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***Kerala Coast and the Environmental Ethics of Precarity***

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Abstract

The Kerala coast presents a unique study of the impact of climate change on tropical ecologies of South Asia. Located between mountains and the sea, the fragile balance between human habitats and extreme weather events is causing chaos in the region. This essay explores the connections between indigenous environmental ethics and the historical context of colonialism and post-independence urban growth. It juxtaposes ethical and lived relationships of coastal peoples of the Malabar eking sustenance between land and sea, alongside the personal, the codified and the emergent histories of coastal communities under climate change. The Malabar is a powerful example of lowlying regions of the global South being impacted by inadequate mitigation efforts in the global North.

Key words: Malabar, Kerala, Thirukkural, Coastal, Environmental Ethics, Indian Ocean

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The Climate is Personal

“Who has known the Ocean” asked Rachel Carson in 1937<sup>1</sup> a time when India was still colonized by the British, and Indians had no rights over their coastline or their oceans.<sup>2</sup> Storm surge and precipitation have altered what we know about our oceanic ecologies today.<sup>3</sup> There is an urgency to write about environments one has experienced through one’s lifetime, to chronicle what Sonja Boon calls “what the oceans remember”.<sup>4</sup> Growing up along the Kerala coastline, Carson’s question resonated with me. Now, as the tidelines of the Kerala shore extend into the hardscape of cities, impacting human habitats alongside the nonhuman and the more-than-human, I find myself asking Carson’s question a different way. How is climate change impacting the Kerala coast?<sup>5</sup>

The ocean is a dominant but little understood site in South Asian maritime history. Commercial and trading accounts of the Indian Ocean and the Bay of Bengal have bookended coastal life in India from a historical perspective.<sup>6</sup> Our anthropocenic era of climate engagement necessitates a phenomenological inquiry into coastal environments.<sup>7</sup>

Drawing on ocean historian Jennifer Telesca's adage that the best climate writing emerges from writers who have personal stakes in their material, I waded into the *terra aqua* from Kochi to Alleppey to Kollam, Varkhala and Vizhinjam along the Malabar coast. Palmfringed, it is a string of barrier islands forming a serrated nearshore archipelagic intercoastal system of waterways spanning three lakes, Vembanad, Kayamkulam and Ashtamudi Kayal. This is the largest intercoastal waterbody in India.

For all the spectacular beauty India's extensive coastline boasts, it occupies a pariah place in the ontology of dominant Indian place making. There is an elaborate environmental vernacular of water in Hindu philosophy<sup>8</sup> but, the coast in contrast has historically been delineated as "barbarian" in the Vedic texts - for being "anupa" or marshy.<sup>9</sup> It is a place of inclement sensations that is also a place of non-brahmins and strangers. This cultural hierarchization of India's pelagic habitats as peripheral geographies is deeply entrenched in the national psyche.<sup>10</sup> The coast is considered barbarian in the Laws of Manu. It is a place where those who are non-Brahmin are to be relegated.<sup>11</sup> In tension with this dominant strain in Indian environmental philosophy, the South Indian 1500 year old classical text the *Thirukurral* by the Tamil poet Thiruvalluvar emphasizes water habitats, "Twofold waters, fertile hills with rivers/And forts are a country's limbs."<sup>12</sup> The coast in the *Thirukurral* is essential to a successful society "Clear water, open land, mounts and forests/With cool shade form a good fortress."<sup>13</sup> The *Thirukurral* is the earliest pre-colonial text on environmental precarity emerging from India's southern coast. Through sections such as the "Excellence of Rain" and "Assessing the Place" the *Kural* as it is referred to, is a compendium of environmental ethics with attention to climate, rain, oceans and the nonhuman. "Even the boundless sea will shrink in nature/If the rainy clouds fail to shower"<sup>14</sup> writes Thiruvalluvar presciently. "The vast ocean-bound earth suffers/From famine if the sky falls."<sup>15</sup> He notes, "It is rain that ruins and again it is rain/That lifts the ruined to gain." anticipating this moment in our climate crisis. Valluvar writes "Without water life cannot sustain/Nor can virtue without rain". Finally, he observes "As the unfailing rain sustains the world/It is deemed a divine food."<sup>16</sup>

Thiruvalluvar's rich repository of climate wisdom sheds light on South Indian environmental ethics. The *Kural* addresses India's coastal ecologies with great precision in the chapter "Fort". "Clear water, open land, mounts and forests/With cool shade form a good fortress."<sup>17</sup> Despite this wide angled environmental approach to addressing the impact of water on India's coasts, it is the caste bound prohibitions embedded in the *Laws of Manu* that has shaped Indian environmental thought prior to and during European colonialism to the present. The Portugese<sup>18</sup> built churches along the shoreline of the Kerala coast solidifying the caste prejudice against the coasts as a place of strangers, while the Dutch further endorsed the anti-coast bias as they established their presence along the intercoastal waterway in the Malabar during the 17<sup>th</sup> century.<sup>19</sup>

Living in my mother's ancestral home by the sea along this old Portuguese and Dutch maritime route in Kollam,<sup>20</sup> I am immersed in the murky, muddy and harsh saltwater terrains that are sustained by brackish marine ecologies. It is a region of coastal livelihoods in upheaval. The eroding shoreline presents the unfair burdens that regions of the global South have come to bear as a result of the abnegation of mitigation

responsibility of the global North. Watching the Malabar wash away is an experience that can best be described as a condition of submergence amid land and sea. It is a wrenching symptom of what lies ahead for low-lying regions around the world.<sup>21</sup>

### Towards a Blue and Brown History

The ancient *Thirukurral* is an enlightening manual on regional climate thought, but it is in Carson's work I find the most resonance in relating to the Kerala coast in all its damp, moldy hydroecologies of perennial precipitation and flooding. Carson demands an attention to both the edges of the sea as well as what lies under the sea.<sup>22</sup> Of the *terra aqua* Carson writes "The edge of the sea is a strange and beautiful place."<sup>23</sup> If you live along the Malabar coast, it is indeed a terrible beauty, at once majestic and catastrophic. Carson's invitation to dive into the undercurrents of the *terra aqua*- is a methodological opening to intersectional and critical thinking linking the personal to the science of climate change in understanding the history of our changing climacteric realities.<sup>24</sup> "The shore has a dual nature, changing with the swing of the tides, belonging now to the land, now to the sea." writes Carson. "Only the most hardy and adaptable can survive in a region so mutable, yet the area between the tide lines is crowded with plants and animals. In this difficult world of the shore, life displays its enormous toughness and vitality by occupying almost every conceivable niche."<sup>25</sup> This amorphous in-between topography that constitutes much of Kerala's wet landscapes has always been terra aqueous, Campling and Colas would argue.<sup>26</sup> It is a topography where people have "walked on water" as Dilip Menon puts it.<sup>27</sup> But claiming the shore's blurry coastline is an historical process.<sup>28</sup> It takes the historical conditions of sovereignty and citizenship to occupy Carson's "sunless sea" and explore her "encircling sea".<sup>29</sup>

Carson's question as to who has known the ocean raises the uneasy, differing histories of knowing that the seas raise in the era of decolonization. The free sea of Hugo Grotius<sup>30</sup> was only free for colonizing maritime powers, of which Portugal's "Mar Portugues" or the Portuguese Sea was a metaphor.<sup>31</sup> The space between land and sea was always a violent and brutal space of world-dominion.<sup>32</sup> In the case of South Asia, the coast was a site of prohibition, deprivation and militarization during the era of colonial rule.<sup>33</sup> The British forbade Indians from accessing the coast to protect their extractive interests in salt exports.<sup>34</sup> The subalterns who knew "how to read water"<sup>35</sup> worked and lived along the coast of colonial India under oppressive conditions of slavery and indentured labor.<sup>36</sup> Hence the ecological history of the South Asian coast as a place of a coming community<sup>37</sup> is only a recent post-independence process that is being charted out in the throes of the climate crisis.<sup>38</sup> This is a scaffolded history of coastal knowledge lost and washed ashore alongside the muddy traces of the *terra aqua*.<sup>39</sup>

There are many points from which one can begin to read India's cultural reclamation of its shores from the scourge of Portuguese, Dutch and British colonialism.<sup>40</sup> The most evocative historic moment is Mahatma Gandhi's defining Dandi march or Salt Satyagraha, the long walk from his ashram in Sabarmati to the seatown of Dandi on the western Indian shoreline in Surat. The 240 mile long walk from inland to coast in 1930 marked the beginning of a new historical discourse of decolonizing the marshy

peripheries of the colonial state. In protest against the British salt taxes and laws prohibiting Indians from collecting and producing salt from their own shores, Gandhi walked to the coast, immersed himself in the sea and picked a muddy handful of salt, thus breaking British colonial law.<sup>41</sup> Gandhi's historic actions were followed by similar acts of civil disobedience against the salt laws along the coasts of India.<sup>42</sup> In Kerala, K. Kelappan led a group of 33 satyagrahis from Calicut to Payyannur in North Malabar.<sup>43</sup> This radical saltwater action intervention catalyzed a pre-independence rethinking about the importance of coastal communities to the emerging nation's political future. Unfolding as a twenty-four day walking gesture of civil disobedience or *satyagraha* protesting British occupation, the Dandi march presents a vastly different history of the edge of the sea as a space of ecological and political reclamation to that of the global North at the time. This coastal performance of counter-sovereignty foregrounded the importance of India's *terra aqueous* spaces, where land and water, salt and sweat, human, the less-than-human and non-human ontologies congeal. Along India's western coastline in 1930, the colonized and socially oppressed classes of India's caste system and the materiality of salt and sand merged in a historic interrogation between land's end, and what was for the colonized subject the unfree sea.<sup>44</sup>

Gandhi's historic communion with the sea challenged British hegemony and opened the question as to who owns the shoreline and by extension, the emerging nation-state.<sup>45</sup> Gandhi's Salt Satyagraha politicized the marshy ontologies of India's shoreline as an ecological space of anti-colonial materiality and self-realization. The colonial Indian shore with its pillaged salt fields and destroyed coastal ecologies became visible as the place of the new subject of India's anti-colonial history, the coastal subaltern, feet muddy and body submerged across India's vast seashore.<sup>46</sup> The fisherman and salt pan worker, the longshoreman and dispossessed coastal dweller became the new actors of the emerging sovereign nation.<sup>47</sup>

The historian Romila Thapar notes that the extensive western and eastern coasts of India have not been given their "due recognition, largely because the historical perspective of the sub-continent has been land-locked."<sup>48</sup> Following Independence, the Indian shore as a critical space receded in importance and the heartlands became prioritized with New Delhi the capital of the new India.<sup>49</sup> Subsequently, the environmental history of postcolonial India has been a green history of the forest and the sacred grove, while the coasts remained under theorized.<sup>50</sup> This neglect of India's beaches began in the wake of the prohibition of coastal spaces under the British, followed by the militarization of the coast under the Indian Navy in the case of the Kerala coastal waters and the security state. Hence, theorizing Kerala's ocean and tidal futures has been slow to embrace an environmental blue history, of which Thiruvalluvar's *Thirukurral* is its precursor.<sup>51</sup>

Picking up from Thiruvalluvar's observation that "Tillers will not plough and toil/If the rain is not genial"<sup>52</sup>, Rohan Dsouza's study of the river ecologies of Eastern India is noteworthy for its critical point that "the phenomenon of colonialism itself has been little explored or explained through its ecological footprint."<sup>53</sup> His history of India's silt-laden flood waters and the destruction of their ecosystems considers the materialities of embankments, canals, dams, fluvial currents, tidal action and other flood-vulnerable

landscapes that structure the river ecologies impacting coastal India to analyze the extractive economies at work in deltaic hydrology during the colonial era. Flood-control, is a political project D'Souza argues.<sup>54</sup> British colonialists distorted traditional inundation patterns for single cash crop cultivation geared towards colonial exports. D'Souza throws into relief the deltaic landscapes of mud, silt and sludge that characterize much of South Asia's riverine landscapes that feed into the Bay of Bengal to argue that extractive strategies of capitalist colonialism recast deltaic inundations as calamitous events rather than adapting to it as geomorphological process.<sup>55</sup> These irrigation interventions in turn aggravated hydraulic volatility causing an escalating disequilibrium leading to flood prevention strategies which have in turn generated the current crisis of water having nowhere to go.

Also attending to the vast silence of India's coasts, Ajantha Subramaniam's study of the Mukkuvar fishing communities at the tip of India in Kanyakumari, situated between Kerala and Tamil Nadu, presents a volatile and dynamic history of fishing communities who constitute themselves as subjects of rights in relation to the local, the regional and the state. Subramaniam points out that the people who live and work on the seashores of India are given scant mention in the scholarship of transoceanic trade and disappear as historical subjects of the coast. Disrupting cliches about the "primitive coast" Subramaniam presents fishing communities from the southwestern "fishery coast" as political players shaping the emergent fabric of Indian democracy.<sup>56</sup> In tension with the agrarian based ecological thought that propelled post-Independence Indian environmentalism<sup>57</sup>, Subramaniam foregrounds the tenuous spaces of the *terra aqueous* that she documents as predominantly Christian and lower caste in social organization, in ways that have not been previously quantifiable as the coasts swelled and abated in the years following Independence. Subramaniam sheds light on the tensions between agrarian in-land low caste groups versus the coastal inheritors of the encounter with the Indian Ocean trade such as the Christians of Kanyakumari's fishing villages. Today, the Indian shore is a highly mediated space where its colonial pasts, post-independence militarized interests and caste defined social stratifications have only begun to produce an open engagement with the edges of the sea. This frothy, intertidal coast is the urgent space of the new coastal emergency- the *terra aqua*.

### Nervous Archipelago

Life in archipelagic Kochi is increasingly a nervous one today. "Not a blade of grass will be seen/If the sky showers no rain"<sup>58</sup> writes Thiruvalluvar, but in Kochi it is too much of a good thing. The estuarial ecologies and ocean topography of the city is generating a new archipelagic knowing. It is a shifting environmental understanding nuanced by the intricate web of islands and sandy spits that have held the city together. Wedged between mountains and the sea, Kochi's coast is a misty, swelling, leaking, flooding, sinking and deluging interface of land and water. It is intensely poised between monsoonal excesses of recent years and the attending subsidence of earth and mud from elevated regions towards the coast. Monstrous storms, thundering rains and cyclonic waves are just a meager roster that living along the Malabar implies. Its porous shorelines are blurring the distinction between ocean and land. Higher up in the rain drenched hills of the

hinterlands, the topography is alarmingly transitioning into new landscapes of ponds, puddles and muddy swamplands. The last few years have been an onslaught of unprecedented precipitation.<sup>59</sup> Heavy rains for extended periods, increasingly violent storms that wash away the tenuous coastlines, are forcing a new ethics of the nonhuman. Once again, the words of Thiruvalluvar come to mind: “Rain produces food for all beings in the world/And rain itself serves as food indeed.”<sup>60</sup> While Kerala’s atmosphere has always been swampy, muggy, rainy, the climate is changing faster than the myths can accommodate.

### Disappearing Ecologies

As India invests large amounts of military and economic capital into the development of Kochi as one of South Asia’s major container port cities, the city’s rapid transformation from a sleepy medieval port city into a mega port terminal is tearing apart its once verdant coastal ecologies, which were unwittingly preserved through low impact engagement.<sup>61</sup> The distinctive tropical ecology of coastal wilderness, wetlands, and some of the last bio diversities bearing the flora of colonial incursions, with its exotic blend of Dutch, Portuguese, Brazilian, African and East Asian plant species, have been entirely decimated on the islands of Bolghatty, Vallarpadam, Willingdon and Vipin Islands.<sup>62</sup> Some of the last thriving mangroves of the Malabar region have been filled in without environmental oversight, damning the flow of the Periyar river and its tributaries along the undulating coast.<sup>63</sup> An added climate impact factor is the invisible but looming threat that the intricate system of over 80 dams networked across Kerala’s 44 river systems will reach unsustainable levels leading to a calamity of unimaginable proportions along the pathway of the many dams.<sup>64</sup> Unregulated development, land reclamation, unsanctioned sand mining, and the aggressive erosion of coastal wetlands has depleted the Kerala coast of its protective habitat.<sup>65</sup> The shoreline is open to the tumultuous sea, bereft of its multilayered topography of foliage, coastal gradations and mud ecologies. The port with its mega development projects is situated under the shadow of the oldest and largest dam in Kerala, the Mullaperiyar Dam in the Idukki district of Kerala.

### Archipelagic Awakening

The warming sea is forcing the city of Kochi into an awakening that it is an archipelago. Traditional understandings of its environmental geographies treat the city as a series of independent islands.<sup>66</sup> With the new bridge and boat infrastructure, a contemporary archipelagic consciousness has emerged in Kochi. Floods, inundation and storm surges have activated a floating ecology of uncertainty along Kerala’s waterlogged terrains – both along the mountains and its coasts.<sup>67</sup> Suddenly, the island structure of the somnolescent barrier islands with their shifting mud banks and sand strips have acquired a new vulnerability. What was once an informal knowledge of social life along the barrier islands of the Malabar has now become burdened by the discourse of adaptation and

mitigation. A water-bound life fueled by canoe travel between islands is being drastically reshaped into an intermediary transit hub. As Tiruvalluvar observes in the *Thirukurral*, “Without water, life cannot sustain/Nor can virtue without rain”<sup>68</sup>, water shapes life in Kochi, but the torrential rains of Summer 2018 burst open a new watery precarity for the city’s future.

### The Torrent

August 2018 saw the most violent precipitation over a century in the Kerala region. Within a period of two weeks, the state’s dams were flowing at capacity. Inundated without respite, the region’s water management technocrats were in a crisis. The question of how much water to release, and how to manage the flow of such large volumes of excess water, failed to register at the national or regional level. Furthermore, the technical quandary that Kerala’s largest dam structure- the Mullarperiyar Dam complex, is governed by the neighboring state of Tamil Nadu, complicates water management issues. A logistical left over from the colonial British era, Tamil Nadu’s decision making along the Mullarperiyar Dam impacts environmental consequences on the Kerala side of the Annamalai region. Consequently, in August of 2018, large swaths of the Kerala population were uninformed of the impending catastrophe of dam overflow which was released by Tamil Nadu.<sup>69</sup> Like much of India, the informal residential patterns of many hamlets and local enclaves along the path of the dam’s surge path meant that breaching the large number of dams could create a major disaster of unimaginable proportions. Imagine the fury and fear of a relentless cataclysm of thundering rains followed by the threat of voluminous water rushing down the mountains from released dams. The irresponsible actions of the Tamil Nadu government’s decision to release water from the Mullarperiyar dam without adequate warning and preparation with the Kerala government still continues, despite requests from the Kerala government for better communication. Large populations of people on the Kerala side of the dam’s pathway live in continuing fear and uncertainty of flooding without warning. How such far reaching repercussions of impending human harm could be handled in the manner it continues to be managed from the Tamil Nadu side- where people along the path of the overflow from the Mullarperiar Dam on the Kerala side of the border are just swept away, or entirely displaced, is just one instance of the ethics of shared water governance that is inflected by colonial decision making in contemporary geographies.

### Climate Anomalies

Escalating extreme weather along the Kerala coast over the last two decades has created an accelerating experience of precarity along the Kerala coastline. Beginning with the 2004 tsunami which affected many villages along the coast, an emerging awareness of the ocean’s disturbance has percolated into daily lives. Spiritual practices incorporating an environmental consciousness along Kerala’s coastal promontories such as the Kreupasanam Marian Shrine in Alleppey suggests an oceanic shift in its visual messaging. A tsunami wave dominates the religious center’s central Virgin Mary icon. The Kreupasanam Shrine incorporates narratives of apparitions and miraculous rescues from the catastrophic deluge that occurred as a result of the Sumatra-Andaman

earthquake in the Indian Ocean. The Kreupasanam Shrine which services fishing communities of Alleppey is one instance of a new coastal consciousness addressing the local sense of a climate out of balance.

Along the Kochi-Kollam coast, fishermen, laborers, longshoremen and former sea faring families speak of a difficult ocean whose inconsistencies stem from human hubris. Their accounting of the increasing disruptions to a long history of coastal weather patterns is embedded in a new environmental vulnerability. Living along the shoreline, these communities speak with remarkable lucidity about an increasing ecological forgetting of the sea's delicate balance. They narrate escalating symptoms of human abnegation of environmental understanding rising around them: overfishing, unregulated overbuilding, ocean degradation from garbage dumping and an increasing toxicity of the waterways upon which they depend for their livelihood.

The painful realities for fishing communities living on the eroding beaches is juxtaposed by the indifference of coastal Keralites who have embraced their topographical wealth without comprehending the significance of its climate vulnerabilities till recently. One young man from Kollam remarks, "For my generation, taking nature seriously is a new concept. We have grown up in a lush landscape without really comprehending the meaning of nature." The young man's observation rings true across the different coastal towns from Kochi to Kollam, whose geographies reflect a class tension between the inland facing middle class homes and the fishing villages situated along the fragile barrier sand spits that are repeatedly disrupted by escalating floods.

### Terror of the Deluge

Wedged between the imposing Annamalai mountains and the Arabian Sea, Kerala's verdant ecology is poised between ocean, wind, mountain and rain. The coastal settlements comprise a series of barrier islands, settled sand islands, and a vast interconnected series of floating landmasses that have been cultivated over millenia to constitute the archipelagic structure of the Malabar coast. It is an interlaced system of land and sea boundaries, an intercoastal network of coastal villages whose exposure to the sea is porous and gaping. The rise of storm surges has led to a vast scenario of climate refugees and an informal culture of disaster relief zones.<sup>70</sup> The longterm viability of many of the existing coastal villages is caught between impending sea levels rising, and the real estate devaluation affecting the fishing communities of the region. The question of resettling coastal peoples away from the coast is an active and urgent one, as impoverished communities in these areas grapple with their harsh options.

The barrage of water from the Annamalai mountains in 2018 introduced a new, manmade threat from the hills. Sudden, unexpected, and frighteningly furious, the torrent from above onto the Kerala landscape of river towns and villages pushed to the fore the yawning gap between nature and human decision making. Climate disasters are no longer merely acts of god beyond human control. They are also the terrifying results of infrastructural mismanagement and poor decision making across the expansive dam technology that has produced modern Kerala's artificial habitat.<sup>71</sup> Unease about the next gush ghosts the daily lives of people picking up the shreds of their existence along the affected pathways of the 2018 floods from above, caused by human intervention. Trust in

science and technology to look out for the public good has been shattered in a disconcerting way. When asked how people affected by the floods are doing, some reply “This is India. Floods come and floods go. Life goes on.”

The flip remarks I receive to my searching questions of accountability, outreach and salvage, foregrounds my own increasing anxiety at the knowledge that my mother’s home along the waterfront lies right along the projected path of a burst, should the aging Mullarperiyar Dam release another spate of water. On one hand, such dark thoughts appear to be irrational and paranoid. “Nothing’s going to happen to the dam” is the general approach to living precariously along the coast. On the other hand, as my car weaves its way across destroyed roads, damaged homes, and randomly muddy expanses of earth where a road or house once stood on route from Kochi to Kollam, I realize my worries are perfectly reasonable though unregistered by my relatives, who think of the cascade from the hills above as merely floods caused by rains, and therefore – anomalies of climate, rather than the catastrophic decisions of water management. The tenuity of the eighty dams in Kerala with their scenario of increasing rains is undeniable. Political skirmishes between the Tamil Nadu and Kerala governments along with corruption stands between addressing climate disturbances and infrastructural planning along the Malabar Coast. It leaves the region unprepared for what lies ahead. What is to be done? “Pray” my mother suggests, as she doggedly refuses to sell her home and relocate. But I suspect that the gods have left on the first boats. We must deal with the consequences of the Anthropocene with eyes wide open.

### Environmental Ethics of Precarity

September 1, 2021 witnessed the most catastrophic flooding of New York City’s subways and homes in history. It was an extreme event of flash flood that claimed over 37 lives in New York City . The flash floods on higher ground up in Harlem were as violent and catastrophic as the low-lying basement home tragedies of Queens, New York. Clearly, the calamitous moment of unpreparedness in the face of climate urgency is not just a Global South condition. It foists upon the world an environmental ethics of the dammed.<sup>72</sup> What can we do in the face of imminent extreme climate disturbances of unexpected severity. The tragedy of New York was the fact that there was nowhere for the water to go. The vulnerability of Kerala with its reclaimed land and buried water sources covered in concrete bears the same ecological disruptions that there is nowhere for the water to go.

In the face of escalating climate repercussions, Kerala like New York has to contend with rapacious overdevelopment without attention for low lying areas and the aggressive destruction of Kerala’s coastal ecologies such as swamps mangroves and island biodiversity. This has left the coast open to the elements. What is alluring and beautiful about Kerala is also what makes it fragile, its delicate ecosystem of mud, rock, stone and brick that remains open to the sea.<sup>73</sup> In the absence of major infrastructural investment bolstering Kerala’s interwoven coastal and river systems, the future of a muddier, waterlogged and sinking coast is unfolding already. What makes this scenario deeply troubling is the reality that some of the most vulnerable populations of the region live along the coast. They own their homes at the interface of land and sea where the

oceans have already encroached their meagre properties.<sup>74</sup> But moving is not an option for many of these simple fishing communities who have eked a fragile existence on the margins of the *terra aqueous*.

### Bodhissatavas by the Sea

As I finish this essay on a frosty January morning in New York, The National Public Radio announces the grim news that 2021 was the warmest year on record in the history of the planet. The news that President Biden's climate policies will not be able to pass Congress's anti-climate contingent, bears heavily on the ethical imperative behind thinking and writing about planetary futures from the space of the United States, responsible for a quarter of the world's carbon emissions while being less than 5% of the world's population.<sup>75</sup> I close this essay by citing what Lindsay Bremner calls "muddy logics"<sup>76</sup> through the eyes of one old lady who lives alone by the sea in Kollam, my nearly ninety-year old mother. I have come to understand my mother and my extended family living along the shoreline of the Malabar as stewards of the coast. Their historical memory of what the coast used to be, how it has morphed, and the terrifying reality of their witnessing the transformation of their coasts because of climate warming, is a partial answer to Rachel Carson's imperative to know the ocean. "I remember we had to travel the whole day and night by vallam (wooden canoe) from Kollam to Ernakulam for my sister's wedding in the 1950's" Mother recalls. Precariously situated between the ocean and the eight-fingered Ashtamudi Lake, Mother recounts "We used to sleep in the vallam with sheets at night. Now, people fear vallams because of the climate." she says. "So many accidents due to the weather." Mother says. "The rains nowadays are year round, not like before, when there was a clear monsoon season". Mother describes the recent deluge of violent rain during Fall 2021 as frightening. In all her life along the Kerala coast, she says she has not witnessed such a torrent of water from sky, ocean and hills converge. "The weather is out of balance." Mother observes. "We have exploited mother nature. The world is being punished for its greed".

Speaking to Mother in the frightening intensity of Hurricane Ida in New York City in 2021 as it ravages basements, neighborhoods, subways and infrastructure, is distressing. As in India, it is the economically marginal communities of New York who are worst affected by a city planning system still unprepared for extreme weather events such as a 5inch precipitation within an hour.<sup>77</sup> In South India, the dire state of the climate crisis through inundation, flooding, mudslides, sinkholes, catastrophic washing away of infrastructure, presents a cumulative scenario of perpetual climate anxiety. One is constantly in the instant of the onslaught of weather. Heat, rain, loss of biodiversity, storms. Along the Kerala coast, this intensity manifests as gaps in stone embankments washed away like a savaged gash. Large boulders had disappeared along the shore from the last great storm of 2018 at *Ayiramthengu*, and Chavara when I visited the storm ravaged sites. The sea lazily swept into dwelling areas of the tiny settlements while people still awaited state assistance to restore the damaged coastal buffering infrastructure.

Seasoned coastal communities along the Kochi-Alleppey-Kollam coastal road stoically weather out the calamities to their families by burying their dead and living with extended relatives till it becomes possible to return to their seawater deluged homes. These coastal communities resolutely pick up their lives yet again, once the grief, the loss, the anger, ebbs enough to allow them the energy to rebuild their destroyed sand bar homes, juice kiosks, fishing businesses. They coexist in a relationality with mold, the damp, the threat of sub nature.<sup>78</sup>

*Terra Aqua* is perhaps the most widespread living ecology linking coastal regions around the world impacted by storm surge.<sup>79</sup> COP 26 has demonstrated the hypocrisies at play in the deadly game of expendable geographies where entire regions will be unable to adapt to the impending effects of climate change.<sup>80</sup> As the Intergovernmental Panel Convention on Climate Change has laid out in 2022, the assessment of the impact of climate in South Asia is dire.<sup>81</sup> From ocean acidification and the acceleration of coastal storms to water stress and irreversible loss to biodiversity, South Asia is precariously poised to encounter climate impact. The IPCC report underscores the point that based on what the people from the global South know about the ocean, the world (not just India and China) needs to implement aggressive mitigation, alongside adaptation, to stem the impending global scenario of a failed ethics of planetarity.

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