

FACING THE SEA

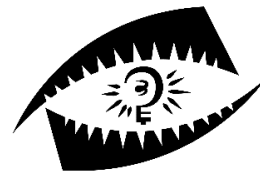
The Vanishing Shores of South Kerala.

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This project is the by-product of all my learnings and experience over the past two years, and I am grateful to have had the opportunity to work on it. Once again, thank you to everyone who has contributed to the successful completion of this project. To those who have watched my film, I hope you enjoyed it.

Feedback

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Abstract

Every beach has a story to tell. From the footprints left behind on its shores to the memories, we make there, it is a place where tales of love, friendship, happiness, comfort, and misery intertwine. It is a universal space that symbolizes relaxation, adventure, and fun. A place where people come to escape reality, make unforgettable memories, and share moments with their loved ones. Sadly, as coastal erosion continues to affect coastlines worldwide, these stories and along with lives in them may one day come to an end. As the gradual erosion of coastlines causes the beaches to slowly disappear, the existence of this paradise is severely threatened.

Coastal erosion is the natural process of washing away land by the sea caused by tides and waves. And while it is part of a seasonal activity that causes beaches to accrete, recede, and recover over time, the truth of the matter at hand is that the beaches are slowly disappearing and have stopped coming back like they used to. As the sea rises and eats away the shores, despite the negative impact of coastal erosion, some people take nature for granted as it is also human nature to overlook the value of things until they are truly gone. With the effects of rising sea levels and the construction of sea structures protruding into the sea, the coastlines are severely affected only with a little hope left for a full recovery. As a result, several coastlines and beaches are slowly disappearing. The effects

of coastal erosion can be devastating, as it leads to the loss of beaches, wetlands, and other crucial habitats that are home to a wide range of marine species. The effects of coastal erosion are also felt by humans, as it can cause damage to coastal infrastructure, homes, and businesses. Coastal erosion can also lead to significant economic losses for communities that rely on tourism. Therefore, the consequences of coastal erosion are severe, and raising awareness about this issue is essential to protect our coastal communities. This report dives into the importance of preserving our coastlines and the stories they hold. We explore the impact of coastal erosion and how it has affected the livelihood of a community. The goal is to raise awareness about coastal erosion and inspire individuals, communities, and policymakers to take action to preserve our coastlines for future generations.

1. Project Brief

Theme: Environmental & Livelihood

The phenomenon of coastal erosion has increasingly become a concern for seashores around the world. Its impact on the lives of coastal residents has yet to be fully understood. The slow emergence of this threat and its gradual progression over time is complicating matters even further, making it essential to examine how coastal erosion occurs and how it affects those who live along the coast. As such, finding ways to address this issue has become an urgent matter that requires immediate attention and action to safeguard the future of our coastal communities and their way of life.

1. a. Understanding the issue

The gradual disappearance of beaches in the south of Kerala, in Thiruvananthapuram, including Shangumugam, Kovalam, Poonthura, Valiyathura, Veli, and Muthalapozi, has become a pressing issue that is adversely affecting the local trade and the livelihoods of various people, particularly the fishing community residing nearby.

Given the continuous arrival of monsoons, storms, floods, and cyclones in 2018 & 19. The community initially believed that climate change was the primary cause for erosion, However, as per the local knowledge, it was later found out that the port activities in Vizhinjam whose massive breakwaters were constructed into the sea prevented the shores from recovering and caused water to rise in other parts. The lack of clarity and misinformation surrounding the issue, along with the authority's disregard for the initial pleas of the affected communities, has resulted in widespread social outrage and protests throughout Thiruvananthapuram. Coastal communities rely heavily on the ocean and its adjacent coastal areas as their primary source of income. This includes the fisherman community, whose livelihoods are entirely dependent on marine life. Many families have constructed their homes near these coastal lines, while others have set up shops in these regions to maximize their business potential. However, the changing nature of the coastal environment is slowly putting all of these livelihoods at risk. The famous beaches of Shangumugam and Kovalam, which serve as essential centers for tourism and social engagement, are also under threat due to this coastal erosion.

With the rising sea levels, the collapse of the coasts poses a huge threat to not just the environment but also the people dependent on these coasts. The impact on the fisheries industry that provides food and livelihoods for many would also affect the state's economy as well.

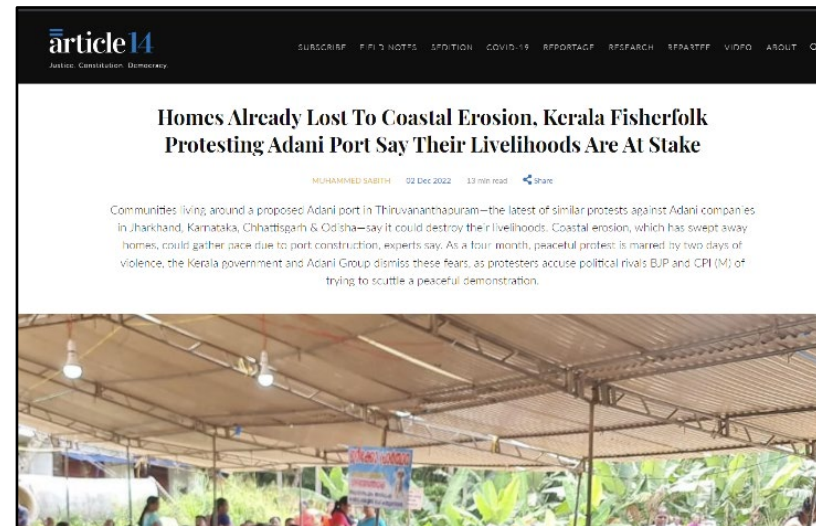
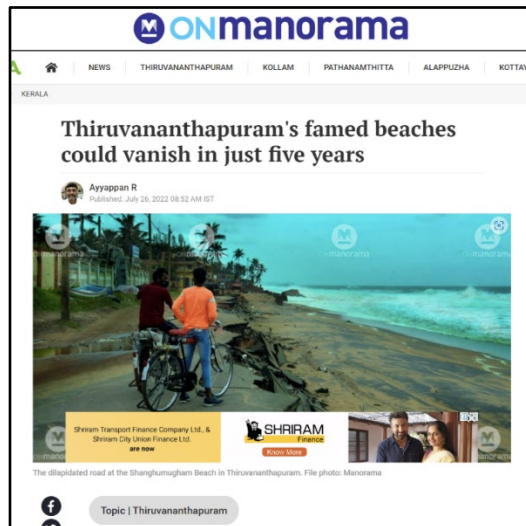
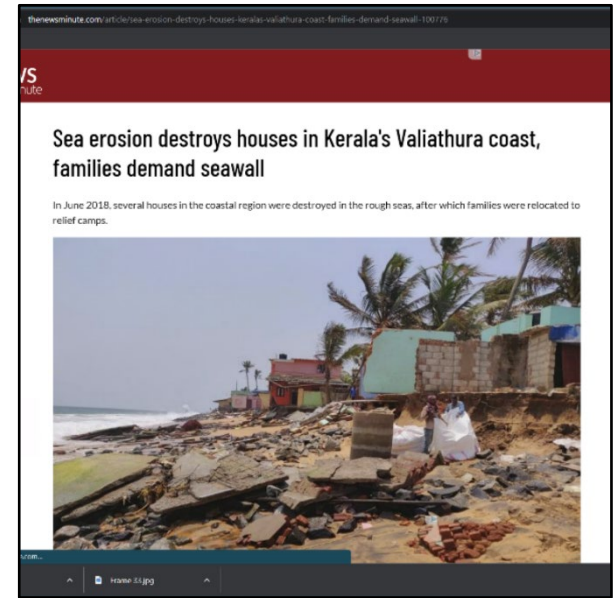
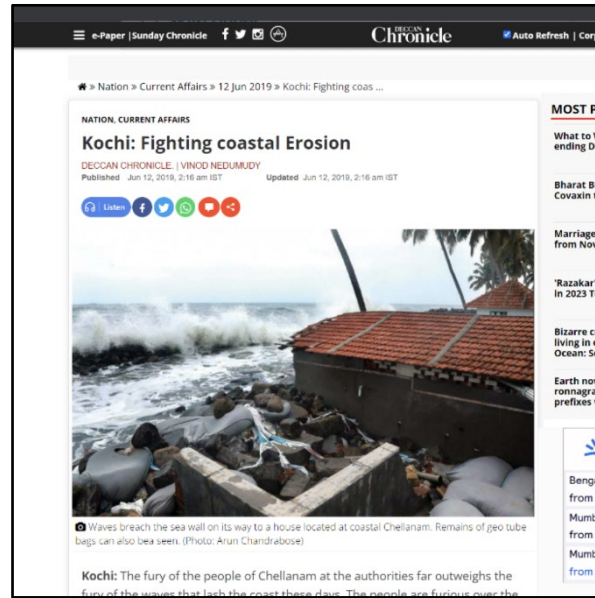
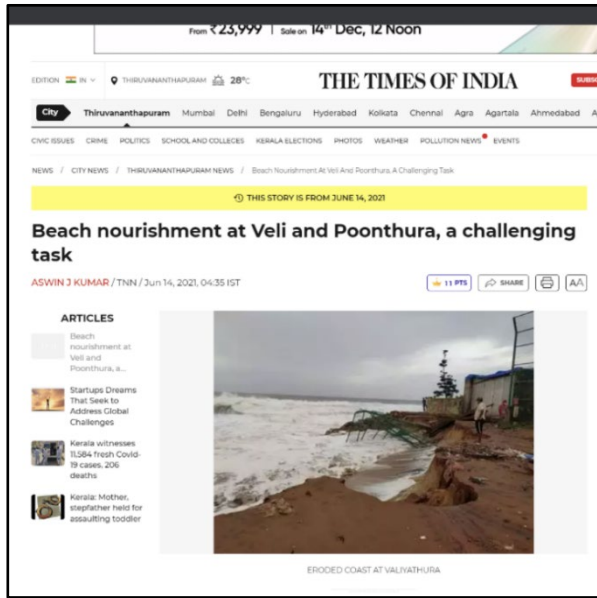


Figure 1: News extracts stating the effects of coastal erosion in Kerala.

1. b. Defining Objectives

How to best convey the story of a coast degrading to nothing?

How the event affects the people associated with that region?

What were the factors that led to such an event?

Why such an issue should be even relevantly addressed?

There were several key questions to consider while trying to convey the issue of a coast degrading to nothing. First, it was important to understand how the event affected the people associated with that particular region. This included exploring the economic, social, and cultural impact coastal degradation has had on the communities living and working along the coast. Secondly, it was essential to investigate the factors that led to such an event, both natural and man-made. This included climate change as well as any human activity. Lastly, it was crucial to emphasize why this issue should be relevantly addressed, as it poses a significant threat not only to the livelihoods of the affected communities but also to the larger environment and ecosystem. Ultimately, conveying the issue of coastal degradation required me to think of a multifaceted approach that can take into account the various perspectives and factors involved, empathize and highlight the importance of taking action, and address the underlying causes of this

issue using an appropriate medium which would be the form of my project.

1. c. The Problem Statement

To exhibit the slow emergence of coastal erosion as a threat to seashores, and how it affects the lives of those who live along the coastlines.

1. d. Project Medium

Documentary as an audio-visual medium would be best appropriate to generate a sense of empathy about the issue and convey the matter in its best form. Given the extent of my topic and its videography applications, I have chosen Prof. Madhumita Mazumdar and Mr. Anirban Dutta Gupta to be my guides on this project. Prof. Madhumita would be able to help me in terms of building my story through different social narratives and Mr. Anirban Dutta Gupta, whose knowledge and skills in filmmaking and videography would also be extremely valuable to me while I prepare my documentation on this topic.

1. e. Target Audience

The film would talk about the people living in the coastal areas of Thiruvananthapuram, which have been badly affected by coastal erosion. The film includes narratives from fishermen and other members of the community who are dependent on an income they obtain from the ocean and beaches, people who lost their homes and are forced to live away. The documentary would serve as an eye-opener for policymakers and those who are unaware of the severity of this issue and can encourage viewers to visualize the problem from the perspective of the affected. By providing a platform for the community members to express their concerns regarding coastal erosion and their beach, the film would help in creating an in-depth awareness among the public and authorities about the issue, The need to save beaches from further erosion, and the importance of preserving a natural habitat such as a beach would be addressed.

1. f. Motivations behind choosing this project.

Trivandrum, the capital city of Kerala, is renowned for its beautiful coastlines adorned with coconut trees and beaches. These beaches offer a serene and idyllic ambiance that is not only stunning to behold but also

offers a unique atmosphere that is difficult to replicate anywhere else. For those who live in the city, these beaches are a haven, a place of escape where one can leave the hustle of their city life behind and immerse themselves in the presence of natural beauty. As someone who is born and raised in Trivandrum, I have a deep connection to these beaches, which have been not just a space of personal significance, but also spiritual, and cultural as well. The thought of these beaches slowly dying over time is not just an environmental concern but also an emotional one, as it would be like losing a part of oneself. My love for cinema and its craft has also deeply influenced me in pursuing this project. I believe when it comes to addressing a context or story, movies have an effective way of conveying matter through their visual sense.

2. Pre-Production

Pre-production was the initial stage of my creative project. This involved research, planning, and organizing all the elements I required to bring the project to life. Conducting extensive research helped me analyze and understand the deeper roots of the problem. The pre-production phase was therefore critical as it would help me set up the foundation for the rest of the project, it would also help me identify suitable content for the movie. Deeper research and ground study also enabled me to understand the locality and eventually choose a location where the movie was going to take place. All further storylines and narratives would be then devised accordingly.

2. a. Research

What is coastal erosion?

Coastal erosion is the eroding of shores caused by tides and waves. A coastline gets eroded whenever the high tide level rises above the low tide level. In addition, a coastline may also erode as a consequence of storms, earthquakes, or any other natural disasters. Coastal erosion also occurs as a result of human activities and natural environment changes making the coastal actions dynamic. The aggravated movement of waves, currents, and winds forces the coastal process to lose its balance, and the

long-term loss of sediments of the coastal zone results in the destruction process of coastline retreat and beach erosion. **Even though a coastline can recover itself after a cyclonic or seasonal event, it is an area's geology and soil composition that eventually determines whether a coastline can ever fully restore itself.**



Figure 2: The effects on coastal erosion.

Thanks to the efforts of many scientists who concentrated their research in this area, the understanding of coastal-zone processes has greatly advanced. The understanding of an entire spectrum of physical processes, from the waves, currents, and sand flow in the nearshore, to

the reaction of a beach to sand transport which ultimately leads to a changing coastal morphology. These are the numerous mechanisms that directly contribute to the development of coastal erosion in a region. Without the proper understanding of this science, mistakes that are collectively made for personal benefits or in the name of societal advancements take a larger toll on something which further leads to a wider range of consequences.

The research states that coastal erosion can continuously occur due to the rise of the sea level, a **decrease in sediment supply** from rivers due to upstream dams, or the construction of permanent sea structures. If that is the case then there is little scope for the coast to fully regain its original form. Whether it be on a barrier island under the onslaught of a hurricane or breakwaters constructed to dampen the flow of waves, coastal erosion is the result of a complex interaction of physical processes. Depending on the circumstances, **the motion of waves, tides, storm surge, and rise in water level combine and interact with the coastal land which in turn can cause considerably variant outcomes.** The erection of engineering structures along the beaches with unclear guidelines or study of the area, the unplanned tourist facilities being built very close to the beach, Reinforced sand fillings, concrete walls, and sea walls to combat floods during high tides. All these **infrastructural developments increase shoreline**

instability and threaten the stability of seawalls, pathways, or buildings due to intensive erosion and high-energy waves.

At present, coastal erosion is a very common phenomenon, it is worldwide, and about 70% of the sandy coast marked erosion in the world. Coastal land is being swallowed by seawater and coastal villages and houses are forced to move inland, which squeezes the living space of humans, destroys the beach biodiversity and ecological balance, and has direct or indirect harm to human life and the natural environment. So coastal erosion has changed from a natural environment change to a serious hazard.

Situation in India

This issue of coastal erosion is a matter that requires specific attention and needs to be taken seriously. **Almost 3,287,263 km² of Indian land is coastal in nature, 34% of it subjected to varying degrees of coastal erosion**, 26% of accreting nature with the rest 40% being stable. Still, the general public remains oblivious to this fact other than those who are directly impacted by it. West Bengal faces the most coastal erosions ever recorded in India with Kerala being the second. This is followed by smaller-scale coastal erosion happening in almost every state that has a coastline.

Situation in Kerala

A study report tabled in Parliament by the Ministry of Earth Sciences reveals that **41% of the coastline in Kerala is under varying degrees of coastal erosion.** The National Centre for Coastal Research has monitored the shoreline changes along 6,632km of the Indian coastline from 1990 to 2018.

The overall long-term (1990-2018) shoreline change result shows that about 32% of the coastline is under varying degrees of erosion, with 27% accreting in nature and the remaining 41% in a stable state. The state-wise shoreline analysis reveals that 60% of the West Bengal coast was noticed with varying degrees of erosion followed by Puducherry (56%), Kerala (41%), and Tamil Nadu (41%). Accretion was dominant along the Odisha coast with 51% followed by Andhra Pradesh (48%).

The 'National assessment of shoreline changes along Indian coast: A status report for 26 years (1990-2016)' prepared by the National Centre for Coastal Research revealed that around 45% of Kerala's coastline is eroding while 34% is stable and 21% accreting. The report said the coasts of Kasaragod, Kannur, Malappuram, Ernakulam, and Kollam are dominated by both erosion and stable condition with a few pockets of accretion. Another study, 'Coastal Morphology and Long-term Shoreline

Changes along the Southwest Coast of India', conducted by the National Centre for Earth Science Studies and published in the Journal Geological Society of India, revealed that almost 60% of the state's coastline is eroding with about 29% showing an accreting trend. The data collected over a period of 46 years from 1968 to 2014 was studied using multi-dated shoreline images and Survey of India topographic charts. All these studies point to **factors like the construction of structures such as fishing harbors, ports, groynes, sea walls, and beach sand mining for monazite ores for altering the nature of the coastline and induced changes.**

M C Dathan, the scientific advisor to the chief minister and a former director of ISRO's Vikram Sarabhai Space Centre (VSSC), said, "**Coastal erosion is more vigorous and rampant along the coastline of Kerala as more energy is stored in the waves of the Arabian Sea as compared to the Bay of Bengal.** There are a lot of global factors which influence the sea surface temperature and wind patterns over the sea. We have been following various methods like the construction of a sea wall, diaphragm wall, etc here to dampen the force of waves. It is to some extent useful but, certainly, more needs to be done."

2. b. Literature survey

There are numerous reasons why the coastal environment of Kerala is being affected. To understand how the coastal system of Kerala particularly in Thiruvananthapuram works, I needed to find associated reading materials and conduct specific discussions related to the issue with experts studying and working in this field.

NATIONAL GREEN TRIBUNAL SPECIAL BENCH HEARING

ORDER

This order will deal with O.A. No. 04/2013(SZ) and Appeal No. 18/2017(SZ) as both matters **involve a common issue of protection of stretches of coastal lines affected by human-induced erosion caused by hard structures.**

This order issued by the National Green Tribunal Special Bench was in response to a grievance filed in 2013 addressing the destruction of the coastal environment in Puducherry and Tamil Nadu which was caused due to the continuous erosion within the coast. The applicant argues that

the construction of hard structures is what caused continuous coastal erosion in their region. The grievance argues that the problem of human-induced coastal erosion has not been addressed by the government of Puducherry and instead, it has been transferred to the nearby state of Tamil Nadu.

The report talks about the large-scale human-induced erosion and destruction caused by the disturbance of the sedimentary budget within a coastal compartment. The sedimentary budget is determined by the prevailing natural phenomena along a particular coast, and the undisturbed coastal environment and habitat are usually in a state of equilibrium. However, when man-made coastal structures interrupt the natural movement of sand along the coast, a cascading effect takes place, and the coast on the down-drift side of the structures is starved of sediment and starts eroding. The report addresses the effects of human-induced coastal erosion and the **importance of maintaining the sedimentary budget within a coastal region.**

In response to a grievance filed in 2013, the National Green Tribunal issued an order that stated hard structures were causing continuous erosion of the coast.

Introductory

2. O.A. No. 04/2013(SZ) was filed on 17.01.2013 raising the grievance of destruction of Puducherry and Tamil Nadu Coastal Environment due to construction of hard structures causing continuous erosion of the coast. It is submitted that not only the stretch in question but most parts of Indian Coastline - both on the East and West Coasts are under the influence of the Littoral Drift.

Main contentions of the Applicant/Appellant

4. According to the applicant there is large scale human induced erosion and destruction. The Littoral Drift varies from one coastal compartment (or sediment cell) to another. Within each of these coastal compartments, the undisturbed coastal environment and habitat is usually in a state of equilibrium. For such a state of equilibrium to exist within a coastal compartment, the "sedimentary budget" within a compartment needs to be maintained. The sedimentary budget is something that has been arrived at and is determined by the prevailing natural phenomena along a particular coast. Just like the water level in

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a river is maintained and determined by the "water budget" of its catchment area, similarly the "sediment budget" of the "river of sand" along the coast is determined by the related factors within its sediment cell.

9. Over the past two decades, Puducherry has suffered large scale coastal erosion induced by imprudent, ad hoc and unscientific construction of hard structures on the coast which have a constant, negative impact which is felt and aggravated with every single day that goes by. This problem of human-induced coastal erosion has not been addressed by the Government of Puducherry. Instead, the coastal

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management measures adopted so far have only transferred and aggravated the problem of erosion down the coast to the neighbouring state of Tamil Nadu which has been facing the same ever-increasing problems of human-induced coastal erosion since over a decade.

10. The problem of large scale and rapid coastal erosion in Puducherry started in and around 1986 with the construction of an artificial harbour in Ariyankuppam estuary, situated 1.5 km to the south of the Puducherry town. The harbour was meant to provide an artificial

5. When the "sedimentary budget" within a coastal compartment is disturbed and upset, i.e. when the natural movement of sand is disturbed and interrupted for example by man-made coastal structures, a cascading effect takes place along the shores of a given sediment cell. When a coastal structure is erected in the path of the freely moving sand along the coast, the structures prevent the natural flow of sand in the same manner as a dam across the path of river interrupts the flow of water. In such an instance one part of the coast gets an excess of sand and the other side on the down-drift is starved of sediment. The side that is starved of sediment starts and keeps eroding as long as fresh input of sand is not provided.

Figure 3: Transcripts from National Green Tribunal Special Bench Hearing.

ASSESSMENT OF COASTAL VARIATIONS DUE TO CLIMATE CHANGE USING REMOTE SENSING AND MACHINE LEARNING TECHNIQUES: A CASE STUDY BY DEPARTMENT OF GEOLOGY, UNIVERSITY OF KERALA.

This report published by Prof. Shaji. E, Associate Professor & Head in the DEPT. OF GEOLOGY, UNIVERSITY OF KERALA, discusses the changes in the Kerala coast of India over the past decade. The coastal region has experienced significant changes in shoreline configuration, beach erosion, and accretion. The researchers utilized remote sensing, GIS, field checks, and machine learning tools to monitor and predict changes along the coast.

The observed data analysis shows that approximately 42 km of the 58-kilometer-long coastal stretch face acute erosion, 13 km face accretion, and 3 km face neither accretion nor erosion and remain in equilibrium. The report states that over the 14 years, approximately 2.62 km² of land has been eroded from the shore, while 0.7 km² of land has been accreted.

The rate of erosion is faster between Pozhikkara and Veli, including the popular Shanghumugham beach near Trivandrum International Airport. The shoreline changes are attributed to increased cyclone occurrences in the Arabian Sea, swell wave formation, changes in wave energy, and sea level rise due to climate change.

A machine learning prediction model for the year 2027 was created using data from the previous 14 years, which suggests that the entire stretch will experience severe erosion, particularly between Shanghumugham and Anchuthengu in the coming years.

2. c. Discussions



Figure 4. Dr. Sheela Nair, Marine Scientist heading the Marine Geoscience Group at National Centre for Earth Science Studies, Thiruvananthapuram

Dr. L. Sheela Nair has studied the coastal behavior of Kerala over the years. The Discussions with Dr. Sheela allowed me to understand the coastal system of beaches in Thiruvananthapuram, especially Valiyathura where the erosion was seen most. I was re-introduced to the **concept of littoral drift** and how it changes through seasonal cycles, especially on the southern shores of Thiruvananthapuram. It was noted

that in the normal season, this drift would flow from the South-west direction whereas in Monsoon, the drift would be flowing from the west. **This drift would carry the sands required for replenishing the shores.** The construction of coastal structures erected in the path of this freely moving sand along the coast, **prevent the natural flow of sand, affecting a constant flux.** This leads to one region facing erosion and the rest getting accreted. This process is known as **Mineral starvation.** These discussions also allowed me to revisit my previous readings and understand them with better clarity.

2. d. Field Visits

Based on the research gathered and discussions I've had with people in this field, I was able to map down certain regions where coastal erosion was seen to be prominent. During one of my discussions with my professors, I was asked to come up with a war plan for the region. I, therefore, decided to travel along the coastline starting from Poonthura to Perumathura. This exercise was helpful as it allowed me to visually see and experience the decline in shoreline with my very own eyes. As I traveled from an origin point to an exit region where I've observed erosion to be extremely less, I was able to note down locations where I can gather impactful visuals and finalize on a coastal region with significant damage, where the story would take place. My field visit eventually took me to the Valiyathura- Shangumugam region where

erosion was seen most damaging to the shore. The remains of the destroyed houses, members of the community who lost their homes living in Go-downs and camps, a broken sea bridge, and houses built along the coastlines with water at the edge of it were next in a line disappear. All of this served as visual motivators for me to decide on this location.

The fieldwork also allowed me to meet the affected parties and individuals in the area, who were perfect as characters for my documentary. In the beginning stages of the visits, it was very evident that they did not want to participate or collaborate in any project let alone to an outsider. So, it was necessary that I initiate my conversations through proper channels. Seeing that the people of Valiyathura trusted their church, it seemed like the appropriate channel to convey my subject and find the right people. I found Michael who was extremely striking to me as being the eldest and active fisherman in the area. Vincent, a refugee living in the go-downs of Valiyathura lost his home to the 2018 coastal erosion. I also inquired about found several other individuals with different professions, viewpoints, and livelihoods. To establish a rapport with them I had to make sure I constantly visited the locations and study the area for better visuals as well as prepare for the interview with them.

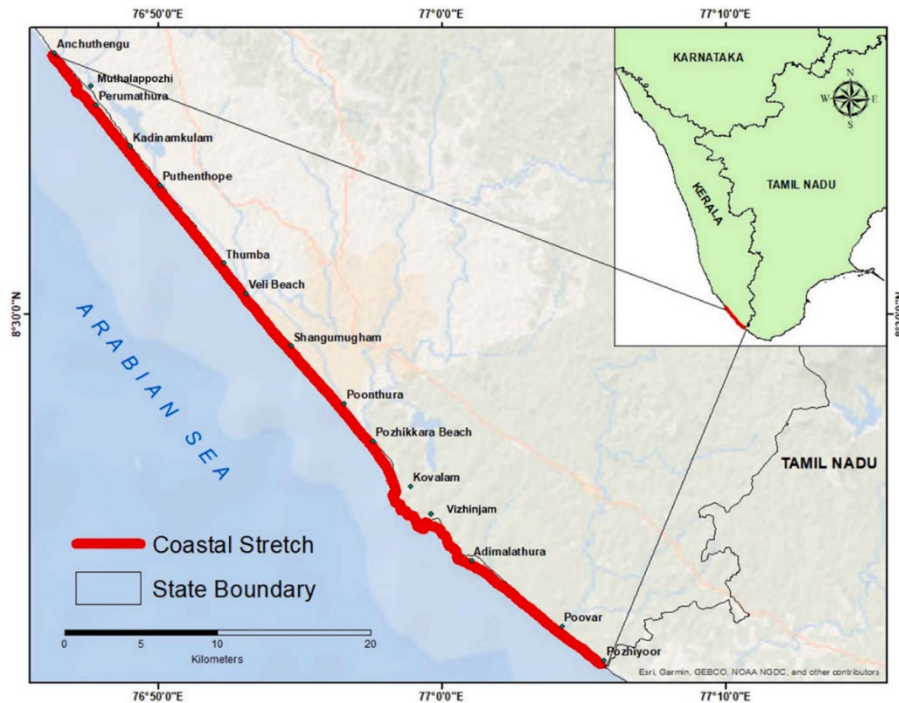


Figure 5. Route map for the coastal regions mentioned in the War plan. (Image sourced from a case study report by the Department of Geology, University of Kerala)

Figure 6. Field visit images.





2. e. Narrative structure

1. Opening Statement & Introduction.

I would be opening the film by introducing this issue through the story of a coast and the people residing there. This includes the fishermen community there, daily visitors to the beach, nearby settlers, and street sellers. How it proves to be the source of livelihood and entertainment for many. This involves documenting their day-to-day activities and stories of several people to show how dependent they are of their shores. The visuals of people spending their time on the beach, children playing around, and street sellers going about their jobs, would establish the essence of the beach and why it is vital to the people in the movie. This would build an opening stage for the issue to be subtly brought out, as well as connect the viewers with the users.

2. Arrival of an Adversity & Impact

This would be followed by a change in the tone of the film. How the change in the coastal environment impacted their lives and how the normal day-to-day activities within the beach were affected. What all catastrophes had struck and how did the change in marine life affect their way of living? What was lost? Who was to blame? And why did they believe it to be the cause? The Objective of this chapter would be to

introduce the concept of coastal erosion and its impacts. How have they endured it? Has everything been brought back to a normal state? What are their struggles as of now? How do they counter it? I would ask these necessary questions to show how their way of life had been toppled.

3. Source of all Problems and Solutions

The following chapter would be talking about the causes behind this issue and why such an event occurred in the first place. The technical aspects of why and how coastal erosion occurs. Can it be prevented? What kind of human interventions aggravates it? the following themes would be discussed and supported by facts laid out by scientific personnel in this field. Moreover, it would talk about explaining the importance of sand as a resource, its management, and how human interferences affect it.

4. Ending Statement & Conclusion

The movie would end a with powerful reminder of the serious impact of coastal erosion and the need to take immediate action to protect our beaches and coastal communities. The documentary would serve an important message that coastal erosion is not only an environmental problem but also a humanitarian one, as it significantly affects the livelihoods of coastal residents.

2. f. Initial Scripting

Sn.	Script	Visual/Shot/Sound
	<p>THE OPENING SEQUENCE</p> <p>(Khalil Gibran poem)</p>	<p>A Khalil Gibran poem appears on a black screen.</p> <p><i>Oceanic sounds playing in the background...</i></p> <p>The Black screen dissolves into a SLOW ZOOM footage of an ocean.</p> <p>The text of Khalil Gibran’s poem still appears at the top.</p> <p>The poem fades away, and the footage of the ocean remains.</p> <p><i>Narration begins.</i></p>
	<p>INTRODUCTORY NARRATION</p> <p>Every beach has a story to tell.</p> <p>Tales of Love...</p>	<p>Maintaining the same footage of the ocean (slow zooming in)</p> <p><i>Low dramatic music playing....</i></p> <p>Visuals of people interacting with the beach#1</p>

	<p>Happiness...</p> <p>Friendship...</p> <p>And solitude....</p> <p>Each footprint that we leave behind on a beach tells a different story...</p> <p>And like a good confidant, the sea hides its traces along with it, our secrets.</p> <p>A beach is therefore for everyone.</p> <p>It has no religion.</p> <p>It shows no discrimination.</p> <p>People go to a beach for a quick getaway from reality....</p>	<p>Visuals of people interacting with the beach#2</p> <p>Visuals of people interacting with the beach#3</p> <p>Shot of a man sitting alone facing the beach.</p> <p>Close up on the feet of a man that walks by leaving behind footsteps on the beach.</p> <p>The footsteps are then washed away by the ocean.</p> <p>Timelapse of people interacting with the beach and the sun setting down.</p> <p>Timelapse runs as the narration continues and people keep moving in and out in bulk.</p>
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	<p>To forget themselves in something that is nature-given and beautiful</p> <p>And like all things that are nature given it is also human nature to take things for granted</p> <p>for we may never truly appreciate the beauty of something unless it's lost to us forever.</p>	<p>The footage slowly fades out until the sun sets down.</p> <p>The screen changes back to black with the oceanic sounds.</p> <p>The intro for the movie appears on the screen.</p> <p><i>Dramatic music...</i> <i>Oceanic sounds...</i></p>
	<p>DOCUMENTARY TITLE REVEAL.</p> <p>Let's start from the beginning, shall we?</p> <p>Shangumugam...</p> <p>one of the most popular tourist destinations located in Thiruvananthapuram, south of Kerala.</p> <p>lying before the Arabian Sea, Shangumugam is known for its vast stretch of yellow sand and clear blue waters...</p>	<p>The title fades away to a black screen.</p> <p>Cut to - footage of the Shangumugam.</p> <p><i>Music playing in the Background...</i></p> <p>Visuals from Shangumugam Beach.</p> <p>Yellow sands and dust away with the wind. Blue waves with the sun glistening in them.</p>

	<p>away from the crowd in the city, the sculptures, stone buildings, small-scale shops, and the sea breeze, the beach provides all the ingredients for relaxation and spending an ideal evening in front of the sea.</p> <p>And at dusk, the beach transforms itself into a radiant show with the skies ablaze in orange and red as the sun sets over the blue Arabian Sea.</p> <p>With such a stunning atmosphere and serene beauty, Shanmugam becomes a must-visit place for anyone traveling to Kerala.</p>	<p>Visuals from Shangumugam Beach.</p> <p>Visuals from Shangumugam beach with the radiant sky and sunset.</p> <p>Visuals from Shangumugam Beach.</p>
	<p>NEWS REPORTS IN.</p>	<p>Cut to the same footage of the Shangumugam in ruins.</p> <p>The big letters of 2018 appear on the screen in front of the footage. News broadcasts and clippings appear on the screen.</p> <p><i>News anchors reporting of the ruins caused by coastal erosions all over Kerala....</i></p> <p>The news dissipates into the footage of the Shangumugam beach in ruins.</p> <p><i>Dramatic music.....</i></p> <p>Reports that dictate the coastal erosions taking place in Valiyathura and houses being lost to the sea.</p>

	<p>Coastal erosion....</p> <p>this gradual process of wearing away land by the sea is a problem that affects many communities around the world.</p> <p>and for those around the coast, the effects can be devastating...</p> <p>CHARACTER NARRATION 1: MICHAEL</p> <p><i>"I have been a resident of Valiyathura for 47 years. I have lived and worked with the ocean.</i></p> <p><i>It is through this life that my children and I have grown and survived all these years.</i></p>	<p>As the narrator reads....</p> <p>Destroyed houses.</p> <p>A Fisherman (Michael) carries on with his duties.</p> <p>Michael starts to narrate in his own words. Same footage of Michael carrying on with his duties.</p> <p>Children running around playing.</p> <p>Michael stares into the ocean. Michael talking into the camera.</p>
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<p><i>Looking back ... things weren't always like this... in fact, we had much more strong potent waves....</i></p> <p><i>But even then, the sea never did us much harm nor we ever suffered any losses...</i></p> <p><i>That is, in my good old memory, when we were young, we used to lay down and sleep soundly under that bridge, on the coast wide open...</i></p> <p><i>My wife and children would lie down on the beach to enjoy the breeze and the coast would be filled with sand...</i></p> <p><i>Now our eyes don't even see that level of sand anymore. That's how things are going..."</i></p> <p><i>"Life is not safe for those who live on the coast...it's impossible to live here anymore..."</i></p> <p><i>Because the sea has taken most of our lands...</i></p> <p><i>After 10 years...</i></p>	<p>Footages of the sea crashing against the pier.</p> <p>Pan from sea to the bridge. Michael talking into the camera.</p> <p>Close up below the bridge where Michael and his family used to sleep. The waves crash against the stones indicating people can't sit there anymore.</p> <p>Michael talking into the camera.</p> <p>Close up on Michaels's sandy feet washed by the sea.</p> <p>Visuals of Valiyathura beach.</p> <p>A crow pecking into a dead fish.</p> <p>Pan of a long beach.</p>
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	<p><i>we probably won't even have the land nor the dirt to bury our dead."</i></p> <p>For many coastal communities, the idyllic scene of a prosperous beach has become a thing of the past...</p> <p>The truth of the matter at hand is that these beaches are slowly running out of land.</p> <p>Engulfed by the sea, the beaches and coasts around the world slowly disappearing</p> <p>along with the lives in it.</p> <p>For fishermen, the loss of beaches means the loss of their livelihood. As the shoreline recedes, fishing grounds are destroyed, and the fish population decline.</p> <p>But it's not just the people who live and work on the coast who are affected. The loss of beaches also has a ripple effect on the entire economy of coastal communities, as tourism and recreation suffer.</p>	<p>Gentle waves beat against the shores.</p> <p>Footage of the sea.</p> <p>Michael continued to stare into the ocean. The camera moves behind him.</p> <p>Fishermen interacting with the beaches.</p> <p>Storm raging.</p>
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<p>Coastal erosion is caused by a combination of factors, including sea rise levels, storms, and human activities such as building seawalls and dredging.</p> <p>But whatever the cause, the effects are the same: homes and businesses are destroyed, and entire communities are displaced...</p> <p>CHARACTER NARRATION 2: VINCENT</p> <p><i>"Back then when we told them to put groynes in the area they didn't listen to us.</i></p> <p><i>To be honest, we call the sea our mother. The sea is indeed a woman. but with the current climate conditions, we are even afraid to go sleep on the beach.</i></p> <p><i>Our family used to sleep safely in our homes, we used to go out to sea at night and our women and our children used to sleep in our homes.</i></p> <p><i>By the time we came back, the sea has already taken hold of our coast. My wife and children ran away to safety as our homes were destroyed and cracked open by the land and sea.</i></p>	<p>Waves crashing in against sea walls.</p> <p>Destroyed homes.</p> <p>People living in refugee camps. Introduction to Vincent.</p> <p>Vincent narrates. As he walks out of the camp.</p> <p>The sea is in the frame.</p> <p>Boats passing by the beach.</p> <p>Vincent looks at the camera and speaks.</p>
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<p><i>It was all around 6 pm when all of this happened. Since it was an early evening, the neighborhood people were able to quickly observe the changes to land and had shifted our homes to this go downs here.</i></p> <p><i>we were told of what happened and where our homes have been shifted to. That's how we reached here.</i></p> <p><i>The house that we built with hard work during our abled time was taken away by the ocean..."</i></p> <p>Those who lost their homes still reside in the cement go-downs of Valiyathura, waiting for the government to build them new homes.</p> <p><i>"Now it's been 4 years and 1 month since we came here. To this date... nobody has approached us to help.</i></p> <p><i>Rats</i></p> <p><i>Snakes</i></p>	<p>Vincent looks into the distance.</p> <p>Vincent looks at the camera and speaks.</p> <p>Glimpses of a broken house</p> <p>Pan on the go downs where refugees reside.</p> <p>All the people living in the go-downs going about their business.</p>
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<p><i>We're disturbed by all sorts of creatures here...</i></p> <p><i>We live here by enduring all of this and now they want to kick us into the streets too.</i></p> <p><i>In monsoon, it'll start dripping from everywhere.</i></p> <p><i>I don't go to work anymore. Being 68, I can't work in the ocean. U know about the kind of disease one has to go through at this age.</i></p> <p><i>Very rarely if I'm able I would go sit on the bridge with a fishing line. If we get anything we sell that on the market for 200, 300</i></p> <p><i>But no one can survive using that.</i></p> <p><i>My wife goes to the market and sells fish...there are days when we turn a profit there are days when it's an absolute loss.</i></p> <p><i>This is how we survive."</i></p>	<p>Vincent looks at the camera and speaks.</p> <p>People fishing from the broken bridge.</p> <p>Vincent looks at the camera and speaks.</p>
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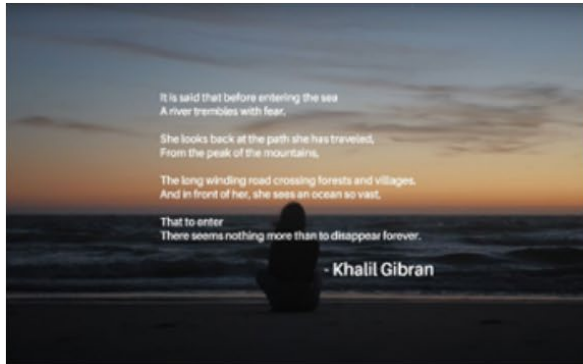
	<p>EXPLANATION</p> <p>INTERVIEW WITH THE ECOLOGIST</p> <p>While coastal erosion is a seasonal process for beaches to recede and accrete....</p> <p>Some beaches have stopped coming back over time.</p> <p>The high tides and monsoon waves would take over the shores and carry away the sand from the beaches.</p> <p>The rivers that traveled to the sea would then bring fresh sediments of sand into the ocean.</p> <p>The waves then traveling east would bring the sands to the shore thus replenishing the beaches.</p> <p>Now, the dams block the sand in the river from reaching the sea, and the water that used to run down into lakes and ponds gets brought into the ocean in excess.</p>	<p>Dark clouds appear in</p> <p>Beach facing the ocean.</p> <p>Close up on Waves in and out of the beach</p> <p>River Aruvikara merged into the Arabian Ocean.</p> <p>Long pan towards the right of the beach.</p> <p>Footages from the Dam</p> <p>Human activities in Veli Lake.</p>

	<p>As climate change forms more and more ferocious storms...</p> <p>The sea begins to rise...</p> <p>And the beaches begin to shrink...</p> <p>Bit by bit, the relentless winds and tides gnaw away at their shores...</p> <p>And along with it, their homes as well.</p> <p>What was once a vast expanse of sand,</p> <p>Now remains a narrow strip of land</p> <p>Struggling to survive...</p> <p>So, what can be done to stop coastal erosion?</p>	<p>Storm stock footages</p> <p>The sea rising.</p> <p>Shots of various destroyed and shrunken beaches.</p> <p>Destroyed shores.</p> <p>Destroyed houses.</p> <p>Old footage of Shangumugam.</p> <p>Destroyed footage of Shangumugam.</p>
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	<p>THE ENDING SEQUENCE</p> <p>Almost 34% of India's coastal lands are subjected to varying degrees of coastal erosion.</p> <p>The construction of dams and other human interferences into the river obstruct the natural flow of sand from ever reaching the sea or beaches.</p> <p>Thus, the coastal equilibrium of a beach is disturbed and the quantity of sand on the beaches is never replenished.</p> <p>With no beach to protect them. Many coastal communities like Valiyathura and Poonthura would perish.</p> <p>It's a race against time to save our beaches and the communities that rely on them.</p> <p>It is up to us to take action and preserve these precious resources for generations to come.</p>	<p>Text appearing with infographics.</p> <p>Footages of dams and other human activities into the sea.</p> <p>Beach at ruin.</p> <p>The coastal community of Poonthura with completely ruined beaches.</p> <p>People interact with the beaches.</p>

	<p>with effort and determination, we can find a way to preserve these precious resources for future generations.</p> <p>The future of our beaches is in our hands.</p>	<p>Back to the open footage of the sea.</p>
	<p>THE END.</p>	<p>Credits roll.</p>

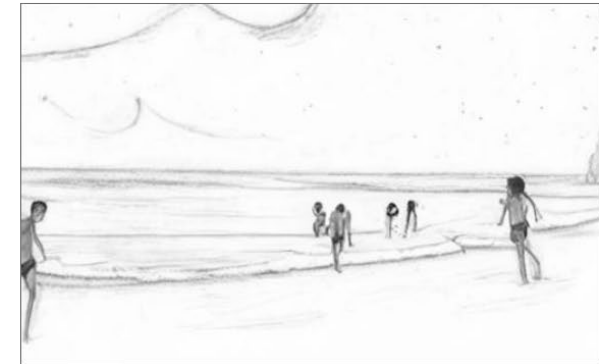
2. g. Storyboarding



OPENING STATEMENT : Khalil Gibran Poem, The Black screen dissolves into a SLOW ZOOM footage of an ocean. The text of Khalil Gibran's poem still appears at the top.



INTRODUCTORY NARRATION : Every beach has a story to tell. People go to a beach for a quick getaway from reality. To forget themselves in something that is nature given and beautiful.



DESCRIPTION ABOUT SHANGUMUGAM BEACH: Shangumugam one of the most popular tourist destinations located in Thiruvananthapuram, south of Kerala.



NEWS REPORTS IN. Coastal erosion, This gradual process of wearing away land by the sea is a problem that affects many communities around the world.



CHARACTER NARRATION 1: MICHAEL I have been a resident of Valiyathura for 47 years. I have lived and worked with the ocean.



IMPACT OF COASTAL EROSION : But whatever the cause, the effects are the same: homes and businesses are destroyed, and entire communities are displaced...



CHARACTER NARRATION 2: VINCENT , I lost my home to the sea, forced to live out as a refugee in these go downs.



INTERVIEW WITH SCIENTIFIC PERSONAL : Talking about how the coastal erosion occurs, what factors causing coastal erosion.



EXPLANATION : Construction of structures into the sea, block the natural flow of the sand through the waves.



CONCLUSION :it's a race against time to save our beaches and the communities that rely on them.

3. Production

Once the fieldwork was done, and all locations and characters were set for the shoot, I decided to enter the production stage. This involved me prepping myself with the right equipment for the shoot as well as planning my interviews and shots.

3. a. Equipment

For the film project, I used a Nikon d7100 camera with an 18-140mm lens. In addition to this, I also used a phone camera for capturing wide-frame shots, which provided better stability and greater coverage. To ensure that I did not run out of battery during shoots, I carried backup batteries for the camera. Furthermore, after each day of filming, I transferred all the shots to my laptop for safekeeping. The majority of the filming was done handheld. Interviews were recorded using the recording feature of a Sony Walkman.

3. b. Planning

Even though a certain narrative structure was set, it was very crucial that I plan by shoots to get the best results. This involved researching and

finalizing questions to be asked in the interviews. Planning my shoots as per the availability of the subject and categorizing days of shoots as per locations. I also had to plan ahead and make a list of shots that would be included in the documentary.

3. c. Interview Questionnaire

The following were the key questions asked in interviews to get appropriate responses.

1. താങ്കളുടെ പേര്, വയസ്സ്, താമസസ്ഥലം, തൊഴിൽ?
(Your name, Age, residence, Occupation)
2. താങ്കളുടെ കുടുംബം ഇവിടെ സ്ഥിര താമസമായിട്ട് എത്ര കാലമായി? (How long have you been settled here?)
3. താങ്കളുടെ അപ്പൻ, അച്ഛൻ എന്നിവരുടെ തൊഴിലും, ജീവിത സാഹചര്യവും ? (Your ancestors and their livelihood)

4. വീട്ടിൽ ആരൊക്കെ യുണ്ട്? ആരൊക്കെ മാത്സ്യബന്ധനവുമായി ബന്ധപ്പെട്ട തൊഴിൽ ചെയ്യുന്നുണ്ട്? (Who all are there in your family? Who amongst them goes to sea?)
5. കടലുമായി ബന്ധപ്പെട്ട ജീവിതത്തെ കുറിച്ച് രണ്ട് വാക്ക് പറയാമോ? (Few words about the life on sea)
6. തീരദേശങ്ങളിൽ ഉള്ളവർക്ക് ഒരു കടൽതീരം എന്ന് പറയുന്നത് വളരെ അധികം പ്രാധാന്യം നിറഞ്ഞ ഒരു ഇടമാണ്. എന്തുകൊണ്ട് (Why is a beach considered a special place for people living in coastlines ? What importance does it hold to their day-to-day life.)
7. മത്സ്യ വ്യാപാരം മോശപ്പെട്ട അവസ്ഥയിലേക്കോ അതോ മെച്ചപ്പെട്ട അവസ്ഥയിലേക്ക് ആണോ പൊയ്ക്കൊണ്ടിരിക്കുന്നത്? (Is the fisherman livelihood going through a bad phase or good?)
8. ഈ ബീച്ചു മായി ബന്ധപ്പെട്ട് താങ്കൾക്കുള്ള ചില നല്ല ഓർമ്മകൾ പറയാമോ? (Any good memory you have about this beach?)
9. കടൽ കയറിയ ദിവസം.എന്താണ് സംഭവിച്ചത്? നിങ്ങൾ എങ്ങനെയാണ് അത് കണ്ടത്? (The day the sea rose, what exactly happened? How did you find out about it?)
10. നിങ്ങൾ അതിനെ എങ്ങനെയാണു നേരിട്ടത്? (How did your counter its effects?)
11. വെള്ളം എവിടെ വരെ കയറി? എത്രത്തോളം നാശനഷ്ടങ്ങൾ ഉണ്ടായി? (Till where did the water rose and what all damages had happened?)
12. അത് കഴിഞ്ഞു ബീച്ചന് വന്ന മാറ്റം നിങ്ങളുടെ ജീവിതത്തെ എങ്ങനെയാക്കെ ബാധിച്ചിട്ടുണ്ട്? (After this, how did the changes to the beach affect your way of living?)
13. കടൽ തീരം ഇങ്ങനെ നഷ്ടപ്പെടുന്നതിന് എന്താണ് കാരണം എന്നാണ് നിങ്ങൾ കരുതുന്നത്? (Why do you think the coastlines are disappearing?)

14. കൊടുങ്കാറ്റും, മഴയും കടൽ ക്ഷോഭവും പണ്ട് മുതലേ തീരങ്ങളെ ബാധിച്ചിരുന്നു. എന്നാൽ എന്തുകൊണ്ടാണ് അടുത്തകാലത്തായി കടൽ ക്ഷോഭം തീരങ്ങളിൽ കൂടുതൽ നാശനഷ്ടം വരുത്തുന്നത് എന്നാണ് താങ്കളുടെ അഭിപ്രായം? (Storms and erosions have existed for a long time, but why has it become extremely fatal only now?)

15. കടലിലെ നിർമ്മാണങ്ങൾ തീരദേശ സന്തുലിതാവസ്ഥയെ എങ്ങനെ ബാധിക്കുന്നു? (How does the interference of sea structure affect the process of coastal equilibrium?)

16. വീട് നഷ്ടപ്പെട്ടവർക്ക് എന്ത് സംഭവിച്ചു? (What happened to those who lost their home?)

17. എങ്ങനെ അവിടെ എത്തി? (How did they reach there?)

18. അവിടെ ജീവിത സാഹചര്യങ്ങൾ എങ്ങനെയാണ്? (How are their living conditions there?)

19. കടൽത്തീരം നശിക്കുന്നത് എങ്ങനെ തടയാമെന്നാണ് നിങ്ങൾ കരുതുന്നത്? (How do you think we can stop the erosion from further causing damage?)

20. സർക്കാർ സഹായം എന്തൊക്കെ ലഭിച്ചിട്ടുണ്ട്? (Has the government provided you with any help?)

21. കടലിന്റെ ഈ മാറ്റത്തിൽ നിങ്ങൾക്കുള്ള ആശങ്കകൾ എന്തെല്ലാമാണ്? (What are your future concerns regarding the coastline?)

3.d Understanding Characters



Figure 7. a. Interviews shots for the documentary (Michael)

Michael is a 73-year-old fisherman from Valiyathura Beach. He is the oldest person following the fisherman occupation in the area and has seen the beach change over time. He has lost his previous house to the sea and currently lives with his children whose house is also situated in front of the sea with no shores or beaches to protect them. Like his previous house, if the water level rises too high next time this house may also not survive the next encroachment by the sea.



Figure 7. b. Interviews shots for the documentary (Ganeshan)

Ganeshan is a tourist photographer who works at Shangumugam Beach and has noticed coastal erosion has become increasingly a threat to beaches and the livelihoods associated with it. He offers his observations and insights into how much the beach was affected and how it affects the tourism in the area.



Figure 7. c. Interviews shots for the documentary (Padmavati)

Padmavati is the food stall vendor from Shangumugam Beach, with the rising threat of coastal erosion that left beaches in an unstable state, Padmavati opens up to her experiences and struggles during the tide seasons. Padmavati explains how her business has been affected due to the beach area being closed out to street vendors, and the decline in beach population.



Figure 7. d. Interviews shots for the documentary (Vincent)

Vincent is a refugee who has been living in the god downs of Valiyathura for the past 4 years. He has lost his house completely to the sea and can't afford to buy to rent out a new space to live in. Due to his age, and illness, he can't seem to work as a fisherman either and therefore continues to live inside the go-downs with his children trying to support him.

3. e. Shooting

The shooting phase was perhaps the most demanding part of this project. Despite all the careful planning, it was during this stage that unanticipated challenges came up, such as the unavailability of the subject, bad weather conditions, and other unforeseen circumstances that disrupted the schedule of the shoot. I began by prioritizing the interviews, which were shot first before moving on to additional b-roll footage of the interview locations. I believed this approach would ensure the continuity of the moment as well as help me form new thoughts and ideas for additional B-rolls, based on what the interviewee has said. Once the interviews were completed, I revisited my list of additional shots required for the film and updated them accordingly. This meant shooting more B-roll footage to capture the remaining context of the movie. Shooting these additional scenes took up several days, but they were necessary to fully convey the message and the story of the documentary.

Throughout the shoot, it was essential to back up all the footage collected every day onto my laptop, ensuring that the data was safe and secure. This was crucial since the footage collected during the shoot was the foundation of the entire documentary, and any loss of data could have devastating consequences.

4. post-Production

The post-production process for my documentary involved several steps which was essential to turn the raw footage I've collected into a polished final product. Firstly, I had to comb through all the data I had collected and organize them. These would be later assembled through different sequences in Premier Pro, depending upon theme and subject. This makes the assessment of data much easier. Adobe Audition and Adobe Podcast were used to improve the clarity and de-noise all recordings.

4. a. Organizing Data

Once a significant amount of footage was collected, it was time to sort all the data. As per my narrative structure, I was able to divide my data into two sub- scenarios, namely Pre- erosion & Post-erosion, I separated my visuals based on the story and what it would convey. The visuals suggesting fisherman's day-to-day activities were placed in one folder, whereas visuals suggesting events of coastal erosion were placed in another folder. All the interview shots and B rolls were kept in a separate folder. In addition to the collected footage, I also had to look for additional data to include in the documentary. This included news reports, photographs, another other information sourced from the internet, all of which were kept in a separate folder to help maintain organization throughout the post-production process.

4. b. Syncing & Assembly

Before beginning the editing process, all the recorded audio and interview footage had to be synchronized and assembled onto respective premiere pro sequences. Once the assembling was finished each sequence was left to run, to figure out all the important parts of the interview. All the relevant portions of the interview were cut and highlighted to be pulled in for final editing. Similar practice was also carried out in terms of film footage and other B-rolls, by syncing and assembling them into different categories.

4. c. Re-Visiting Narrative Structure

After reviewing all data, I was able to revisit my narrative structure and re-structure. I integrated all the new data into the previously existing narrative structure. This would help me to reform my narrative structure. Because of this, my film was going to have a more definite visualization. The new narrative was fully from the direct voices and perspectives of individuals in the film.

1. Opening Statement & Introduction.

Introduction to the issue. The main issue of the plot is introduced through the initial narrative of Michael, an elder fisherman in the area. Michael is the main spokesperson for this issue who would later come to connect all the threads of the movie.

2. Arrival of an Adversity & Impact

Change in the tone of the film and how the coastal erosion and the rise of the sea impacted the livelihood of many. The main issue would be supported by the facts laid out by Ganeshan and Padmavati, who are respective business owners in the area, and how the event has impacted their livelihood. Padmavati would later go on to introduce the reason behind why the sea has barged in. Apart from the perspectives of Ganeshan and Padmavati, a narration from Vincent and Michael is added. Both of them have lost their houses to the sea and are forced to live in different conditions. Vincent who lives as a refugee in the godowns of Valiyathura, is soon to be forced out in the streets with his family. Michael who has already lost two of the houses that he had constructed with his hard-earned money over the years, concerned for his current one, inability to move somewhere else, talks about the devastating impacts of coastal erosion.

3. Explanation of what caused such an event.

Michael explains why and how the construction of harbors and ports interferes with the stability of the sea. What roles does it play in the rising of seawater into their beaches. An interview with a scientific person would explain the importance of sand as a resource, its management, and how human interferences affect it.

5. Ending Statement & Conclusion

A conclusion that expresses the main character's hopes and concerns regarding the severity of this issue. The movie ends with a wake-up call and the urgent need for action to preserve our beaches and coastal communities against this slow but deadly threat. Michael would explain how the loss of beaches did not affect the aesthetics of their beach but also had real and tangible effects on the people who depended on them for their livelihoods. Through Michael's epilogue, the film ultimately leaves viewers with a sense of uncertainty about the future, as well as the urgency and the need to act now to address this pressing issue.

4.d. Editing

The editing process was extremely time-consuming and one of the most difficult parts of the project. Trying to be a perfectionist, had me take a lot of time to complete this movie. The help and patience of my guides kept during this time is much appreciated. I began by creating a new sequence in premiere pro and started pulling all the data I had previously synced and assembled there. This helped me create a timeline of events based on the planned script. Colour labeling each narrative helped in sorting and categorizing the Timeline. The clarity of all audio files was improved with the help of Adobe Audition and Adobe Podcast. Finally, Changing the colour tones helped me set a difference in the visual tone of the movie. Temperature levels were adjusted between different intervals, such as pre-erosion and post-erosion. for each footage to convey a sense of drastic change throughout the movie. Adding sound effects and music played a crucial role in building a sense of eeriness and suspense throughout the movie. By adding the sound effects of ocean, waves, rain, and lighting I was able to establish a whole ambiance for the movie. The subtle hint of music and other soundtracks further intensified the whole experience and allowed me to foreshadow each event within the movie and transport the viewers to that time and place. It helped me set the end and beginning of a section within the movie and allowed me to visualize each piece of footage to be added to each portion.

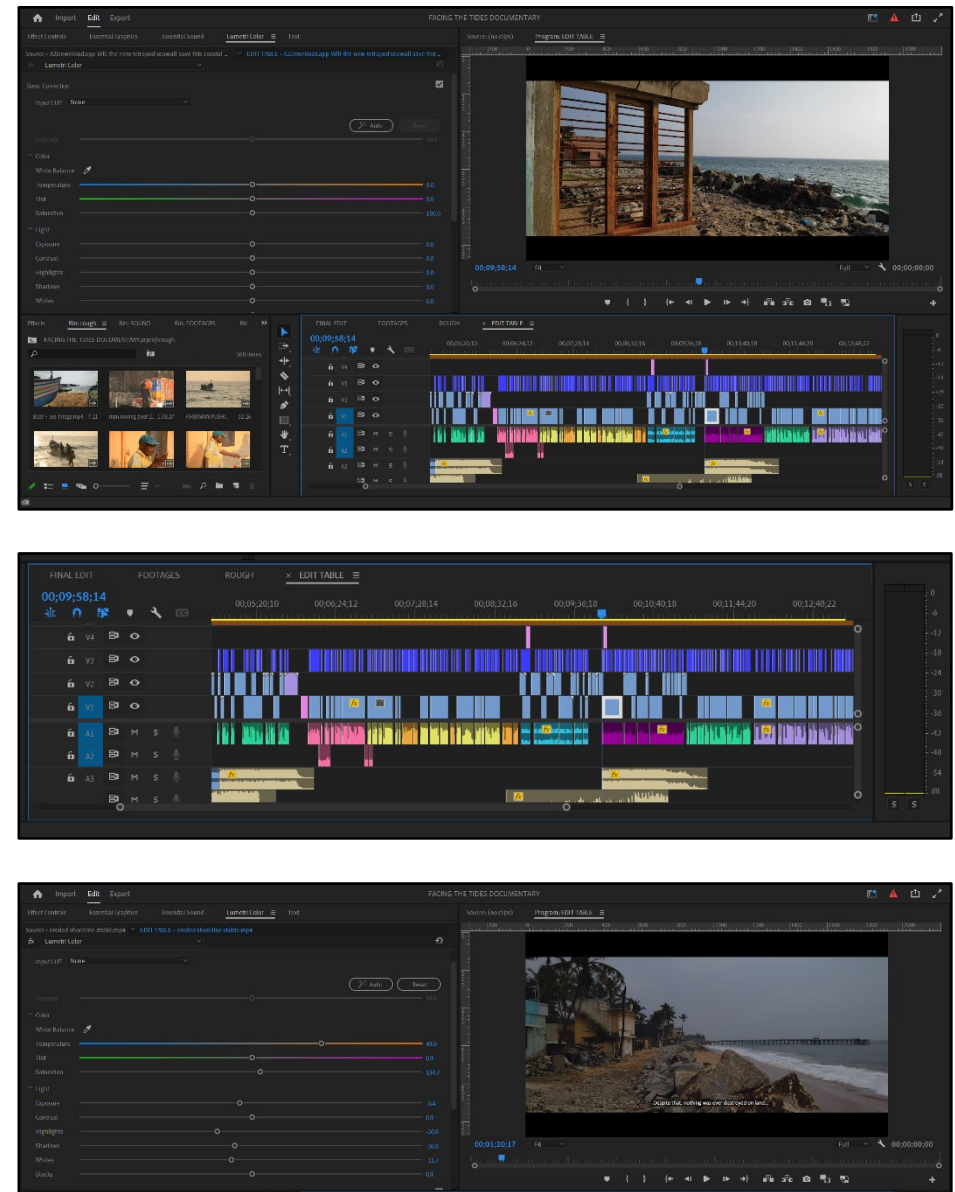


Figure 8. Editing in Premiere Pro

4. e. Title of the Film

As a filmmaker, choosing the perfect title for a film was a complex task. I had to consider a title that would not only catch the attention of the viewers but also give an idea about the matter at hand which in this case was the gradual disappearance of coastal areas in Kerala due to erosion. The title needed to convey a sense of urgency and highlight the severity of the issue. The inspiration for the title "Facing the Sea" came from Michael's house, situated on the edge of the coastline, with sea walls built in front to protect his home from future erosion. Standing in front of Michael's house itself was the greatest inspiration for the whole premise of the movie as it was a visual that conveyed both the matter and its urgency. Usually when someone says a house facing the sea. It is implied in a sense of beauty and privilege suggesting that they are in the view the of shoreline from their homes. But in Michael's case and people such as him, their houses lie in front of the sea in a more dangerous fashion which is vulnerable, uncertain, and precarious. I wanted the title of the movie to capture this essence.

Overall, the title "Facing the Sea: The vanishing shores of South Kerala" talks about the lives of people facing this sea. It also captures the emotional and personal connection that people have between land and sea, making the title an appropriate and impactful choice for a documentary about coastal erosion.



Figure 9. Outside Michael's house.

4. f. Final Scripting

SCRIPT

FACING THE SEA: The vanishing shores of south Kerala.

OPENING SEQUENCE

THE FILM BEGINS ON A BLACK SCREEN WITH THE SOUNDS OF WAVES PLAYING IN THE BACKGROUND.

A Malayalam poem appears on the screen.

ചന്ദ്രകുളഭം ചാർത്തിയുറങ്ങും തീരം..
ഇന്ദ്രധനുസ്സിൻ തുവൽ പൊഴിയും തീരം..
ഈ മനോഹരതീരത്തു തരുമോ ഇനിയൊരു ജന്മം കൂടി..
എനിക്കിനിയൊരുജന്മം കൂടി..

-വയലാർ രാമവർമ്മ

CUE IN MUSIC.

The screen fades into the footage of the ocean (SLOW ZOOMING IN). The Malayalam poem fades into its English translation.

Can I get another birth in this beautiful shore...
The shore that sleeps in moonlight...
where the feathers from Indra's bow are falling down...

- Vayalar Rama Varma

As the poem fades away, the footage of the ocean remains. (MAINTAINING SLOW ZOOM), within the expanse of the ocean, a small boat is seen in the distance. As the footage continues to play its course, a man (Michael) starts to narrate.

VOICE (MICHAEL)

"Back then, the waves weren't like this"

"The waves were a lot bigger than this."

Michael gives a trailer narration for the whole premise of the movie. He reminisces about his time in the sea. What he observed. What changed and what he experiences now?

VOICE (MICHAEL)

" Back then, we used to have really terrible storms. "

The film shows visuals of a coast. A man stands on top of a breakwater overlooking the sea. He observes how the waves form in distance and travels all the way to the coast.

Michael's narration continues.

VOICE (MICHAEL)

"Despite that, nothing was ever destroyed on land..."

"Today, even though the waves are small, the push of the sea...
The push of the sea towards east is what causes all these destructions."

TITLE INTRODUCTION

Visualizations show the vastness of the ocean. at the end of it, the top view of a beach is shown. The footage slowly zooms in as the title of the movie appears in white letters. Cue in music.

FACING THE SEA

THE VANISHING SHORES OF SOUTH KERALA.

The title fades away, as the footage of the beach and the waves remains. (MAINTAINING SLOW ZOOM), the footage continues, as Michael reveals his face. He introduces himself.

MICHAEL

"My name is Michael."

"I'm 73 years old."

"I have been a resident of Valiyathura for 47 years."

"I live and work with the ocean."

"It is through this life that my children and I had survived all these years."

A detailed visual analysis of Michael is shown as he introduces himself as a fisherman, continues his work on the beach, and finally sets out for the ocean.

More footage depicting the scenery at Valiyathura Beach. Visuals of boats passing by and people interacting with the beach in various ways.

Michael is leaving his house for a walk. he is not in his usual work clothes. He talks about his life and experiences. He talks to the camera.

MICHAEL

Fisherman, Resident of Valiyathura.

"The first time I went into the sea...

I'm 73 years old now... I was 7 when I first went into the sea."

"That was a great journey...my life..."

"I was studying in class 2...

I've only studied till 2nd."

The film provides a deeper glimpse into Michael's life. As he begins to narrate how he got into the fisherman business, we see visuals of the beach, ocean, his work, family, and neighborhood.

MICHAEL

" I didn't go to much school... "

"I just went to the sea when my father asked me to come work with him."

"And so, I started at the age of seven"

Michael explains his occupation.

MICHAEL

" The life on the sea isn't exactly that easy either."

"Because you'll need to ride past the waves."

"And before you leave for the sea there'll be plenty to do on land"

"The tasks for a Seafarerer."

Fishermen are carrying on with their duties. loading things into the Boats. Stitching nets. Preparing themselves to move out into the sea.

MICHAEL

"Only once you complete those tasks on the shore can you go fully prepared into the sea."

"And on the sea, you'll have to face the wind and its weather.

"Face the waves against tremendous odds"

"Sometimes you get fish, sometimes you don't."

Time flies as dark clouds form in, indicating that the monsoon is near. A big text of 2018 appears on screen as the sea is shown to be raging. Packs of coastal trees sway and swing to the monsoon wind.

A news forecast is heard in background. The reports talk about severe coastal erosions damaging different coastal zones of Thiruvananthapuram.

REPORTER #1

"The assault of sea in the coastal areas of Thiruvananthapuram are intensifying as..."

"Houses were destroyed in the areas from Valiyathura to Poonthura."

A wide panning view of Valiyathura Beach is shown. The waves appear destructive and the beaches are shown to be completely deteriorated. Houses are destroyed. The waves restless trying to climb the shores. Pathways are destroyed. Boats have been pulled to safety The Fisherman's livelihood is in a struggle.

REPORTER #2

"With Shangumugam beach destroyed, the livelihood of fishermen is being severely affected."

"With paths destroyed and coasts being washed away..."

the boats have to find other places to dock."

"For many people, such an experience is surely a first."

The rain starts to pour as the tone of the film changes. Shashi Tharoor's speech from Lok Sabha is heard. He conveys.

SHASHI THAROOR

Civil servant, Politician

Parliament speech on coastal erosion, 2018.

"I wish to draw the attention of the government...

to the very serious damage caused by coastal erosion in Kerala particularly in Thiruvananthapuram."

"With the onset of monsoon Mr. Speaker..."

"Thiruvananthapuram again finds itself in the throws of a recurring crisis of severe coastal erosion."

"The destructive effects of climate change, are resulting in the severe damage to the coast line..."

"Particularly, in the fishing hamlets of Valiyathura, Poonthura, Panathura and Bheemapally,"

destroying the homes of our fishermen,

encroaching on our beaches,

and even washing away our land."

The footages show the devastations caused by coastal erosion.

Michael continues to speak.

MICHAEL

"The storms today are very different from those of past."

"Back then, the shores used to remain till the end of those bridges..."

"During those time, we never faced such destruction."

Houses are ruin to this date, A sea bridge destroyed. Michael explains how the ocean has changed the coast over the period of time. He explains how coastal erosion has now become severe and why the coasts are vulnerable to the harsh waves of the sea.

MICHAEL

"Because back then even if the waves hits land... the shores would first ease up those waves."

"that's not the case nowadays."

"The waves hit the land and immediately go back to sea to travel west..."

"Due to the force of which the sea then starts eating away what's remaining on those shores."

"that's how these devastations happen."

More emphasis on the scenario and the area through post erosion visuals.

MICHAEL

"Each day. At a rate of one foot the sea moves eastwards and into the land."

"Into places with no resistance whatsoever."

Beaches similar to Valiyathura such as Poonthura, Shangumugam, are shown where the scenario is almost same. Eroded Beaches and Houses next in line to be washed away are shown.

MICHAEL

"Therefore, people who live by the shores face great difficulty."

"Into shores where there is little to no resistance...

the water is being pushed in from the east... "

Visuals of people from the coastal community interacting with the beach area is shown. Fisherman people who carry on with their trade. Fisher woman who sells fish in the market next to beach, street sellers, children who play football in the beach, people who are visiting the beach are shown. among them. Among them is the silhouette of a man who walks around the beach carrying a camera. We are introduced to Ganeshan.

GANESHAN

Tourist photographer, Shangumugam

"I have been a photographer here, in this region since 2015."

We see Ganeshan strolling around the Shangumugam beach asking people if they want their pictures taken. He talks to the camera.

GANESHAN

"Water had reached till this point back then"

"Everything was taken away in the sea rage."

GANESHAN

"It was tough for everyone here, not just me."

"The people who visited this beach, the tourists who would come here..."

"It was difficult for everyone.

So that's what happened. "

More visual emphasis on the area, the effects coastal erosion that is seen to this day. Sea walls and barriers constructed to protect the shore from further erosion. Ganeshan continues to talk to the camera.

GANESHAN

"A lot of it has been fixed now with these new developments."

"But we don't know for sure when it'll be done nor when things will be back to normal"

Ganeshan works the beach crowd as he shows them his pictures. he interacts with other street sellers such as him.

GANESHAN

"But things are indeed difficult here for a lot of people."

"And by lots of people I mean"

" Firstly, it's difficult for the tourists who come here.

and then businesses like ours."

A panning view of other sellers in the area is shown. a woman has set up a food stall on the road to the beach. We are introduced to Padmavati.

PADMAVATI

Food stall owner, Resident, Shangumugam.

"The Shangumugam beach we see today...
it's not the same old beach anymore..."

Padmavati is seen at her stall making drinks and selling food to customers. She talks about the beauty of Shangumugam beach and what it used to be.

PADMAVATI

"Back then this beach had a good name for itself..."

"Now that's not there."

"Because there's no feel to the beach anymore."

"If there's no people to buy or sell, or spend time on a beach, then..."

"The beach doesn't exactly have that shine..."

Different visuals of Shangumugam beach are shown and how people are only coming in fewer numbers to spend time there. Padmavati talks to the camera. She goes on to talk about her life, work, and her day-to-day struggles.

PADMAVATI

"I've been here for many years now."

"I used to sell things on this beach."

PADMAVATI

"During the time when covid came we struggled a lot."

"Before that, when tsunami came (Indian ocean 2003) ... we were still here."

PADMAVATI

"But even then, we were here in these shores battling the rain, sun and what not"

"We had to suffer a lot."

Padmavati continues to wait for people to come and buy things.

PADMAVATI

"As far as business goes, people aren't just coming in like they used to"
business is duller than usual.

"And therefore, we are struggling..."

PADMAVATI

"The reason why we can't even set up stalls on these beaches anymore."

"Is because the sea has become like this.... they're not allowing us set up shops there anymore."

"Also, during Covid, they asked us to Vacate the premises..."

"And we didn't open shops for a while."

"After that, they didn't open the beach at all."

"Now just within these 3-4 months before, and just because Onam is near, they decided to open the beach."

Condition of shops in the Shangumugam area during the time of Covid & Okhi. Shops were abandoned and ruined the beach destroyed after the Okhi cyclone waves and the effects of erosion.

PADMAVATI

"Now that's only because it's Onam have, they started letting people in"

and that too because the public were demanding for it."

"Now, even though they are saying that they'll let us set up inside...it's still not happening."

PADMAVATI

"The business we get while were inside the beach, we don't have that here, now."
Shops being set up far away from the beach is shown.

PADMAVATI

"The sea used to reach till these edges of these roads."
"Now it's a little better as the water had gone bit by bit, back into the sea."
But even then, no one could go to the sea."

Padmavati explains how construction at Vizhinjam seems deteriorated the situation in different coastal communities. An aftermath of coastal erosion spreading is explained.

PADMAVATI

"And the reason why the sea encroached here so much..."
" Is because of the stones dumped into the sea at Vizhinjam. "
which causes the water to rise here."
"Thus, a lot of people lost their homes to the sea."
"All the houses built along these coastlines are long gone now."

"Those who lost everything have all left here or living somewhere else."

PADMAVATI

"Because nothing remained on the shores."

"You wouldn't even be able to recognize that a house was once built here."

"That was the case."

PADMAVATI

"Ever since they started dumping stones at Vizhinjam..."

"...the water started rising here."

The Vizhinjam port is seen as experts, A.J Vijayan, an ocean science expert and M.V Ramamana Murthy, Director of the National Center for Coastal Research, talks about how the port activities and constructions into sea has severely impacted the coast erosion and the damage it causes to coastal zones.

A.J VIJAYAN

Ocean science expert, Former secretary, Fish workers federation

"It was in 2016, when the construction for Adani's commercial port began at Vizhinjam."

"There were 2 processes involved in this. Firstly, the digging up of sand from the ocean floors,

and secondly, making a new artificial land there."

"So as a result of this, large amounts of sand gets displaced from the beaches."

"This process is called dredging.
and so, the dredging is done for the reclamation of land."

"To artificially make new land offshore."

"Only after doing this have all the regions north to Vizhinjam started having severe degrees of coastal erosion."

A.J VIJAYAN

"The continuation of such construction processes..."

"if the dredging and other construction of break waters goes on..."

"In the coming years, the implications for this would be far worse."

Visual analysis on the port and its construction activities. How artificial lands are made and how it protrudes into the sea. The breakwaters that restrict the natural flow of water and sands being displaced for construction activities tarnishing natural beaches.

Mr. Murthy talks about how the improper management of the sand from the beaches affects the natural process of sand flow in a coastal system.

M.V RAMANA MURTHY
Director, National Center for Coastal Research

"Many times, what happens is..."

"The ports and harbors, when they dredge the sand,
because no dredger can come so close to the coast,
they go and deposit the sand at the deep sea."

"That means, this sand is permanently lost to the coastal system."

"That is why we're facing all these kinds of erosion phenomenon."

M.V RAMANA MURTHY

"One important point for any natural based solution is
the sand which is moving along the coastlines."

"We should... make the sand available to the coast.
not in the offshore."

"More developments, more dumping of the sand into the sea,
which is dredged for the harbors,"

"Then you'll have more problem around that coastline."

M.V RAMANA MURTHY

"Ultimately, sand management is the management which is important..."

"a factor which is to be maintained for the restoration or maintaining of the coast to the first aspect."

"Second aspect is, we should not bring any kinds of fishing harbors or port harbors where it is essentially not
required."

"Where it is required, you can always go build them."

but if you keep on building so many harbors, then"

"We now only have harbors and then structures, all along the coastline"

"You will not have a beach."

Different types of structures built into the sea are shown as waves appear crashing in and against break waters and sea walls enraging the sea even more. Water is now seen reaching till the edges of sea walls constructed in Valiyathura. Michael talks about how the construction of structures into the sea affects the natural flow of water and how obstructing that flow makes the waves harsher and further leads to washing away of their shores.

MICHAEL

"The more structures we build into the sea..."

"...the more water rises in all four directions...
and fill up places where there are no structures built."

MICHAEL

"In the past, there weren't any developments into the sea. The sea used to remain as the sea."

"Today, there are ports, harbors, break waters, all sorts of structures built into the sea."

"And so, when you drop all these big stones into the sea, the water rises."

"The rising water would then take over the land."

MICHAEL

"Unable to resist it, the shore is then carried away by the sea."

"That's the reason why so many shores are getting destroyed nowadays"

MICHAEL

"Now, as per the flow of the ocean, the waves are moving towards the east."

"so, when you obstruct that flow by putting structures into the sea, there'll be a difference in water levels on both sides."

"The more we continue to resist the sea...
the more we'll watch it rising in without any resistance."

Waves continue to crash against the broken sea bridge in Valiyathura. It is evening, the sun is at the end of the sea. A man looks at the bridge from a distance as it is about sink into the ocean. The Go downs of Valiyathura is shown.

Vincent introduces himself as a refugee who lives there. He narrates all the details of his life before and after he lost his house to erosion.

VINCENT

"I got married when I was 24."

"During those times that I've lived the best,

till the age, I turned 50,
I've never heard of anything like this with the sea."

VINCENT

"To be honest, we call the sea like our own mother."

"The sea is indeed a woman."

"But with the current climatic conditions and the nature behaving so rashly...
...we are afraid to go to the sea."

VINCENT

"When people started building this harbor, we lost around 4 rows of houses.

Among those losses, I too lost a house."

Vincent explains the events leading up to them losing their homes and reaching the go downs.

VINCENT

Fisherman, Resident, Refugee from the Go downs of Valiyathura

"Back then when we told them to put groynes in this area,
they didn't listen to us."

Its only after the construction of this harbor,
that we started experiencing problems.

VINCENT

"In our golden years, we used to play around on those beaches."

"We used to hang around there after coming back from work."

"Now the sea has taken hold of it all."

VINCENT

"Now, the sea seems to be only pushing in, not pulling back."

"Like the water that spills out from a bucket, when you
drop something into it...

similarly, the water is spilling in here."

Vincent accounts his experiences and observations. How the construction of port and its activities aggravated the sea, forcing it on them. Leaving them, in a state of vulnerability.

VINCENT

" Right now, the harbor being built there...
is made using the sand dredged from the ocean,

As well as, our coasts where lands have been dug up."

" There...the sand has been piled up, in a million tons."

" At Vizhinjam."

VINCENT

" So, if you can place the groynes and draw out the water... then we can sleep peacefully on these shores."

"But they are not doing that."

VINCENT

"Back then, when our people used to sleep here...
that is, we would be out all night in the sea while women were asleep in their homes."

"They would be at home...
along with our children as well."

VINCENT

"So, by the time we got back,
people had already begun stacking all these stones,
and all of our houses were destroyed."
"Everybody had to run away for safety. "
"And it was all around 6 in the evening when it all started..."

VINCENT

"and since it was that early, the people were able to notice it and shift the neighborhood to these go downs here."

"By the time we got back from the sea, we were told of what happened and that our homes were been shifted to these go downs here."

"That's how we reached here."

Vincent explains the aftermath of them losing their homes and their current status as refugees living without a home inside go downs.

VINCENT

"Now it's been 4 years and 1 month since we came here."

"To this date... nobody has approached to help us."

"Now what they're saying is... we'll give u 2 months of rent...but u have to vacate now."

"In this situation, will somebody with no house buy a rented one ??"

" you'll have to pay 50,000 just as advance and
10,000 in monthly rent. We can't do that"

"So, they said they will build us new houses within a year."

VINCENT

"Now days, I don't go to work."

"Being 68, I can't continue this work anymore."

"U know the kind of health issues one has at this age."

VINCENT

"And if you can go sit on this bridge with a fishing line and bait.

you'll get something for 100, 200 Sometimes 500."

But are we supposed to survive with that?"

VINCENT

"My wife even if she goes to the market and sells fish...there are days when we turn a profit there are days when it's an absolute loss."

"So, this is how we survive, we live by anything we can get."

VINCENT

"So, at this stage, I can't possibly pay 50,000 just as advance and 10,000 in monthly rent.

The focus is shifts more towards the living conditions inside the go-downs where Vincent and his family live. As he explains the living situation there.

VINCENT

"So even we just try to survive and live here, they won't let us do so..."

our houses are already gone.

"All the houses with terraces that we built in our able times with hard work were taken away by the sea..."

"And in monsoon, it'll start dripping here from everywhere..."

"There do u see that hole next to that clamp?"

"During rain it'll drip from everywhere."

if we try to cook something inside, the birds would fly in here and destroy everything.

"Rats..."

"Snakes..."

"We're disturbed by all sorts of creatures here."

"We are trying to live here by enduring all of this and now they want to kick us into the streets."

The deteriorated shores of Valiyathura are seen. He stares out into the sun set. The ocean is seen filled with boats and waves that reflect the sun's rays.

MICHAEL

"I used to have 2 houses here in front of the beach."

"When I came here, I bought 7 cents of land."

"At first, we had built a raw hut here."

"After living in that..."

"I had 3 children."

MICHAEL

"I figured once they grow up, it'll be difficult to purchase land."

"So, we built one more house behind ours."

"Therefore, I had these two houses."

MICHAEL

"It's when the sea rose, that a lot of people lost their homes.

and several died."

MICHAEL

"And Valiyathura was the most devastated of all."

"Because all these houses were lost."

MICHAEL

"A total of 7 rows of houses were lost to the sea."

"Including mine here which was this two"

"There are no habitable houses after this one...

the front doors,

all the windows, the bathrooms

all of it was gone."

MICHAEL

"If we lose this one as well, then we might well as be lying on the streets."

"We're not in a condition to rent a space nor do we have any land to build a new one."

Michael stands in front of his house as he shows where his house used to be once.

MICHAEL

"All these waves there and I had my house over here."

"That house is long gone now."

Michael continues his narration.

Michael's neighborhood is visibly shown, the houses that are abandoned and ruined next to his. The sea that lies in front of them. and the stack of rocks which is the only things that protects his house from being taken away by the sea.

MICHAEL

"And just in front of that there used to be a smaller house."

that's gone as well.

"Just down below there,

There used to be a small hut that we first built, that too was lost."

"So, after losing two houses to the sea, we had to live in those go downs for a while."

"Now this house was built with the hard-earned money of my son who worked in the deserts of Gulf."

"Built everything here using 7cents of land I had."

"And from all the 3 houses that I've built for my 3 children, 2 of them was been lost to sea.

only this one remains now."

"And that's where we all live together now."

All the ruined structures of Valiyathura are seen. From the unstable sea bridge to Michael's neighborhood shore almost eaten away and boats packed higher and away from the beach.

Michael begins his epilogue and a concluding statement to the film. addressing his beliefs, memories and concerns regarding the beach.

MICHAEL

"Life is not safe for those who live on the coast...it's impossible to live here anymore...

because the sea had taken most of our lands."

"That is, in my good old memory, when we were young, we used to lay down and sleep soundly under that bridge."

MICHAEL

"There, you see that bridge into the sea?"

"We would sleep underneath there."

"The sea lies west to that bridge."

"And the beach below it would be filled with sand."

"Now the sea has barged in over half a kilometer."

"During these months back then, we used to sleep soundly there, half a kilometers away from our houses."

Michael continues his narration.

MICHAEL

"My wife and children would lie down on the beach and enjoy the breeze... the coast would be filled with sand also."

"Now we don't see that much sand anymore. That's how things are going."

"So, after 10 more years..."

" We probably won't even have land to bury our dead. "

MICHAEL

"Beyond this, there are roads and people traveling through it."

"Where can we bury people there?"

"We can't."

"So, every parish has their own church and each of those churches have a cemetery where we can be bury the dead."

"But if this goes on...

after many years, all these houses would be gone...

and everything east to this road including the churches would just disappear."

MICHAEL

"5 years after that, all those who die here would be let to rot somewhere else."

"That is, if this continues, the coming generations won't even have the land or dirt to bury their dead."

MICHAEL

"What they are going to do in their time, we do not know"

We get final glimpse of Michael as he walks away. The sea is gloomy as ever. Its unpredictability is shown through the dark clouds that hover above it. The waves continue to crash against the sea walls, with the houses still above them. Children are playing on the shore. we catch a final glimpse of the shore before we fade out.

A message appears on screen.

The coastline of Kerala is vulnerable and suffering from erosion for years.

Over 21% of Kerala's population lives in coastal areas, making it a significant concern.

The coastline is eroding at a rate of 1.5 feet per year and is predicted to erode by 2.5 feet by 2050.

If no action is taken, the erosion rate will increase to 0.6 feet per year.

Coastal erosion affects 1/3rd of India's coastline. The story of Valiyathura is just one of the many.

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It is therefore crucial to take action & protect our beaches and coastal areas.

THE TEXT FADES OUT.

END CREDITS ROLL.

Conclusion

Coastal erosion is a growing concern for seashores worldwide, affecting the lives of many both directly and indirectly. The significant impact on the livelihood of coastal residents, the destruction of natural habitats, and the importance of considering sand as an important resource rather than using it for personal advantage or technological developments. These are not themes to be taken very lightly. Despite numerous scenarios such as Valiyathura occurring globally, the necessary level of awareness has not been created. This leads to the very same mistake being repeated over time which further broadens the scale of the problem. Therefore, it was essential to understand how coastal erosion occurs and how it affects those living along the coast. In conclusion, beaches are more than just a place of relaxation and fun. They hold memories and stories that are intertwined with our lives. The impact of coastal erosion extends beyond just the loss of beaches but also affects the marine life and infrastructure of coastal communities. This project explores the impact of coastal erosion and the importance of preserving our coastlines and the stories they hold. Its objective was to create a sense of urgency and address this issue in a more visual, empathetic form. I hope my project was able to shed light on this topic. It is a call to action for individuals, communities, and policymakers to take necessary measures to protect our coastal communities and the environment they depend on.

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