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TIDES OF TRANSFORMATION: STORIED WATERS AND MATERIAL NARRATIVITY IN AMITAV GHOSH'S THE HUNGRY TIDE

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Abstract

This study employs the theoretical framework of material ecocriticism to examine the agency, meaning generation, and narrativity of water in Amitav Ghosh's *The Hungry Tide*. The study examines the complex relationship between environment and culture, demonstrating how nonhuman phenomena, particularly water, possess agency, allowing them to create meaning and convey narratives. The novel creates a material narrative where nature and culture are intricately connected, with the natural world significantly influencing cultural formations and evolution. This study's fundamental premise asserts that the novel emphasizes ecological and postcolonial issues, especially through the symbolic and literal significance of water. Water functions as a medium to examine issues including historical trauma, diaspora, and migrant displacement, connecting these human experiences to overarching ecological processes. The study

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provides a material ethics paradigm that contests anthropocentric perspectives, advocating for the ethical equality of humans and nonhumans based on their common material existence. The *Hungry Tide* examines water's agency, contributing to discussions on the ecosocial crisis and offering insights into the interconnected issues of environmental deterioration and social displacement. In this context, this study highlights how Ghosh's narrative encourages readers to contemplate the broader implications of ecological and cultural interconnections, thus enhancing comprehension of the pressing environmental challenges confronting both human and nonhuman entities in an interconnected world.

Keywords: material ecocriticism, agency, narrativity, water, Sundarbans

DÖNÜŞÜMÜN GELGİTLERİ: AMITAV GHOSH'UN THE HUNGRY TIDE ROMANINDA ÖYKÜLÜ SULAR VE MADDECİ ANLATISALLIK

Öz

Bu çalışma, Amitav Ghosh'un *The Hungry Tide* romanında suyun eyleyciliği, anlam üretimi ve anlatısallığını incelemek için maddeci ekoeleştirici teorisini kullanmaktadır. Çalışma, çevre ve kültür arasındaki karmaşık ilişkiyi analiz ederek, özellikle suyun eyleycilik özelliği olduğunu ve anlam yaratma ve anlatı iletme kapasitesine sahip olduğunu göstermeyi amaçlamaktadır. Roman, doğa ve kültürün iç içe geçmiş bir biçimde birbirini etkileyerek geliştiği maddeci bir anlatı yaratır ve doğal dünya, kültürel oluşumları ve evrimi önemli ölçüde etkiler. Bu çalışmanın temel savı, romanın, özellikle suyun sembolik ve edebi anlamı aracılığıyla ekolojik ve postkolonyal sorunları vurguladığını ileri sürmektedir. Su, tarihi travma, diaspora ve göçmenlerin yerinden edilmesi gibi sorunları incelemek için bir araç işlevi görür ve bu insan deneyimlerini daha geniş ekolojik süreçlerle ilişkilendirir. Çalışma, insanmerkezli bakış açlarına karşı çıkan bir maddeci etik paradigma sunarak, insanlar ve diğer canlılar arasındaki etik eşitliği, ortak materyal varoluşlarına dayalı olarak savunmaktadır. *The Hungry Tide* romanı suyun eyleyciliğini inceleyerek, ekososyal kriz üzerine tartışmalara katkı sağlamakta ve çevresel bozulma ve toplumsal yerinden edilme arasındaki iç içe geçmiş sorunlara dair içgörüler sunmaktadır. Bu bağlamda, bu çalışma, Ghosh'un anlatısının okuyucuları, ekolojik ve

kültürel bağlantıların daha geniş etkilerini düşünmeye teşvik ettiğini vurgular ve böylece insan ve insandışı varlıkların karşılaştığı acil çevresel sorunları daha derinlemesine anlamaya katkıda bulunmaktadır.

Anahtar Kelimeler: maddeci ekoeleştiri, eyleycilik, anlatısallık, su, Sundarbans

Introduction

The fourth wave of ecocriticism, known as material ecocriticism, derives its “material turn” from new materialism and ecological postmodernism (Iovino & Oppermann, 2012, p. 2). This transition from language-centric paradigms is substantial since it criticizes the “linguistic turn” of postmodernists and post-structuralists who assert that “language constructs reality” (p. 76). Material ecocriticism highlights tangible elements of existence, providing a novel perspective on the relationship between nature and society. New materialists assert that matter is characterized by “intra-active becoming” or “a congealing of agency,” therefore attributing agency to both humans and nonhumans. This methodology contests passive matter and reevaluates nonhuman agency. Material ecocritics appreciate the material realm of various substances and their interconnections and demonstrate that agency is intrinsic to all matter, not alone to humans. Iovino and Oppermann assert that “the true dimension of matter” is agency (2012, p. 77). This viewpoint highlights the dynamic and active characteristics of matter, contesting the passive conception of it. Barad’s agential realism posits that matter is “an active agent in its ongoing materialization” and “a congealing of agency,” rather than a passive substance (2007, p. 151). Material ecocritics regard matter as dynamic. This dynamic viewpoint reconceptualizes agency as an ongoing process of materialization instead of a static characteristic. Agency encompasses dynamic interactions and creativity manifested in various material forms, whereas matter refers to all entities, including human and animal. This agency encompasses biological organisms and all materials, illustrating how humans and nonhumans construct meaning. Barad asserts that “agency is not an attribute but the continual reconfigurations of the world” (p. 141). The agency has a widely distributive feature; it is not “exclusively associated with human beings and with human intentionality, but it is a pervasive and inbuilt property of matter, as part and parcel of its generative dynamism” (Oppermann, 2013, p. 3). Consequently, the agency of matter derives from its intrinsic properties and extrinsic impacts, resulting in an always-evolving material realm. The universe comprises dynamic matter, hence the process entails the development of diverse substances.

Material ecocritics emphasize secondary-dimensional significance derived from matter. Barad asserts that “materiality is discursive” (2007, p. 151) since matter and meaning exhibit “substantial reciprocity, co-implication” (Iovino and Oppermann, 2012, p. 453). This indicates that meaning is not exclusively a human construct and that material forms contribute to meaning. Substance, meaning, and discourse “coemerge at once” (p. 4) to constitute the phenomenon. Consequently, meaning is an intrinsic

characteristic of the material cosmos, arising from interactions among material units. Meaning constitutes the cosmos' continuous performativity that expresses its "intelligibility and unintelligibility," rather than being "a property of individual words" (Barad, 2007, p. 149). Meaning is dynamic and arises from concrete interactions in this context. Barad characterizes "intelligibility" as "an ontological performance of the world in its continuous articulation," (p. 149) rather than a human attribute. This indicates that all entities –both human and nonhuman– construct meaning and articulate their existence. Matter serves as a "medium for ecosemiotic and ecocultural processes," (Zapf, 2014, p. 52) so it has the capacity to generate sign meanings. This capacity to analyze material interactions demonstrates the interconnectedness of ecological and cultural systems. Consequently, matter encompasses material ecological relationships esteemed in human civilization.

Material ecocritics advocate for "material narrativity," allowing matter to articulate its narrative (Iovino & Oppermann, 2012, p. 8). It contests the anthropocentric perspective of narrative as solely a human endeavor by proposing that nonhuman phenomena, such as water, possess narrative agency. This perspective assigns narrative agency to nonhuman creatures. Reinterpreting narrativity underscores the significance of nonhuman matter in storytelling. The intricate interplay between human and nonhuman activity provides a context for material and discursive acts. This collaborative dynamic illustrates how intricate human-nonhuman interactions generate meaning and narrative. Materiality exhibits narrative agency and inventiveness, reflecting self-expression. Understanding the narrative potential of matter elucidates the broader implications of storytelling, wherein both animate and inanimate events generate meaning. Creativity is a dynamic and agentic attribute of all entities, encompassing both living and non-living things, rather than being exclusive to humans in cultural output. This notion broadens creativity to encompass all elements in the process of world-making because matter is "a corporeal palimpsest in which stories are inscribed" (Iovino & Oppermann, 2012b, p. 468). Narratives are perpetually recorded and altered by material processes; thus, this metaphor encapsulates their dynamic essence. Matter narrates various stories that range from "historical narratives, archaeological and architectural signs, cultural and literary texts" (Oppermann, 2012, p. 57). Consequently, matter encompasses a diverse array of narratives across temporal and spatial dimensions.

Grounded in these premises, material ecocriticism perceives matter as possessing "inherent creativity, [...] performative stories, and innate meanings" (Oppermann, 2012, p. 65). This comprehension facilitates material ecocriticism in literature, wherein the material interconnections between nature and culture influence the narrative. It encompasses the intricate interplay between nature and culture by comprehending reality via material interactions that link various forms of matter. Material ecocriticism illustrates how interactions between humans and nonhumans influence the world and its narratives. Amitav Ghosh's *The Hungry Tide* illustrates this approach since the novel exemplifies the application of material ecocriticism in

the examination of nature, culture, and history. The novel illustrates how storied matters can mirror ecological processes and cultural conflicts through these interactions.

Set in the Sundarbans, “a place that defamiliarizes the Western conception of pristine nature” (Ranit and Sengupta, 2023, p. 98), the novel narrates the experiences of three characters before and after a storm in their search for dolphins in the sea, intersected with the historical trauma of Indian refugees who are slaughtered by the government. The personal, ecological, and historical converge to emphasize the narrative’s materiality, as water transforms the individuals’ lives. Piya, an American-Indian scientist, arrives in the Sundarbans to conduct research on dolphins. Her research overlaps with the region’s intricate socio-ecological system and “her particular field of expertise concerns the freshwater river dolphins that are to be found in Asia’s great waterways” (Prasad, 2020, p. 276). Piya is accompanied by Fokir, an indigenous Indian fisherman well-versed in marine life and aquatic environments. His profound connection to nature juxtaposes Piya’s academic perspective, underscoring divergent approaches to engaging with the natural world. Kanai, a Bengali proprietor of a translation firm in Delhi, is traveling to Lusibari to visit his aunt Nilima. Kanai’s narrative is intertwined with Piya’s study, illustrating the interconnection between individuals and their surroundings. Piya employs him as a translator to locate dolphins. The characters’ relationships with one another and their environment are significant due to the intersection of their journeys. Kanai’s uncle Nirmal has a profound appreciation for the environment, mythology, history, and the marginalized communities of India. He “had been attracted towards Hindu myths of creation which he found helpful in reconnecting people with their natural environment” (Soni, 2022, p. 491). His writings, bequeathed to Kanai, elucidate the manner in which material narratives link the past and present. He records his observations on a notepad for Kanai. This journal supports the novel’s examination of historical trauma and ecological transformation. The narrative integrates both temporal and spatial dimensions since time and place are fluid and interrelated, shaped by human and environmental influence. Fokir perishes for Piya and this sacrifice underscores the intricate relationships between individuals and their environment, as well as the ethical ramifications of their acts within this material context. Nirmal’s notebook encompasses India’s history, detailing environmental transformations, ancient narratives, and overlooked occurrences.

As stated by Chaturvedi and Dangwal, “knitting the story of these characters, Ghosh builds the main storyline of the ecological imbalance between man and nature that creates a premise of disaster” (2024, p. 108). The narrative mainly emphasizes the ecological and postcolonial implications of water. The physical properties of water influence human histories and identities, as demonstrated by the narrative. A. J. Wardi posits that water symbolizes historical anguish, the narrative of dispersion, and the experience of migratory displacement (2011, p. 17). Water is intricately connected to colonial history and its repercussions on colonized individuals in African-American literature, encompassing historical pain from the slave trade and the postcolonial identity crises instigated by geopolitical factors. The significance of water as a vehicle of

memory across cultures is underscored by its connection to past suffering. Water is also taken as an image of redemption and healing as well as a vital matter that can resist postcolonial power. The *Hungry Tide* adeptly integrates the symbolic significance of water throughout the narrative to examine postcolonial themes. In this respect, this study uses material ecocriticism to analyze “water” in *The Hungry Tide*, emphasizing the interplay between nature and culture and demonstrating that nonhuman entities can generate meaning and convey narratives.

The Agency of Water

Karen Barad associates agency with the “dynamics of intra-activity” of matter (2007, p. 151). This viewpoint broadens agency to encompass all interactions of matter alongside human actions. Nature will be regarded as a fundamental component of materialization, rather than a passive element to be inscribed or a mere result of civilization. Barad’s theory reconceptualizes agency as a collaborative, ongoing process that highlights the materiality of nature and encompasses both humans and nonhumans. Water symbolizes nature in *The Hungry Tide*, manifesting and wielding influence. Water, in both its literal and symbolic forms, is fundamental to the novel’s ecological and postcolonial concerns. *The Hungry Tide* consists of two parts. The first part, “The Ebb: Bhata,” presents American cetologist Piya alongside Kanai and Fokir in the Sundarbans. The receding tide initiates Piya’s journey, symbolizing both the physical and metaphorical passage of water inside the story. In the second part, “The Flood,” Piya pursues dolphins alongside Kanai and Fokir amidst a tempest. The floodwaters in this region exemplify nature’s might and humanity’s endeavor to comprehend and coexist with it. While the story centers on the three human protagonists, its title, structure, and story underscore water as the preeminent nonhuman force that molds the landscape, influences living beings, and annihilates life. Water influences the landscape and is crucial to the novel’s examination of cultural and historical narratives.

Ghosh situates the novel in the Sundarbans, a quintessential aquatic community where water governs existence. It is “a vast area of Sundri trees which are resistant to salt water, and they constitute the flora of the area” (Çetin, 2013, p. 83). By situating the narrative in this distinctive environment, Ghosh emphasizes the influence of water on the lives, identities, and stories of the inhabitants. The Sundarbans archipelago extends from the Hooghly River in West Bengal to the Meghna River in Bangladesh. The Ganga, Brahmaputra, and Meghna are among the numerous rivers and waterways that discharge into the sea. The rivers support the physical topography and anthropological attributes of the Sundarbans. The Sundarbans are referred to as “Tide Country” because of its frequent tidal fluctuations. It is “a terrible environment full of danger and various sorts of death” (Verma, 2024, p. 154). The cyclical nature of the tide influences the ecosystem and the daily lives of the local population. The changing tides and water bring about great

geographical changes to the effect that “the boundaries between land and water are always mutating, always unpredictable” (Ghosh, 2005, p. 6). The area’s transition between land and water illustrates the continual alteration of the landscape by water. Freshwater and saltwater rivers and oceans exhibit permeability that demonstrates how water navigates obstacles and influences several facets of existence. Water and tides exhibit quick and chaotic movement. Elevated water levels or high tides alter the topography. Inhabitants of the Sundarbans encounter erratic natural phenomena such as tidal fluctuations. The river, as it flows toward the sea, is “a potent and formidable entity” (Anand, 2008, p. 28) that alters and erodes the landscape. In addition to bodily alterations, water alters individuals’ perceptions of their environment and their role within it. Tidal forces have influenced the Sundarbans’ transition from aquatic to terrestrial landform over millennia. This extended metamorphosis illustrates how water continually alters the region’s physical and cultural landscape. Tides generate coastal marshes or depressions. Land development encompasses a cycle of erosion and deposition induced by water. During the monsoon season, rising tides erode land and fill depressions; upon receding, they deposit soil and sediments, thereby consolidating the depression. The oscillation of water generates favorable conditions in the Sundarbans, underscoring its significance. The Indo-Gangetic Delta, formed by tidal sediment deposition, is located near the Ganga-Bay of Bengal estuary (Kaur, 2007). The capacity of water to form a delta illustrates its role in sustaining life. In *The Hungry Tide*, the tremendous agency of the tides is dramatized in the following words:

The currents are so powerful as to reshape the islands almost daily—some days the water tears away entire promontories and peninsulas; at other times, it throws up new shelves and sandbanks where there were none before” (Ghosh, 2005, p. 7).

The formidable and capricious impact of water continually alters the physical and social frameworks of the Sundarbans. Water both erodes and forms, altering the geography of the place. Tidal nutrients facilitate the rapid growth of mangrove forests, establishing anchoring roots in the sea overnight and becoming an island within a few years. The swift proliferation of mangroves illustrates the influence of water on ecological systems. The pace of tidal transformation demonstrates the relentless power of water. In the tidal zone, rivers shift regularly, and islands form and erode within days, as asserted by Nirmal in the novel: “[...] here in the tide country, transformation is the rule of life: rivers stray from week to week, islands are made and unmade in days” (Ghosh, 2005, p. 186). This rapid transition underscores the distinctive attributes of the Sundarbans, where water exerts the most significant influence. The landscapes of the Sundarbans exhibit the diversity of nature. Water is dynamic, akin to the complex ecosystem of the Sundarbans. Tides that alter the landscape demonstrate that water is dynamic and vigorous. The continual transformations of water underscore its significance in influencing the region’s natural and cultural landscapes. In the process, water ascends to a subject position from an object position, and humanity needs to reconsider its agency “in a

hybrid, vibrant, and living world” (Iovino & Oppermann, 2012, p. 3) where both human and nonhuman entities possess agency. This transition contests anthropocentrism and necessitates a profound comprehension of humanity’s connection with nature.

The agency of water is distinctly evident in its significant influence on the behavior of living beings. Water can first enhance human relationships with nature, acting as a guiding force that imparts knowledge about the essential principles of the natural world. The vast power of water may effortlessly obliterate any enduring building that impedes its course, demonstrating its formidable influence. Lusibari is devoid of a harbor, characterized instead by a continual mudbank that local residents must traverse to access the island. Nirmal, acknowledging the necessity for adaptation, realizes that coexistence with the tides in the Sundarbans requires acquiescence rather than dominion. He proactively begins building a shelter to shield the residents from the incessant tides, demonstrating the community’s aspiration to coexist well with nature. This activity highlights the indigenous inhabitants’ desire to peacefully cohabit with the dynamic and often unpredictable elements of the Sundarbans by adhering to the rhythms and laws of the tides.

Tides significantly influence the behavior of marine species, especially the freshwater *Orcaella* dolphins. The locomotion of these dolphins varies in accordance with seasonal alterations, including droughts and floods. In the rainy season, the *Orcaella* migrate to the tributaries of the main river, and during droughts, they retreat further into the river. Piya finds that the *Orcaella* in the Sundarbans exhibit behavior distinct from both lonely freshwater dolphins and sociable coastal dolphins that move to the sea during high tide. Piya discerns a distinctive migratory trend among the *Orcaella* of the Sundarbans, differing from those in other areas. *Orcaella* generally migrates annually in accordance with the cyclical transition between dry and flood seasons, whereas the dolphins in the Sundarbans migrate on a daily basis. This behavior is ascribed to the unusual tidal oscillations in the Sundarbans, which affect the dolphins’ migratory patterns. Consequently, the tides influence dolphin behavior and also act as an indirect indicator of the overall effect of water on regional living organisms.

Furthermore, the tides in the Sundarbans induce particular behaviors in marine species, such as “breeding migrations”; for instance, decapods migrate to nearby rivers and seas to spawn (Mandal & Nandi, 1989, p. 84). This phenomenon results from alterations in water temperature and salinity induced by rising tides. Additionally, to endure the ever-increasing tides, tigers in the Sundarbans have cultivated a swimming behavior that markedly differs from that of tigers in other regions. Nilima articulates that tigers are renowned for swimming “as much as eight miles at a stretch” (Ghosh, 2005, p. 201) and recounts an incident where a tiger swam across a broad river and killed a girl. Consequently, water exhibits its agency by affecting the behaviors of humans and other animals. Water compels humanity to recognize the laws of nature through its formidable force; conversely, it can exact retribution for human transgressions. The agency of water is also evident in its annihilation of biological forms. Initially, water exhibits its

destructive capacity by annihilating ecosystems and human dwellings. The agency of water is evident in the compromised structure of the dam and embankment. For Nirmal, the dam served as “[their] abacus and archive, [their] library of stories” (Ghosh, 2005, p. 168) that recount the performative agency of water. Every ascending tide has the potential to erode a cavity or dismantle a barrier. Secondly, water exhibits its destructive capacity by causing the demise of millions of organisms. Nirmal documents numerous severe storms in Indian history in his diary and observes some of the fatalities resulting from flooding. The agency of water culminates in the novel’s conclusion when Ghosh emphasizes its destructive power by ascribing Fokir’s death to water. The strong wind dislodges numerous stumps. Fokir is struck by a substantial uprooted stump and perishes (p. 323). While the stump appears to be the cause of Fokir’s demise, the floodwaters inhibit his ability to evade it. Consequently, water is also accountable for Fokir’s demise, illustrating its potency.

Consequently, it is evident that water possesses agency, as it molds the landscape, affects the behavior of organisms, and dismantles life forms. The dominant force of water undermines the conventional dichotomy between humans and nature, effectively reversing “the object/subject status of the characters” (Anand, 2008, p. 23). The distributive agency of water undermines the notion that agency is solely associated with human cognition. Human and nonhuman agents are distinct material entities possessing agency that engage with one another.

How Water Generates Meaning

Material ecocriticism posits that matter, meaning, nature, and culture are deeply interrelated, highlighting the interaction between the physical and cultural realms. This relationship between matter and meaning indicates that meaning is not exclusively generated by the human intellect but emerges through material discursive processes involving both human and nonhuman things. This perspective posits that meaning is produced by all matter, including both human and nonhuman components. The interaction of substances with one another creates importance, demonstrating that even inanimate objects can convey meaning through their material relationships. This comprehension contests the conventional anthropocentric perspective of meaning and introduces the potential for a more inclusive and dynamic interpretation of the world, wherein all kinds of matter, whether animate or inanimate, participate in the generation of meaning. It has “the potential to initiate meanings and participate in semiotic processes” (Maran, 2014, p. 142). These exercises highlight the critical importance of water in ecological and cultural contexts. In *The Hungry Tide*, the semiotic relationships between water and humanity generate three distinct interpretations, demonstrating how water’s agency transcends its physical existence, impacting both the narrative’s metaphors and the wider cultural framework. The initial implication illustrates the ecological system of

interrelated matter, constituting a diverse and intricate material world, with water as an essential element in the interdependent ecology of the Sundarbans. The second interpretation depicts a realm characterized by hunger, wherein humans, tigers, and water are inextricably interconnected. Water's ravenous nature exemplifies its destructive and consuming power, affecting both human and nonhuman domains. The third implication highlights the study of stream ecology, wherein water acts as a conduit between human experience and natural processes, enabling the novel's examination of ecological dynamics. This viewpoint emphasizes the novel's exploration of ecological and cultural concerns, depicting the ecological system in two dimensions: its relationship with the environment and its role as a circulatory system. The biological system, reliant on water, links the biosphere—encompassing both terrestrial and aquatic domains—highlighting the interconnectedness of life and the critical function of water in maintaining the ecosystem.

The Hungry Tide underscores the critical importance of water in influencing the existence of the Sundarbans. The region's tides are crucial to the development of the terrestrial ecosystem, encompassing land, flora, and fauna. Water significantly affects the region, shaping both terrestrial and aquatic ecosystems. As the monsoon tides ascend, they transport sediment from diverse areas and deposit it in novel sites, leading to the formation of new landforms. This process underscores the transformative capacity of water to modify the environment. Terrestrial species flourish in these newly established areas, promoting a diverse array of flora and animals. The biodiversity of the Sundarbans is fundamentally reliant on water's role in creating habitats for several species. The tides provide essential ecosystems for mangrove organisms, supplying the materials required for survival in these habitats. Water not only molds the landscape but also maintains the fragile ecological equilibrium of these regions. Mangrove biomes, encompassing littoral or supra-littoral forests, intertidal mudflats, and estuaries, are distinguished by their unique aquatic habitats and biotic populations. The mangrove forests of the Sundarbans, as coastal woodlands, are vital for environmental preservation, providing habitats and resources for diverse species. The coastal forest accommodates both arboreal and terrestrial fauna (Mandal & Nandi, 1989, p. 55). The mangrove's capacity to sustain several species renders it vital within the aquatic biological network. The mangrove is "a universe unto itself," (Ghosh, 2005, p. 7) devoid of other flora in its shade due to abundant water supplies and dense vegetation. Water supplies these woodlands with nourishment to produce and support numerous species, including offering refuge for tigers and snakes.

Tidal inundation can submerge the intertidal mudflat, an area occasionally above sea level, demonstrating the dynamic impact of water on the landscape and the organisms it supports in the Sundarbans. The impact is further demonstrated by the persistent floods and the ongoing exposure that perpetually influences the species inhabiting the mudflat. Soil organisms and benthic species, which flourish in this habitat, are adapted to the variable conditions imposed by water. The dual nature of the mudflat, influenced by tidal

movements, highlights the significant function of water in enhancing the resilience of life in the Sundarbans. This ecosystem, characterized by the intersection of freshwater and saltwater, sustains a varied array of animals, predominantly comprising aquatic estuarine fauna. Marine creatures, particularly, rely on the estuary as a crucial home for survival, highlighting the significant role this unique environment plays in supporting both freshwater and marine life in the region.

Piya asserts that

this proliferation of aquatic life was thought to be the result of the water itself. The waters of river and sea did not intermingle evenly in this part of the delta; rather, they interpenetrated each other, creating hundreds of different ecological niches, with streams of fresh water running along the floors of some channels, creating variations of salinity and turbidity (p. 104).

The interaction between land and water demonstrates how water creates various microenvironments that sustain a varied range of organisms, including crocodiles, microscopic fish, and dolphins, each flourishing inside their specific ecological niches. Water's essential role in sustaining biodiversity underscores its vital purpose within the region's ecosystem, demonstrated by species like the Gangetic dolphin and Orcaella, which epitomize the peak of diversity among river and oceanic dolphins. Water enables the migration of animals across terrestrial and aquatic ecosystems, highlighting its function as a connective medium. The tidal cycle functions as a crucial link between terrestrial and aquatic ecosystems via the aquatic-terrestrial food chain, regulating interactions among water-dependent animals. Tides carry debris from land to water, supplying nourishment to many aquatic animals in the intertidal zone, so exemplifying the complex interaction between land and water. This continuous interaction between terrestrial and aquatic ecosystems illustrates their interdependence and demonstrates how species, such as tigers and other land animals, depend on both terrestrial and aquatic resources, consuming insects, birds, crabs, fish, and various aquatic organisms as components of their ecological diet. Water circulation acts as a crucial connection between terrestrial and marine animals, sustaining the food chain that links many habitats. Humans have a distinctive position at the pinnacle of the aquatic-terrestrial food chain, utilizing resources from both domains and highlighting their significant dependence on aquatic ecosystems. This paramount position underscores humanity's reliance on water, which is essential for both survival and ecological equilibrium. For example, individuals like Fokir support their families through activities such as crab fishing, demonstrating the essential significance of aquatic resources in their everyday existence. The inhabitants of the Sundarbans have a profound relationship with nature, especially with water, as their livelihood is significantly dependent on tidal cycles that govern food availability. The islanders, who obtain sustenance from rivers and forests, illustrate the complex interaction between humankind and water in supporting life.

Consequently, the tides create a food chain that closely connects marine and terrestrial ecosystems to human life, establishing a vital ecological web in which water acts as the unifying element, linking all species inside the Sundarbans.

Moreover, water is essential in the hydrological cycle and the whole ecosystem, highlighting its importance in controlling environmental processes and supporting life. The dynamics of water are significantly affected by external forces, including the sun, winds, and atmosphere, which collectively facilitate its ongoing movement and modification. This dynamic connection underscores the agency of water, as it is continually influenced by and reacts to its environment, illustrating its active role within ecological systems. According to Duckert, "The sun evaporates seawater to make vapor, vapor rises and condenses into clouds, waterfalls upon mountains as rain, and rain makes rivers that flow back to the sea" (2014, p. 122). The cyclical movement of water highlights its essential function in both land and water ecosystems. In *The Hungry Tide*, storms are directly impacted by hydrological circulation, with Ghosh demonstrating that the water's agency transcends its physical presence, significantly influencing the ecology of the Sundarbans. Before the storm, Piya notes an increase in sea temperature, a disturbance indicating the destabilization of the natural system, illustrating the multifaceted effects of water on the ecosystem. This disruption culminates in the arrival of the hurricane, which obscures the whole coastline, highlighting water's ability to profoundly and catastrophically transform the terrain. The storm, propelled by the interplay of solar energy, atmospheric conditions, and moisture, illustrates how hydrological circulation induces environmental changes. The interrelation among the diverse elements of the hydrological cycle underscores water's essential function in environmental processes. In the story, water symbolizes the biosphere, emphasizing that it is not merely a natural element but a basic force that supports and regulates ecosystems. Water serves as the fundamental unifying system of life through its ripple effects in both terrestrial and marine ecosystems. These ecosystems, influenced by water movement, exemplify its capacity to integrate many life forms into a dynamic and interconnected network. The tides of the Sundarbans exert significant biological influences, shaping the existence of both humans and animals. The catastrophic consequences of these interactions are apparent, resulting in numerous fatalities, the destruction of homes, the inundation of agricultural regions, and the demise of livestock. These catastrophic events demonstrate how water, in its destructive capacity, may impact both human and animal populations in the Sundarbans. Water functions as a circulatory system and is intrinsically linked to the biosphere, underscoring its essential role in sustaining and regulating life, hence orchestrating the intricate network of relationships that forms the ecosystem.

In *The Hungry Tide*, water symbolizes hunger, as Ghosh constructs a universe propelled by an unquenchable desire—represented by the tiger, famished migrants, and the perpetually voracious river itself. The novel depicts the protagonists' grim existence centered on hunger, with water functioning as both a means of nourishment and an agent of devastation. Ghosh depicts a ravenous and dynamic environment that yearns

for water, symbolizing the insatiable appetites of both nature and humanity. On this planet, all life is portrayed as always seeking sustenance, highlighting the universal desire for survival. The term “hungry water” denotes the vigorous and unyielding movement of water, representing the formidable power of nature. Water’s dual function as a life-sustaining and destructive element encapsulates the essence of natural powers capable of transforming human existence. With the onset of the monsoon, the oceans swell to disastrous levels, engulfing anything in their trajectory, eroding terrain, inundating residences, and resulting in numerous fatalities. This incessant torrent emphasizes human frailty against nature’s relentless force, highlighting the fragility of human existence within the broader context of ecological dynamics. The rising tide becomes “hungry for more lives” (Khuraijam & Singh, 2013, p. 9) and destroys human and nonhuman life.

Insatiability highlights the devastating effects of water on all life forms in *The Hungry Tide*. Ghosh emphasizes the devastating force of water, especially through the incessant flooding that has resulted in the deaths of numerous fishermen at sea. This historical tragedy represents water’s unquenchable yearning for life and its capacity to influence and transform human history. The widows of the drowned fisherman, now famine-stricken, serve as a devastating reminder of the destructive cycle that water may perpetuate, exacerbating the pain and misery for the survivors. The destructive characteristics of water generate a detrimental cycle of misery, intensifying both socioeconomic and environmental concerns in the Sundarbans. The association of water with the ravenous tiger amplifies this feeling of insatiability. The connection between the tide and the tiger exemplifies the novel’s principal theme: nature’s insatiable appetite, which propels both the natural realm and humankind. Flooding deprives tigers of their prey and habitat, resulting in famine and prompting them to invade human territories, hence exacerbating the conflict between wildlife and humans. The tide, which conceals the tigers’ scent, complicates territorial recognition, further altering natural cycles and compelling both animals and people to adapt to an increasingly inhospitable environment. This disturbance increases the probability of interactions between tigers and humans. The saline waters of the Sundarbans intensify the tigers’ appetite, especially their need for human blood, which exacerbates the lethal escalation of combat. The relationship between people and tigers intensifies, propelled by the fundamental instincts of hunger and survival, as both species resort to drastic measures. The tragic incident in which Kusum’s father, a companion of Kanai, is slain by a tiger during the massacre vividly exemplifies the lethal repercussions of the unquenchable desires of humans, tigers, and water. The insatiable tides render “hunger and catastrophe a way of life” (Ghosh, 2005, p. 67) for the inhabitants. The protagonists’ existence is influenced by water, hunger, and the natural environment of the Sundarbans, underscoring their continual battle for survival. Prolonged water immersion renders the soil saline and alkaline. The local populace faces increased hardship following the land’s degradation. Desolation robs the population of sustenance. Resource scarcity compels residents to alter their livelihoods, frequently in detrimental and unsustainable manners. The people, in a state of starvation, are

compelled to forage in forests and fish in the ocean. Humans must contend with nature for sustenance while enduring a harsh environment. They perpetually face the threat of being consumed by tigers or other predators. This persistent threat illustrates the precariousness of existence in the Sundarbans, where water governs the fate of both humans and animals. Residents may engage in tiger hunting for subsistence, notwithstanding the potential for legal repercussions associated with the unlawful slaughter of a protected species. The unquenchable hunger for water compels mankind to make ethical choices for survival. Residents of Piya collaborate to eliminate a tiger that intruded onto their community. These initiatives illustrate the necessity for cohesion to tackle water scarcity, starvation, and predation. The voracious tiger and starving populace collide due to their unquenchable appetites. The narrative underscores humanity's struggle against nature about water and sustenance. The narrative culminates in the government's massacre of refugees within a tiger conservation zone. This extreme act of aggression illustrates how human intrusion into nature, intensified by environmental pressures such as tides, can yield severe repercussions. Kusum, Fokir's mother and a victim of the slaughter, challenges the rationale of the local authorities for evacuating starving refugees from the island, referencing its conservation status. According to Pranav D. Khoche, "While depicting the plight of Kusum, Ghosh makes us aware of a thin line between ideas of conservation and the lives of people who are closely related to natural resources for their survival" (2021, p. 259). This examination of governmental actions underscores the ethical ramifications of environmental conservation initiatives that overlook marginalized populations. Unyielding dynamics connect tigers and humans, creating a multifaceted material reality in which both species vie for existence within a competitive ecosystem. This intricate interplay among humans, tigers, and the environment illustrates the interdependence of all species inside the Sundarbans. The interplay between water and other survival components induces hunger.

The narrative highlights natural forces that influence human and animal behavior, encompassing the struggle for survival. The phenomenon of hunger and its repercussions illustrate that meaning is generated through interactions between humans and nonhumans. Meaning arises from the interplay of all matter, not alone from the human brain. Substance, significance, essence, and society are interconnected. The novel's topic of nature and society is rooted in the material world, as seen by water, hunger, and survival. The physical environment is significant due to the interconnection between water and humans. The story illustrates the impact of water on the material and cultural narratives of the Sundarbans through this interaction. The emergence and significance of water narrate the tale of the physical cosmos. This narrative about water illustrates its influence on the environment and cultural practices. This narrative intertwines nature and culture. Nature and culture are interconnected and mutually influence another under the novel's materialist framework.

Water also represents the transition from dominion to conservation in Ghosh's story, where historical and current viewpoints converge. Water initially represents colonial domination, as illustrated by Bernier, a Christian cleric, whose expedition embodies the imperialist ideology of exploiting nature for exploration. As Bernier and his companions navigate the tidal canals, their idea of nature as an entity to be dominated is confronted by its unpredictable and uncontrollable power. Notwithstanding initial tranquility, their hubris in mastering nature is compromised by a tempest, resulting in the obliteration of their craft. This catastrophe underscores the ineffectiveness of human endeavors to dominate nature and accentuates the formidable force of water. Piya's journey signifies a transition from colonial exploitation to ecological conservation. In contrast to Bernier's opportunistic motives, Piya, under the guidance of Fokir, a local fisherman, traverses the waterways with the objective of comprehending and preserving nature. Her scientific inquiry into the ecology of the Sundarbans, particularly her examination of dolphin migratory patterns, signifies a notable ethical transformation in her viewpoint on nature. Piya's observation of the adverse effects of human activities on marine life reflects her growing empathy for dolphins, highlighting the evolution of human-environment relationships. Ultimately, Fokir's sacrifice during the storm and Piya's subsequent collaboration with Nilima to conserve the Sundarbans underscore the subject of fragility against nature's power. Piya's journey, transitioning from survival to ecological conservation, exemplifies the evolution towards a more ethical and responsible rapport with the environment.

The Narrativity of Water

Material ecocriticism perceives matter as "a text, a site of narrativity and storied matter, a corporeal palimpsest in which stories are inscribed" (Iovino & Oppermann, 2012, p. 451). Matter is textual and arises from a material-discursive action throughout the process of materialization (pp. 6-7). This viewpoint links materialization to the construction of meaning, in which substance and expression generate narratives. This challenges the idea that narrative is solely a human endeavor, proposing that nonhuman entities, like water, can also communicate stories. Materials participate in material-discursive processes to bestow narrative agency upon matter. The narrative agency of water is altered by its interactions with humans and animals, demonstrating the interconnectivity of all matter. All human narratives stem from the interaction between humanity and nature, and thus emerge from the dynamic interaction of several resources. *The Hungry Tide* interweaves fiction and reality via complex themes concerning water in mythical, historical, and modern contexts to examine the relationship between mankind and the environment across time. Thus, water is essential to the novel's exploration of time, memory, and ecological change. The water narratives elucidate three ethical implications: a deep interconnectedness between human and nonhuman entities; material ethics can enable the transformation of ecological principles into tangible actions; and individuals can take responsibility for the material-ethical interaction. The novel's ethical implications demonstrate that

acknowledging water's agency increases humanity's environmental accountability. In mythology, sacred water symbolizes the residents' veneration for nature. Throughout history, humanity has revered nature, as illustrated by the legendary importance of water. Water recounts stories of Shiva and Bon Bibi and it transforms the natural and cultural landscapes of the Sundarbans, as demonstrated by these accounts. The Indian deity Lord Shiva confines the flows of the Ganga within his hair to prevent disaster. Hair is braided in the tidal zone, however "the river throws off its bindings and separates into hundreds, maybe thousands, of tangled strands" (Ghosh, 2005, p. 6). The escape of water represents the predominant theme of its uncontrollable and transformational power. The narrative depicts the interplay between land and sea in tidal zones and the immense power of water. The story illustrates water as both a protector and a destroyer, symbolizing its role as a catalyst for transformation and development within the narrative. Traditional indigenous mythology, referred to as "heavenly deities" (p. 150), elucidates natural phenomena. This historical perspective illustrates the significance humanity has attributed to water as an essential element. Contemporary individuals utilize geology to examine the natural world. Humanity's comprehension of its relationship with nature evolves from mythical to empirical interpretations, yet the agency of water persists.

The tide also narrates Bon Bibi's myth, symbolizing the veneration of Bon Bibi, because "the tide is symbolic of the cult of Bon Bibi that dwells in the heart of many dwellers of the tide country in its strangely hybrid faith" (Khuraijam & Singh, 2013, p. 9). According to Vishwa Bhushan, "Ghosh very intelligently intermingles the Indian myth with ecological problems of the Sundarbans" (2021, p. 138). The narrative of Bon Bibi illustrates that water possesses both physical and spiritual significance for the inhabitants of the Sundarbans. The woodland deity Bon Bibi is sent by an archangel to oversee a "country of eighteen tides" (Ghosh, 2005, p. 86). Water is seen as a vital and powerful element in both physical and spiritual realms. Her territory is first inhabited by a formidable tiger. This confrontation between the deity and the tiger exemplifies the struggle for dominance in nature, where even powerful deities must confront natural forces. Bon Bibi confronts the wicked tiger during her first patrol of the territory and prevails. Bon Bibi's triumph over the tiger symbolizes nature's victory over chaos and destruction, highlighting the regulatory and protective role of water. Bon Bibi and the tiger agree to categorize the eighteen tides into "the wild and the sown" (p. 86). This divide illustrates a power equilibrium, wherein nature and its inhabitants cohabit in a fragile balance ordained by the deity. The wicked tiger dominates the woodland, but Bon Bibi and others secure the remains. Bon Bibi's conduct demonstrates a model for human-animal interactions based on respect and coexistence. All factions maintain their territories and coexist peacefully until Dhona enters the forest. This idyllic cohabitation is compromised by human avarice and exploitation, a persistent theme. Dhona forsakes Dukhey in the forest to present him as a sacrifice to the wicked tiger in return for honey and wax. The quest for wealth that motivates this betrayal undermines Bon Bibi's relationship and initiates a series of disasters. Bon Bibi's commitment exemplifies the significance of water and the environment in protecting against human exploitation. Since that day, Bon Bibi has protected humanity. The Bon Bibi myth

emphasizes the need of peace with nature, in which water and natural elements safeguard against human breaches. Nature and indigenous populations cohabit in harmony. This ideal coexistence, threatened by human greed, symbolizes the most advantageous link between environment and culture in the Sundarbans. As stated by Nilesh Uttamrao Hume, “by intertwining the real historical event with issues of environmental protection and societal conflicts, Ghosh prompts reflection on the challenges faced by marginalized communities” (2022, p. 41). Indigenous ecologicalists contend that humans ought to abstain from exploiting nature for profit, as illustrated in the Bon Bibi myth within a realm of eighteen tides. This traditional viewpoint on nature contrasts colonial with modern predatory tendencies, emphasizing the ethical dilemma between conservation and exploitation. Thus, Bon Bibi serves as an ecological myth that promotes harmonious cooperation, underscoring the necessity for individuals to abstain from abusing nonhuman nature out of avarice. The myth guides human conduct towards ecological sustainability and respect for environmental constraints.

Water also conveys a historical narrative as it is “not merely the site of history” but also “an embodiment of history” (Wardi, 2011, p. 49). The ability of water to retain historical memory closely connects past events to the present, acting as a medium for the continuation of experiences over time. In Nirmal’s notebook, water illustrates the profound relationship between humans and nonhumans, serving as a symbol of historical anguish and contemporary remembrance, so representing the convergence of history, memory, and the natural environment. Nirmal’s notebook serves as a physical store of historical memories related to water, embodying the dynamic relationship between memory and nature. Water, in this context, primarily illustrates the intricate interaction between humans and the natural environment, emphasizing the significant reliance of the Sundarbans’ residents on tidal waves. The narrative depicts the inhabitants of the tidal zone as having a profound, nearly symbiotic relationship with water, highlighting its essential influence on their physical and emotional environments: “water runs in our heads, the tides were in our blood” (Ghosh, 2005, p. 137). The interdependence of the Sundarbans illustrates how water transcends its physical state to become a fundamental aspect of culture and identity, as evidenced by the deep bond between the inhabitants and water. Dam, emblematic of humanity’s endeavor to manage and safeguard the essence of water, conveys stories of human engagement with this essential resource. It is “not just the guarantor of human life in our island, it is also our abacus and archive, our library of stories” (p. 168). It protects human life on the island, acting as an archive of history and as an analytical instrument for comprehending tidal wave patterns. The dam represents humanity’s endeavors to adapt to, confront, and ultimately achieve harmony with the powers of water, despite the ongoing changes water enforces on human life. The dam withstands tidal waves that destroy society, illustrating nature’s immense power, which is beyond human control. Nevertheless, numerous folks depend on the dam’s safety, underscoring the dichotomy between reliance on artificial constructs and the formidable strength of natural phenomena. This tension highlights the delicate balance between cultural preservation and the evolving dynamics of the environment. Each dam

failure illustrates the grave repercussions of tidal surges, with its records chronicling the difficulties humanity has in water management. Every dam rehabilitated by the community exemplifies the tenacity of local populations, whose collaborative endeavors oppose the destructive capacity of water. The dam symbolizes humanity's avarice and moral deficiencies in environmental management, highlighting the conflict between human aspiration and nature's relentless power.

Furthermore, water assumes a symbolic significance in embodying the genocide of refugees, namely Hindu Bangladeshis who escaped to West Bengal during the 1979 Partition. This historical context illustrates the convergence of political, environmental, and socio-economic challenges encountered by refugees, with water serving as a catalyst for displacement. Individuals from lower castes and Dalits, in particular, were rendered impoverished and displaced by these natural and political pressures. Upon their arrival in West Bengal, they were confined in camps under abysmal conditions, highlighting how political and environmental issues intensify their marginalization. For these exiles, the waves, once a sign of devastation, now represent hope—a pathway to escape political persecution and dreadful conditions, as they yearned to return to the tidal regions, seeking sanctuary in the very powers that had once uprooted them. Upon examining tidal islands, they select “a substantial uninhabited island designated as Morichjhapi” (p. 137). This decision is essential as immigrants, in their quest for asylum, face both environmental and political obstacles. As stated by Gayathri Prabhu, “the tragedy of Morichjhapi [...] is shown as stemming from a complete disregard of bioregional and environmental consciousness” (2015, p. 5). All refugees, including Kusum, inhabit the island, a settlement representing their endeavor to commence afresh. Nevertheless, societal and environmental obstacles impede this ambition. The island is located within a tiger conservation zone, a seemingly trivial feature that underscores the conflict between human habitation and natural preservation. The Indian government, emphasizing tiger conservation to secure donations from environmental organizations, highlights the exploitative aspects of conservation initiatives that frequently neglect the fundamental needs of refugees. The local administration in Morichjhapi, swayed by political, economic, and social factors, was hesitant to assist the refugees. This deficiency in political determination demonstrates how marginalized communities are frequently neglected in favor of more lucrative or politically beneficial pursuits. Consequently, the local authorities retain substantial resources that could have aided the refugees. This negligence reflects the state's inability to confront the challenges faced by refugees, who are socially and economically disenfranchised. The predominant refugees were Dalits and Hindus, marginalized communities whose challenges are intensified by the confluence of environmental and socioeconomic inequalities. This social stratification marginalizes and exploits migrants, perpetuating the cycle of hardship. The local authority forcibly removed the refugees, justifying their actions by using the island's designation for tiger conservation. This displacement exemplifies the conflict between environmental restrictions and the survival requirements of refugees.

The police operation at Morichjhapi—impeding waterways, incinerating vessels, and devastating the terrain—exemplifies the severe repercussions of official policies that favor conservation and economic objectives over human well-being. In response to popular outcry, the government revoke the economic boycott but instituted stringent limitations on media access to the island, a blatant effort to stifle minority voices and obscure the committed atrocities. The authorities clandestinely execute immigrants, perpetrating assaults and homicides against women, and discarding their remains in rivers and seas. Water, in this circumstance, conceals the violence while concurrently reinforcing the tragedy. The floodwaters seem to have obliterated all proof of the murders, wiping remnants of previous offenses. The river exemplifies water's dual function in both rejuvenation and devastation. Water serves as “a concrete carrier” (Wardi, 2011, p. 231) of this historical catastrophe. Water serves as a repository of memory, embodying historical injustices and the persistent challenges encountered by oppressed groups. It preserves the recollection of violent occurrences and the brutality of the elite towards the subaltern. In this setting, water serves as a symbol of both devastation and commemoration, impacting the past, present, and future of the Sundarbans, as expressed by Ghosh. Throughout the story, water evokes prior disasters and enables the reconstruction of history. Thus, water serves as a reservoir of memory, facilitating the preservation of histories that may otherwise be neglected. Nirmal, dedicated to chronicling the catastrophe, persists on the island despite the imminent danger to his life resulting from the censorship of information. This act of preservation underscores the vital significance of acknowledging historical injustices, even at considerable personal expense.

The plot undergoes a crucial shift when Kanai accidentally slips Nirmal's notepad into the river after the cyclone. This time is pivotal, as the lack of written records indicates the possible obliteration of history. The disappearance of the notepad has resulted in the loss of the only evidence of the historical tragedy. This loss highlights the fragility of historical memory and the techniques used to repress it. Kanai is resolute in his intention to edit and save the contents of the notebook, a dedication that embodies the ethical obligation to protect and share the stories of neglected communities. The sad climax of the narrative demonstrates how water, in its dual capacity, may either obliterate or preserve history based on its interaction. This dynamic indicates additional implications: it is not merely the author who chronicles the history of the tide world, but the water itself, which molds and supports the narrative. The narrative then transitions to illustrate how water impacts, preserves, and even determines the trajectory of history. In this context, water not only signifies sorrow but also serves as a dynamic and omnipresent repository of historical memory. At the sight of the roaring tides in the tide country, humanity will remember history, like Kanai, and will observe that “dozens of settlers were killed that day. The sea claimed them all” (Ghosh, 2005, p. 231) and realize that this trauma has become a part of the unforgettable memory in the history of India. Water functions as both a destructive force and a repository of memory, safeguarding the past while influencing the present. Ghosh effectively demonstrates how colonialism devastated the Indian

subcontinent, with water serving as a pivotal force in shaping both historical and individual identities. Water serves as a historical recorder, encapsulating the events and experiences that have influenced the region. The metaphorical and historical function of water highlights its importance in the novel's examination of colonialism, displacement, and memory. In *The Hungry Tide*, water transcends its role as a mere backdrop; it evolves into an active participant in the narrative, documenting historical transformations and their enduring repercussions. The agency of water connects history with the present, intertwining historical tragedy and the continuous fight for ecological survival, rendering the novel a profound reflection on both historical sorrow and the resilience of life under environmental problems.

Water also conveys its narrative within the framework of globalization, promoting ecological consciousness and championing environmental preservation through human-water interactions. The current discussion on water has transitioned from basic survival to preservation, highlighting the pressing necessity for environmental action in a progressively interconnected globe. Water, as an ecological phenomenon, possesses a narrative that necessitates human interpretation and involvement. The story is dynamic and continuously changing, prompting individuals to understand and react to its messages. The narrative of water is dynamic, representing a continuous exchange between the environment and humans, with each interaction providing fresh insights and difficulties in the quest for ecological equilibrium and sustainability. Piya, an ecological scientist, observes the aquarium like a "textual scholar poring over a yet undeciphered manuscript: it was as though she were puzzling over a codex that had been authored by the earth itself" (Ghosh, 2005, 222). Piya analyzes the narratives of water and nature from both a scientific and interpretative perspective, revealing concealed truths of the natural world. Dolphins, depicted in the aquatic narrative, symbolize the complex and frequently hidden interrelations throughout marine ecosystems. Piya, through her scientific perspective, reveals these natural phenomena, underscoring the essential need for investigation and inquiry in comprehending the intricacies of water.

The characters' interpretations of water vary, demonstrating how culture, history, and personal experience influence perceptions of the natural world. Fokir perceives water from the perspective of a traditional Indian fisherman. His relationship with water, rooted in personal experience, contrasts with Piya's empirical methodology; however, both viewpoints provide valuable insights into the enigmas of nature. Fokir's profound awareness of aquatic ecosystems allows him to endure famine through fishing, demonstrating that close interaction with water deepens comprehension of its cycles and possibilities. His swimming proficiency enables him to courageously go into the river to save Piya, further exemplifying the interconnection between humans and water. This act of valor ties water with the novel's overarching themes of survival and interdependence, highlighting the complicated connections among humans, animals, and the natural environment. Fokir's comprehension of crocodilian behavior and his expertise in dolphin behaviors highlight the impact of aquatic environments on the behavior of both species and human-animal

interactions. His insights into storm survival, exemplified by his securing Piya and himself to a huge tree to endure a hurricane, illustrate the fundamental influence of water on human survival techniques. Fokir's interactions with water illustrate a necessity, representing the imperative to adapt to and respect the natural environment. Water functions not merely as a survival medium but also as a dynamic force that influences the narrative and the lives of its characters.

Moreover, water conveys intricate narratives through human-readable symbols, providing insights into its various states. The name "tide" characterizes the water-influenced environment and culture of the Sundarbans, embodying the region's dual identity as a physical occurrence and a metaphor for the manifestation of nature and society. The tide symbolizes the connection between the natural world and human civilization, demonstrating their interdependence. Piya's investigation of marine life illustrates the semiotic characteristics of water's narrative. Her research elucidates the influence of water's symbolic and literal significances on both the environment and the society reliant upon it. Piya, a contemporary scholar, utilizes her advanced education in the United States to comprehend the language of nature, interpreting the indications of Sundarbans water through the lens of modern science. Her utilization of binoculars, GPS, and note-taking underscores her dependence on technology to interpret the natural world, establishing her as a proponent of contemporary scientific methodologies. Piya's focus on technology and factual data, in contrast to traditional techniques of perceiving nature, highlights the novel's connection to modern scientific processes in interpreting the narratives sent by water. Despite misplacing her written notes, her GPS system records the yacht's movements, underscoring the significance of contemporary technology in safeguarding and elucidating the ecological tales of the Sundarbans. The story examines the interplay between old wisdom and current science, illustrating how water, as a dynamic entity, influences and is influenced by human comprehension.

The routes displayed in the GPS "represent[s] decades of work and volumes of knowledge," and are "going to be the foundation" of her future project (Ghosh, 2005, p. 328). The use of GPS tracking underscores the significance of data and technology as essential instruments for illustrating water, especially regarding conservation initiatives. Piya's quest for financing to investigate tidal dolphins using her GPS data highlights the persistent challenge of aligning scientific research with conservation priorities. The GPS tracking system yields significant data on dolphin populations, highlighting technology's contribution to our comprehension of aquatic environments and their denizens. This graphic underscores the notion that water, as both a symbol and a substance, is experienced variably based on individual perspectives. Thus, the biology of aquatic creatures, such as dolphins, is articulated using human-readable symbols, converting raw data into narratives comprehensible to individuals. The narrative of water is conveyed through these symbols, wherein data transcends mere statistics and is transformed into a depiction that enhances our understanding of water's significance in the world. This process defies the conventional separation of

nature and culture since water intertwines language and culture within its narrative. Water integrates human and nonhuman realms, promoting a cohesive perspective that surpasses boundaries and encourages a comprehensive comprehension of our connection with the natural environment. The novel's narrative focuses on water, portraying it as an active narrator that communicates its intricate histories and significances. The interaction of traditional cultural wisdom and contemporary scientific methodologies renders water a complex symbol, imbued with multiple levels of significance and narrative. This amalgamation of history and technology not only augments our comprehension of water but also underscores the transforming methods by which we interact with and perceive the natural environment.

Water exemplifies the influence of globalization on marine ecology, demonstrating how socio-political dynamics and contemporary cultural frameworks alter water beyond its fundamental physical characteristics. It underscores the escalating harm to marine ecosystems, propelled by human avarice and the exploitation of aquatic organisms. The exploitation of water resources, especially for aquatic species, highlights how human avarice leads to ecosystem destruction. The imminent extinction of the Mekong and Cambodia River Orcaellas exemplifies the fragility of aquatic ecosystems and the significant impact of human activities on their conservation. The decline of Orcaella populations, intensified by American carpet bombing in Cambodia and Vietnam throughout the 1970s, illustrates the convergence of warfare and globalization in exacerbating ecological disasters. This historical reference highlights how conflicts and global forces expedite environmental degradation, resulting in enduring repercussions for species survival. Residents, confronting significant economic distress, resorted to slaughtering dolphins with firearms and explosives, thereafter exposing their remains to sunlight to extract oil for fuel amid oil shortages. This exploitation of marine life illustrates the conflict between human survival and environmental conservation amid global pressures. The predicament of dolphins in today's world exemplifies the wider difficulties encountered by marine creatures, which are increasingly endangered by modern threats. This escalating threat to marine life exemplifies the worldwide ecological deterioration, wherein the quest for economic advancement frequently undermines environmental integrity. The aspiration to enhance the Mekong River for the purpose of augmenting Southeast Asian trade underscores the conflict between economic development and environmental conservation, as globalization frequently endangers natural ecosystems in pursuit of industrial and economic progress. This development, although potentially enhancing the economy, jeopardizes the fragile equilibrium of ecosystems, further imperiling the habitats essential for the existence of marine animals, including dolphins.

Consequently, the economic expansion propelled by globalization has significant and frequently irreversible environmental repercussions. The exploitation of marine life, especially dolphins, exemplifies this issue, with persons killing dolphins for as much as USD 100,000 each in the black market. This unlawful commerce underscores the significant economic motivations that drive the ongoing exploitation of aquatic

species, intensifying the deterioration of marine ecosystems. The desire for high-value animals highlights the convergence of avarice, global markets, and environmental degradation, when the quest for profit supersedes the necessity for sustainable practices and conservation initiatives. The unregulated exploitation of marine species exposes the detrimental aspects of globalization, wherein economic advancement is attained at the cost of biodiversity and the enduring vitality of the planet's ecosystems. Piya's Cambodian dolphin Mr. Sloane is trafficked on the underground market, which "was a harbinger of catastrophe for an entire population" (Ghosh, 2005, p. 252). The decline of marine life highlights the environmental issue, as human avarice endangers entire species for profit. An egregious instance of environmental disregard transpires as the government yacht inflicts damage on both the river and the calf in the tidal zone, underscoring the inconsistency between conservation initiatives and the detriment produced by human entities. Human actions can ravage sensitive ecosystems, even under the guise of conservation. Fokir and Piya observe the consequences of this destruction, discovering dolphin carcasses affected by the yacht. This episode highlights the persistent clash between human technology and marine ecosystems, exemplifying the struggle between advancement and conservation, wherein technical growth frequently leads to environmental deterioration.

Water symbolizes the collaboration between local inhabitants and global environmentalists striving to preserve ecological integrity. This collaboration highlights the growing interdependence of local and global environmental issues. The cyclone that impacts the region further undermines environmental protection initiatives, exposing the vulnerability of both local ecosystems and human communities to natural disasters. Piya's survival of the typhoon and her developing relationship with Fokir enhance her comprehension of the significance of indigenous wisdom within the larger framework of global environmental conservation. She recognizes that integrating indigenous knowledge with international conservation initiatives is essential for effective ecological preservation. Subsequent to the cyclone, Piya moves to the Sundarbans, committing herself to the preservation of marine wildlife. This change in emphasis signifies her evolution from a scientist to an environmentalist, harmonizing her personal development with the overarching objectives of ecological sustainability. To commemorate Fokir's legacy, she initiates an environmental program named after him, integrating local knowledge with worldwide conservation methodologies. This program, informed by Fokir's insight, delineates a trajectory for the region's ecological destiny. Water exemplifies the interplay between local and global environmental collaboration.

In conclusion, the narrative's aquatic theme culminates in a call to action, advocating for community engagement in the preservation of the ecosystem through a synthesis of indigenous wisdom and international environmental networks. In "the ebb" and "the flood," the tides represent the persistent challenge of conserving global aquatic species, with Piya's dolphin study exemplifying the narrative potency of water. The tides metaphorically represent the cyclical essence of environmental conservation, wherein

development and regression coexist, yet the endeavor to safeguard aquatic ecosystems and its denizens endures. The discourse on water, in its various manifestations, necessitates ongoing vigilance and collaboration in the conservation of the planet's seas and waterways.

Conclusion

In the context of material ecocriticism, water in Amitav Ghosh's *The Hungry Tide* signifies agency, meaning generation and narrativity, with its three components—physical, metaphorical, and dynamic—molding landforms, generating new territory, and transforming existing ones. The transforming force of water in the Sundarbans illustrates its ability to alter both the environment and human behavior, underscoring the significance of adhering to natural laws and the repercussions of transgressing them. This comprehension of water's agency necessitates a reassessment of humanity's rapport with nature, highlighting the importance of respect and cooperation. Water's significance in ecological and cultural narratives illustrates its dual character as both a life-sustaining and destructive element. It links all species by its biological and ecological significance, representing hunger and thirst while emphasizing the novel's subject of survival in the face of scarcity. Water encompasses several narratives—mythical, historical, and contemporary—that connect the past, present, and future, enhancing environmental consciousness.

The water narratives in the novel evoke ethical dilemmas regarding human-environment interactions. They promote ethical interactions among people, nonhumans, and their representations, emphasizing the interconnectedness of all life forms. Recognizing these ethical relationships converts ecological objectives into conservation initiatives, promoting effective environmental safeguarding. The novel employs material and anthropomorphic storylines to prompt a reevaluation of human-nature relationships, hence enhancing environmental awareness. Material narratives contest the dichotomy between culture and nature, fostering an integrated discourse. Ghosh opposes anthropocentrism and advocates for coexistence with nature, pushing readers to reevaluate their environmental viewpoints. The novel's ecocritical framework connects nature's impact on culture and history, advocating ethical equality between humans and the environment. This appeal to acknowledge nature's intrinsic worth contests anthropocentric perspectives, advocating for ethical responsibility and an optimistic future rooted in environmental conservation.

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