beaches are shown to play a critical role within the coastal ecosystem, contributing to habitat support, protection from hazards, nutrient cycling, and cultural significance.

As the world celebrates the United Nations-declared 'Decade on Ecosystem Restoration' and the 'Decade of Ocean Science for Sustainable Development,' the significance of preserving ecosystems becomes evident, with India being duty-bound to protect and restore its degraded ecosystems.

The right to participation of fishing communities, as outlined in the UN Declaration on the Right to Development, underscores the need to involve these communities in decisions affecting their way of life.

The construction of the Vizhinjam International Seaport by Adani Vizhinjam Port Private Limited is a cause for concern, as it has the potential to harm the delicate coastal and marine ecosystem, impacting marine biodiversity and the livelihoods of marginalized fishing communities.

The report, prepared by the Janakiya Padana Samithi (JPS), examines the holistic impacts of the Vizhinjam International Seaport construction, undertaken by Vizhinjam International Seaport Limited and AVPPL, from 2015 to the present. It aims to provide a comprehensive analysis of the construction's impact, the disruption of livelihoods, financial losses incurred by coastal communities, and potential future consequences once the seaport becomes operational.

The **Janakiya Padana Samithi** chaired by Dr. K.V. Thomas, Former Senior Scientist and Group Head, National Centre for Earth Science Studies (NCESS), Thiruvananthapuram and Former Dean, Kerala University of Fisheries and Ocean Studies, Kochi, comprised distinguished members with expertise in various relevant fields, including fisheries, coastal ecology, and disaster management, and their report sheds light on the multifaceted implications of the Vizhinjam International Seaport project, offering recommendations for immediate and long-term remedial measures to protect the coastal space and communities from the impacts of global climate change and local coastal structures.

2. ON VIZHINJAM

Vizhinjam, a picturesque coastal village in Thiruvananthapuram District, is known for its stunning natural landscape featuring idyllic beaches, rocky cliffs, rolling hills, and coconut palms against the backdrop of the Arabian Sea. Its rich history dates to the Ay Dynasty and Chera rule, and it boasts an ancient fort and a fair-weather port that played a pivotal role in maritime trade.

At the heart of Vizhinjam is its diverse fishing community, consisting of Christian Mukkuvars, Muslims, and Hindu fishermen, who play a crucial role in preserving the local ecosystem and marine biodiversity. These fishing communities, with distinct socio-cultural backgrounds, were once marginalized and subjected to a process of "othering" by mainstream society and political actors in Kerala. However, over the years, they have become more aware of their rights as citizens, thanks to collective struggles and social development initiatives in the 1980s. They are no longer easily manipulated during elections and are asserting their social, cultural, and political relevance. Vizhinjam serves as an example of this newfound awareness and empowerment among previously marginalized communities.

Tourism has also gained prominence in Vizhinjam and its neighboring Kovalam village. The region's unique features, including headlands, promontories, lateritic cliffs, pocket beaches, and plunging breakers, have attracted foreign tourists for over half a century, with water-related

tourism thriving. The expertise of local fishers has facilitated activities like snorkeling, creating economic opportunities for the area's residents.

Despite these positive aspects, Vizhinjam has recently witnessed a transition toward becoming a 'deep-water port,' which has sparked controversies regarding land acquisition and threats to traditional occupations. This chapter explores the reasons behind this transformation while underscoring the importance of preserving fishing communities and the natural beauty of the area.

Amid these changes, Vizhinjam represents a dynamic blend of age-old fishing traditions and modern aspirations. Traditional fishers continue to maintain their way of life, while educated youth embrace innovative fishing techniques. The chapter emphasizes the need for a harmonious balance between corporate interests and the preservation of the community's heritage and access to the sea. In essence, Vizhinjam embodies the coexistence of historical fishing traditions and contemporary aspirations, highlighting the importance of preserving heritage and public access to the sea.

3. HOW VISL CONTRACTED ADANI PORTS LTD

The history of the Vizhinjam port project spans several decades and underwent multiple phases of development. Initially proposed in the 1990s, plans to construct an international seaport in Vizhinjam faced opposition and concerns from the tourism industry, leading to their shelving.

Between 2003 and 2004, a Rapid Environment Impact Assessment (REIA) for the project was initiated under the United Democratic Front (UDF) Government, conducted by L&T-Ramboll Consulting Engineers. As a result of this study, the Vizhinjam International Seaport Limited (VISL) was established in December 2004 to create a new port near Trivandrum.

Between 2005 and 2006, two rounds of bids for the project took place, with consortiums like Zoom Developers being initially selected but later canceled due to various issues. In November 2009, the Left Democratic Front (LDF) Government sought assistance from the International Finance Corporation (IFC) to ensure transparency in the bidding process. The IFC recommended a Public-Private Partnership (PPP) model, focusing on container transshipment traffic, which was accepted in 2010.

Despite challenges and legal issues, VISL continued with its plans. Environmental Impact Assessment (EIA) and environmental clearance were obtained between 2011 and 2014, allowing international tenders to be floated.

In May 2014, changes in government led to shifts in perspectives on infrastructure investments. The project continued despite public concerns, legal suits, and changes to project costs. Adani Ports SEZ became the sole concessionaire for the project in August 2015.

The project's transparency, land acquisition, displacement, and impact on local communities raised questions about its implementation, and its future remains uncertain due to complex economic, environmental, and social factors.

The Environmental Impact Assessment (EIA) process was also marred by numerous issues, including the manipulation of data and misrepresentation of essential facts. Misrepresentations about the stability and vulnerability of the coast, the impact on biodiversity, the "Area of Outstanding Natural Beauty" designation, the effects on the existing fishing harbor, and maintenance dredging all raised concerns about the accuracy of the assessment.

The Social Impact Assessment (SIA) inadequately addressed the project's impact on traditional fishers' livelihoods, and critical environmental factors were not adequately considered. Concerns were also raised about site selection and the evaluation of alternative sites, calling for a more transparent and comprehensive approach to environmental assessments for projects of this magnitude.

4. WORRIES OF VISL

The Vizhinjam International Seaport project has been marked by a complex journey, including shifting political power, legal challenges, and contentious decisions. In 2015, when the agreement was signed, the Left Democratic Front (LDF) was in opposition and accused the United Democratic Front (UDF) of corruption in awarding the tender to the Adani Group. After the UDF lost the elections in May 2016, the LDF, now in power, chose to continue with the project, emphasizing its potential economic benefits for Kerala while retaining allegations of corruption.

The project faced increasing contention among fishers, civil society, and government circles.

The Comptroller and Auditor General (CAG) audit report in 2016 raised questions about the fairness and legality of the agreement, as it appeared to favor Adani Ports. Key issues included post-bid project structure modification, enhancement of funded costs, permission to mortgage assets, sub-lease clause period, termination payment at the end of the concession, adjustment of concession period according to traffic, additional concessions in case of new ports, and the appointment of a safety consultant.

The Justice Ramachandran Commission (JRC) appointed by the LDF Government criticized the lack of competitive bidding and concurred with several observations from the CAG report. Throughout the project's journey, it faced opposition from the fishing community and civil society, who pointed out adverse environmental consequences, particularly coastal erosion.

In 2022, a 140-day protest demanded a halt to construction, citing severe coastal erosion, loss of houses, disturbances in fishing activities, and accusations of favoritism toward Adani Ports. Despite public outcry, the government conceded to most demands of the fishing community, but construction did not stop. An Expert Committee was formed in October 2022 to study if coastal erosion was indeed caused by the construction.

The project highlights concern about due diligence, environmental consequences, and the balance between economic development and community well-being, serving as a case study illustrating the complexities of infrastructure development, governance, and the balance between economic growth, livelihood concerns of affected communities, and environmental protection.

5. BEACH AND COASTAL EROSION

The chapter provides an intricate exploration of the multifaceted issues revolving around the construction of the Vizhinjam International Seaport and its far-reaching consequences on the pristine beaches and coastal environment in Thiruvananthapuram District. It underscores several critical environmental, social, and economic concerns that have emerged due to this ambitious development project:

Erosion and Accretion: The construction of the Vizhinjam port has triggered a disturbance in the natural flow of sediments, culminating in erosion in certain areas and potential accretion in others. This disruption in the sediment balance bears significant implications for coastal stability, posing threats to properties and the livelihoods of local communities.

Human Interventions: The history of human interventions along this coastline, including the construction of fishing harbors, seawalls, groynes, and promenades, has significantly altered the natural geomorphology of the coastline. This alteration has amplified coastal erosion, particularly during the monsoon season, impacting approximately 35 kilometers of the Thiruvananthapuram coast across various sectors.

VISL Port Construction: The Vizhinjam International Seaport (VISL) project encompasses a massive 3.18-kilometer-long breakwater, extensive dredging, and the reclamation of approximately 66 hectares of coastal waters in its initial phase. Such extensive reclamation is unprecedented along this coastline and has raised concerns regarding its repercussions on sediment dynamics, hydrodynamics, wave patterns, and the sediment budget.

Expected Impacts: The construction of the VISL port is expected to result in coastal erosion and flooding in areas down-drift from the port. Consequently, properties are at risk, and livelihoods of local fishermen are jeopardized. Moreover, this venture is poised to inflict damage on coastal biodiversity and habitats, disrupt traditional fishing activities, and lead to job and income loss among fishermen, thereby affecting the socio-economic fabric of coastal communities.

Sediment Dynamics: The excavation of sand from the inner shelf during dredging will significantly reduce the natural supply of sediment, causing heightened erosion along the Kovalam-Vettukad sector.

Breakwater Impact: The design of the breakwater, extending over 1 kilometer offshore, is anticipated to obstruct the transport of sediment northward, leading to instability along the beaches. Moreover, this design will alter the width of the coast and influence the natural swash-backwash phenomenon that plays a vital role in maintaining beach health.

Overtopping Waves and Coastal Flooding: The reduction in sediment supply and beach loss has exacerbated concerns regarding overtopping waves, which have the potential to result in coastal flooding and damage to protective structures.

Wrong Interpretation of Shoreline Stability: The presence of seawalls can lead to an inaccurate interpretation of shoreline stability when assessing satellite images and remote sensing data. These seawalls, even though they exist, are susceptible to problems such as slumping, wave overtopping, coastal flooding, and the requirement for regular maintenance.

Climate Change and Coastal Erosion: While climate change is undoubtedly a contributing factor to coastal erosion, the construction of the Vizhinjam port has brought about more immediate and substantial impacts on coastal stability. The project's consequences are expected to be sustained over the long term.

Coastal Accretion: Coastal accretion is observed in the area immediately south of the Vizhinjam port. However, this phenomenon presents its set of challenges, including the obstruction of stream mouths, increased coastal flooding, and the need for regular dredging.

Aesthetics and Environmental Sensitivity: The construction of the Vizhinjam International Seaport has drastically altered the aesthetics and natural beauty of the region. This coastal area, classified as "Areas of Outstanding Natural Beauty" under Coastal Regulation Zone (CRZ) I, was designated to protect the unique environmental sensitivity and geomorphic significance of the area. Unfortunately, the project's plans inadequately acknowledged the region's rich coastal biodiversity and environmental sensitivity, resulting in disruptions to the area's aesthetics and ecological equilibrium.

In conclusion, the decision to embark on the Vizhinjam International Seaport construction has initiated a cascade of catastrophic consequences. It has fundamentally perturbed the coastal landscape, disrupting the natural balance of waves, currents, and sediment transport. The result has been a tumultuous episode of erosion, gradually erasing the once-pristine coastal vista, serving as a poignant reminder of the adverse effects of hasty human interventions in the natural world.

Moreover, the repercussions of this grand endeavor have extended to the local community, casting a shadow over the once-thriving tourism industry. The enchantment of unspoiled beaches and captivating scenery has been eclipsed by industrial structures, pollution, and the destruction of the region's scenic charm, including that of the famous Kovalam beach. This unwelcome transformation has driven away tourists, causing a severe economic impact on the region, thus underlining how relentless

6. BIODIVERSITY AND ECOSYSTEM SERVICES

This chapter underscores the profound ecological and socio-economic significance of the Vizhinjam coastal zone while shedding light on the detrimental effects of the Vizhinjam International Seaport construction on the area's biodiversity and ecosystem services. Here are some key points:

Ecological Importance: The Vizhinjam coastal zone occupies a unique location where the Indian Ocean, Arabian Sea, and Bay of Bengal converge. This area boasts rocky reefs, a diverse array of marine life, and is home to corals, fish, and algae, all contributing to its remarkable biodiversity. The region's ecological well-being is closely entwined with sustainable fishing practices.

Biodiversity: Vizhinjam Bay is recognized as a pivotal marine biodiversity area, harboring over 20 percent of Kerala's coastal sea biodiversity. Rocky reefs and other diverse habitats serve as the habitat for a wide spectrum of marine species, including both edible and ornamental fish.

Community Engagement: The Kerala State Biodiversity Board, in collaboration with local communities, has meticulously documented and acknowledged the significance of the marine biodiversity in this region. They have established a People's Marine Biodiversity Register and emphasize the imperative for judicious management and even the potential establishment of a Marine Protected Area.

Environmental Impact: The construction of the Vizhinjam International Seaport has left an indelible environmental footprint. Activities such as sand dredging and disposal have inflicted damage upon rocky reefs, while the reclamation of coastal waters and the erection of breakwaters have severely disrupted marine ecosystems, placing them in imminent danger of extinction.

Traditional Fishers: The traditional fishing communities have long depended on these ecosystems for their livelihoods. The destruction of these habitats has imperiled their customary fishing grounds, and they have not been adequately compensated for their losses.

Ecosystem Services: Coastal ecosystems provide a plethora of ecosystem services, encompassing aesthetics, recreation, tourism, cultural heritage, and food sources. The assessment of the value of services forfeited due to port construction is a complex endeavor, but it is undeniably substantial.

Ecosystem services in coastal areas can be classified into four categories: direct-use value, indirect use value, option value, and non-use value. These services encompass activities like fishing, coastal protection, tourism, water quality improvement, scientific research, and the preservation of cultural and aesthetic values.

The value of ecosystem services rendered by rocky reefs, though challenging to precisely quantify, encompasses support for fisheries, coastal protection, tourism, clean water, scientific research, cultural significance, and aesthetics. The estimated annual value of these services in Vizhinjam

stands at approximately Rs. 222 crores. Moreover, there are considerable losses in value due to the cessation of reef fishing (Rs. 12 crores per annum), the inability to conduct shore-seine fishing (Rs. 27 crores per annum), and the disruption of beach-based sports and recreational activities (Rs. 23 crores per annum) resulting from the project's impact. The loss incurred from the decline in tourism in the region is estimated at Rs. 78 crores. Additionally, the use value, option value, and existence value of the sandy beaches amount to Rs. 1665 crores. In a nutshell, the overall annual value of ecosystem services lost due to the Vizhinjam port project is estimated to be a substantial Rs. 2027 crores, underscoring the need for comprehensive environmental assessments that consider both environmental sustainability and economic development.

In summation, this chapter articulates the urgency of safeguarding the ecological and socio-economic worth of the Vizhinjam coastal zone, while raising concerns about the adverse consequences of port construction. It advocates for a more holistic and responsible approach to development that considers the long-term sustainability of the region and the well-being of its traditional fishing communities.

7. FISHERS PERCEPTIONS

This chapter outlines the significant and detrimental impacts of the Vizhinjam International Seaport construction on the local fishing communities and the coastal environment as perceived by the fishers themselves. The insights were gathered through public consultations facilitated by the JPS, and here are the key points summarizing the content:

Loss of Livelihood: The ongoing construction of the port has inflicted substantial harm on the livelihoods of traditional fishermen. Fishermen reported that their fishing-related challenges have intensified due to the construction. The commencement of port construction without a thorough analysis of the costs and benefits has resulted in disruptions to traditional fishing practices, a reduction in available fishing areas, damage to fishing equipment, and significant financial losses.

Accidents in the Existing Fishing Harbor: The Vizhinjam fishing harbor, which had previously never experienced any accidents since its construction, has turned into an accident-prone zone with the loss of life and damages to fishing boats after the initiation of port construction.

Environmental Damage: The dredging and disposal of dredged material have buried numerous reefs beneath layers of sand, adversely affecting both the livelihoods of the fishermen and the local coastal environment and biodiversity. Barges transporting construction materials have caused damage to fishing nets, further exacerbating economic losses.

Employment Impact: Many traditional fishermen and mussel collectors have lost their jobs due to the loss of fishing areas and habitats. Fish abundance and mussel health have also been compromised. Consequently, many women from coastal fishing villages have been compelled to seek alternative employment, such as working as housemaids and domestic helpers, due to the diminishing income from fishing-related activities.

Community Impact: Coastal erosion has resulted in the destruction of houses and community facilities in various areas, including schools, dispensaries, and community halls. The relocation of families to relief camps has led to inadequate living conditions, including a lack of privacy and basic facilities.

Social and Cultural Impact: The construction of the lengthy breakwater for the port has significantly disrupted the coastal communities' access to the sea. The loss of beaches has had an adverse effect on leisure and community activities, including recreational opportunities for children.

Lack of Consultation: The views and concerns of the fishing communities, both to the north and south of the Vizhinjam International Seaport Limited, have not been given due consideration in environmental or socio-economic assessments. This suggests a deficiency in adhering to the principles of free, prior, and informed consent, which is not only a right of the affected communities but also a responsibility of the government and investors.

International Investigation: The Compliance Advisor Ombudsman (CAO) of the International Finance Corporation (IFC) conducted a compliance investigation that substantiated the fishers' concerns regarding inadequate consultation and the failure to address issues related to the negative impacts of the port construction.

In summary, this chapter underscores the severe consequences that the Vizhinjam Seaport construction has wrought upon the local fishing communities, their means of livelihood, the environment, and the social fabric of the affected areas. It also highlights the pressing need for improved consultation, assessment, and mitigation efforts to address these issues and uphold the rights and well-being of the affected communities.

8. VISL AND THE HOMES LOST TO EROSION

The chapter addresses the issue of coastal erosion along the Indian coastline, emphasizing the role of human-induced activities such as urbanization, port construction, and sand mining as significant drivers of erosion.

Impact of Vizhinjam Port Construction: The construction of the Vizhinjam port is identified as a major contributor to coastal erosion. The adverse effects of the port's construction on the homes of local fishing communities are emphasized.

Village Volunteer Study: The chapter discusses a study conducted by village volunteers to assess the consequences of port construction on coastal erosion, flooding, and wave impact. The study involved interviews with 289 individuals who lost their homes to the sea after 2015 in villages located north of the Vizhinjam International Seaport.

Graphical Data Presentation: The study's findings are presented through seven graphs, illustrating the relationships between port construction, erosion, and its consequences on coastal residences.

Geographic Impact: The data shows that erosion had previously affected villages like Panathura and Poonthura before the construction of the port. However, the erosion and home loss expanded to villages around Valiyathura as the Vizhinjam port construction progressed, leading to the loss of 289 homes in seven villages.

Role of Monsoon Waves: Surprisingly, the study found that high and short-period monsoon waves, rather than cyclones like Ockhi, were the primary drivers of erosion and house loss during the monsoon months. This suggests that high wave conditions, potentially exacerbated by port structures like the breakwater, are significant contributors to coastal erosion.

Change in Erosion Location: The study notes a shift in the location of erosion. Pre-2015, the presence of seawalls indicated erosion in certain villages, while post-2015, previously erosion-free sandy beaches experienced significant erosion. This shift highlights the severity of erosion in the area.

Need for Mitigation: In conclusion, the chapter emphasizes the detrimental impact of coastal erosion exacerbated by port construction. It underscores the urgent need for effective mitigation measures and sustainable development practices to protect vulnerable coastal communities from the loss of their homes.

The chapter highlights the environmental and societal consequences of coastal erosion and underscores the importance of addressing these issues through appropriate measures and responsible development practices.

9. HUMAN RIGHTS AND REMEDIAL MEASURES

The chapter addresses the ethical and human rights concerns associated with the displacement of fishing communities due to the development of the Vizhinjam container port. It highlights the absence of adequate consultation, potential human rights violations, and the influence of neoliberal policies.

Villages in the North of the Port:

Erosion and Loss of Homes: Severe beach erosion in these villages has led to the destruction of homes, with an estimated cost of Rs. 92 crores for land and home replacement.

Erosion and Livelihoods: Shrinking beach space due to erosion has impacted fishing activities, requiring livelihood restoration and rehabilitation assistance.

Villages within the Port Jurisdiction:

Damage to Homes: Construction-related tremors have damaged houses, with an estimated compensation cost of Rs. 24.3 crores for 243 houses.

Damage to Fishing Equipment and Loss of Life: Frequent loss of fishing gear and even loss of life has occurred due to construction activities, necessitating immediate payments of Rs 50 lakhs if any fisher dies in the vicinity of the fishing harbour.

Loss of Employment: Fishers within the port's zone have experienced varying degrees of employment loss and require reassessment and fair compensation.

Loss of Cultural and Religious Spaces: The construction has led to the loss of playgrounds and the St. Antony's shrine, requiring immediate attention and fair compensation.

Environmental Damage: Environmental damage from port construction has led to health problems and flooding, warranting an Environmental Management Fund.

Villages in the South of the Port:

The Mirage of Accretion: Villages to the south of the port have experienced beach accretion due to erroneous Environmental Impact Assessments.

Economic Investment in Fishing: These communities have significant investments in fishing assets, totaling Rs. 69 crores, and fishing is their cultural heritage and primary income source.

Assessing Earnings: The estimated revenue generated from fishing in these villages is significant, amounting to at least Rs. 250 crores, highlighting the importance of fishing to these communities.

Human Rights and Imminent Threat to Occupational Heritage:

The section discusses the human rights implications of potential fishing activity restrictions due to the port's operations, emphasizing the rights for access to food, work, and cultural preservation.

Spatial Injustice:

The chapter underscores spatial injustice in large-scale projects, where marginalized coastal communities are disproportionately affected by privileged elites' decisions, highlighting unequal power dynamics.

Implications of ISPS for Fishing Communities:

The text discusses the implications of the International Ship and Port Facility Security (ISPS) certification for fishing communities, emphasizing the need for collaboration to address access restrictions and compliance costs.

In summary, the chapter extensively examines the human rights and ethical concerns related to the displacement of fishing communities due to the Vizhinjam container port development. It calls for a rights-based approach, fair compensation, and a comprehensive understanding of the challenges faced by these communities.

10. REMEDIAL MEASURES – LONG TERM

This chapter underscores the vital contributions of marine fishing communities in Kerala, highlighting their role in safeguarding beaches, preserving clean coastal seas, and practicing sustainable fishing methods. The chapter also emphasizes their cultural significance and their selfless actions during the 2018 floods.

Ending Marginalization: The chapter calls for an end to the marginalization of fishing communities and the protection of their rights to coastal areas. It highlights the interdependence between these communities and the well-being of the entire state and urges Kerala's citizens to recognize the importance of preserving sandy beaches and clean coastal waters.

Challenges of Coastal Erosion and Seawalls: The chapter addresses the challenges posed by coastal erosion and the extensive use of seawalls along Kerala's coastline with costs nearly Rs 50 crores per kilometer. It emphasizes the negative impacts on fisheries, beach tourism, and coastal ecosystems. Seawall construction costs and their adverse effects are discussed.

Managed Coastal Retreat: Proposing a sustainable alternative to seawalls, the chapter introduces the concept of strategically managed coastal retreat. It suggests the gradual relocation of communities from vulnerable coasts to allow nature to restore beaches. The costs involved in rehabilitating households which approximates Rs 30 crores for a designed village of a 100 homes are compared with seawall construction.

Sustaining the Beaches: The text stresses the importance of preserving existing beaches through strict prohibitions on activities causing coastal erosion. Project proponents are required to rebuild lost beaches, and nature-based solutions are recommended.

Enhanced Tourism Potential: Coastal erosion's impact on beach tourism is discussed, with a focus on enhancing natural beach aesthetics to maximize economic benefits. Responsible tourism practices, community engagement, and potential revenue generation are highlighted.

Community Engagement and Well-being: The chapter recognizes the cultural and spiritual significance of beaches, proposing citizen access rights to the beach and sea for the socio-cultural and spiritual well-being of the community.

Economic Benefits of Sustainable Beach Tourism: Sustainable beach tourism is presented as a significant revenue generator, fostering ecological preservation and responsible tourism to restore sandy coasts and contribute to the local economy.

Beaches as Healing Retreats: The text emphasizes the role of beaches as healing spaces, especially in the context of the COVID-19 pandemic, stressing the importance of ensuring access for religious events and public gatherings.

Holistic Approach: The chapter advocates a holistic approach, including a moratorium on seawalls, a shift to managed retreat, beach restoration, and thoughtful community relocation. It

emphasizes the balance between financial considerations, ecological preservation, and community well-being.

In summary, the chapter promotes the well-being and rights of fishing communities, advocates for sustainable coastal management, and offers solutions to address challenges related to coastal erosion and seawall construction.

11. PRESENT STATUS AND REALISTIC FUTURE OF VISL

This chapter critically evaluates the Vizhinjam International Seaport, emphasizing that its success goes beyond its strategic location and deep-water harbor. It highlights several key factors critical for the viability of a commercial transshipment port.

Key Components for Viability: The chapter discusses essential components and considerations for a commercial port's success, including infrastructure, security measures, logistics, environmental sustainability, emergency response preparedness, and a skilled workforce.

Delays and Completion Timeline: The analysis reveals that the Vizhinjam port project has faced delays due to various factors, including natural disasters, supply shortages, the COVID-19 pandemic, and protests. The completion timeline has been extended to December 2024, with only two-thirds of the breakwater and dredging works completed by October 2023.

Traffic Projections and Competition: Concerns are raised about traffic projections and competition within the industry. Previous estimates of container traffic in India have been overly optimistic, and regional transshipment ports like Vallarpadam and Colombo face underutilization and financial viability challenges.

Hinterland Linkage and Financial Strain: The chapter emphasizes the importance of strong links to hinterland economies, an area where Vizhinjam faces challenges. There is also a significant financial strain on Kerala, with an amount exceeding Rs 2000 crores required for the port to achieve full operational status. This includes expenses like land acquisition, railway construction, and viability gap funding.

Stakeholders and Interests: The complex interplay of interests and challenges involves stakeholders like Adani Ports and the Government of Kerala, each with its own gains and losses. Adani Ports may benefit from utilizing land for commercial purposes, while the government of Kerala faces mounting financial and environmental pressures.

Holistic Assessment: In summary, the chapter provides a comprehensive and realistic assessment of the Vizhinjam International Seaport, underlining that the success of such a venture depends on multifaceted aspects and considerations beyond location and depth. It highlights the complexities and challenges in determining the destiny and viability of a commercial transshipment port.

12. SOCIAL LICENCE TO OPERATE – A WAY FORWARD

This chapter acknowledges the conflict between coastal communities and private investment-driven port infrastructure projects like Vizhinjam port. It highlights the need to address the fundamental issue of differing perspectives and values concerning coastal areas and introduces a guiding concept for future port developments.

Four Perspectives on Coastal Areas:

The conflict at Vizhinjam and similar situations stems from differing viewpoints on the beach and coastal sea, including:

Nature's Gift: Emphasizes conservation, eco-tourism, and ecosystem services.

Livelihood and Heritage: Highlights employment, food security, and cultural heritage, focusing on small-scale fisheries and sustainable tourism.

Business Opportunity: Concentrates on economic contributions from port infrastructure, shipping, and industrial fishing.

Innovation Hub: Promotes coastal areas as sources of new discoveries, particularly in renewable energy, mariculture, and biotechnology.

Introducing Social Licence to Operate (SLO):

The chapter introduces SLO to ensure ongoing community acceptance and endorsement of operations, aligning with stakeholder expectations. SLO reflects the need for community participation and oversight beyond project benefits, given declining trust in government mechanisms.

Applying SLO to Vizhinjam and Future Projects:

SLO can address issues related to legitimacy, trust, engagement, mutual benefits, cultural considerations, and fairness and justice. It is important for future port projects to navigate diverse perspectives on coastal resources, focus on sustainable development, and engage coastal communities equitably, ensuring that all stakeholders benefit and have a voice throughout the process.

13. CONCLUSIONS AND RECOMMENDATIONS

1. Interconnectedness of Beaches and Human Rights

Conclusion: Recognize the link between environmental conservation and human rights, as articulated by the United Nations.

Recommendation: Ensure adherence to UN Guiding Principles on Business and Human Rights, integrating this linkage into project reports and impact assessments.

2. Balancing Vizhinjam's Heritage and Development

Conclusion: Balancing the historical and natural heritage of Vizhinjam with the interests of fishing communities is crucial.

Recommendation: Consider sustainable practices for further development in the Vizhinjam area, involving Local Self-Governing institutions' consent and collaborative efforts among stakeholders.

3. Transparent Infrastructure Projects

Conclusion: The lack of transparency in the grant of the Vizhinjam port contract raised significant concerns.

Recommendation: Prioritize transparency, competitive bidding, reliable environmental assessments, community engagement, and accountability mechanisms for future projects.

4. Environmental Impact Assessment Deficiencies

Conclusion: Environmental Impact Assessment (EIA) for the Vizhinjam port project displayed multiple deficiencies and inaccuracies.

Recommendation: Address these EIA deficiencies with independent oversight, full data disclosure, meaningful community consultation, penalties for unethical practices, and expert review panels.

5. Addressing Irregularities in Vizhinjam Port Project

Conclusion: The CAG's findings revealed irregularities and concerns in the Vizhinjam port project.

Recommendation: Review the facts mentioned in the CAG report and ensure adherence to financial and environmental standards for future projects.

6. Environmental Consequences of Vizhinjam Port

Conclusion: The construction of Vizhinjam International Seaport had significant environmental consequences.

Recommendation: Prioritize comprehensive environmental assessments, constitute a Task Force for Coastal Development Projects, focus on beach nourishment and sediment management, and involve local communities.

7. Protecting Biodiversity and Ecosystems

Conclusion: Vizhinjam port poses a significant threat to the biodiversity in the region.

Recommendation: Commission the Kerala State Biodiversity Board to address the imminent threat and ensure fair compensation for fishing communities.

8. Economic and Ecological Value of Ecosystem Services

Conclusion: Coastal ecosystems provide valuable services with a profound impact on human well-being, the environment, and the local economy.

Recommendation: Evaluate the economic, ecological, and cultural value of these services by an inter-disciplinary team with the participation of fishing communities.

9. Impact on Local Fishing Communities

Conclusion: The Vizhinjam port construction project presents challenges for the local fishing community.

Recommendation: Establish an inter-departmental committee for overseeing the implementation of resettlement and compensation measures, ensuring equitable compensation, rehabilitation, and community involvement.

10. Coastal Erosion and Damage to Homes

Conclusion: Coastal erosion and damage to homes have intensified since the start of the Vizhinjam port construction.

Recommendation: Conduct a comprehensive environmental impact assessment, provide mitigation measures, and prioritize transparency, education, and investment in coastal erosion management.

11. Priority Rejuvenation of Lost Beaches

Conclusion: Lost beaches in the port impact zone have resulted in immediate loss of homes and livelihoods.

Recommendation: Undertake immediate measures to regenerate beaches in priority areas, involving credible institutions with full community participation.

12. Compensation and Remedial Measures for Fishing Communities

Conclusion: Remedial measures for addressing the impact of erosion and loss of life and livelihood are a matter of priority and human rights.

Recommendation: Reassess disruptions, apply pressure on AVPPL to raise funds and ensure the implementation of all current and future remedial measures.

13. Strategically Managed Coastal Retreat

Conclusion: A shift from seawall construction to a strategically managed coastal retreat is a more sustainable alternative.

Recommendation: Prioritize social infrastructure over seawalls, establish a “Coastal Community Housing Fund,” and involve the government, public, and private sector housing finance agencies.

14. Preserving Sandy Beaches and Their Tourism Potential

Conclusion: Sandy beaches are a source of substantial tourism potential with a significant contribution to the local economy.

Recommendation: Place a moratorium on seawall construction, form alliances between fishing communities, tourism stakeholders, and cultural and religious groups, and push for a new policy for “Revival and Sustenance of Sandy Beaches.”

15. Conflict Between Port Development and Fishing Community Futures

Conclusion: Inherent conflict exists between investment perspectives and the livelihood values of fishing communities.

Recommendation: Demand the formation of a Social License to Operate (SLO) during the Public Hearing for the port expansion, focusing on trust-building, equitable development, and transparency.