

JASON CONS

DELTA FUTURES



TIME, TERRITORY,
AND CAPTURE ON A
CLIMATE FRONTIER

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Delta Futures

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Time, Territory, and Capture on a Climate Frontier

Jason Cons



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AUTHOR'S NOTE

All ethnographies are recent histories. This book, which explores the making of Bangladesh's delta region as a climate frontier, is no different. It was researched and written during a fifteen-year-long period of rule by the Awami League Party, headed by Prime Minister Sheikh Hasina. Marked by growing authoritarianism and repression of dissent, Hasina's tenure saw the delta emerge as a key site of both international conversations about climate change and regional projects of economic growth. It is this story—a tale of global anxiety, climate security, resilience, conservation, policing, and infrastructural development—that I tell in this book.

On August 5, 2024, as this book was going to press, Hasina fled the country following a month of protest and a violent response that left hundreds dead. It is too early to predict what rule and governance in Bangladesh will look like in the wake of her departure. Moreover, it is difficult to foretell what the end of Hasina's regime will mean for the delta. Coming governments in Bangladesh will face the same challenges of balancing international anxieties, national economic imperatives, the well-being of the delta's inhabitants, and environmental change. Yet this moment may, perhaps, represent an opportunity to both reckon anew with these challenges and rethink the role of delta residents in forging delta futures. Time will tell.



Khulna Division, the Sundarbans, and the Bengal Delta. Map by Moyukh Mahtab based on “Khulna Division,” https://en.wikipedia.org/wiki/Khulna_Division#/media/File:Khulna_in_Bangladesh.svg and https://en.wikipedia.org/wiki/Khulna#/media/File:Bangladesh_Khulna_division_location_map.svg.

Introduction

“I was a fisherman for most of my life. But now the *jangal* is closed [*bondho*].¹ So, I have become a businessman.” My research assistant Riton and I are sitting at a tea stall perched on an embankment in Gabura, an island in Bangladesh’s southwest delta region. It’s January of 2018. A warm and dry winter sun is baking the tall mud embankment that separates the interior of Gabura from the river outside. A cracked and uneven road runs along the top of the embankment. The tea stall is squeezed between the road and the embankment’s edge. Riton and I are perched on a rickety bench leaning against a wall, sipping sweet red tea. As we chat with a man I will call Nurul, the stall’s owner, and a group of other men who have gathered there, we look out on a seemingly endless expanse of dry shrimp ponds (*ghers*) inside of Gabura’s embankments.² Stretching off into the horizon, these are small to midsize plots of land hemmed in by short earthen plinths that, when filled, contain the brackish water in which shrimp grow. Now, some are dry, the mud within them sunbaked and cracked. Some are partially covered by a greenish slick of water and algae. Each is marked with a rickety shack in which, when the *ghers* are full, a watchman sleeps to guard against theft of the valuable shrimp. Behind us and outside of Gabura’s embankment lies the wide Kholpetua, a tidal river that flows down through the delta out into the Bay of Bengal. On the far side of the Kholpetua, shimmering green in the late afternoon heat, is the Sundarbans, the world’s largest remaining mangrove forest. This is the *jangal* of which we speak.

The men sitting with us have time on their hands. Some work in the shrimp *ghers*. Most are fishermen, *jele*, in the Sundarbans. This month, fishing has been suspended to allow crab and fish to spawn. It is one of a host of new government-mandated conservation measures intended to help preserve the mangrove forest



FIGURE 1. Shrimp *ghers* (ponds) inside of Gabura, Satkhira.

and address the threat of anthropogenic damage to this critical ecology. Nurul, as he pours tea for his customers, is talking about this closure. But he is also speaking more broadly about a series of restrictions that have made fishing the mangroves tenuous. The fishermen in the group grumble about these measures. Most take them as evidence of the government's failure to care for people who rely on the mangroves for their livelihood.

"Why has the jangal been closed?" I ask. "Who has closed it?"

One responds, "The Awami League government has closed it."³ After taking power, at least as we have heard, foreigners [meaning foreign governments and large international NGOs that have an outsized say in the management of the Sundarbans] started pressuring Hasina [the present prime minister]. . . . They want to close the Sundarbans." Another complains, "[Fishing] permits are available but there are not that many of them anymore. The government is slowly trying to close that option too. The government is working for the jangal, not for us. Foreigners are on duty there. If they capture fishermen, they send them directly to the prison cell." Nurul, clearly the man with the most authority in the group, signals to the other fishermen to be quiet and let him explain. "It's a matter of *oxygen* [oxygen *bapar*]. Some countries have said: 'If the Sundarbans survives then you will get some benefits. Your fishermen, your honey collectors, don't allow them inside

the jangal.” The other fishermen nod their agreement, spit red juice from the *paan* (betel nut) they are chewing on the ground, and sip their tea.

A matter of oxygen. Nurul’s evocative framing captures in a few words the broad scope of debate about the Sundarbans, the Bengal Delta in which it sits, and the future of Bangladesh and, indeed, life in a warming world. Who will get literal and figurative air to breath? When? How? And at what (and whose) expense? In the Sundarbans, and the debate over its care, lie a host of possible answers to such questions. This delta has come to be imagined as a ground zero of climate change—a place where the future of global warming is happening *now*. Like the delta in which it sits, the Sundarbans looms large in discussions of how to manage the future and the present. Such discussions hinge, broadly, on calls for care and preservation of a warming world. But who is to be cared for, what is to be preserved, how, and to what ends are often less clear. These broad discussions about and visions of the delta’s future in turn yield a bounty of new projects, policies, and practices that shape everyday life for people like those drinking tea in Nurul’s shop—and perhaps for all of us.

Delta Futures charts the myriad possible futures that are embodied in Nurul’s evocative observation. It argues that to understand the terrain of uncertainty faced by people like Nurul, it is necessary to grapple not with a singular vision of climate catastrophe unfolding in delta space—a vision endlessly reproduced in media representations of the delta life—but with a multiplicity of possible futures at play in the delta’s present.⁴ At a glance, these futures appear similar. But they are often incommensurate—formulated from competing imaginations and to different temporalities and ends. The delta has, indeed, become one of climate change’s sentinel sites—a space that provides a preview of and, simultaneously, an early opportunity to forestall some of the catastrophic futures that climate change may herald.⁵ Yet dystopian imaginations are not the only visions at play. As some debate the viability of human life within the delta, it has also emerged as a new industrial site—a space where port, energy, and infrastructure development will help to usher in a new and long-forestalled future of economic prosperity and regional integration for Bangladesh. The contrasts between these two visions are marked. One frames the delta as a wasteland foretold—a space at once endangered (at risk of being wiped out by rising seas) and endangering (a site where future disaster could cause catastrophic human displacement and political destabilization). The other reframes climate change as a set of surmountable challenges and possible opportunities. In this view, the delta can be recast not as an imminent dystopia but as a site in the making of Sonar Bangla, a Golden Bengal: the long-deferred promise of autonomy, development, and prosperity that has been central to the project of Bangladeshi nationalism.⁶

As we shall see, these are only two amongst many delta futures.⁷ These myriad visions are all tied to projects unfolding now. They crowd into the delta zone, sometimes in parallel with each other, sometimes in competition. They offer

sophisticated interventions that seek to fortify the present—to bring these futures into being or prevent them from coming to pass. Yet they are often more interested in the looming tomorrow than the ecological complexities of today. They unfold in a space that is fundamentally uncertainty, on terrain composed of silt and water—protean matter that stubbornly defies clear and unambiguous distinctions between rivers and islands, wet space and dry. Such complexities have long posed problems for those seeking to manage delta terrain. But even as the delta's future is called into question, the dynamics of the delta's present, too, are in flux. The delta's crucial inland waterways are silting up. Embankments, which once protected islands from the water outside, are trapping water within. The Sundarbans, which buffers the delta from the fury of cyclones and storms, are under threat from both proximate and remote pollution at the very moment when cyclones are becoming more frequent. Saline balances in delta water and soil are shifting, with crucial implications for agriculture, aquaculture, and mangrove management. The status quo is perpetually vanishing, shifting, eroding, and reforming.

This book traces the interplay between visions of the delta's future and its present. It is intimately concerned with the imagination and production of climate futures. It understands these visions and imaginations as Nurul and his customers do—as both products and instruments of power and authority. Who authors these visions and narratives—and why—are critical questions for the millions who live in and rely on the Sundarbans and the delta in which it sits. But *Delta Futures* also contends that to understand the delta's present, it is necessary to explore the other kinds of temporalities and their entanglements with its amphibious, material grounds. To see this interplay at work involves thinking the multiple strands of history that have shaped the delta's political economy and ecology. It requires assessing the ways that actors in the delta struggle to hold off the future—to cling to a space of opportunity in the present in the face of potentially catastrophic ecological change. It also requires engaging with imaginations that focus not on climatic (perhaps climactic) catastrophe but on sustainable economic growth and industrial development. The contemporary delta has emerged as a nexus for these different temporalities. They collide, compete, reshape possible trajectories, produce new formations of opportunity for some, expropriation for others. They all do this upon the damp terrain of the delta—its silting rivers, its waterlogged islands, its fragile mangroves, its booming port.

The Bengal Delta, and particularly the southwest delta region of Bangladesh, epitomizes many of the challenges facing deltas today.⁸ It is thus a useful location from which to consider the fate of deltas writ large. The endangered nature of delta ecologies, their role in population (and other) mobilities, and their centrality to regional and global economies, has made them key sites in the discussion of global climate change. As I will show in this book, the collisions of these competing spatiotemporal frames within the Bengal delta have much to teach us about broader attempts to manage climatic transformation. But as importantly, this book will

suggest that the failure to reckon fully with these competing temporalities itself offers grim portents for this and other delta futures.

INHABITING DELTA FUTURES

In Bangladesh's southwest delta, a panoply of transformations is afoot. On its rivers, dredgers combat increasing rates of siltation by dredging thousands of cubic meters of silt from river bottoms every day to keep vital waterways open for business. As silt piles up, water flow is diverted toward river embankments, causing dramatic riverbank erosion. Every season, more of these embankments, and the houses of those who make their homes on them, are washed into the water. Meanwhile, even as the very land disappears from under the feet of its residents, development organizations scramble to anchor this population in place. Projected effects of climate change threaten to make the delta zone uninhabitable. Where its twenty million residents will go has become a question of both regional and global anxiety. The stakes of this question are dramatized by the proximity of the border fence separating India from Bangladesh that bisects this delta—a reminder that the delta is a borderland space where displacement is always also a communal issue.

For peasants in the delta, the prospects for long-term survival indeed look grim. The agricultural labor market, already decimated by a three-decade-long boom in shrimp aquaculture, is getting worse by the day. Each year, there seem to be fewer jobs and less profit. At the same time, the shrimp boom appears to be lurching toward a close. Shrimp are growing more vulnerable to the spread of diseases that can wipe out entire *ghers* and, with it, the season's profits. Some peasants in the delta stubbornly hang on to agriculture, seeking ways to navigate the shifting environment. Many migrate elsewhere in Bangladesh or across the border with India, seeking work. Others join the ranks of those who fish the Sundarbans and the delta beyond. Yet fishing is no longer as straightforward as it once was. In the Sundarbans, national and international actors seek to limit anthropogenic change by reducing small-scale resource extraction—i.e., by keeping the delta's *anthropos* out of the forest. Fishing is becoming difficult to do legally. Some navigate (or ignore) these new policies. Yet for those that do, other dangers lurk in the mangroves. Banditry is on the rise and kidnappings of fishermen from their boats have skyrocketed.

Under the mangroves, the Sundarbans tiger may be making its last stand. As its habitat shrinks, it moves more often to the fringe of the forest and into the communities that live alongside it, drawing it into conflict with people who live near the forest edge. Even as a host of governmental and nongovernmental organizations scramble to preserve the Sundarbans, new existential threats are on the horizon. Ocean acidification looms. But closer to home, the newly opened Rampal Power Station, a 1,320-megawatt coal-burning power plant that some argue will

be the final nail in the Sundarbans's coffin, sits just fourteen kilometers upstream from the mangroves. The power plant is not the only new development in the region. An industrial zone—packed with liquid petroleum gas storage facilities, cement factories, new export processing zones (EPZs), and more—stretches from Rampal south to Mongla, Bangladesh's second-largest port and the gateway to the Sundarbans. This new industrial zone shows that many remain undaunted by dire forecasts of the delta's future. Mongla is growing fast, transforming from a sleepy town to what planners and politicians hope will be a booming smart city—a sustainable jewel in the delta crown.

These are just some of the dynamics converging on this vital yet vulnerable zone. Propelled by contending visions of the future and what the delta should be (a protected ecosystem, an industrial hub, a laboratory of climate change adaptation), these projects map a host of visions and temporalities onto the delta, reworking life in myriad, often incommensurate ways.

A core claim of this book is that one must understand this panoply of future-making projects as an emergent whole. This requires treating the delta as itself a subject of ethnographic analysis.⁹ To do so, the book focuses on a region of the broader delta: Bangladesh's southwest, a zone often described as one of the most climate-vulnerable places in the world. The book traces, through the experiences of people who live them, a set of often contradictory and seemingly disconnected processes that are remaking space and time to often wildly different ends. Rather than an expansive portrait of a single dynamic, it is a project of ethnographic linking. This demands a somewhat peripatetic approach. In my research, as in this book, I did not linger overly long in one place. Doing so, it seemed to me, risked getting bogged down in the singular dynamics of a place or process rather than seeing the ways that things like urbanization, resilient development, and conservation worked to different—sometimes competing—ends in surprisingly resonant ways. Instead, I moved across the delta, returning repeatedly to many of the same places over the course of seven years—reconnecting with friends, observing changes in the delta's terrain, and asking about the shifting politics of making life and livings.

Through this approach, I intend to demonstrate two crucial points about the contemporary Bengal Delta. First, many of the processes unfolding in it look distinct on the surface. Indeed, as I will argue here, their goals are sometimes incommensurate. But they often share similar structures and logics, especially in the ways they imagine the delta present as a staging ground for making the future. Second, while each process may ultimately be unsuccessful in producing the kind of future it claims to work toward, these processes are nonetheless productive.¹⁰ Collectively, they *do* remake the delta. They shape the material conditions of life within it and the possible future outcomes both for those who attempt to manage the delta zone and those who live with and through the consequences.

During this work, I, often in the company of my friend and research assistant Riton Quiah, traveled from place to place in the delta, on boats, on ferries, on the

back of motorcycles, on rickshaws, and on foot. I clambered over hundreds of muddy embankments, visited dozens of climate adaptation and resilience pilot projects, spent time on busy dredgers, waited for hours in the halls of government and NGO offices, drank countless cups of tea with friends and interlocutors. I realized that understanding the delta requires an engagement with things that seem, on the surface, incommensurable. This is true both because of the surprising connections that emerge between projects working to markedly different ends and because this is precisely how residents of the delta encounter change in delta life today—as an aleatory process where there is little means to weigh different possible outcomes even as the very ways one makes a living are increasingly subject to unpredictable and often sudden shifts.¹¹

This book was shaped not only through my constant movement within the delta but also through my work with Riton. Riton assisted in all dynamics of fieldwork—transporting us from place to place by motorcycle, drawing on his broad set of friends and contacts to brainstorm new places and people to reach out to, laboring with me to transcribe and translate interviews long into many nights. The resultant terrain of research—the “field”—was a hybrid of my own ideas and Riton’s about what it meant to chart the delta’s present and future. The “field” is co-constituted in and through relationships between researchers, research assistants, and other fieldworkers.¹² This was doubly true in Riton and my relationship. Riton, when he was not working with me, employed his infinite garrulousness, congeniality, and enthusiasm as a fixer for international journalists and media outlets visiting Bangladesh. Over the time we worked together on this project, Riton began taking his other clients to places where we had conducted fieldwork—sometimes presenting these places as apt sites to represent the effects of climate change writ large. He also took me to places he discovered while working with his other clients, offering me the opportunity to visit places that had already been rendered as sites and images of climate degradation in global media. One of the central claims of this book is that the delta emerges, in part, out of global fascination with and anxieties about Bangladesh’s climate-affected future. To the extent that that fascination is produced through media representations of the delta as a space of immanent climate catastrophe, we are also both implicated in its assemblage.

The research for this book builds on multiple stints of ethnographic fieldwork—most carried out in one-month intervals—between 2013 and 2020.¹³ It seeks to foreground the lives and experiences of delta residents to provide a sketch of life and work in the delta today. In the chapters to come, we will spend time with peasants who eke out a living in the delta’s increasingly saline soil, smallholders struggling with aquaculture’s diminishing economic returns, fishermen who work the dangerous landscape of the mangrove forests, bandits who patrol the Sundarbans’s choked canals, and development workers implementing new climate interventions. While this work makes up the bulk of this book, it is impossible to understand all the transformations afoot in the shaping of the delta from the bottom up. The book thus further draws on discussions with government officials and development

workers, on my engagement with emerging debates and materials on “climate security,” and on my Sisyphean attempts to parse the voluminous documentation on climate change in Bangladesh and reporting on the region in local papers.

What emerged through this research was not a sense of coherence in delta projects but rather one of fragmentation and messiness. While climate change was often a central, if vaguely conceived, frame for almost all attempts to manage the delta’s future in the present, what continually challenged me was these projects’ cross-purposes—the ways that they worked in the same place to radically different ends. Though their projected ends cannot coexist in the same place at the same time, these incommensurate visions for the delta did collectively reformat delta life and delta opportunity. As we’ll see, they constituted their own amphibious terrain of rule, extraction, and expropriation.

This book is an attempt to embrace the messiness of future-making and making life amid such future-oriented projects. It charts an approach to understanding the making of delta (and other) futures that traces their often troubling articulations with the present. I conceive of the delta as a “climate frontier.” My use of this concept recognizes the ways that the delta has historically been conceived as a frontier zone. As a climate frontier, the delta continues to be structured in ways that facilitate the appropriation of land and resources and the mobilization and regulation of human and nonhuman bodies, but by different means and to different ends. In contrast to classical notions of frontier-making, my vision of climate frontiers is not a deterministic one. As we shall see, climate frontiers such as the delta constitute a system that is at once malleable, fundamentally open, and interlinked.¹⁴ This system and its dynamics matter not just to the probable success or failure of future-making projects but also to the challenges of navigating delta space for those who live and work in it—fishermen, peasants, smallholders, migrants, and others. To better understand this vision of delta as climate frontier, we must first engage with a range of other ways that deltas are conceived and the ends to which these conceptions are used.

WHAT IS A DELTA?

To demand that we think critically about the delta zone prompts the question: What, in fact, is a delta?¹⁵ And, moreover, how does the Bengal Delta stand in relation to other deltas around the world? One way to approach this is to conceptualize deltas as material/geographical spaces. By definition, a delta is an environment that emerges around the point where a large river—or multiple rivers, as is the case with the Bengal Delta, which is the confluence of the Ganges, Brahmaputra, and the Meghna—meets the sea. To quote a recent exploration of deltas and climate change, “Deltas have formed at the land–sea interface over hundreds and thousands of years where large rivers deposit their sediment load creating extensive highly productive and low-lying coastal plains. Natural deltas represent the

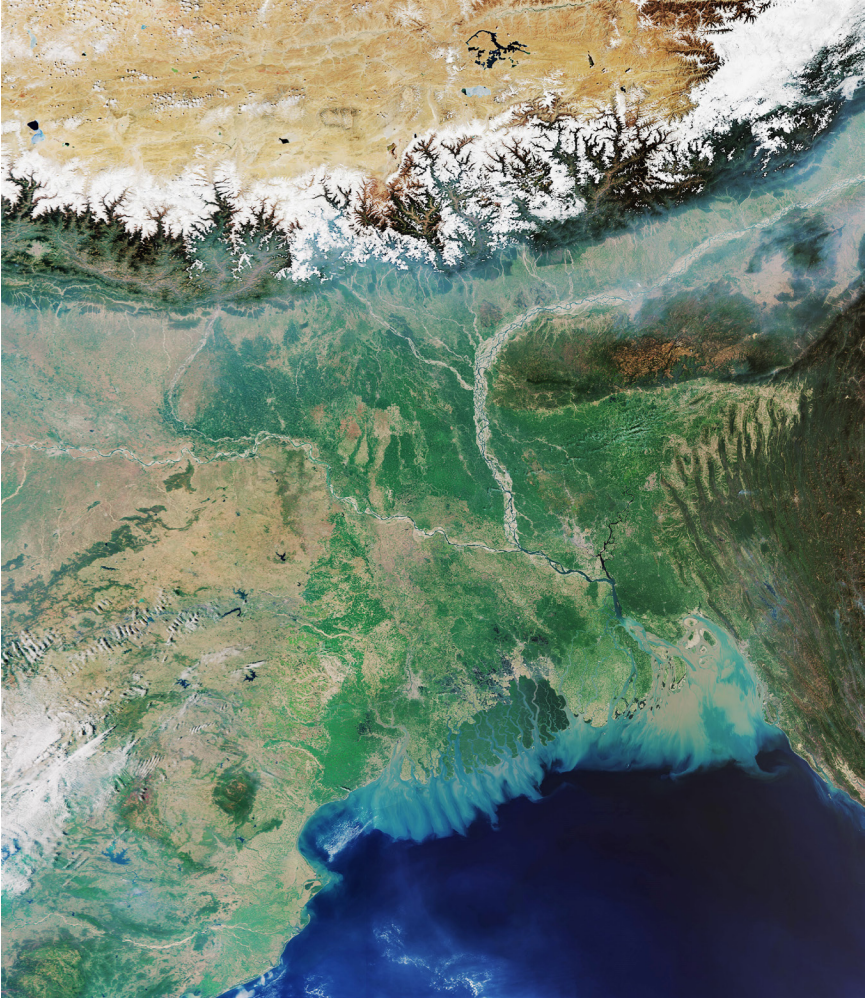


FIGURE 2. God's-eye view of the delta as geographical formation: *Copernicus Sentinel-3* satellite image of the Bengal Delta, March 31, 2020, European Space Agency (ESA). Contains modified *Copernicus Sentinel* data (2020), processed by the ESA.

interplay of sediment delivery and reworking, destructive marine processes and subsidence, including major river channel migration and switching.”¹⁶

Deltas are protean spaces formed over long periods of time that are at once shape-shifting and amorphous. They are zones of constant creation and destruction, complex hydrological and geomorphological systems that distribute silt and are formed by it. The matter of deltas matters, as we will see throughout this book. But a material description of deltas only goes so far in explaining their historical and contemporary import.

Beyond a hydrological system, the term “delta” invokes spaces of tremendous historical consequence. The Nile Delta, the Mississippi Delta, the Amazon Delta, the Danube Delta, the Mekong Delta, the Bengal Delta—all have figured centrally in human history. This is, in part, because of the abundant resources present within them. They are often exceptionally agriculturally productive because of the regular deposition of nutrient-rich silt on their alluvial planes. In the Bengal Delta, this rich silt, washed down from the Himalayas, means that farmers are able to produce three or sometimes four harvests per year on a single plot of land. In addition to providing agricultural bounty, deltas also offer easy access to rich marine resources. This combination of agricultural productivity and plentiful fish means that deltas have historically been critical sites of food production. Agriculture and fish are only some of the bounties available in them. Others include timber, water, sand, animals, hydrocarbons, and more.

Yet deltas are not just sites of production and extraction. They are also spaces that connect geographical locations. Their coastal and riverine geography link landlocked interiors to a broader world. Goods flowing into delta ports can be easily transported inland along river and land routes and outward via maritime shipping and transportation. Not surprisingly, deltas and the urban areas within them have historically developed as centers of trade. All this means that deltas are also major population centers. More than 500 million people—one out of every fifteen people on Earth—live in them.¹⁷ In Bangladesh, the southwest delta zone alone, which comprises the eastern half of the Bengal Delta, has a population of at least twenty million people.¹⁸

From the standpoint of population, food production, resource extraction, transportation, and trade, then, deltas are zones that have massive distributive effects. What happens within them radiates far beyond their boundaries, however drawn. Many things in addition to water flow through deltas and out and into the world beyond. Yet to describe deltas as hydrological objects, resource-rich zones, or connective spaces fails to capture their environmental complexity. The unique ecology of deltas adds yet another layer to the question of what a delta is. Franz Krause notes, “Deltas are characterised by an ever-changing interplay of land and water as a result of flooding, draining, drying and irrigating, sinking, silting, sedimentation, channeling, erosion, and reclamation. In short, delta life is amphibious.”¹⁹ This amphibious character pervades all aspects of life in the Bengal Delta, perhaps most notably in the Sundarbans, where both ecologies and social relations move from wet to dry and back again.

Hydrological system, resource zone, distributive site, amphibious ecology—all these terms offer ways to define a delta as a material space. But deltas have complex conceptual lives as well. Moreover, the conceptual framings of deltas have dramatic consequences for their futures. To answer the question “what is a delta” by only describing it as a physical space thus misses many of its most crucial dynamics.

To begin, it is useful to keep in mind that the term “delta” is not common parlance for most of its residents.²⁰ They live in the geographical space that many

others call “the delta.” But they rarely, if ever, speak of it as such. More often, they speak of the land on which they live and work. They discuss their homes’ relationship to the water that surrounds them—the balance of *labonpani* (saltwater) and *mishtipani* (sweet, or freshwater) in the rivers, the rains that fall (or not) in the *Borsha* or monsoon season, and the *bonna*, or flooding, that follows in its wake. They contemplate the state of the jangal, often referring to it as the *Sundarban*, *Badoban*, or, if they are feeling poetic, *Athero Bhatir Desh* (the Land of Eighteen Tides). They debate the bounty of marine life to be found in the jangal, in rivers, and in the Bay of Bengal. These meanings and understandings shape regional histories and everyday life. They also shape the ways residents understand, engage, and contest technocratic interventions and attempts to manage this space. Delta residents are conscious that “delta” is a concept that enables consequential interventions in their lives. Indeed, Nurul’s comments about oxygen, with its implication of foreign management and unequally distributed benefits, suggest that residents of the delta are quite conscious of how their home is mobilized in debates in which they have little say.

If not an especially emic term (at least for peasants who live and work it), the notion of a delta has its uses for others—technocrats, politicians, development planners, scientists, climate change experts, anthropologists, and more. For such people, the delta may evoke a range of opportunities and vexing challenges. The delta is a space that regularly floods, that relies on rivers that must be kept flowing through constant maintenance, where upstream water needs must be balanced with downstream hydrological effects, and where short-term economic gain must be balanced against long-term risk. Seen from this vantage, the delta is not just an ecology. It is also a technopolitical object. In it, a complex concatenation of population, ecology, and economy must be *made* to work toward particular ends.²¹ The Bengal Delta has, for much of its colonial, and postcolonial history, been understood as a space of tremendous potential and real value. Yet the extraction of this value can only be realized through the careful management of ecology, infrastructure, population, and policy.²²

For example, a key dynamic of the southwest delta region’s past, present, and future are the human-made embankments that surround many of the delta’s islands. These embankments facilitated the transformation in the delta from a precolonial water-based economy to a colonial agricultural system focused on the growth of rice.²³ This shift required a system that would profoundly transform the relationship between land and water—a system that would prevent the wet from intruding onto dry island spaces. In a zone of indistinction between land and water, the colonial state needed to “invent” the concept of rivers as stable, predictable entities in order to technically transform and rationalize delta space.²⁴ Embankments were decisive technologies in this invention—earthen mounds intended to keep water in its rightful place: the river. This in turn enabled the forging of new agrarian relations in the delta but also the implementation of rigid property regimes, taxation, the reorganization of land rights, and the export of agrarian bounty.²⁵

In short, embankments were part of a technopolitical attempt to transform the delta from a damp space—where land and water were often indistinct—to one that could be mapped and where rivers, islands, and plots of land could be located by the taxman and others on and off the map.

One could tell the story of deltas at large, and the Bengal Delta in particular, as a history of technopolitical management and its failures.²⁶ Indeed, important studies engaging with the politics of climate change in the delta and its colonial histories of water management have undertaken such an approach.²⁷ Yet the failures of technopolitical management, or accounts of the hubris of treating the delta as a vast water machine, do not fully capture the anxiety that attends imaginations of deltas and their futures. Doing so requires considering the acute vulnerabilities of deltas—as technopolitical objects and material spaces—in a warming world. As the Intergovernmental Panel on Climate Change, the international arbiter of climate science, points out, “Deltas . . . are widely recognised as highly vulnerable to the impacts of climate change, particularly sea-level rise and changes in runoff, as well as being subject to stresses imposed by human modification of catchment and delta plain land use.”²⁸ As the cascading effects of remote (global warming) and proximate (development and urbanization) anthropogenic change accumulate, time for deltas may be growing short. The collapse of these systems has dire consequences not only for those who live within them (again, one-fifteenth of the planet’s population) but also for much more widely distributed networks of circulation, distribution, and life. Viewed as such, deltas are vast vital systems—complex entities that are central to contemporary life but also profoundly vulnerable to calamitous disruption. Addressing the threat of climate change within deltas is thus not simply a matter of humanitarian concern or political necessity. Rather, the anticipatory projects designed to manage and forestall the effects of global warming in the Bengal and other deltas are forms of vital systems security—attempts to manage the potential, if unpredictable, outcomes of global warming, whose effects may have devastating consequences in and beyond the space of deltas themselves.²⁹

Thinking of deltas as vital systems helps to explain the urgency and anxiety around the challenge of global warming within them. Yet it does not necessarily capture the regional tensions, anxieties, and nationalist affects surrounding the Bengal Delta. The contemporary Bengal Delta is fundamentally shaped by the Partition of India in 1947, which split Bengal into West Bengal in India and East Pakistan (later Bangladesh). Of the many legacies of this partition is a communally charged border, materialized in space by a frequently violent and militarized border fence that bisects the delta zone. The fence separates a territory that is imagined as “Muslim” (Bangladesh) from one that is imagined as “Hindu” (India), particularly for those who oppose the nominally secular constitutions of both states. Demographic realities have always been more complicated than this imagination allows.³⁰ However, the stakes of such communal visions of national

territory, particularly in an India under the rule of Narendra Modi and the Hindu nationalist Bharatiya Janata Party since 2014, are high and rising.³¹ The fence dramatizes the affective stakes of climate change in the region. While constructed in the mid-2000s as a means of trying to limit migration from Bangladesh, it has come to be seen, rightly or wrongly, as the world's first climate fence—a fence to hold back a future tide of climate refugees.³²

While both West Bengal and Bangladesh share a unified ecology in the Sundarbans, the two states approach the management of its future in divergent ways. The different relationships that India and Bangladesh have with international aid, the radical differences in their size and population density, and their differing political relationships between population and government all shape the possibilities of managing the delta. This leads to fundamentally different conditions and possibilities on either side of the border.³³ Thus while deltas are spaces of ambiguous, indeed amphibious, distinction, this particular delta remains socially, politically, and materially partitioned.

Deltas, then, are many things: swampy zones where the material dimensions of ecology and hydrology pose challenges and opportunities for human and other life, technopolitical objects to be managed, vital systems with widely distributed effects, national and nationalist battlegrounds of territorial belonging, and nexuses of competing temporalities where pasts collide with possible futures. Amphibious, fragmentary, and contested, they refuse to cohere as singular things.³⁴

How then should we understand deltas ethnographically and as an analytic whole? My answer to this challenge is to embrace the multidimensional complexity of the delta, its material ecology, and its politics. All of the possible answers to the question “what is a delta” discussed in this section are very much at play in the making of delta time and space. I therefore propose to think of all the processes discussed here, and others that I will explore in the coming pages, collectively: as dynamics in the assembly of a climate frontier.³⁵ To call the delta a climate frontier, as I do throughout this book, is to think not about which definition, imagination, or framing of deltas is right (or wrong). Rather it is to ask how these many processes come together to produce terrains laden not only with risk but also with opportunity.

ON THE CLIMATE FRONTIER

Let us return to Gabura on the day I spoke with Nurul to witness a few moments on this climate frontier. After finishing our tea, we clamber onto the back of Riton's motorcycle and head on our way. We have appointments to keep. Just down the rough embankment road from Nurul's tea stall sits a shack adjacent to a series of small shrimp ghers. On it, someone has scrawled a slogan: *lona panir haat theke banchte chai*. The phrase, which translates roughly as “please save us from the saltwater,” stands as evidence of devastating environmental change on the



FIGURE 3. *Lona panir haat theke banchte chai* (Please save us from the saltwater), Gabura, Satkhira, Bangladesh.

island—increased salinity in the soil, increased exposure to storms, and declining drinking water. Yet its situation directly in front of a series of shrimp ghers is also a reminder that this environmental change is not simply about climate. It is also linked to the ecological devastation wrought by many years of shrimp cultivation—a process that has eroded both the physical and the social environment of islands like Gabura.

As we pass by the shack, friends are traveling in the opposite direction: Rafiq and his brother-in-law Jolil. Waving and shouting a greeting, we delicately navigate our motorbikes around each other on the cracked and crumbling mud embankment. The day before, Rafiq hosted us with tea and snacks in his house while Jolil, who works in the Sundarbans, showed off the scars on his leg from a tiger attack he survived while hunting for honey in the Sundarbans years before, a story I return to in chapter 3. His multispecies hunting story lapsed into a rant against more human forms of predation. Jolil told us a story of being kidnapped not once but multiple times by *dakats* (bandits). But his story was fragmented. *Dakats* were not the only predators in it. He also spoke with venom of the Forest Department and the new high-speed patrol teams, “SMART Teams”—joint ventures between the government and international donors—that chase down fishermen suspected of illegal activities. As Jolil spoke, I began to lose the plot. His narrative stopped making clear distinctions between *dakats* and law enforcement officers working the jungle. Both were, seemingly, complicit in the capture and exploitation of fishermen who work the mangrove waterways.

After passing Jolil and Rafiq, we continue on our way to see Akkas and Nazma on the other side of the island. They are a couple who have, in some sense, won the climate lottery. In the years following Cyclone Aila, the couple were selected to be the occupants of a new NGO-built climate-smart house. The house, which I explore in more detail in chapter 1, is the only multistoried home on the island. It sticks out like a sore thumb in the hamlet where they live. The house is not without its problems. But its point, as we will learn, is not necessarily to change the lives of Akkas and Nazma or that of the other residents of Gabura. Rather, it is designed to capture the imagination of donors elsewhere—to encourage them to support efforts to address climate change as its effects are (or will soon be) felt not just in remote zones like the Bengal delta but closer to donor homes.

On our way to Nazma and Akkas's, we pass by another new project: a soft-shell crab farm. This farm is run by Monir, a young man from a comparatively wealthy family in Gabura. The farm is built to hold small crabs until they begin the molting process. It consists of a series of orderly ponds filled with PVC support tubes and small perforated black boxes. These rest half in, half out of the water. They contain small crabs, caught in the Sundarbans and sold directly to Monir by Gabura fishermen. The crabs will stay in the boxes until they molt—losing their hard shell and beginning to regrow a soft new one. Once this happens, the crabs will be exported to Australia and East Asia. The boxes in Monir's farm are full despite the fact the Sundarbans is closed for fishing this month. When I ask him about this, he simply shrugs. Monir's soft-shell crab farm is one of only a few in Gabura at this point, but across the water in Nildumur, they are popping up everywhere, as I discuss in chapter 2. Business is good, Monir tells us. He intends to take advantage of the new soft-shell boom and to use some of his profit to buy out his neighbor's land, currently covered with unproductive shrimp ghers. While the boom lasts, Monir is going to grab as much land and profit as he can.

My proposition in this book is that we think of the many processes of time and materiality I outline in the previous section and in the above vignettes as processes that are collectively assembling the delta zone as a climate frontier. "Frontier," as I've noted elsewhere, is a hopelessly overdetermined concept.³⁶ It can and has meant a range of things throughout its long and fraught history: a space of opportunity; a zone outside or on the fringe of law and civilization; a "people-less" space where expropriation is licensed through rhetoric of emptiness, nature, and the racialized dynamics of empire; a valve that allows for the safe expansion and circulation of capital; and more. Here, I build on Anna Tsing's conceptualization of frontiers as spatial and temporal zones of emergent possibility. As she writes, "Frontiers are not just discovered at the edge; they are projects in making geographical and temporal experiences. . . . Their 'wildness' is made of visions and vines and violence; it is both material and imaginative. On the resource frontier, the small and the great collaborate and collide in a climate of chaos and violence."³⁷

Visions, vines, and violence—a potent mix of imaginations about what space is or could be, the material and biological affordances of a particular zone, and

competing interests able and willing to use force to make visions into realities. While Tsing's description of frontiers emerges out of her work in the rainforests of Kalimantan in the late 1990s and early 2000s, it is a remarkably apt description of the dynamics unfolding in Bangladesh's southwest delta in the present. While the "great" actors of Tsing's narrative were mining companies, illegal loggers, and foreign investors (classic agents of extraction), here they are NGOs, international organizations, and foreign governments intent on mobilizing the delta for the greater good. The delta is a space that is constantly reinvented across time and scale to serve different ends. Materials from competing pasts are reappropriated and recursively transformed to open new futures.³⁸ In the chapters that come, I trace these visions (*imaginations* about what the delta is and could be), vines (the *materiality* of delta terrain), and violence (the means of *capturing* bodies, goods, rents, and territories) to explore the constitution and assemblage of a climate frontier.

Arguments that the delta is a frontier are not new. The delta—its mangroves, its inland waterways, its embanked islands—have long been seen, treated, and managed as "a vast wetland frontier."³⁹ To argue that the delta has emerged as a "climate frontier" then is not to claim a radical transformation. Rather, it is to suggest a new conjuncture in a much longer trajectory. Frontiers are palimpsests, bearing the ghostly traces of previous imaginations, lives, and ecologies.⁴⁰ On them, the ruins of older projects of territorial control and extraction are sedimented—often literally—on top of each other. These older projects and social relations emerge in often surprising ways and at unpredictable times. They also constitute an uneven and occasionally unstable terrain upon which future-making projects unfold.

By "climate frontier," then, I propose that the delta at large has become a space where opportunity and expropriation emerge amid the friction between new interventions seeking to address impending climate change, competing projects of extracting value from the delta, and older political economies, regimes of territorial control, and the material realities of delta ecology. It is at once a delta of space and of time. Fundamentally recursive, profoundly contested, built simultaneously of silt and mangroves and infrastructures and imaginations, this climate frontier is the space on and through which the future of the delta is worked out. Moreover, it is a space in which the terrain of future-making itself is constituted by a multiplicity of histories and temporalities of the past. Tracing these various visions and projects that unfold within it allows us to see the complexities of space and time at play in the delta. It allows us to disaggregate climate change—to see that the climate future of the delta is in fact a multitude of radically different visions, possibilities, and temporalities embodied in projects unfolding in the present. And it allows us to reflect on the challenges of life for delta inhabitants (human and otherwise) and to glimpse some of the immediate and near-to-hand consequences of attempts to manage delta futures. In short, rather than merely a descriptive term, calling the delta a "frontier" demands that we think about the politics of future-making and the opportunities that drive it.

The delta, as this book makes clear, is overrepresented in global imaginations about climate change. It is a place that is both imperiled in a tangible sense (vulnerable to and increasingly affected by myriad forms of environmental change) and in a discursive one (where predictions, imaginations, and anxieties of global climate catastrophe are projected onto an actual space). Not surprisingly, the delta has been the subject of a range of academic work—of more and less critical varieties. Of these, three recent books on Bangladesh have been particularly important to my conceptualization of the delta: Naveeda Khan's exploration of *char* life upstream from the delta on the Jamuna river; Camelia Dewan's exploration of the misrecognition and misreading of the delta's social and material history in light of climate change; and Kasia Paprocki's account of the emergence of an adaptation regime that naturalizes urbanization and export-oriented development as the only viable solution to climate change.⁴¹ My approach to thinking about the delta as a climate frontier departs from each of these texts. This book does so by, on the one hand, exploring the ways that a multiplicity of futures collectively *make* the delta a frontier. On the other, it examines the ways that the emergent climate frontier reconfigures the relationships between a wide array of actors—from tigers prowling both the Sundarbans and the minds of conservationists the world over to dredgers prowling the silting waterways of the delta landscape; from fishermen seeking to navigate the new policies that regulate their livelihoods to bandits seeking to navigate new policing regimes to extract rents and ransoms from those traversing their territory.

In the exploration of this climate frontier, we will encounter a range of different voices and arguments. My approach is to bring the narratives of those who fish the Sundarbans or work the delta's salty land into relation with policy and international planning documents, development practitioners, and others. My point in doing so is not to give "equal weight" to all accounts or to posit an analysis that assigns flat agency to "actants" across the delta.⁴² My goal in mapping this frontier is political. It is to highlight the ways that a complex assemblage of interventions in the delta are more often reinforcing conditions of risk, exploitation, and expropriation than alleviating them.

Climate change poses an existential threat to human and other life in Bangladesh and the world at large. Yet if we are concerned not only with climate mitigation but also with climate justice, then current modes of addressing planetary threat through climate hotspots like the Bengal Delta are in urgent need of interrogation. This book highlights a need to engage not just with climate change as an abstract threat, or to see how this global transformation unfolds in place—it asks how climate change is also made in places that are conceived as its ground zeros. It demands that to understand what questions of justice, equity, protection, adaptation, or resilience *might* look like, we need to think these questions in situ—especially within the confounding contours of sentinel sites such as the Bengal Delta. The challenge is not to rationalize or explain away the multiple,

incommensurate, and messy ways that climate change is being confronted. It is rather to understand how that multiplicity itself is complicit in producing new terrains of risk, new opportunities for accumulation, and new regimes of regulation. Projects remaking the future in the delta do more to expose the fault lines in our assumptions about the warming world than they do to address degradation, climate vulnerability, and the rights and desires of those who live on the bleeding edge of environmental change. Tracing this climate frontier opens ways to engage with time and territory-making, and thus to think differently about life, land, and risk in this and other “climate ground zeros.” The picture that emerges is chaotic one, but also crucial in our assessment of attempts to meet looming planetary threats. This is particularly true if we are to think of the fate of those who live in places like Bangladesh’s southwest delta as central to forging a more just environmental future.

Captured Imaginations

Over breakfast on a chilly morning in 2018, Riton tells me of a house that captures what he describes as the perfect image of climate vulnerability. “It is falling down, surrounded by water,” he says. “The people who live there are very vulnerable. It makes a great photograph of climate refugees.” Riton came across the house on a previous visit to the region while working as a fixer for an international media outlet. He has since taken several other members of the international media, all on short visits to the Delta to write stories about climate catastrophe in Bangladesh. We are out and about in the delta countryside, and the house is right around the corner from where we are finishing our meal of dal, omelet, and roti, so we pay our bill and go to see.

To get to the house, we walk along the river embankment. We’re in a village that has suffered from tremendous erosion in the past several years, and the embankment shows signs of imminent collapse. When we arrive, we find the house situated on the very edge of the embankment. It is constructed of inexpensive and readily available materials: bamboo poles for the frame and *golpata* (a species of mangrove tree common in the Sundarbans) fronds for the roof. Teetering on the brink, it threatens to collapse into the river, seemingly at any moment. The house is, as Riton points out, a good photo opportunity—a striking illustration of climate vulnerability. Ephemeral in design and deserted except for several children playing on the bank, it speaks dramatically of the precarity experienced by many landless families living in the delta. But, as Riton’s comment suggests, the house itself—or rather, its image—also evokes a broader imagination of Bangladesh in the contemporary moment. Unintentionally, it speaks in a visual language that is immediately recognizable by anyone who follows international reporting on climate change



FIGURE 4. Home with eroding embankment near Mongla, Bangladesh.

and Bangladesh's role within it. It seems to signify impending environmental catastrophe writ small. With Riton's encouragement, I dutifully snap its picture.

By this point in our research, we have visited dozens of similar homes and shared conversations with people living within them. At this particular home, no adults are present, so we spend a few moments joking with the children, then continue our journey. Yet I feel troubled both by the actual precarity of the house and the ways it seamlessly fits into narratives of vulnerability. The house and Riton's explanation of it have interpolated me into a particular narrative of climate disaster. As I climb onto the back of Riton's motorcycle, I think of a scene in Don DeLillo's classic novel *White Noise*, where the two central characters visit a barn billed as "The Most Photographed Barn in America." Watching as a string of photographers snap photos of the barn, one comments to the other, "No one sees the barn. . . . Once you've seen the signs about the barn it becomes impossible to see the barn. . . . We're not here to capture an image, we're here to maintain one. Every photograph reinforces that aura."¹

So too, perhaps, with images of Bangladeshi homes on eroding embankments. Such images are deployed endlessly in stories about climate change—sometimes even in stories that make no specific reference to Bangladesh or even to South Asia. They serve as iconic examples of an imminent climate crisis posing grave threats to the Bengal Delta and to the world beyond. The images erase the particularity of the delta—the lives of those who live within such homes, the political ecologies that situate them on eroding embankments, the changing hydrodynamics of river flow

that cause rapid erosion throughout the delta coastal zone. In its place, they tell a more general and existentially threatening tale of environmental change and its effects: impending mass displacement and the making of a flood of future climate refugees. They tell the story of a climate crisis that promises to spread far beyond the borders of Bangladesh. This transformation—in which precarious lives and homes are subsumed as *examples* of climate catastrophe at large—is symptomatic of a particular global imagination of Bangladesh as an epicenter of climate disaster.

In their most insidious form, such imaginations see the delta not just as a proverbial ground zero of climate change or a site offering early views of the future of a warming world. They figure the delta as an anxious space of global danger—a zone whose vulnerability is not only (or not even primarily) a problem for its inhabitants. They worry, instead, about the stability of global social and political systems at large. These are often profoundly racialized imaginations, conjuring panic about the ways that abject, impoverished bodies from the Global South threaten life and polity in the Global North.² The specter of climate refugees washed out of their homes and onto both proximate and remote shores conjures visions of ecological and demographic collapse elsewhere. As a senior British development professional working on climate adaptation programs for a large international aid organization once put it to me: “This is where the UK redlines. We can’t handle 165 million Bangladeshis showing up on the UK’s shores.”

It is this vision, crystalized in the location of the Bengal Delta and the figure of the future climate refugee (clinging to the edge of eroding riverbanks), that has captured the imaginations of individuals, policymakers, military thinkers, and development programmers at a global scale. These captured imaginations in turn produce discursive and material effects. One of these is to erase the specificity of places such as the delta and of those who live within it. Another is to provoke a series of interventions that, in turn, seek to capture delta space and remake it in the name of adaptation and climate resilience. In both instances, there is a simultaneous disconnect and erasure.

Philosopher Giorgio Agamben notes that for a case to become an “example” it must occupy a paradoxical position of both representing all similar cases and being one amongst them. As he writes, “On the one hand, every example is treated in effect as a real particular case, but on the other, it remains understood that it cannot serve in its particularity.”³ The example is exemplary, perhaps iconic, of a general issue, but as it becomes so, the issue at large subsumes it, overwrites its unique characteristics, strips it of its peculiarities. This observation seems apt in Bangladesh’s delta zone. As the delta is reduced from a particular place to an example—indeed, an icon—of future catastrophe, it is rendered as at once spectacular and abstract. Interventions that speak in the name of resilience graft visions of an atomized climate survivor standing against the deepening environmental crisis, armed with adaptive development technologies (the obverse of the abject climate refugee soon to be washed into the flood), onto the lived space of the delta. As

we shall see through interventions like earthen mounds to elevate families above the rushing waters and climate-smart houses brimming with adaptive technologies, the results respond more to global imaginations of climate displacement than to the lived conditions of environmental change. Yet even if such interventions fail to create resilient life, they contribute centrally to the making of the delta as an emergent climate frontier.

To understand this process, we must inquire into the ways that the delta has emerged as an iconic example of an impending climate crisis.

THE CONSEQUENCES OF THE CONSEQUENCES

How and why does Bangladesh figure so vividly in imaginations of climate catastrophe? And what do such imaginations auger for development interventions that seek to address rising seas, salted lands, and both present and near-future human displacement in places like the delta? To begin to answer these questions, let us look briefly at a 2017 American documentary, *The Age of Consequences*, directed by Jared Scott. The documentary is composed of a series of interviews with US national security experts, key figures from Washington-based think tanks, policy-makers, and academics. The documentary dramatizes the ways that unfolding climatic conditions will (inexorably) lead to security threats to the United States. As each interviewee puts their own spin on this challenge, their words are superimposed over images of climate crisis and abstract diagrams linking climate threats and consequences. The message of the film is that climate change is a “threat multiplier” that puts often unpredictable stresses on a range of different interconnected systems. In doing so, climate change dramatically increases the possibilities of “catastrophic convergences”—combined effects of multiple simultaneous crises such as food shortages, water shortages, flooding, drought, cyclones, et cetera—that could add up to systemic collapse, war, and an apocalyptic neo-Malthusian scramble for resources.

The animating case for the film is the Syrian war—a conflict that, as the film points out, was precipitated by a multiyear drought—and its cascading consequences (conflict and mass migration to Europe). In a section titled “Collapse,” which focuses on the nonlinear nature of climate change, the film shifts focus to South Asia. Here, Michael Breen, a former US Army captain and member of the Truman National Security Project,⁴ opines, “What keeps me up at night is the problem of compounding risk. A good example is Bangladesh.” The threat described here is that in the event of rapid sea level rise, a large portion of the population will have to move. This, as Major General Munir Muniruzzaman, a military advisor to the Bangladesh government, intones, will herald “multiple stressors leading to state collapse [that will destabilize] . . . Bangladesh . . . [and also] severely impact international stability.”

As the film frames the problem, displacement and migration are the crux of climate security threats. Food shortages, flooding, storms, and other climatic events

are triggers that will cause massive population movement—which will cause political destabilization a priori. Displacement becomes the signature problem of climate change—the net outcome of a host of other climate impacts and the thing that fundamentally threatens the geopolitical order. Here, anxieties about climate are materialized as a threat to stability, crystalized in the figure of the Bangladeshi climate refugee—at once profoundly abject and threatening to an international order predicated on the fixity of impoverished bodies in place. As Muniruzzaman intones, “We have to understand the consequences of the consequences.”

The Age of Consequences is perhaps one of the clearest articulations of an emerging discourse known as “climate security”—a discourse that renders the projected impacts of climate change as first and foremost a threat to national security (largely, though not exclusively, in the US and Europe). Climate security follows on the heels of a number of post–Cold War security paradigms—environmental security, human security, and the development-security nexus—that claim to unsettle nation-state-centric models of sovereignty and security and to link development and humanitarian interventions to military options as strategies for managing remote threats.⁵ As many have pointed out, rather than decentering national security, such paradigms often simply expand the range of things that can be imagined as threats to it—poverty, environmental degradation, human displacement, and other so-called nontraditional security threats.⁶ These paradigms recast issues like poverty as a threat not just to the livelihood and security of individuals who experience deprivations in places like Bangladesh but also potentially to the national security of countries such as the United States. Mark Duffield describes this as a discourse of globalizing and containing: *globalizing* national security concerns so that places like the Bengal Delta are imagined as part of a global borderland in need of securitization, and *containing* threats within them through humanitarian, development, or military interventions.⁷

Climate security is typically positioned as a framework for motivating policy, public, and humanitarian conversations about climate change in the name of anticipating—and perhaps forestalling—its most dire effects. Yet framing climate change through the lens of security—rather than, for example, justice or rights—positions climate crises as important not because of their direct impacts but rather because of their ripple effects. They are threats not *just* to the people who live in places like the Bengal Delta but *also and more importantly* to political stability in places that are both adjacent to and remote from the sites of climate disaster.⁸

One of the effects of such a vision of security is to recast regional security challenges as problems of population management with global security implications. An apt example of this is *The Age of Consequence's* treatment of the India-Bangladesh Border Fence. This border has historically been a source of regional tension: a communally defined line separating a supposed Hindu territory from a supposed Muslim one.⁹ The fence, constructed in the early 2000s as a strategy by an ascendant Hindu nationalist movement in India to stem Muslim migration from Bangladesh, is a site of regular extrajudicial killings and extreme violence—often

of peasants moving back and forth across the border. In India, the fence continues to figure in often jingoistic political debates—debates that have become even more salient in the wake of the publication of the final National Register of Citizens Act in 2019, a policy that made way for the mass deportation and detention of people, particularly Muslims, who are unable to prove their Indian nationality in Assam.¹⁰

As Reese Jones argues, throughout the early 2000s much of the regional and international debate about the fence and its construction echoed debates about the Global War on Terror that emerged in the wake of the September 11th attacks in the United States—drawing together the threat of terrorism with the imperatives of economic stability to legitimize the construction of a violent barrier between the two states.¹¹ Yet echoing many discussions of this border within debates about climate change, *The Age of Consequences* understands the fence as an experiment in climate security. As Breen asserts, “there are other reasons for India to build that fence. But probably the pressing and strategic reason is to forestall that climate migration.” Breen’s argument does more to endorse an *ex post facto* justification for the fence’s existence than it does to identify the causal reason for its construction.¹² Yet in doing so, Breen also illustrates the central logic of climate security in both popular and policy circles today—namely, massive volumes of future climate refugees present tangible threats to regional and global stability and, therefore, *must be contained*. *The Age of Consequences* and the climate security framework that it so aptly captures render Bangladesh’s southwest delta region not just a borderland zone with India but part of an emergent global borderland—a space that is simultaneously remote and on the doorstep of Western states.¹³ As the title of a *New York Times* exposé on climate change and the fence has it, “A Global ‘National Security’ Issue Lurks at Bangladesh’s Border.”¹⁴

The delta region is increasingly imagined as a node from which climate catastrophe—envisioned as massive population displacement—might spread. This is aptly captured in yet another *New York Times* article titled “Borrowed Time on Disappearing Land.”¹⁵ The article vividly ties the effects of fossil fuel consumption to rising sea levels and their impending impact on low-lying coastal areas in southwestern Bangladesh. The story itself lays out a familiar narrative—the imminent erasure of many of the islands that make up Bangladesh’s delta region. What is more striking, however, is an accompanying video, which offers a god’s-eye view of what will happen to the delta in the face of a thirteen-foot sea level rise. The video unfolds over a long minute in which viewers watch much of the delta disappear. The final text reads “Scientists expect the rising waters in Bangladesh to displace eighteen million people in the next forty years.” The video offers a dramatic illustration of what drives climate anxiety in and about Bangladesh: the specter of the climate refugee.

This figure weighs heavily on the imaginations of a range of different actors, overtly and covertly informing much contemporary discussion about the delta. Indeed, such anxieties contribute to the assembly of the delta as a climate frontier

where opportunity and exploitation are organized (at least in part) around the figure of future climate catastrophe. Here, anxieties about the region's future animate debates, interventions, and a mode of politics that Sanjay Chaturvedi and Timothy Doyle aptly call "climate terror."¹⁶ In this political framing, visions of Bangladesh inundated by rising oceans are coupled with an imagination of India, and especially its states bordering Bangladesh, as drowned in a tidal wave of (Muslim) migrants. This imagined wave of climate migrants does not stop in India but washes outward, threatening to inundate the Global North.

Such imaginations are not confined to documentaries, policy papers, and newspaper exposés alone. They can be seen in the increasing presence of the India-Bangladesh border in climate change war games and strategy scenarios in the United States and Europe. For example, the "Clout and Climate Change" war game, staged by the Center for a New American Security in 2008, imagined an Indian border beset by a climate-migration catastrophe following a fictional 2013 cyclonic event in the Bay of Bengal.¹⁷ In doing so, it tested the organizational capacity of the international community to respond to (rather than prevent) climate disasters by stemming migration before it compromises regional and global stability.¹⁸ Similar exercises at the US National Defense University and the Naval War College have tested the outcomes of massive population displacement and the ability of the US Navy to respond to major climatological disasters in Bangladesh.¹⁹ In short, the stakes of climate displacement in this region loom large in popular, policy, and military imaginations of the global threat of climate change.

NEW BASKETS, OLD CASES

Within the framework of climate security, Bangladesh appears as a country that has become (and increasingly will be) a global security threat because of its climate vulnerability. But such visions have a genealogy. Bangladesh and its southwest delta are unquestionably vulnerable to environmental change. Yet there are reasons why these spaces resonate within discussions of climate change today beyond their physical geography and ecology. While climate security is preoccupied with the apparently novel threat of "climate refugees," there is nothing new about fears of Global Northern countries being overwhelmed by non-white others. The current articulations of climate anxiety, arguably, date to neo-Malthusian debates about poverty, population control, and the Third World that emerged in the 1960s and 1970s, as laid out in texts such as the Club of Rome's *Limits to Growth* (1972), Garrett Hardin's "The Tragedy of the Commons" (1968), Paul Ehrlich's *Population Bomb* (1968), and Jean Raspail's *The Camp of the Saints* (1972), a novel that enjoyed a resurgence of popularity in Donald Trump's 2016–20 White House. These texts—each of which warns of the threat of uncontrolled population growth in places like South Asia to places such as the US and Europe—were central to linking the nascent environmental movement (especially its US variants)

to conservative and anti-immigration agendas in the 1970s.²⁰ Despite generations of critique and countless empirical demonstrations that neo-Malthusian theories fail to describe how people actually manage scarce resources, such arguments continue to provide a blueprint for much environmental and climate security thinking today.²¹ Climate security debates substitute anxiety about population *displacement* for anxiety about population *growth*, but otherwise outline a similar agenda—the need to secure places like the US and Europe from demographic and environmental crises elsewhere.

The fact that Bangladesh has become such an iconic site in climate security debates is not surprising. New imaginations of the catastrophic future play on old narratives of Bangladesh as an epicenter of poverty and famine that represent the country as a site of unbridled abjection and misery. This imagination, or at least the current articulation of it, dates to the early 1970s and specifically to the turbulent years around the birth of Bangladesh as an independent nation.²² Bangladesh's place in this genealogy itself starts with a storm: the Bhola Cyclone, the deadliest tropical cyclone in recorded history, that struck what was then East Pakistan in 1970. The Pakistani government's indifferent response and callous lack of concern for the three hundred thousand dead and the hundreds of thousands displaced galvanized long-standing discontent with West Pakistani rule in Bengal. The cyclone was one of a cascade of events culminating in the launch of Operation Searchlight in March of 1971—a brutal attempt by the West Pakistan army to suppress calls for separation and independence in the east. Operation Searchlight marked the beginning of the Liberation War, fought by Bangladeshi freedom fighters, *Mukti Bahini*, who waged a guerrilla campaign against the West Pakistan army with Indian support.

The West Pakistan army's genocidal campaign displaced as many as ten million Bengalis across the border with India. Many of these refugees found shelter in overtaxed refugee camps set up by the Indian government in West Bengal. During the Liberation War, the world was flooded with images of hungry and cholera-ravaged Bengalis in Indian refugee camps, perhaps most famously captured by the image of a starving child on the cover of George Harrison and Ravi Shankar's 1971 album, *The Concert for Bangladesh* (the live recording of a pair of benefit concerts to raise funds for East Pakistani refugee relief). These images became iconic both of the conflict and, arguably, the region.²³ Following West Pakistan's surrender in December 1971, shortly after India's formal entry into the war, Bangladesh became an independent state.²⁴ Yet in part because of iconic images of misery and disaster, expectations for its success were low. It was at this moment that US Under Secretary of State Ural Alexis Johnson famously called Bangladesh an "international basket case," a term that has been (it must be stressed) unjustly associated with the country in Western imaginations since then.²⁵

This imagination was subsequently reinforced when, in 1974, a severe famine struck the still recovering country. In response to the inability of the government

to cope with the worst effects of the famine, Bangladesh opened its doors to widespread international assistance. The famine was, thus, a moment in which the new nation also became the prototypical development state—what Naomi Hossain has aptly called “the Aid Lab.”²⁶ As a “lab,” Bangladesh has become a site for broad testing of development technology and practice. A site for experimentation in cooperative rural development, Green Revolution technologies, health research, and microfinance, Bangladesh emerged throughout the 1980s, 1990s, and the first decade of the 2000s as a site where new development technologies made tangible improvements in agrarian life (and provided models that could be exported elsewhere). However, the country’s association with ongoing development and poverty relief programs did little to dispel the basket case narrative from Western imaginations of the delta zone. As many have noted, this characterization profoundly effaces subsequent economic, demographic, development, and health transformations within the country.²⁷ Moreover, it extends an orientalist project of denying the capacity for self-governance at a national scale and denying the possibility of rural residents of the country themselves asserting agency and self-determination (something we will return to later in the chapter).²⁸

Regardless, the imagination of Bangladesh as a site of continuous disaster and abjection seamlessly fits into narratives of the country as a space of climate catastrophe and, thus, a climate security threat. Here, the iconography of *The Concert for Bangladesh* has been replaced by countless images of women and children standing on crumbling embankments or in water in front of flooded houses. Today, Bangladesh and its delta zone are at once over-imagined and overrepresented in global consciousness about climate change.²⁹ The country is a space that is infused with iconic significance at a global scale as a site of disaster, evoking intense, if ephemeral, anxieties about the climate-affected future and its possible impacts not just on Bangladesh but on global security.

TRANSFORMING VULNERABILITY

Within Bangladesh, the narrative of the delta as future catastrophe is, not surprisingly, reframed. Here, the delta emerges not as a locus of climate disaster, but as a space from which alternative visions of climate response might be imagined and broadcast to a global audience. A case in point is a recent coffee-table book published by the COAST Trust with support from Bangladesh’s Ministry of Foreign Affairs, titled *A Tale from Climate Ground Zero*. The book celebrates then Prime Minister Sheikh Hasina’s receipt of the 2015 United Nations Champion of the Earth Award for leadership on global climate policy. It is filled with striking photos depicting not only familiar scenes of climate change—storm-damaged homes with water lapping at the door, eroded riverbanks, and so on—but also images highlighting village-level adaptive development innovations afoot in the country to combat advancing climatological disaster. The book’s preface, an excerpt from

Hasina's acceptance speech, states: "As one of the most climate-vulnerable countries, Bangladesh is moving with innovative ideas to address complex climatic challenges in a sustainable manner. . . . We are ready to share our modest innovation and experience with others. That is our contribution to turn 'vulnerability' into 'resilience.'"³⁰

Hasina's invocation of these two terms—"vulnerability" and "resilience"—at once marks a reversal (the shift from a position of liability to strength) and an embrace of global tropes of climate and disaster management. To be climate vulnerable is simply to state that climate risk accumulates unevenly across space and Bangladesh is particularly vulnerable to climatic perturbations—rising seas, increased cyclonic activity in the Bay of Bengal, unpredictable monsoons, et cetera. At the same time, it begs the classic question of political ecology—how places are made vulnerable in the first place.³¹ Hasina's transformation of vulnerability into resilience is a simple statement of empowerment, a governmental refusal to be subsumed by global imaginaries of Bangladesh as climate dystopia. Yet paradoxically, it is simultaneously an embrace of development logics that reposition the country within the same narratives of security outlined above. Resilience speaks the language not of self-determination or rights but of global climate response and attunement to climate disaster. It may be the opposite of vulnerability, but it is no less implicated in approaches that view climate effects through a securitized lens. As Michael Watts suggestively puts it, "resilience provides a powerful anticipatory calculus, one of a flotilla of technologies associated with a security assemblage, rooted in a full-spectrum, and in some respects paranoid, social imaginary—a hyper-dangerous and threatening future."³² Here, we might read it as a politics that sees strategies of emplacing potential climate refugees in climate-affected terrain as the alternative to their displacement across proximate and remote borders.

While Hasina's speech and *A Tale from Climate Ground Zero* at large speak from the standpoint of the nation-state, this transformation from vulnerability to resilience, like the award the book celebrates, is best understood as neither a purely nationalist project nor as a top-down implementation of development by foreign donors. Rather, it is a collaboration between the Bangladeshi state and international development programs. As the book's introduction notes, "To aggregate the efforts of the Government and civil society, Bangladesh needs extensive support from development partners, especially the industrialised and developed nations."³³ Figured against the realities of these interventions, the book is best read as a celebration of a vast array of national *and* international development projects remaking the country, reframing its future across scales, and packaging its "contribution" of resilience to a climate-affected world.³⁴

What does this transformation from vulnerability to resilience look like in practice? This can be a challenging question to answer.³⁵ Programs seeking to address climate change in the delta are wildly heterogeneous. Not all of them look alike or respond to the same kinds of concerns. Modes of climate intervention in

Bangladesh run the gamut from projects of reconfiguring policy and governance to more nimbly respond to and prepare for disaster, to projects facilitating climate adaptation through de-peasantization and urban expansion.³⁶ One mode of intervention involves implementing experimental technologies that seek to emplace, or anchor, prospective climate refugees in the delta landscape. Such projects claim to achieve these ends by providing technical tools that aim to reduce individuals' and families' vulnerability to environmental change.

Such tools might be thought of as part of a cluster of technologies that, in Peter Redfield's words "anticipate state failure and seek to provide a small-scale, self-contained alternative."³⁷ These climate interventions imagine resilience—framed as the ability to not migrate and to remain in place—as achievable through technological interventions in lieu of aid from states unable to manage climate crisis through social and policy mechanisms. Yet in doing so, they also map a very particular and normative imagination of individuality and community onto these technological solutions. That is, they imagine a particular kind of resilient individual. To understand how this unfolds, let us return to actual delta space.

STAGING INTERVENTION

When I first began working in the southwest delta region, the landscape was dotted with vast numbers of interventions claiming to instill resilience. The region was severely affected by Cyclone Aila in 2009, an event that set the stage for the region's transformation to a site for climate-resilient programming. Indeed, since 2009, the region has been reconceived as a place where the consequences of climate change are already manifest.³⁸ By 2015, the region was awash in projects claiming to build resilience in the lives of residents. Figure 5 gives some sense of the density of new climate projects in the area. It is a photo of a single street corner in Munshiganj—a midsize market town, not far south of the city of Shyamnagar in Sathkira District. It is proximate to Gabura, to the Sundarbans, and to the India-Bangladesh border. That is to say, it sits on the threshold of a range of spaces of acute climate concern. Many NGOs with projects in the delta region, thus, have offices in the town. Each signboard in the photo points the way to the office of a different NGO, each with its own suite of climate -adaptation and resilience programs.

Exploring the architecture of some of the more dramatic of these interventions proves instructive. In the spring of 2015, while working in the countryside of Munshiganj with a colleague, I came across a strange and visually striking project rising incongruously from the flat delta landscape. It was an earthen mound, or *mattir killa*, meant to be used as a storm shelter. The mound was fourteen feet in height and a half-acre in size. It had been constructed in 2011 in the aftermath of Cyclone Aila. The killa was built by a local NGO but financed by Christian Aid, an international NGO. It formed part of a vast wave of new projects in the region addressing disaster preparedness and climate change following Aila.



FIGURE 5. Signboards for climate NGOs, street corner, Munshiganj.

What seemed strange about the project was not only its visual appearance, climbing abruptly from its otherwise horizontal surroundings, but its stated purpose: What kind of shelter could this raised mound provide? In contrast to the concrete cyclone shelters that dot the region, the killa seemed to offer limited protection. Moreover, though nominally a public good, it had been built on private land. Striking up a conversation with the farmer who owned the land and whose home stood in the killa's shadow, we asked about the project and its uses. He lived some distance from the nearest cyclone shelter, so when the storms came, he claimed, his family and livestock would shelter on the killa. But, he also added, "In the future, when we are surrounded by water, the children will go up there to live."

The farmer's statement was instructive in thinking through the ways that global imaginations of climate displacement are translated onto concrete projects in places like the delta. Projects such as the killa enact a particular vision of emplacement—an atomized family surviving the ravages of climate change alone, assisted primarily by development technology. As such, the killa, and indeed, much of the delta region is best understood as a space managed *as* and *in anticipation* of a world of dystopian climate crisis. Such projects function as stages for future interventions and present-day spectacles of climate security. In other words, these projects both advance a logic of managing and planning for future disasters by attempting to produce resilient life in a warming world and display strategies of containment for audiences elsewhere.³⁹

Residents of the delta are alternatively bemused and frustrated by these interventions. For example, many of those who lived near the killa found the project



FIGURE 6. *Mattir killa* (earthen mound), Munshiganj.

more an exasperating waste than an adaptive technology to help manage climate risk. Many wondered why the mound had been constructed instead of, for example, a concrete cyclone shelter that could provide robust protection from storms. Others complained that because the killa was built on private property (owned by a farmer who was a politically powerful member of local government), it was essentially single-use. One person angrily told me: “As much as I can see, there is not one inch of profit in it. Unnecessary place, unnecessary project!” A group of laborers we spoke with in a nearby tea stall had a wryer take on the project’s uses. As one told us, chuckling into his tea, “Well, when the winds come, we will just huddle close together. That way we won’t get blown off.” If these comments reflected a darkly humorous take on resilience, they also highlighted a clear localized understanding of what is at stake in such projects. Residents of the region are intimately aware of the impending impact of climate change and the ways it stands to affect livelihoods and lives. Moreover, they understand the disconnect between global anxieties and the projects that these anxieties provoke.

Yet what does this vision of the future do, and to what end? To answer these questions, it is instructive to explore one of the more recognizable projects in the region—a climate-smart integrated house constructed on Gabura and meant to help residents survive the chaos of climate change in place. The house was constructed by WorldFish, an international research organization and member of the Consultative Group on International Agricultural Research. The organization has a large presence in Bangladesh, especially in the southwest.⁴⁰ The house itself was a one-off demonstration project constructed at a material cost of \$6,000.⁴¹



FIGURE 7. Pani House, Gabura.

The project was infamous in Gabura and known locally as either the Pani (water) House or as *dui tolla* (two-story), a reference to the fact that it was the only home on the island with two stories.

I first visited this house in the company of a WorldFish team member in 2015. After taking the ferry across the Kholpetua from Nildumur, my colleague and I were escorted by motorbike directly to the house, which was nestled in a small hamlet in the island's interior. The house sat in a village primarily inhabited by smallholder farmers and landless laborers. It stood out dramatically in the island's landscape both because of its excellent state of repair and its odd construction, profoundly unlike its neighbors'. It housed a single family, chosen through their industrious participation in NGO support groups following Aila. The house was brimming with adaptive technologies, including a covered well for irrigation, storage tanks for drinking water, an indoor fishpond, complex drip-irrigation systems,

and much more. The WorldFish representative eagerly demonstrated each of these to us, one by one, as other residents of the village gathered around to watch.

WorldFish claims the Pani House as a model of resilience. As the organization's project report on the house states: "Changes in climate will affect local weather patterns and impact many people's livelihoods. The climate-smart house provides protection against cyclones and flooding and supports efficient use of water and energy. Many features of the house are aimed at increasing food production and helping families become more self-sufficient and better able to cope with extreme weather events."⁴² In other words, the Pani House was conceived as a comprehensive humanitarian technology of resilience, allowing residents to survive and thrive in a coming ecology that will be disaster-prone and resource-scarce. It was a project that addressed broad concerns about climate security and migration by providing tools to help residents not migrate.

Equally important, the project was a pilot. The report suggests that "communities should work with government representatives to encourage the building of climate-smart housing in vulnerable areas."⁴³ Yet the communities in question seem unlikely to be those in the delta, where it is difficult to imagine an intervention that costs \$6,000 per household being adopted at scale, because such a project would quickly run to billions of dollars in cost. Indeed, to my knowledge, there has not been serious discussion of building more climate-smart houses based on the model of the Pani House either in Gabura or elsewhere in the delta. Rather, the house was conceived as an abstract portable technology, ready, though perhaps unlikely, to be deployed in other areas of climate disaster. The Pani House, a technology of realizing climate security by transforming its occupants from possible climate refugees to resilient peasants, was good to imagine, but in practice impossible to actualize at scale. As an abstraction, it was meant to grow more in the imagination of planners and donors than on the ground in the delta.

The Pani House's various technologies were fraying at the edges. One of the house's features, for example, was a complicated drip-irrigation system that was supposed to allow residents to grow vegetables in window boxes isolated from saline soil and raised above flood levels. The system relied on plastic drip spigots, many of which had broken and were not repairable with materials available in local markets. The stairs to the second story of the house were constructed out of iron, a material that rapidly rusts in the saline environment of the delta. Indeed, as Nazma and Akkas, the residents of the house, told me on a subsequent visit, a number of problems had emerged with the house's design since its construction. The pair had a series of grounded suggestions for future iterations of the project, such as extending the roof overhang for the house, so that rain was less likely to blow in during the monsoon season. I asked them if WorldFish had collected any of this feedback from them. They told me that they had not had any contact with the designers since the house was built. As Nazma put it: "They have given it to us, but we cannot tell them that we are facing these problems."

The design, architecture, and construction of the house evinced planning not designed specifically for the region but rather for an abstractly conceived space of climate crisis—one that may be in Bangladesh but could just as well be anywhere. This yielded a range of minor failures of design and planning, such as irreplaceable plastic spigots and iron stairs. Yet more revealing of the vision of climate resilience embodied in the house were its social implications. Anyone, including other residents of the village in which it was situated, could enter to marvel at the technologies of resilient development on display there. Yet none of these technologies were things that the village at large was meant to benefit from. The house was built and designed explicitly for a single family situated within—but removed from—the rest of the community.⁴⁴

I asked one of the house's designers about this and she told me that there were initial plans to make it a community resource. But there were two challenges. First, WorldFish wanted the house to serve as a proof of concept, something they could test and collect feedback on (which, according to Nazma, they have not done). Second, developers worried that a more communal design would inevitably produce conflict rather than cooperation. This tragedy-of-the-commons vision of development brushes not only against the many histories of collective organizing by landless and smallholder groups throughout Bengal but also against some of the more grounded visions of resilience discussed below.⁴⁵ But, like the *killa*, it also articulates an imagination of a climate-affected future necessarily composed of individual families surviving on figurative—and perhaps literal—*islands*, isolated and protected from the unfolding chaos around them. An island unto itself, the Pani House enacted the dystopia to come.

THE POLITICS AND POETICS OF RESILIENCE

That the Pani House was constructed as an abstract solution, as opposed to one that addresses the specific condition on the ground, is not in and of itself surprising. The notion of piloting and modeling has long been a central dynamic of development.⁴⁶ Yet the Pani House raised questions about whether the model was ever meant to be (materially) replicated. Like many other interventions in the region, the Pani House appeared to be a project that privileged the act of modeling over the process of learning from and scaling up new development technologies. This permanent provisional condition hints at other possible meanings and purposes of such projects. To understand these, it is necessary to attend to the representational dynamics of these interventions as much as to their impact on beneficiaries.

Development—not unlike climate security—operates through a profoundly visual language. The point of pilot and model projects is that they demonstrate the efficacy of interventions in a particular location that stands in for a multiplicity of other potential locations. These projects—model villages, demonstration plots, and so on—dramatize the distinction between the space of the project and the undeveloped space outside of it. As Nick Cullather writes of Green Revolution



FIGURE 8. Backyard of the Pani House.

technology in the 1950s and 1960s, “where the dark green rice stopped, that was the edge of the modern.”⁴⁷ On Gabura, the clustering of projects in a single space heightened these visual distinctions. In a pattern replicated in many projects throughout the region, the Pani House accumulated other development projects within its perimeter. The Pani House’s backyard, for example, housed an International Union for Conservation of Nature (IUCN) test patch for climate-smart watermelon production, as well as a United State Agency for International Development (USAID) irrigated rice plot. These fields were neatly cordoned off by a blue fishnet fence that defined the property boundary. The fence marked a stark contrast between the Pani House and the unirrigated, dry, and dusty rice fields beyond—the agricultural fields farmed by the other residents of the villages. The message in this contrast proved hard to miss. Unlike older visualizations of development, which dramatized distinctions between modernity and tradition, the boundary here marked a division between impending chaos and its potential management. Inside the project boundaries, resilient development flourished. Outside and surrounding it lurked the non-resilient future.

The accumulation of projects within the Pani House served a dual purpose. The first and most obvious was that the presence of one project increased the likelihood of success of the others. The USAID rice plot, for example, was being irrigated by the Pani House’s private water supply. But more importantly, this accumulation of projects made the Pani House photogenic. Indeed, the house and its residents appeared in press material for other development organizations working in the region. For example, IUCN designed a poster displaying their test plots in the Pani

House's backyard to promote saline-tolerant watermelon production. The contrast between the climate-smart household and other households in the village was dramatic, but also at once beside and precisely the point. The community and the house's residents were not the primary audience for the intervention. Indeed, as my colleague and I were told by a WorldFish project manager in Dhaka, the Pani House was meant more "for the website" than "for the people."

But whether meant as a real project or as a device to capture the imagination of funders, the Pani House also revealed the logics of many interventions in the region.⁴⁸ The Pani House articulated delta futures in which single families would have to go it alone. The notion of a community—however defined—as a potential actor in this future was not part of this vision. Moreover, the question posed by projects such as the Pani House was not whether such a vision of the future—as a climate wasteland with individual resilient families hanging on by their development-enhanced teeth—was a just vision or an acceptable one. Rather, it was simply whether this articulation of resilience proved workable, scalable, or capable of capturing donor imaginations. These interventions emerge as articulations between not only (or even primarily) development practitioners and their beneficiaries but between development organizations and a global population increasingly concerned about the impending security crisis of climate change. The message in the spectacular image was clear: technological solutions to instill resilience in the face of ecological change are a possible and feasible means of turning potential climate refugees into resilient climate-proof peasants. Moreover, they are already in the works, emplacing life on the front lines of a warming world.

If projects like the Pani House only questionably achieve their stated goals, they are, nevertheless, quite successful at producing aesthetic messages. They are spectacular: spaces of juxtaposition that rely on appearances and images as techniques of power.⁴⁹ They serve as analogs to images of impending disaster—such as houses perched on dilapidated embankments poised to tip into rising waters. They constitute not only ways to acclimatize populations to particular logics of life on the climate frontier but also forms of communication between powerful development organizations and their audiences.⁵⁰ Seen through this frame, residents of the region are not just the targets of intervention but also the means of production of spectacles of climate resilience—the vehicles through which a set of technical interventions are demonstrated as efficacious in producing resilient-like effects.⁵¹ In other words, while projects in the delta frame the area as a space of climate crisis, they simultaneously offer a techno-optimistic claim to donors and concerned individuals elsewhere that development interventions *can* manage climate security crises stirring in the global borderlands.

BEYOND THE RESILIENT PEASANT

How are we to understand projects like the Pani House, which speak in an idiom of resilience but at the same time so manifestly fail to integrate it into the lived

realities of delta life? In ways similar to the endless renderings of climate disaster in photos of houses on disappearing embankments, many of these interventions work to reduce the delta from a specific place confronting and addressing the challenges of global warming to an abstract climate ground zero. In these visions, the delta is a space that stands in for all the climate disasters to come. Moreover, it is a space that provides a vision, and perhaps an opportunity, to manage this future catastrophe in the present.

Yet as an example that cannot stand in its particularity—indeed, whose particularity is erased—the interventions that are posited in the delta landscape often poorly fit the cultural, economic, or ecological realities of delta life. Indeed, we might say that such quotidian realities are incidental to the interventions themselves. Resilient interventions such as the Pani House model a technological bulwark against dystopian environmental change. However, in doing so, they fail to reckon with the material and social realities upon which they are constructed. What remains are representations—technologies that respond to images and imaginations of climate catastrophe by broadcasting visions of climate resilience to audiences elsewhere.

Insofar as these interventions reflect a grim view of a climate-affected future, they not only foreclose other possible ways of conceiving development within the region but also contribute to producing the southwest delta as a climate frontier with an eminently translocal future of disaster. But precisely because projects like the Pani House are manifestations and representations of future containment superimposed on spaces of lived agrarian production, it is critical to ask what other possible futures are masked in these dystopian enactments. By way of conclusion, then, I wish to briefly juxtapose these interventions with other projects offering different, more grounded visions of resilience and community.

Many people, of course, do migrate from the delta.⁵² Such movements, whether framed as labor migration or climate displacements, are increasingly common from delta space. Many decide that the available opportunities in the delta are not sufficient to support their families. Some migrate to urban areas in Bangladesh such as Dhaka, one of the fastest-growing cities in the world. Others migrate to regional cities such as Khulna and Mongla, a growing delta city I discuss in more detail in this book's final chapter. Still others migrate across both proximate and remote borders. Some migrate for part of the year, some permanently. An active debate abounds as to whether migration from the delta can be reframed as a form of resilience in and of itself (particularly when such migration takes place within the country and not across international borders).⁵³ Many others, though, still seek ways to continue to inhabit the delta landscape.

One day in 2016, Riton and I found ourselves in dialogue with a group of fishermen and landless farmers in a village not far from Munshiganj, directly on the India-Bangladesh border. We sat in a clearing just outside of the forest boundary, sharing snacks and stories about working in the delta. Our conversation fell to discussing the various new policies that the government of Bangladesh had put in

place to slowly restrict access to the Sundarbans and protect it from anthropogenic harm (something I discuss more in subsequent chapters). These fishermen were angry at the steady stream of restrictions, the occasional closures of the forest to fishing activity, and the new forms of policing the Sundarbans that had emerged in recent years. It was their consensus opinion—hotly expressed by several in the group—that the Forest Department should remove these regulations and let them get on with the business of fishing as usual. I countered that it seemed unlikely that the government would do such a thing, given that they were under tremendous pressure to preserve and protect the mangroves. Grudgingly, the fishermen agreed that their wish for the government to leave them to fish in peace was unlikely. They even agreed that some amount of government and conservation management was necessary to preserve the Sundarbans for future generations. What then, I asked, did they think the government should realistically do, given such pressure? The fishermen paused and reflected on this question for a moment, then one of them spoke: “If the government closes the jangal, then it should ban shrimp aquaculture within one *kimi* (kilometer) of the Sundarbans. Then we could all stop fishing and go back to growing rice.”

The relationship between shrimp, agriculture, and fishing is something we will return to presently. But the proposal, in short, was a call to reverse some of the damage to the agrarian labor market caused by shrimp, to create employment by returning to a more labor-intensive form of agricultural production for local and domestic consumption, rather than a capital-intensive, ecologically harmful system of production that characterized the multi-decade boom in shrimp. Several other fishermen argued that this seemed unlikely—that the shrimp business was too lucrative for the government to ban it anywhere in the delta. Others agreed that this proposal was an experiment that the government could and should pursue—if the government wished to keep people out of the forest, it was beholden on them to make it possible for people to feed their families another way. A lively and active debate over this policy proposal, the ways it could (or could not) be implemented, and various ways that it might be tweaked to be more workable ensued.

What I wish to highlight here is the somewhat foundational ethnographic point that, as this conversation suggests, people living in places like the delta are not only active authors of their futures but active debaters of what a resilient future might be. Most people living in the delta are familiar with the concept of climate change. How could they not be? Projects seeking to address its effects, training sessions put on by NGOs, and official policies and pronouncements in the name of climate adaptation and resilience are part of the fabric of delta life.⁵⁴ But they also harbor diverse opinions on how NGO and government programs might be put to better use. These ideas are the substance of conversations—in homes, in tea stalls, in landless movement meetings, and, occasionally, in conversations with anthropologists and other researchers interested in what a more bottom-up form of resilience might look like.

Attempts at forging an alternative vision of resilience are more than just conversational. Concrete projects attempting to navigate ecological change are constantly unfolding in the delta. They are often based on cultivating resources that farmers in the region see as critical to life amid ecological change. Like development projects that dot the delta landscape, these projects evince an experimental logic. Yet they are, typically, anything but spectacular. They fail to speak the visual language of development. They tend to focus not on disastrous futures but on quotidian strategies to improve short-run agricultural productivity.

Several farmers' collectives in Gabura, for example, have begun working in collaboration with an organization called the Bangladesh Resource Center for Indigenous Knowledge (BARCIK) to establish local seed banks collecting indigenous varieties that are, at least to an extent, saline-tolerant.⁵⁵ There are numerous saline-tolerant rice varieties manufactured and designed by organizations such as the Bangladesh Rice Research Institute and sold by NGOs such as BRAC that are available in the market. These varieties often work, making agriculture profitable even in the delta's increasingly saline soil (particularly if farmers invest in costly fertilizers and other inputs to help them along). But their success is uneven. They may yield tremendous results in one plot while underperforming in an adjacent field. The idea of the seed bank is not simply to replace engineered varieties with indigenous and often lower-yielding rice production. Rather, the idea of this collective is to intersperse rice varieties available in the market with indigenous varieties within a given plot to hedge against uncertain agricultural outcomes. If one variety fails, the plot might not be a complete loss. Another collective in a different village in Gabura also was experimenting with varieties. Rather than seed banks, they were planting their own test plots. The healthiest (*shusto*) member of the collective (the member with the most land and thus the greatest tolerance for risk) had donated a small plot to plant a new variety that was available for purchase from a local NGO. "If we can get twenty *maunds* (37.32 kilograms) of rice from this plot, we'll all switch to it," one of the members of the collective told us.

Beyond seeds, these collectives also articulate their own visions of the technologies they need to develop resilience grounded in the realities of agrarian production in the delta landscape—to continue to farm as opposed to migrating elsewhere for work. For example, farmers' groups in Gabura argue that they need canals to collect fresh rainwater for crop irrigation. One collective successfully petitioned the local government for a forty-day work project to rebuild freshwater canals that had been wiped out during Aila. The project allocated government money to pay residents a modest wage and a modest stipend of food to re-dig, deepen, and reinforce the older canal structures. When I first visited Gabura in 2015, the canal was in the process of construction. In 2017, on a return visit to this collective, I was told that the project, along with several seasons of good rainfall, has seen farmers experiencing above-average rice yields. Farmers in this collective further argued that the canal would help them more easily weather seasons



FIGURE 9. *Khal* (canal) construction, Gabura.

with unpredictable rainfall, a projected effect of climate change in the region. In short, residents of the delta are employing collective action in attempts to materialize an agrarian future in which agriculture might transform (or at least sustain) the island's environment and provide more employment and stability for its residents—especially smallholder farmers and landless laborers.

Whether ideas such as the fishermen's proposed alternative policy directives or interventions such as seed banks and canals can or will work in the long run is, of course, an open question. They are as experimental as the Pani House. Yet in contrast to resilient development projects driven by global climate insecurities, these projects and ideas respond to the lived realities of the delta. These are gritty, quotidian, unspectacular ideas that do not photograph well. They dwell not in abstract temporalities of future inundation (ten, twenty-five, or fifty years into a future of climate catastrophe) but rather in the lived temporalities and rhythms of agrarian life (this harvest, next season, the season after that). They build not on imaginations of resilient peasants (atomized families hanging on to plots of land as the world is washed away around them) but on collective visions of experimenting with changing agrarian environments (seed banks and test plots as tools to maximize collective yield). They frame the delta not as an immanent site of abstract disaster but as a lived space of shifting challenges and possibilities.

The alternative visions and different temporalities embodied in these farmers' initiatives to reclaim land in the delta have an important role to play in contesting the imaginations, projects, and politics of global climate security. Such prosaic

interventions enact engagements with a resilience that is situated in the everyday realities of land and livelihoods rather than framed against global imaginations of a securitized and crisis-ridden climate future. It is resilience as persistence (the capacity and desire to remain in place) rather than as emplacement (the securitized technology of grounding populations in terrain). Ironically, in providing grounds for people to continue pursuing agriculture in what others imagine as a climate wasteland, they may yet prove more successful in achieving the emplacing goals of resilient development. They auger a future of grit and hard work, neither utopian nor dystopian but grounded and persistent. Here, resilience might be defined not only by remote spatial imaginaries and distant audiences but also by peasants working in communitarian ways to collectively secure access to water, land, markets, seed, and life. Moreover, they offer a window into what resilience might look like from the standpoint not of the example, which cannot stand in its own particularity, but from the particular that just might shape the general.

Frontier Terrain

Riton and I are in the cabin of a dredger on Mongla River. The dredger is operated by the Bangladesh Inland Waterway Transportation Authority (BIWTA)—an organization with the daunting task of keeping Mongla River, along with Bangladesh's thousands of kilometers of inland rivers and canals, open and flowing. In a region where travel by road is circuitous at best, these channels form a vital system that allows for the movement of people and, especially, goods. Waterways are key to the working of this frontier. To that end, this dredger is constantly on the move.

The dredger resembles nothing so much as a massive, metallic water bug, painted in the green and red hues of the Bangladesh flag. It is a barge-like vessel with a long and thick trunk—the cutter pipe—extending from its fore. At the tip of this pipe is a bladed cone called the cutterhead. When lowered onto the riverbed, the cone spins at high speeds, breaking up the sludgy silt deposited on the river's bottom. As the cutter does its work, dredge spoils—a mix of river water, silt, and anything else that has grown or settled on the riverbed—are sucked up into the pipe. The spoils are, in turn, pumped through the dredger and spit out a long discharge hose. This snakes across the river, supported by large orange buoys, and up the steep embankment that marks the river's edge. The muddy silt completes its journey from the riverbed as it is sprayed into viscous discharge pools that line the river's banks.

The dredger prowls the channel, engaged in a Sisyphean project of holding back the silt. But today, work has ground to a halt. Something is lodged in one of the pulleys that allow the dredge operator to raise and lower the cutter pipe into the river depths. A repair barge has pulled alongside, and a group of men are trying to un-foul the cutter pipe's cable. We watch from the cabin, looking over the shoulder of the dredge operator, as they disconnect the pulley. This allows the



FIGURE 10. Dredger, Mongla River.

operator to raise the wire and see what is caught in it. As the cable comes up, something is pulled from the depths: a lumpy object the size of a large goat. The workers look at it quizzically, prodding it with a metal rod, trying to identify what it is.

Receiving a hand signal from the workers, the dredge operator uses his joystick-like controls to dunk the object into the water. With each dunk, mud sluices off. After a few minutes, the object begins to change form, to dematerialize. Far from being solid, it reveals itself to be an old fishing net, its days of catching fish long over. Rather than marine life, enough silt has been captured by the net for it to snag in and slow the dredge's plodding progress. Net exposed, the workers shake their heads and laugh. Then they cut it away, untangle its remains, and reconnect the cable. The dredge operator lowers the pipe back into the water and engages the cutterhead. He is back in business.

The net poses only a minor problem for the dredger. But it is emblematic of a broader challenge that has historically dogged projects of managing and controlling delta space. Production, transportation, and statecraft hinge on land and water being predictably in place. Yet in the delta, matter stubbornly refuses to remain fixed in space and time. It even refuses to remain in a single material state. Dimensional transformation is a fact of life. Things are constantly in flux, en route from wet to dry, from solid to liquid, from sweet water to saltwater. And back

again. In a world where much of policy, management, and imagination classify things as either/or, the delta stubbornly refuses to comply. It remains recalcitrantly mutable, inexorably damp.

The story that I tell in this chapter is of this productive tension—the articulation between damp terrain and the delta’s frontier dynamics. The delta’s history and present can be narrated as a series of attempts to capture land and property back from transient dampness—to fix material in time and space. These material fixes try to make the delta into a zone of absolute distinction between wet and dry. Yet such projects are always in a state of flux, failure, and reinvention. The delta is constantly foiling projects that seek to make land, property, and capital by fixing terrain—keeping the wet wet and the dry dry.¹ But damp matter also forms the basis of new projects that emerge from the muck of the old—that conjure new ways to link the delta to capital flows and forge new capitalist relations within it.² Life, commerce, and politics do not happen *on* delta terrain but rather *through* it. The delta’s transient materiality thus provides the mutable grounds for the constant reinvention of the delta as a frontier.

To call the delta a “climate frontier” is not to identify climate change as the singular causal element in shaping relations of extraction, opportunity, and exploitation in delta terrain. Rather, it is to say that much of what happens in delta space unfolds against a projected future of environmental change—of potentially catastrophic shifts in delta life that demand interventions in the present. Such imaginations are one way of assembling the delta as frontier space—as a zone that is open to a rapidly proliferating set of projects ordering life and political economy anew. If the previous chapter outlines the imaginative terrain against which this unfolds, this chapter charts the material. Frontiers are often described as things with life cycles: they emerge as opportunities in moments of time but are eventually settled, capitalized, and closed. Not so the delta, which is recursively reimagined and remade as frontier space.³ While the dynamics of frontierization (what is open for exploitation and how) may change over time, the delta appears to be good frontier material. One of the reasons why is its materiality, the damp transience of delta space. To understand the ways that imaginations of delta space mix with water and silt to form a potent, if mutable, frontier admixture, we must begin by exploring the delta’s fundamental material interface. That is to say, we must begin by stepping into the ooze.

DELTA SILTSCAPES

As the previous chapter argues, global imaginations of the Bengal Delta are framed through the lens of catastrophic inundation. Yet to think of climate change in the delta *only* as a storm is to miss the fact that vulnerabilities (human and environmental) more often emerge out of the viscous encounter between attempts to make the delta into a productive space and slow intrusive processes that unfold

over time (though which often lead up to sudden and devastating effects). These transformations happen at much less perceptible temporalities and volumes than imaginations of catastrophic inundation would suggest. If sudden inundation is the public face of crisis, seeping intrusion is its hidden accomplice. Changes might, and sometimes do, come in a flood. But more often they ooze into and through, eroding infrastructures and imperiling production, governance, and life. The insidious movement of matter—the non-fixity of delta terrain—is often the condition of possibility for the catastrophic event.⁴

Understanding this relationship—rebalancing our attention from inundation to seepage—requires a shift in perspective: it demands that we abandon the propensity to think of things like “landscape.” The delta is not composed of “land” in the stable, fixed sense of the term. It is composed of silt—something much more protean in character, a matter prone to phase shifts, movements, and transformations at both gradual and (occasionally) rapid rates.⁵ Silt might one moment be particulate suspended in water, en route to a riverbed or to the ocean. The next it might be a semi-solid that collects in a fishing net to foul the lines of a dredger trying to maintain circulation in and through delta canals. The next it might be part of an island’s muddy embankment, helping to keep outside water at bay and to facilitating property relations and accumulation within. The delta, the islands within it, the waterways that course through it, and the mangroves that grow at its mouth are all composed, and occasionally decomposed, by this transient material. To think of the delta as a “landscape” is misleading. It is more aptly described as a “siltcape.”⁶

The delta siltcape demands a certain flexibility in imagining not only space but also time.⁷ Matter within the siltcape builds up and accumulates and erodes and dematerializes. Yet it does so at uncertain and nonlinear paces. Things gather to unpredictable thresholds and then give way. Insidious buildups become sudden transformations as discarded fishing nets capture enough silt to foul dredger lines and undercut embankments suddenly collapse into the water. Multiple temporalities—relationships between matter and time—characterize the delta siltcape as much as phase shifts in the terrain.⁸ Like silt itself, they trouble conventional narratives of development, growth, and progress.

Exploring this siltcape requires taking material and temporal composition seriously—as part of a hydrological, geological, and atmospheric system that circulates matter through delta space. The delta is nested within a broader system that Sunil Amrith and Daniel Smyer Yü term the “Monsoonal Clime”—a region composed of environments that are linked together by a monsoon-driven water cycle.⁹ Here, moisture from the Bay of Bengal is carried as water vapor to the mountains by the monsoonal winds, where it is deposited in the form of rain, snow, and ice. Snow and glaciers subsequently melt (at increasing rates as the earth warms), and their water flows back from peak to bay.¹⁰ The water does not return empty-handed. Water and wind wear away rocks and topsoil in the mountains, turning them into particulate suspended in watery flow. This particulate is washed

downstream in monsoonal floodwaters and the many rivers and streams running out of the Himalayan massif. As these sediments are swept along, they abrade, swirling in eddies and rapids, bouncing along riverbeds, lodging and dislodging in banks. Constant agitation grinds the particulate matter into fine sedimentary powder called “silt”—*patla* in Bengali.¹¹ Rivers in the delta carry the highest proportion of silt of any rivers system in the world.¹²

The delta is the outcome of this continuous transfer of sediment from the Himalayas to the Bay of Bengal—the millennia-long rendering of alpine vertical as delta horizontal. Bangladesh, as Willem van Schendel notes, “is the Himalayas flattened out.”¹³ As mountain flows reach the plains, they slow and become more dispersed. They begin to alluviate—to deposit silt across the delta. The regular and persistent flooding of alluvial islands (provided they are unbanked) leaves a new layer of fertile silt on agricultural fields. Silt is also deposited in delta waterways that, without and sometimes because of human intervention, occasionally transform into mud flats. Downstream flow carries silt out into the sea, where it deposits on the seabed to make the Bay of Bengal, a bay whose shallow depth facilitates the solar warming of seawater and its transformation into the water vapor that subsequently fuels the monsoon. The scale of passage of silt is enormous—as much as two billion tons of sediment annually flow into the bay.¹⁴ The flow is clearly visible in satellite images of the Sundarbans that capture the turbid silt/water mixing with seawater to form a putty-colored outline of the coast as it flows out of rivers and into the ocean (see figure 2 in the introduction).

Silt, at different moments, can be liquid or solid. But it is more often somewhere in-between: a damp, oozing, and omnipresent mud. As mud, it coats the feet, legs, and arms of peasants and fishermen as they work the delta’s fields, rivers, canals, and embankments. It paints them and their clothes in a putty-gray hew. It forms a layer on buildings, steps, and concrete structures, seeping into the smallest nooks and crannies, smoothing out porous concrete surfaces, causing buildings to blend into their surroundings. In its damp muddy state—*kadda*—silt is a primary building material for homes, embankments, and roads in the delta zone. It is used to shape the raised mounds that serve as property boundaries around fields and plots of land. It holds water in canals and ponds. Buildings, infrastructure, land—silt in its various forms is a material basis of delta life.

Silt is a fundamentally uncertain matter. While exposure to the delta sun transforms mud into a solid-seeming material (walls, embankments, ground), silt can quickly dematerialize, shifting phase to mud and liquid with exposure to water. The seeping processes that turn liquid into land can turn it back again. This happens in many ways. But perhaps most dramatically, it occurs in riverbank erosion. Like siltation, riverbank erosion is the outcome of a combination of factors. Human-made embankments are slowly eroded by the subterranean hydraulic action of water flowing downstream. Through this action, water intrudes into and undermines embankments until they give way and collapse into the water. People living

in the delta regularly recount stories of waking in the middle of the night to find their homes being swept into the river beneath them.

Such erosion is nothing new and has long been part of life along Bangladesh's many rivers.¹⁵ But a range of environmental factors have accelerated erosion in recent decades. Amongst these, decreased downstream flows have allowed silt to accumulate in the deepest parts of river channels—often the middle—a process that pushes currents toward river edges, where they can increase rates of erosion. Erosion is also an outcome of the intensification of rain and flooding—both effects of changing monsoonal patterns in a warming world. Between 1973 and 2017, erosion engulfed 160,000 acres on the banks of Bangladesh's three primary rivers—the Padma, the Meghna, and the Jamuna.¹⁶ Projections of climate change suggest that greater monsoonal flooding—something likely to be a feature of life as warmer air over the Bay of Bengal carries more moisture inland—may cause increased rates of erosion and subsequent environmental displacement.

The seeping processes that turn land into liquid can also turn it back. Land accretion is a central hydrodynamic feature of the delta.¹⁷ Silt washed away from the riverbanks can reemerge downstream as siltation islands, or chars.¹⁸ These new islands are often temporary and unstable but quickly accrue populations seeking to transform silty accretions into productive agricultural land and property.¹⁹ The disappearance and reemergence of these islands can pose both opportunities and conundrums for political rule in the delta.²⁰ For example, the hastily drawn Radcliffe Line, which divided West Bengal and East Pakistan (now the border between India and Bangladesh) at Partition in 1947, used deltaic rivers as lines of demarcation for almost a fourth of the new border.²¹ Chars—spits of land emerging in the midst of these rivers—have been flashpoints in border disputes, as it is unclear to which state the new land belongs.²²

Such shifts highlight a paradox of the delta borderland that is emblematic of the delta at large: despite efforts to fix territory through demarcating and policing, the land itself refuses to stay put, seeping back and forth across the boundary.²³ These small-scale movements of land mirror processes unfolding at broader scales and temporalities. The Sundarbans itself is seeping out of India and into Bangladesh as plate-tectonic tilt causes a gradual eastward flow of the mangroves, as well as the flora and fauna within them.²⁴ The fugitive siltscape of the India-Bangladesh borderlands refuses to be fixed in place.²⁵

If an examination of silt troubles a fixed understanding of land, it also troubles a fixed notion of waterways and rivers. Dilip Da Cunha, rethinking waterways in South Asia, notes that rivers themselves are best understood as “inventions”—elements of design rather than elements of nature.²⁶ Such inventions are implicated in projects of rule and accumulation. Rivers in the delta are not primordial things but cartographic creations conceived on colonial maps in advance of their production in place.²⁷ Their fixing allowed for the expansion of colonial property relations through programs such as the 1793 Permanent Settlement which enshrined the

zamindari system (a landlord/tenant relationship) in law and established a land revenue system in Bengal.²⁸ Yet rivers in the delta fail to remain fixed in place.²⁹ Seasonal shifts, changes in monsoon rainfall, upstream development, erosion control measures, and more mean that rivers in the delta can and do shift location from year to year.

The delta's "rivers," like its "lands," have recent and contingent histories that are bound to empire, territory, and capital. Embankments, canals, dredging operations, barrages, borders, and fences are all technologies designed to make unruly water, land, and people remain in place—in the predictable locations where they are found on the map.³⁰ The delta siltscape defies such management. Matter—geological, biological, and hydrological—is constantly on the move, defying easy categorization and fouling technologies that seek to anchor them in place. Yet accumulation and rule in the delta itself cannot be reduced to a simple opposition between human technologies and the delta siltscape. The story of the delta's recursive frontiers is also a tale of the ways that opportunity and exploitation emerge as much from the breakdown of projects anchoring wet and dry as the projects themselves. To provide an example of this dynamic, it is useful to explore the recent history of the delta's siltscape—the postcolonial entanglement of embankments, rice, and shrimp.

GHER FRONTIER

The delta siltscape is a palimpsest of frontier projects.³¹ New projects seep out of the damp remains of the old. This is nowhere more apparent than in the turbulent history of the delta's embankments. For much of recorded history in the delta, people have been embanking islands to at least temporarily protect homes and fields—allowing for things like the planting of rice paddies and fields, harvests, and the growth of human communities of varying size.³² Prior to the colonial period, embankments were often raised to protect land during the dry season and then opened during parts of the year to allow for the flooding of rice fields and the deposition of alluvial soil on agrarian land. That is to say, delta residents saw land not as something that was permanently dry but rather something that itself changed phase from season to season as part of the rhythm of agrarian delta life.³³ Embanking projects in the colonial era, in contrast, increasingly sought to partition water and land more formally and permanently.³⁴ Embankments became essential tools of frontierization in the delta, enabling the implementation of revenue-generating property regimes, the integration of agrarian rice economies into circuits of commodities and capital, and the enclosure and clearing of swampy mangrove spaces—the transformation of unproductive "wastelands" into productive agrarian zones.³⁵

The postcolonial history of embankments follows a similar pattern—integrating the delta siltscape into broader networks of accumulation and

extraction. But if colonial embankments sought to provide a material fix, the post-colonial history of embankments is somewhat muddier. Rising out of the delta siltscape, postcolonial frontiers in the delta weave together the geopolitics of the Green Revolution, the political economy of structural adjustment, and the rise of new export markets in brackish water aquaculture.³⁶

In the 1960s, the Pakistan government—aided by World Bank funding and Dutch engineering—launched the Coastal Embankment Project (CEP), a massive infrastructural endeavor meant to create high, durable, and stormproof embankments around many of the islands in the delta.³⁷ This project set about building concrete-reinforced embankments known as *polders*—the Dutch word for embankment—in 108 islands throughout the delta.³⁸ The CEP was meant to provide a permanent material fix in the delta. In doing so, it would facilitate migration and settlement into delta space by allowing for the profitable adoption of Green Revolution high-yielding varieties (HYVs) of rice. In other words, it would make the delta into a breadbasket for Pakistan at large.³⁹

Durable embankments were particularly important in the adoption of HYVs. HYVs were engineered so that each plant would grow more kernels of grain (rice, wheat, maize) on each stalk. The challenge of HYVs was that the additional weight of these grains would often cause the plants to collapse. The plants would thus die before harvest. The solution was to engineer varieties with shorter, thicker stocks—less likely to collapse under the additional weight. These shorter varieties may have been good for bearing weight; however, their short height and the need for intensive inputs, especially fertilizer, to facilitate their growth made them problematic in regions subject to periodic saltwater inundation, such as the islands in the Bengal Delta. CEP embankments addressed that issue by notionally making these spaces permanent freshwater land where HYV cultivation could happen year-round. In doing so, it helped to produce the delta as a postcolonial rice frontier in the 1960s and 1970s.

If CEP embankments ushered in land transformations of the Green Revolution, they soon became central to implementing a new revolution, this one blue. The CEP assemblage of rice and embankments began to undergo a shift in the late 1980s and 1990s. During this period, in response to the cascading debt crises of the 1970s and 1980s, the International Monetary Fund began to implement a suit of policy initiatives collectively known as “structural adjustment programs.” The goal of structural adjustment was to liberalize the economies of developing countries, opening them up to export-driven growth. In Bangladesh, two sectors targeted for liberalization were ready-made garments and seafood, specifically shrimp. Bangladesh, and particularly its delta region, were to play a role in and capitalize on the exploding global seafood market, a sector fueled by both advances in aquaculture techniques and in refrigeration.

Tiger prawns—*bagdachingri*—are indigenous to the delta region. But the mangrove ecology of the delta siltscape proved ideal for industrializing their growth

by adopting new Blue Revolution technologies to grow them in brackish water ponds—ghers, a word which can tellingly be translated as “enclosure.” Gher owners would stock these ponds with prawn fry—baby prawns—caught either in mangrove waterways during the spawning season or, latterly, imported from elsewhere. In the protected gher, the fry would grow to a profitable size before being harvested and sold in local markets.

The rise of the Blue Revolution heralded a sea change in land and land use throughout the delta.⁴⁰ Landholders began to move away from pure agricultural production (rice) and to adopt brackish water aquaculture for export to Europe, North America, and East Asia.⁴¹ Throughout Bangladesh’s coastal zone, often-absentee landlords began to flood fields with brackish water pumped in from rivers. This rapid transformation of land use was accompanied by government regulations that reconfigured land access laws to help encourage the adoption of the highly profitable shrimp—“white gold,” as it came to be known.⁴² The rise of shrimp aquaculture was accompanied by land grabbing and land consolidation throughout the delta. It also resulted in local and national movements, often led by landless groups, to oppose the expansion of shrimp, an industry that not only threatened agrarian employment but also agrarian ecologies.⁴³ Despite such protest, shrimp expanded to occupy 171,500 hectares of land in the delta over a twenty-year period.⁴⁴ Today, much of the delta’s agricultural land is covered in shrimp gher. These stretch toward horizons, covering land often right up to the very thresholds of courtyards and entrances to homes. The advent of shrimp turned the interiors of islands in the delta back into wet spaces, further undoing the material fix of colonial and CEP embankments, if not the logics of property and accumulation that drove their construction.

Shrimp transformed the delta siltcape in other ways as well. Saline intrusion into aquifers and the seepage of brackish water into surrounding fields and lands have made it difficult to pursue agriculture in many of the more heavily ghered regions of the delta. In spaces that previously were agriculturally abundant, little remains of fruit trees and gardens. Saline seepage has sped the consolidation of land around shrimp. As agriculture becomes less viable in the delta, many smallholders either have shifted toward shrimp or simply sold their land to larger holders already engaged in the shrimp business. As Kasia Paprocki and I have documented, shrimp aquaculture in the delta entailed huge social costs.⁴⁵ It transformed agrarian diets and eliminated access to spaces previously used for grazing, playing, and other social activities. Much *khas* land—government-owned land on which landless families have constitutionally protected usufruct rights—has been enclosed by shrimp producers. The loss of access to *khas* land closed off key spaces where landless families grew crops, foraged for plants to supplement their diets, and grazed livestock.

But, perhaps most significantly, shrimp transformed the delta’s agrarian labor market. Shrimp requires little labor compared to rice. Its spread has, thus, led to a



FIGURE 11. Shrimp *ghers*, Polder 23.

contraction of off-farm labor opportunities—a contraction with particularly significant implications for landless families who rely on such work. Much of the labor required for maintaining ghers is often done by women who clean the ponds before fresh batches of shrimp fry are seeded within them. This low-wage labor often leads to health complications related to standing for hours in the brackish water amid the many chemicals that are added to help shrimp grow. Beyond this, few opportunities are available for landless families in agrarian space. Shrimp has thus heralded migration—on both permanent and circular bases. Families have moved en masse to urban areas in Bangladesh. Others migrate across the India-Bangladesh border, searching for work in the construction industry in Kolkata.⁴⁶ Some take work in brick factories.⁴⁷ Still others have taken to fishing in the Sundarbans and the bay at the precise moment that climate change-related conservation programs are attempting to reduce fishing in the delta (something we will return to in subsequent chapters).

Shrimp, crucially, has also had impacts on embankments themselves. Shrimp gher owners, rather than pumping water from outside over embankments, find it more expedient and cost-effective to let the water in. In many islands, the transition to shrimp was facilitated by landholders gaining control over sluice gates that they could use to open island interiors to outside rivers. In others, shrimp farmers simply drilled through embankments. This constant drilling sped seepage,

weakening embankments and increasing the likelihood of their collapse in the face of storms.

The interaction between shrimp and embankments is illustrative of a range of relationships. It is a Schumpeterian tale of creative destruction in service of accumulation—the collision between a delta siltscape and new imperatives of capital.⁴⁸ Yet it is also illustrative of recursive frontier-making in the delta. The CEP facilitated the rise of a new rice frontier by embanking islands to keep them dry. This produced new capitalist relations in the delta, signaling a shift toward integrating the delta into broader national networks of rice production and distribution. The imperatives of shrimp aquaculture transformed this relationship, making dry land into damp and muddy ponds to access emerging export markets in frozen seafood. In doing so, shrimp again reconfigured social and capitalist relations in delta space. It did this by undermining existing agrarian labor markets and transforming not only what was grown in agrarian space but what *could* be grown there. Shrimp—and the projects of frontier-making that it represents—are thus fundamentally embedded in an emergent delta siltscape, where the dimensional and material transformations of aquaculture production shape and are imperiled by the broader delta siltscape itself. To better understand this dynamic—and to see the entanglements of projects of accumulation and circulation—it is useful to look outside the delta embankments, to look at the dynamics of siltation in delta waterways.

SILTED CHANNELS

How does the siltscape trouble imaginations of a more orderly partitioned zone? One of the many possible answers to this question can be found in the struggle to keep things circulating through the ooze—to overcome the tendency for silt to transform liquid rivers into damp ground.

Siltation has long been a central challenge for those seeking to tame and manage the delta.⁴⁹ The challenges of siltation are only increasing in scope and urgency. Today, minor canals and major shipping channels alike struggle to cope with alluvial deposits that threaten to transform fluid channels into impassable muddy sludge. An important cause of this siltation is the construction of upstream dams and barrages in India on major rivers that subsequently flow into Bangladesh. Most notable of these is the Farakka Barrage, built in Murshidabad in West Bengal on the Ganges. The Farakka Barrage diverts water that would otherwise have flown into Bangladesh to the Hooghly River, which courses downstream through Kolkata and enters the Bay of Bengal squarely on the Indian side of the border. It has long been a flashpoint of tension between the two states and an icon of the difficulty of ironing out cross-border water management strategies.⁵⁰ In these debates, India has historically had the upper hand, not just because of its comparative size and power but because all of Bangladesh's major rivers flow through India before entering the country. Geopolitically and geographically, Bangladesh

is distinctly downstream—constantly forced to negotiate access to waters that are vital but beyond sovereign control.

The decreased downstream flow of water has two pressing implications for life in the delta. First, decreased flow in tidal waterways means saltwater from the Bay of Bengal flows farther upstream on flood tides. The Sundarbans region has long been an area where the dynamics of downstream and upstream flow have created a brackish ecology. Saltwater, *labonpani*, from the bay mixes with fresh water, *mishtipani*, as it flows downstream. The balance of salinity fluctuates over the course of the year. The water is mostly fresh in the monsoon period, when rain and meltwater flow down into the delta, and salty in the dry season. But now, the saltwater period seems to be growing in length. Many older residents of the Sundarbans observe that when they were younger saltwater would remain in the river for three months of the year, and for the rest of the time the water would be fresh. Today, they report, that ratio has reversed. Increasingly, this saltwater penetrates islands of the delta, seeping into freshwater aquifers and creating a severe shortage of *mishtipani* for drinking and agricultural production. Second, decreased downstream flows lead to growing volumes of sediment in waterways. Instead of flowing out into the Bay of Bengal, this accumulates in the delta itself, depositing in the waterways that carry them. This deposition on river and canal beds slowly strangles passageways as the silt sinks to the bottom of rivers that no longer move fast enough to carry particulate to the ocean. These deposits produce a positive feedback loop—the more silt deposits, the less water flows, turning waterways into solids at ever-increasing rates.

Upstream damming is only one cause of siltation. Another is embankments themselves. Embankments protect residents of islands in the delta from water. But they also prevent the deposition of silt on large parts of the delta floodplain, containing it, instead, within the waterway. This leads to dimensionally transformative effects. As canals and rivers receive ever more deposition, they become shallower, making it harder to navigate them in barges, boats, and other water-going vessels. Conversely, inside of islands, land appears to be sinking. This is in part due to subsidence as freshwater aquifers are depleted by agricultural production. But it is also due to embankments preventing islands from receiving new alluvial deposits. This leads to problems such as water logging—a condition where water is trapped in island interiors. Once there, it can be extremely difficult to get out again. Much of the displacement following Cyclone Aila in 2009, for example, was caused not during the storm itself but by water logging that, over time, prevented residents from returning to agrarian production.

Outside of the embankments, the accumulation of silt in waterways poses other challenges—the transformation of fluid passages into damp and muddy zones impassible by boat. This threatens not only transportation in the delta but also its fragile ecologies. In 2014, for example, the oil tanker *Southern Star VII* sank in the Shella River in the midst of the Sundarbans, spilling 350,000 liters

of toxic furnace oil into the ecologically sensitive mangroves. For weeks, delta residents drafted into cleanup crews worked to scrub the sticky, toxic goo from the mangroves and its animal inhabitants. The tanker had been traveling out of shipping channels in a protected forest zone when it foundered and sank. The reason for this was that Ghashiakhali, one of the main shipping channels connecting Mongal and Bagerhat, had become so clogged with silt that no water flowed through. The canal bed was little more than a muddy plain that residents could walk directly across. Blockage of safer passage had forced ships like the *Southern Star VII* to seek alternative, more perilous routes to keep goods flowing in the delta. The slow accretion of gooey silt blocking channels and waterways thus led to the spilling of gooey petroleum into the Sundarbans itself. Similar accidents, if less environmentally catastrophic, are not uncommon. Indeed, the foundering of vessels transporting everything from finished goods to coal and petroleum products has become a somewhat regular feature of life in the delta as waterways become harder to navigate.⁵¹

The silting of the canal that caused the *Southern Star VII* to detour was due to more than just geopolitics, climate change, or diminished downstream flow. More proximately, it was linked to political ecologies of shrimp. In the years leading up to the accident, eighty-three feeder canals that flowed into Ghashiakhali had been dammed by shrimp farmers, eager to use the valuable water to fill their ghers. This had dramatically reduced flow into Ghashiakhali by cutting off a range of tributaries to the channel, speeding the silting process.

VITALIST WATERWAYS

In 2015, the government of Bangladesh began work to reopen Ghashiakhali, a project we visited in 2016, as the guest of an engineer working for BIWTA named Titumir. We met Titumir on a winter afternoon in his office in Rampal, not far north of Mongla Port and adjacent to where Ghashiakhali branches off the Pasur River on its way to Bagerhat City. Over a late afternoon lunch, we spoke about the dredging of the canal. Titumir was a garrulous, neatly dressed man still in the early stages of his career. As we spoke, he shared a blizzard of figures and statistics about the process of dredging, before and after photos of the canal, and his thoughts on the practicalities of running a massive dredging operation to resurrect what he described as a “dead” waterway. As Titumir explained, the planning and funding appropriations for the dredging process had preceded the *Southern Star VII* disaster. But the oil spill had lent urgency to the process, ensuring the funds would not be reappropriated to other pressing concerns. Using a range of dredging machines—some part of BIWTA’s aging workhorse fleet, some newly leased from a Chinese company that had recently entered the dredging business in Bangladesh—BIWTA shifted thousands of tons of silt, largely onto the banks of the Ghashiakhali. The canal was dredged to a depth of fifteen feet, though Titumir

told us that there were hopes to increase the depth to allow for bigger vessels to pass through. By almost any measure, the dredging project at Ghashiakhali was a success. In a matter of months, the canal had gone from impassable muddy land to a working waterway. Since the canal had tentatively reopened in February of 2015, less than a year before our visit, more than fifty thousand vessels had safely navigated it.

After lunch, Titumir took us on a field trip to see the work in action. A short rickshaw ride from his office brought us to the BIWTA repair launch on the canal—the staging ground for much of the dredging work. From the launch, we hitched a ride on a supply boat headed upstream to visit one of the working dredgers. As we rode up the canal, Titumir pointed out evidence of dredging all along the banks, shouting in my ear to be heard over the noise of the launch's motor. The canal's embankments rose steeply up from the water. They ranged from approximately three to six meters in height. They had all been reinforced with new silt and looked muddy and fresh. A few small landless shelters had sprung up on the embankments since the initial stages of canal repair, perching precariously on the fresh muddy banks. Beyond the embankments lay a series of discharge pools—large ponds containing the sludgy spoils dredged from the bottom of the canal. These pools sat, often, on top of private land.

This was my first visit to a dredge site. But such scenes are common along many of the delta's waterways. Constant siltation requires constant dredging.⁵² Dredgers fan out from the region's main port, Mongla, and crawl up and down the channels and canals, pumping millions of gallons of silt from the waterways. The dredger was anchored on a river bend, perhaps five kilometers from the launch. From a distance, we could see the arc of the dredge spoils shot high into the air as they were pumped over the embankment. The dredger itself was a comparatively small machine, connected to the shore by a long discharge pipe, supported by floating buoys. We were warmly greeted when we arrived and tethered our boat to the side. As Titumir gave us a tour of the operation, I struggled to stay out of the way of the crew, who were busily completing the day's labor. They had little time to stop and chat. After a brief stay, we climbed back into the boat, headed to the shore, and scrambled up the embankment to see the discharge pool. It resembled nothing so much as a pit of petroleum, vast and viscous, shimmering in the evening light. One of many similar pools along Ghashiakhali's banks, it stretched out from the embankment, covering an area equivalent to several large agricultural fields. Curious, I stuck my finger into the muddy pool. The spoils were viscous, coating my finger in putty-colored mud. Rubbing my fingers together, I could feel the fine particulate silt, a velvety ooze in transition from liquid back to solid.

On our return journey, we watched a stream of heavily laden barges move along the canal, transporting goods, sand, and other materials between Mongla and Bagerhat. Despite the steady stream of traffic, Titumir explained, the work was far from over. Keeping Ghashiakhali running required vigilant and ongoing



FIGURE 12. Dredge discharge pool, Ghashiakhal.

maintenance. This was in part because BIWTA had limited authority to manage the causes of siltation, proximate or remote. They were only tasked with managing its effects. Despite the urgency lent to the project by the *Southern Star VII* disaster, for example, the feeder canals dammed by shrimpers were still blocked. There was little BIWTA could do about this, highlighting a tension of capital and accumulation on this climate frontier. As important as waterway transportation is, the export market in shrimp—the second-largest source of foreign direct investment in Bangladesh after garments—remains critical to national economic growth. The shrimp industry thus remains largely unregulated and unmonitored. Moreover, shrimp producers, typically comparatively wealthy landholders in their communities, often are closely associated with local government officials and elected members of local governing bodies, Union Parishads. They are, thus, often able to do what they like with their gher, whether formally in violation of laws or not. This posed a potentially existential threat to Ghashiakhal. As Titumir explained to me in vitalist terms: “To keep a river alive, you have to always keep the flow in the canal correct. Water must run through it smoothly and quickly. If the flow of the river isn’t working properly, siltation will increase, and problems will begin to happen everywhere.” In the delta frontier, competing imperatives of accumulation produce their own forms of viscous friction, occasionally swamping each other in oozing matter.

We finished our journey with Titumir as the winter sun set. He graciously dropped us on the other side of the canal, not far from where we had left Riton's motorcycle. We walked from the bank through a small village. Dredging was everywhere in evidence. Fine silt, blown into the village by wind and spray during the dredging process, covered walls, streets, gardens, and even the interiors of mosques and schools. Heading east from the village, we could see the remains of filled discharge pools. As water evaporates from these pools, the spoils slowly turn into muddy plains, which in turn dry into a cracked, hardened surface. This leads many who live near the canal to note that dredging had turned the region into a desert.⁵³ Such observations complicate Titumir's vitalist metaphors of canal life and death. To keep waterways alive (flowing) requires the spray of a muddy goo onto otherwise productive land—transforming the dry, at least temporarily, into the damp, with grave implications for the things living and growing there.

On our way out of town, we stopped for a tea and fell into conversation with a man who was a shrimp farmer in the region. Several of his ghers had been positioned along the banks of Ghashiakhali. We asked him about the dredging process, and he angrily told us that the spoil had been deposited on top of his shrimp ghers. "There is no removing that mud," he told us. "Who will do it? The government has done this to us, but they are now not doing anything to fix the situation." I asked him if, given the layers of fresh silt now deposited on his land, transitioning from shrimp back to rice or vegetables was possible. With a look of disgust, he told me that there was far too much salt in the soil to consider that. "My land is totally ruined." Whether, with time, dredge spoils can be transitioned to other uses is an open question.⁵⁴ But what should be done with the excess matter is a challenge for those who live near riverbanks. Dredging dramatizes another classic frontier challenge: how to live with the literal spoils of accumulation.

The fact that the man we were chatting to was, himself, a shrimp farmer—a practitioner of the very profession that had caused, at least in part, the silting of Ghashiakhali to begin with—was ironic, but not, in and of itself, surprising. Neither is the appropriation of property through the act of dumping spoils on private land, particularly in a country where the imperatives of infrastructural development often trump property rights. But the articulation between shrimp and transportation was revealing of the dynamics of this damp frontier. The siltscape draws different kinds of accumulation, opportunity, and terrain into viscous relations with each other. On the delta frontier, discrete seeming projects such as transportation infrastructure and export-oriented aquaculture prove no more discrete than water and land themselves.

EMBANKED POLITICS

Embankments, like the waterways that flow past them, are "vital systems" of the delta siltscape—infrastructures critical for life that are fundamentally vulnerable to



FIGURE 13. Gabura's embankment road, 2020.

human and more-than-human threats.⁵⁵ These earthen mounds surround islands, protecting residents from high tides, cyclones, and other watery intrusions. More than just bulwarks against inundation, embankments are also the surface upon which main roads are built. They make islands navigable for motorbikes, rickshaws, and other modes of wheeled transport. Embankments are subject to the inexorable forces of erosion and, occasionally, to more overt and human forms of degradation, such as shrimp producers drilling through them to access water outside. They are in a state of perpetual decay. The embankment roads in Gabura, for example, are constantly crumbling into the surrounding river. The roads built on top of them are often so worn that they necessitate complex maneuvers simply for two motorbikes to pass each other. Wider vehicles, such as rickshaw vans, often must back up for dozens of meters when they meet each other on the road. This situation is worsened during the monsoons, when embankment roads quickly become impassable fields of mud.

Embankments are at risk of being washed away in the event of storms, not only opening islands to storm surges but also displacing those on and around them. In Gabura, for example, large portions of the island's embankment were washed away during Cyclone Aila in 2009. Residents with homes near the breached embankments have vivid memories of losing crops and livestock as the waters rose, often while they scrambled to rescue family members and whatever goods they could

save from their homes. It took several years for these embankments to be rebuilt. In the interim, those living near damaged embankments had their land repeatedly flooded with saltwater, particularly during lunar high tides. Despite repair projects, Gabura's embankments, like many embankments in the delta, are constantly at risk of collapse. The ability of the embankments to hold in the event of storms is a question of contingency. As several residents of Gabura pointed out to us in 2020, they had been spared harm during the 2019 cyclone season only by virtue of storm surges hitting the island at low tide.

Embankments thus illustrate the ways that vulnerabilities in the delta emerge not on but through the delta siltscape—a space fundamentally shaped by histories of frontier-making projects. The permeability of these structures makes them focal points for local politics. In Gabura, there are constant calls to rebuild failing embankments. The organization in charge of this construction—the Bangladesh Water and Power Development Authority (WAPDA)—is a subject of rumor, frustration, and speculation. The organization is so synonymous with embankment policy that many refer to government-built embankments not by their Bengali name—*baad*—but simply as “Wapda.” They make no distinction between the agency and the infrastructure it is tasked with maintaining. Questions of grave import for residents include when construction will begin, whether there will be adequate funds allocated to reinforce embankments with concrete blocks that can slow (though not stop) erosion, and what parts of the island's embankments will be rebuilt first (and consequently, what regions will gain immediate benefit from reconstruction). Local elections often hinge on claims by candidates to be able to deliver on government promises about embankment reconstruction.

Embankments have become markers of a feeling that residents of Gabura have been abandoned by the central government—reduced from citizens to mere victims of environmental devastation. Such feelings have been particularly marked since the devastation of Cyclone Aila in 2009. Aila was a moment when the island became not only a disaster zone but also a place that many NGOs began to treat as a laboratory for producing climate security. It was, thus, a moment that marked the acceleration and densification of programs designed to produce adaptive and resilient individuals like those described in the previous chapter. Such programs, as residents of Gabura were typically quick to point out, did not offer durable solutions to reduce vulnerability within the island at large. Instead, they typically identified a small number of individuals and families that qualified as “needy” and helped them through cash loans and climate adaptive technologies like the climate-smart house occupied by Nazma and Akkas. But, as many who live on the island note, weakened embankments are a source of collective, not individual, vulnerability. And NGO interventions, even climate-smart houses, can do little to keep people in place if their land is permanently or semi-permanently flooded. As our friend Musa, whose small field had once been used as a test plot

for climate-smart vegetables by a local NGO, put it, “These bloody NGOs give this or that. But how will this help if the Wapda fails and our land is under water?”

The growing frustration with the lack of infrastructural investments by the government poses problems not just for residents but also for local politicians who residents often—and often rightly—see as the arbiters of who benefits from NGO aid. Local politicians have a significant say in who receives benefits. But they are also acutely aware of the political difference between interventions that benefit the few versus those that benefit the many. As a member of Gabura’s Union Parishad told us in 2020, “I pray to God, ‘Keep the NGOs away from here.’ They produce nothing but bother. I want the embankment from WAPDA.” As he continued, “Sometimes people give aid, but aid is not a solution. In Gabura, now, people are repeating a single sentence: ‘We don’t want aid, we want embankments!’ [*Tran chai na, baad chai!*].”⁵⁶ This call of “*tran chai na, baad chai*” has become the signature phrase of a movement in Gabura calling for embankment reconstruction. It appears as slogans on placards and chants in demonstrations held throughout the island in the wake of each subsequent storm. Residents are increasingly adamant that the solution to their vulnerabilities lies not in resilient development but in infrastructural intervention. And, indeed, such calls appear to have had some success. In 2022, the government allocated funds for the construction of a new WAPDA embankment. The embankment, scheduled for completion in 2026, will be eighteen feet high, four feet higher than the island’s current crumbling embankment. Like all such interventions, the embankments will be subject to the slow, insidious transformations of the delta siltscape. But they promise, at least for a time, to protect Gabura’s residents from rising tides and increasingly frequent storms.

While the outcomes of this project remain unknown at the time of writing, the struggles over embankments in Gabura and similar areas throughout the delta appear to tell an almost paradigmatic story of biopower and political society. The embankments are unquestionably biopolitical technologies—things that governments deploy to make live or to let die, in Michel Foucault’s famous formulation.⁵⁷ To build on Partha Chatterjee’s arguments about political society, residents of Gabura negotiate inclusion not around rights but around demands for the state to fulfill its pastoral, biopolitical duties. Calls to reject aid—a form of assistance that marks residents as potential footloose victims rather than as members of the nation—and instead demand durable embankments are also demands for inclusion and recognition as a deserving population by the Bangladeshi state.⁵⁸ Residents of Gabura are not biding their time as waters rise. They see their home not as a wasteland but as viable, if imperiled, land. The tension between *tran* and *baad*, then, appears to map a terrain of struggle over the delta’s possible futures. On the one hand, *tran* charts the imagination of the delta as crisis and its residents as future refugees who may (or may not) be able to survive with the aid of resilient development. *Baad*, in contrast, implies a terrain where places like Gabura and its residents are not lost causes but populations deserving of inclusion within and protection by the state both despite and because of a worsening climate.

If embankments highlight the ways life and politics emerge not on but through the delta siltcape, they also illustrate a basic principle of political ecology. Vulnerabilities to climate perturbations, such as cyclones, are not accidental. They are forged in and through a suite of projects that not only make the climate but the very frontier terrain of the delta. The biopolitics of the delta siltcape are intertwined with projects that constitute life and economy and undermine the very material conditions necessary for survival within the delta siltcape.

CRAB RECURSIONS

Today, the long shrimp boom seems to be coming to an end. A persistent problem in shrimp monoculture has been the spread of disease, especially white spot syndrome. Typically referred to in the delta simply as “virus,” white spot syndrome will kill shrimp in an infected gher within a matter of days. Virus, thus, can quickly wipe out an entire season’s profits for shrimp farmers, leading to devastating financial losses. Virus has long been an issue in the delta for shrimp production, leading many shrimp farmers to dump illegal antibiotics and pesticides into ghers. While such measures once provided a modicum of security (even as they raised questions about food safety and the seafood export market in Bangladesh at large), virus appears to be seeping from gher to gher at ever-increasing rates.⁵⁹ Shrimp farmers complain that they now often harvest their tiger prawns early, before they reach a size big enough to sell for the best prices in the market. They must weigh the risk of lower profits from smaller shrimp against the possibility of losing their entire harvest.

But as with the rise of shrimp, the collapse of one frontier economy in the delta siltcape gives rise to another. Over the past decade, people in Gabura and surrounding areas have begun to move away from shrimp and turn to crab. Many have converted unproductive shrimp ghers into ponds for fattening hard-shell crabs. These are caught in the Sundarbans and grown to full size—fattened—in the ponds where they are protected from other predators. Crabs fattened in these ponds can grow to between four hundred and six hundred grams and fetch high prices in the local markets, from which they are often exported to East Asia. Prices are particularly high around festivals and holidays such as Lunar New Year.

As the hard-shell crab business has grown, a more recent and parallel business of soft-shell crabs has begun to take over even more gher land.⁶⁰ This has been facilitated, in the Munshiganj region, by the arrival of a new Japanese-owned export business called Japan Fast Trade. From its offices in Nildumur, across the river from Gabura, Japan Fast Trade has begun training landowners to transition their unproductive ghers to profitable soft-shell crab. Soft-shell crabs are also captured from the Sundarbans and left in plastic boxes, half-submerged in former ghers until they molt—a process that can be, and often is, forced by the clipping of a crab’s claw. When the crabs molt, they are sold to the export business for shipment to East Asian and Australian crab markets.



FIGURE 14. Soft-shell crab *gher*, Nildumar.

When I visited the region in 2020, there had been an explosion in the number of soft-shell crab farms compared to my visit the year before. People who could convert their ghers increasingly were doing so. Others were purchasing unproductive ghers as fast as they could. Business was booming. This was, in part, because the arrival of the exporter had made the business both more reliable and safer, especially for women. This was explained to me by Shefali, a woman who had begun organizing a soft-shell crab collective in her village. Shefali had previously been involved in the hard-shell crab business, but soft-shell crab offered significant advantages. As she explained,

If I keep the hard-shell crabs, I rely on the price in the market. One day, some people might inform me at noon that the price is going up. I will need to get the crabs to market. But my husband might be in the jangal, my son might also be there. So I will need help from day laborers to collect the crabs, as I can't collect them on my own. . . . But now the soft-shell factory sends someone to collect the crabs two times a day. . . . If I have any unsold product that I cannot sell today, I can sell it tomorrow.

The business is not without its own set of risks. Crab farms are subject to the same kinds of vulnerabilities faced by anyone living in embanked islands in the delta. Moreover, the business was, at least in 2020, still contingent on the capture of live crabs from the mangroves. Such practices are in tension with new initiatives that

seek to regulate, and ultimately reduce, fishing and crabbing in the Sundarbans. As Shefali put it, “Our main risk is getting permission to go inside the jangal. If the jangal is closed, it will be hard to get crabs.”

Shrimp, as Kasia Paprocki argues, has been reinterpreted within the logics of climate adaptation not as the cause of environmental degradation but rather as a response to it.⁶¹ If nascent, the soft-shell crab business also promises to be similarly incorporated into the logics of the delta as climate frontier. As with shrimp, the soft-shell crab business is increasingly heralded by organizations such as the United Nations Development Programme as a livelihood alternative that could provide a viable means of income in the face of climate change, particularly for women.⁶² Crabs have become a central pillar of new development programs seeking to build adaptive capacities and resilient populations. The outcomes of this latest round of frontierization are unclear. Soft-shell crab relies on the same architecture as shrimp. Moreover, it relies on ongoing access to the Sundarbans—something that, as we shall see, is very much in question. Regardless of the outcomes, crab appears to be the latest recursive wave of frontierization in the delta siltscape.

This chapter has dealt, primarily, with the material/human interfaces of life and frontier-making in the delta. To that end, it has concentrated on the ways that capital, circulation, and life are inextricably bound to the material affordances of delta matter. Yet the siltscape is not the only medium through which frontier relations are conditioned. If imagination is intermixed with silt in the delta, it is equally tied to questions of biology and conservation. To explore this, we now turn to the delta’s most charismatic resident—the Sundarbans tiger.

Amongst Tigers

Jolil is laughing at me. We are sitting on Jolil's brother-in-law's terrace in Gabura, drinking tea and chatting. Jolil is an aging *bawali*—a term meaning “wood collector” that is often more broadly applied to men who have spent their lives working the Sundarbans.¹ Sometimes these men operate within the bounds of forest law, sometimes on its fringe. Over the course of his life, Jolil has worked numerous jobs in the Sundarbans—fishing, honey collecting, timber collecting, transporting goods across borders, and more. Jolil has a dashing air and a somewhat unsavory reputation. He speaks with the authority of someone who has spent his life learning the lessons of the jangal the hard way. His livelihood has long depended on navigating the mutable boundaries between land and water, human and animal, legal and illegal, and predator and prey that characterize the Sundarbans. He spends days—sometimes weeks—at a time under the mangrove canopy. It's a hard way to make a living. Jolil must thread the often shifting politics of extracting resources from the mangrove forest. Changing weather patterns, salinity balances in the water, and other forms of environmental change make this harder, or at least more unpredictable. But Jolil also must contend with human and nonhuman predators under the mangrove canopy. Paramilitary agencies police the mangroves, enforcing policies that criminalize his livelihood in the name of protecting the Sundarbans. Dakats—bandits—stalk its canals and waterways, often holding fishermen for ransoms they can ill afford. And the Bengal tiger—*bagh*—prowls the forest, presenting potentially lethal threats despite, or perhaps because of, its decreasing numbers.

Jolil is one of my self-appointed tutors, men who find my curiosity about the Sundarbans to be an amusing opportunity to impart wisdom about everyday practices and to share stories of hair-raising encounters. Men like Jolil offer a



FIGURE 15. Beehive in the Sundarbans.

window onto work in the mangroves that I, as a foreign ethnographer, have little direct access to. When I enter the protected area of Sundarbans Forest Reserve, I am required to travel in a Forest Department boat with an armed guard ostensibly there to protect me from the Sundarbans's many hazards. When Jolil goes into the forest, he goes as he has gone throughout his life—in a small boat, sometimes with a partner, sometimes with a small crew, and sometimes alone. Today, Jolil has been schooling me on honey collecting. The Sundarbans is famous for its rich and distinctively flavored honey. During the honey season, there's good money to be had hunting for giant hives in the mangrove depths, smoking out the fierce bees, and bringing the bounty back to sell to brokers in villages along the forest fringe. Honey collecting is a dangerous occupation. Anyone who works in the forest might fall prey to one of the dwindling numbers of tigers who stalk the mangroves. But honey collectors—*moulis*—suffer a disproportionate number of attacks because their work demands that they enter the interiors of mangrove-dense islands.² These are claustrophobic spaces where it can be hard to tell if (and by what) you are being watched, particularly if your attention is trained upward toward where the hives are located.

I ask Jolil about the techniques for avoiding tiger attacks. "What do you want to know?" he asks me. I tell him that I heard that in West Bengal, honey collectors

used to wear masks with faces on the backs of their heads. When a tiger saw the faces, they thought that they were being watched and did not attack. “Have you ever worn a mask while honey collecting?” Jolil stares at me for a few seconds, as though trying to gauge whether I am messing with him, and then bursts into uproarious laughter. He has seemingly never heard something so absurd.³ I expose myself (yet again) as a foreigner visiting the Sundarbans with a head full of imagination about both the tiger and the territory it stalks.

“Listen,” Jolil says, “when you collect honey, you stay in groups, close together. Numbers are the only thing that will keep a tiger from attacking.” Then, pulling up his *lungi*, the cloth skirt commonly worn by men in rural Bangladesh, he presents me with his leg. The bone is intact, but his calf is misshapen and smooth, covered in scar tissue. A chunk is missing. “This is what happens if you hunt for honey alone.”

Jolil tells me a beastly tale, the story of his encounter with the tiger who took a bite out of his calf.⁴ He and a group of companions were searching out honey deep in the mangroves. He had forged ahead, hearing the buzzing of a large hive. That was when the tiger came out of the mangroves and seized his leg in its jaws. Hearing his cries, the rest of his team rushed forward and began striking the tiger with sticks and poles. It dropped Jolil and retreated into the forest to seek easier prey. Jolil drops his *lungi* back over his leg and looks up at me. “Masks,” he says, and begins laughing again.

THE TIGER’S TWO BODIES

Much has been written and said about Bengal tigers, *Panthera tigris tigris*. The tiger is so intertwined with the Sundarbans—its history, culture, environment, and ecology—that the two are all but synonymous. The tiger that stalks the jangal is more than just a predator. It is also a deity, a symbol of sovereign power, an icon of national and international conservation, a sentinel of global climate change. It prowls the actual mangroves but also the pages of magazines like *National Geographic*, the glossy fundraising materials of international conservation organizations, the leads of anxious articles tracking the fate of endangered species. As my conversation with Jolil suggests, my own imagination of the tiger led me to misapprehend the nature of the beast. But the challenges that Jolil faces in his everyday struggles to make a living also suggest ways that imaginations like mine are profoundly entangled in the making of predation, ecology, and risk in the Sundarbans.

Tigers have been a part of the delta ecology since at least the late Pleistocene (over twelve millennia ago). They are more than just residents of the mangrove forests. As apex predators, they play a critical role in balancing fauna and, subsequently, flora in the region, allowing mangroves to flourish—to become the Sundarbans.⁵ In this sense, tigers are not only residents of the delta but also one of its makers. But tigers are complex entities—made as much through global imagination as through the material realities of their habitat. They highlight the ways that

mangroves are not simply the outcomes of natural histories and changing environments but also of capital flows and the regional, national, and global imaginations that invoke them to various ends.

Annu Jalais, in her landmark ethnography of the Indian Sundarbans, *Forest of Tigers*, and her classic essay “Unmasking the Cosmopolitan Tiger,” notes that there are (at least) two conflicting versions of the tiger.⁶ The first, what she terms the “cosmopolitan tiger,” is the infinitely reproduced tiger who appears in iconography, postage stamps, WWF logos, colonial fantasies, and so on. The cosmopolitan tiger is the tiger stripped of context and reduced to signifier—the image that can be appropriated for any meaning. It might stand for the ferocity of the animal kingdom, the nobility of the big cat, the sovereignty of the colonial and postcolonial state, the fragility of nature. It stands in contrast to what Jalais calls the “Sundarbans tiger,” the tiger who bawalis like Jolil sometimes encounter in the flesh. Jalais argues that “universally propagated ideas about tigers ultimately act to the detriment of ‘other’ tigers because they do not allow an engagement with alternative ways of understanding animals and wildlife.”⁷ If the cosmopolitan tiger demands an urgent intervention to save it (or, as often, to save the nature it stands for), it also prevents an engagement with the ways that people who live in the delta think about and live with tigers—what they do to protect themselves from tigers and other hazards in the jangal, how they understand tiger behavior, and how tiger conservation opens delta residents to new forms of predation and anxiety. In so doing, the cosmopolitan tiger occludes the complex ecologies in which its flesh and blood counterpart is enmeshed.

Jalais’s work offers a critical insight into the bifurcation between the biological and discursive beast. Yet the tiger’s two bodies do not stand apart.⁸ As I argue here, the interplay between the cosmopolitan and fleshly beast has become a key node for shaping a much broader network of political ecologies in delta space today—of forging the climate frontier. Tigers in the delta are sites of articulation—between the local and global, the past and the future, and the biological and the symbolic. Here, global imaginations of tigers mingle uncomfortably with development, conservation, and actual transformations in habitats and environments both within and outside of the Sundarbans. This mingling has grave implications for those who work in the mangroves and live on its fringe. Tigers, like the delta’s silted terrain explored in the previous chapter, are yet another node through which imagination, matter, and violence mingle to produce a frontier terrain of predation and risk.

This chapter explores how the ongoing invention of the tiger shapes a broader network of politics and relations in the delta landscape. The grafting of global imaginations onto the tiger has more to tell us than that tigers—and the web of relations around them—are misrecognized in global narratives about climate and conservation. The cosmopolitan beast is not a misrecognition; it is a creation that emerges from the tension between imperiled mortal tigers and their images’ limitless capacity to personify imperiled nature. Thinking with the tiger’s two bodies

situates the tiger as not *only* a charismatic beast making its possible last stand in the threatened mangroves but also as enmeshed in land, human labor, and a broader web of predation. In what follows, I explore the region as, at least in part, constituted with the flesh and figure of the tiger. As we shall see, to do so requires not a focus exclusively on *Panthera tigris tigris* but also on the ways it is drawn into relation with a range of transformations within the delta siltscape.

PREDATORY TERRAINS

Tigers occupy a central place in the cosmology of the Sundarbans—perhaps most notably as the physical manifestation of the demon/deity Dokkhin Rai, the “King of the South,” who is held at bay by Bonbibi, the syncretic deity who is of the forest.⁹ Bonbibi, the daughter of a Muslim fakir, offers protection from tiger attacks and other misfortunes for those who work in the mangroves.¹⁰ She and her brother Shah Jangali are domesticating forces—reclaiming and protecting the inhabited parts of the Sundarbans from the unpredictable and often violent Dokkhin Rai, who rules over the deep parts of the jangal. But Bonbibi also mediates encounters with tigers—alternatively fending off attacks and negotiating safe passage for *mouris* and others who must labor in Dokkhin Rai’s realm.

The narrative of Bonbibi charts an ethics of the jangal—a set of practices of faith, respect, and purity that mediate the risk of unpredictable threats in the forest. Shrines to Bonbibi and the cast of characters who feature in her mythology are a constant presence in Bangladesh’s delta, where she is worshipped by Hindus and Muslims alike. It is common to see Bonbibi shrines and temples in villages and in the courtyards of wealthier homes throughout the region. Many villages host an annual Bonbibi mela or puja on January 15, where the narrative of Bonbibi (*Bonbibi Palagaan*) is sung over a period of hours as part of an annual ritual renewing protection and safe passage for those who work under the mangrove canopy.

Tigers pose real and lethal threats to those who work in the mangroves and live on its fringes. Indeed, the Sundarbans, in both the colonial and postcolonial period, is a space where tiger attacks are emblematic of terrain. This is with good reason. There is evidence to suggest that tiger attacks in the colonial period were significantly higher in the Sundarbans—where chance encounters are readily possible with the semiaquatic predators, who swim from island to island in the mangroves and stalk prey from both water and land—than in many other tiger habitats throughout South Asia.¹¹ “Man-eating” tigers were central to the colonial imagination of the Sundarbans, figuring prominently in framings of the mangroves as a sinister drowned land at the mouth of the delta.¹² W. W. Hunter’s 1875 *Statistical Account of Bengal*, for example, speaks of spaces within the jangal where a single marauding tiger displaced whole populations (before meeting an end at the hands of colonial officials).¹³

The tiger, as has been well documented by environmental historians, thus figures centrally in questions of colonial and postcolonial rule and sovereign power.¹⁴



FIGURE 16. Bonbibi shrine, Dakope, Khulna.

To master the beast was to impose a modicum of order on the unruly, swampy wastelands. This relationship is at the heart of what Anand Pandian has called “predatory care,” the endlessly reproduced colonial fantasy of paternal protection by white hunter representatives of the colonial state ready to kill marauding man-eaters with European skill, bravery, and (at least after the mid-nineteenth century) repeating rifles.¹⁵ Vijaya Ramadas Mandala argues that the colonial hunt—and especially, though not exclusively, the tiger hunt—was central to colonial governance. As he notes, “What became established as mere recreational sport in the late eighteenth and early nineteenth centuries was later identified as critical to the continuation of colonial commercial and political functions and the extension of territorial control.”¹⁶ That is to say, the identification and personification of savage “man-eaters” terrorizing local populations, the shooting of tigers, and the iconography of the white *saheb* with his boot on the carcass of a freshly killed predator were central dynamics of imperial sovereignty and power.¹⁷

Predatory care continues to figure prominently, if differently, in the postcolonial state—where the focus of care is more directed at tigers than subjugated colonial populations. Today, tigers are reimagined as the public face of expansive and well-known conservation efforts, many of which have been implicated in the dispossession of refugees and peasants.¹⁸ The most famous example of such efforts is India’s Project Tiger, launched in 1973—the much lauded and much criticized (for its forced displacement of people from tiger habitats) conservation program

put in place by the Indian government in an attempt to resuscitate a dwindling tiger population in its national parks. But tigers are equally central to Bangladeshi imaginations of conservation, threatened habitat, and imperatives to protect the mangrove forests for both the national and global good.¹⁹ The public face of conservation in Bangladesh is a dramatically named organization called WildTeam, founded by Dr. Md. Anwarul Islam in 2003. Tiger conservation in Bangladesh is a nationalist project, but also an international affair, with funding flowing to WildTeam, the Ministry of the Environment, and both international governmental and nongovernmental conservation organizations such as International Union for Conservation of Nature and the United States Agency for International Development.²⁰

Tigers in the Sundarbans are unquestionably under threat. They are listed as a critically endangered species in Bangladesh by IUCN, and the estimated tiger populations in the 6,500 square kilometers of the Bangladeshi Sundarbans number in the low hundreds (114 according to a 2018 census).²¹ Tigers are often targeted by poachers for the lucrative trade in their pelts and teeth. But an equally significant threat to the Bengal tiger is the shifting environment. The impacts of climate change on tigers is a hotly debated topic, but most models note that rising sea levels and increased salinity (and decline of sweet water in the mangroves) are likely to erase viable tiger habitats in the near future.²² Such changes in habitat, as explored below, are already shifting tiger behavior and patterns of predation—pushing them out of the mangroves and into settled communities on its fringe.²³ Hunted by poachers and facing the challenges of declining habitat and human predation, tigers have become both an open question and a preoccupation for those concerned with the survival of the Sundarbans and its denizens.²⁴ They thus also shape the postcolonial frontier terrain of the delta as the most prominent face of conservation and preservation of the mangrove forest, a global biosphere preserve and UNESCO World Heritage Site (i.e., a place in need of preservation for the good of humankind at large).

SENTINEL BEASTS

In the contemporary moment, the cosmopolitan tiger has made a smooth transition from being the face of global conservation to a face of global climate change. Alongside this shift, where the cosmopolitan tiger has taken on additional burdens of representing nature under threat, there appears to be an inversely proportionate relationship between the tiger's two bodies. As the number of fleshly beasts declines, their cosmopolitan and imaginative counterparts flourish and multiply, appearing in ever more urgent cries for intervention to stop climate change and environmental degradation. The prolific figure of the tiger, in marked contrast to the dwindling numbers of actual existing tigers, is present in almost every representation, project, and discussion of the Sundarbans—typically invoking the specter of immanent environmental collapse.

Such, perhaps, is the nature of sentinel beasts—beings that are best understood as subcategories of the sentinel objects that, in Fr  d  rik Keck and Andrew Lakoff’s words, “provide the first signs of an impending catastrophe.”²⁵ As Keck and Lakoff note, such sentinels (canaries in the climate coal mine) are potential answers to the question of “how the detection of threat can be made to have political force.”²⁶ As images of polar bears on shrinking icebergs—and of emaciated tigers swimming among the mangroves—suggest, the answer to this question depends, centrally, on the charisma of the sentinel in question. Tigers, who have long captured global imaginations with their ferocity, beauty, and seeming nobility, make apt icons of climate threat for conservationists, development agencies, and government officials alike.

It is thus not surprising that tigers are a topic of constant speculation in the region. Where tigers are (or are not) is a conversation that not only impacts village lives but also has implications for conservation budgets. Ironically, this fascination with the presence/absence of the Sundarbans tiger serves, often, to reinscribe the political division that splits the mangrove forests into two separate state-controlled preserves. A constant question in national narratives is not just how many tigers are left, but what state do they reside in? This manifests in Bangladesh, not only in news reports and tiger census projects that constantly track the population of tigers within the nation-state (as opposed to the binational Sundarbans at large) but in rumors that imagine that tigers have themselves become bound up in state and boundary formation.

There is a constant anxiety in Bangladesh that tigers are more populous on the Indian side of the border. This is figured not as the result of a “natural” affinity for the Indian habitat but rather of geopolitical intrigue. Several people told me of a rumor that the Indian government has set up one-way gates in the Sundarbans. When border-crossing tigers walk through them, they cannot subsequently return to Bangladesh. Such rumors are far-fetched (why would tigers go through a gate in the unfenced mangroves in the first place?) and usually are acknowledged as such by those who share them with a proverbial nod and a wink. But this genre of rumors that figure India as stealing tigers from (and occasionally out of) Bangladesh do reflect the fraught relationship between the two states across the notoriously violent border fence that hems in most of Bangladesh.²⁷ They also speak to the import of the tiger not only to conservation in general but also to national pride and capital flows—particularly in the form of development.

NGOs working in the region—both international and local—liberally sprinkle tiger-oriented projects among their programming portfolios. Some, such as WildTeam, work hand-in-hand with the government of Bangladesh to implement tiger conservation and awareness schemes. For WildTeam, this means (amongst other things) training local communities how to react if tigers enter their villages. To do this, they organize “Village Tiger Response Teams” (VTRTs). The goal of the VTRTs is to prevent lethal encounters in the event of human-tiger contact. These teams are cadres of trained tiger responders who work on a voluntary basis to

protect their communities from tigers and to protect tigers from their communities. Their members, often found wearing ubiquitous neon-colored VTRT T-shirts, are easy to spot in villages throughout the delta.

As a VTRT member in Joymoni explained to me, the teams have two jobs. First, they educate their communities about the importance of tigers to their local and national heritage. They run workshops that highlight the importance of tigers, their endangered status, and the impacts of climate change on tiger habitats. They thus engage in a time-honored strategy that NGOs use to shape the behavior of Bangladesh's rural peasantry—they run training sessions. Second, if they hear of a tiger entering a community, they rush en masse to the scene and scare it off by shouting, beating on pots with sticks, and generally making noise. I asked if this approach worked, and the VTRT member assured me it did. "If we get there in time," he told me, "we will certainly be able to scare off the tiger." That, of course, is a significant "if." In many cases, tigers are often gone before VTRTs arrive on the scene. However, there have been cases where VTRTs have successfully scared tigers out of villages and cases where VTRTs were able to intercede in conflicts between angry villagers and a cornered tiger, likely saving the tiger's life.

The work of the VTRTs may thus play a role in reducing the lethality of encounters between tigers, humans, and livestock on the mangrove's fringe. But it also shows how tigers are increasingly bound up in discourses not just about their own endangerment but about a broader suite of climate-related concerns in the delta. The boundaries between tiger conservation and resilient development programming are increasingly blurry. This blurring allows tigers to be mobilized both as a symbol of threatened nature and justification for development interventions.

Take, for example, the short video "Protecting Wildlife and Forests in the Sundarbans of Bangladesh," produced by USAID's Bagh Project in 2014. The video, shot with a mix of English-language subtitles and voiceovers, opens with a series of shots of delta villagers talking about human-tiger conflict.²⁸ Two points emerge from these conversations. First, the film makes clear, residents of the Sundarbans bear no malice toward tigers. Despite having lost family members to tiger attacks, residents of the region who appear in the film express a desire not for revenge but for a less conflictual relationship with tigers. Second, villagers in the Sundarbans see tigers as integral to their environment. The young girl who narrates the first portion of the video, for example, describes the Sundarbans as a loving mother and paternal father. She speaks of the ways that her elders have told her about the importance of tigers and refers to tigers as *baghmama* (maternal uncle tiger), a common trope throughout the country that figures them as at once fierce and familial. Her speech is interspersed with images both of tigers in the wild and the bodies of tigers who have entered into villages and been subsequently killed by villagers. The implied message of the film is that residents of the Sundarbans do not want to kill tigers, but without the intervention of a higher nongovernmental authority, they might have little choice.



FIGURE 17. Still from the USAID video “Protecting Wildlife and Forests in the Sundarbans of Bangladesh.”

Having laid out the problem of tiger conflict, the film positions development as the solution to the problem. Tiger conservation is key to saving the mangrove forests, but it must be accompanied by other kinds of development initiatives being carried out by USAID—including alternative livelihood schemes and the promotion of high-yielding variety crops. This message is interspersed with images both of happy villagers and villagers being trained by VTRTs (WildTeam is supported by the Bagh Project) about the import of tiger conservation. One such image is of a VTRT member around a fire wearing a tiger mask (presumably in the service of educating villagers) shown in figure 17.

Like all development promotional materials, the video is best taken with a generous pinch of salt. Yet it is revealing of the relationship between tigers and the logics of climate resilience and development. On the one hand, the film responds to a now all-too-familiar critique of conservation programming—that conservation tends to value “nature” at the expense of those who live “within it.” As the film makes clear, USAID believes agriculture and alternative livelihoods (things that will, it intends, keep people out of the mangroves) are intimately entwined with tiger conservation. This message is hammered home at the film’s end with that icon of the 2010s, a hashtag message: #ConservationIsDevelopment. More interesting, though, is the way that the film invokes tigers not just as apex predators but also as apex objects of development. Here, the conservation of tigers is both a goal and an effect of other forms of climate-oriented development. Whether the adoption of high-yielding variety crops can be causally linked to conservation or not, the film makes it clear that USAID sees its mission of producing resilience in the delta as fundamentally tied to and motivated by the cosmopolitan beast. The production of resilience is the key to ending the kind of interspecies conflict that places tigers at risk and the kinds of displacing effects that also might

imperil the world at large. There is thus an articulation between tiger conservation and the global anxieties about the displacing effects of climate change explored in chapter 1. The tiger prowling the Sundarbans is also a sentinel beast, prowling a climate ground zero.

It is not surprisingly then that many other local and national NGOs in the delta—many of which sustain themselves by securing lucrative implementation contracts from international organizations like USAID and IUCN—build tiger-related programming into their portfolios. One popular variant of this is the “Tiger Widow’s Fund” for women who have lost their husbands while working the mangroves. Tiger widows—*bagh bidhoba*—have emerged as objects of fascination in international coverage of climate change. Stories about the lives of women who have lost their husbands to the charismatic predator abound in international coverage of the delta’s woes. Popular representations of tiger widows hold that they are shunned and excluded from village life because they are considered to be unlucky. Such is the case in certain situations, and life can be quite difficult for widows who are held partially responsible for their husbands’ deaths.²⁹ I also, however, visited many communities where *bagh bidhoba* seemed no more or less excluded from village society than women who have lost their husbands in other ways. But programs assisting *tiger* widows, as opposed to programs assisting widows or marginalized groups in general, signal to international funders that local NGOs are engaged with the famed forest denizen—or at least with its victims.

One day, I asked the director of one such NGO about his organization’s own recently launched Tiger Widow’s Fund. He told me that the fund provided crucial support to the many women whose husbands were victims of tiger predation. The program organized beneficiaries into small support groups—a model bowered from the Grameen Bank’s microcredit loan groups. Individual members of these groups would receive cash grants to start entrepreneurial ventures, and the group would constitute a collective support network for these new business owners. I asked if it would be possible to visit a group supported by his NGO during their weekly group meeting. The director was somewhat taken aback by my request but obligingly called a project manager who ran one of the groups in a neighboring island. The following day, Riton and I went to meet the group.

We arrived in the late afternoon, accompanied by the project manager, and were introduced to the six women who were part of the program. The women were taciturn and unenthusiastic to talk to a foreign researcher. They grew less talkative and more annoyed as the project manager continually interrupted them as we asked questions, prompting them to narrate their stories in ways that best demonstrated the impact of the NGO’s interventions. Chagrined, I realized that there was no scheduled meeting and that these women had been compelled to come and speak with us by the project manager himself. They clearly had better things to be doing with their time.

The women had all used their grants to develop alternative livelihoods in the absence of their husbands. Most had started fish, shrimp, or crab businesses, though one had invested in a tea stall that also sold snacks and goods. I asked Shorifa, the most forthcoming and the eldest woman in the group, about the loss of her husband. She replied, “My son was five years old at the time. Now he is twenty-five. After my husband was killed, we ate, and I fed my son through hard work. I lived in my father’s house, but I took care of all of the land my husband and I had. So when my son grew up, we moved out of my father’s house and into our own house.”³⁰ All of this had taken place long before the Tiger Widow’s Fund had been launched. Surprised to hear that Shorifa had lost her husband so long ago, I asked the other women about when they had been widowed. Among the six women, none had lost their husbands to tigers more recently than seven years before, and two had lost their husbands more than a dozen years ago.

Programs such as tiger widow’s funds can provide crucial and life-altering support to families struck by tragedy. But the temporal distance between the death of these women’s husbands and the founding of the fund also highlighted a paradox of life in the delta. Tiger attacks are only one of many ways to die in the forest. It is not uncommon to meet widows whose husbands have been killed or lost due to drowning, human violence (perpetrated by dakats or paramilitary policing groups), storms, and more. While there is scrupulous accounting of deaths by tiger attacks, it is almost impossible to gain accurate figures of deaths due to other causes in the mangroves. Women whose husbands are killed by tigers indeed experience social alienation within their communities. Yet social alienation is also experienced by widows who have lost their husbands in other ways. Tiger widow funds, it seems, are more concerned with the way that women’s husbands died than with the social impacts of being a widow. In other words, in tiger widow’s funds the *mode* of death—being killed by the forest’s most famous predator—matters more than the fact of death itself. To have one’s husband killed by a jungle cat drew these women into a circuit that tied together tigers, communities living in the Sundarbans region, local development organizations, and global NGOs and donor organizations interested in resilient life in the delta. It drew them into a broader and ongoing production of the region as climate frontier.

BETWEEN TIGERS AND TIGER PRAWNS

I have never seen a tiger in the Sundarbans. The closest I’ve come was a fresh pawprint, no more than a few minutes old, that I saw in 2020. Every time I complain about this to friends, they repeat a well-worn phrase “*tumi bagh dekhte pabe na, kintu bagh tomake dekhe*”—you won’t see the tiger, but the tiger sees you. The phrase endows the tiger with panoptic power—a creature that instills fear and discipline on those who enter the jangal, demanding that you recognize the



FIGURE 18. Fresh tiger tracks.

possibility that at any moment you might be subject to its lethal gaze. Still, most of my friends who work the Sundarbans claim to have seen a tiger at least once. Many of the stories they share are vague and unremarkable, though some involve near misses and almost-lethal encounters like Jolil's.

For all of that, few people I have encountered who work in the Sundarbans see the tiger as a malicious predator. Rather, they understand tigers as, on the one hand, beings who share the space of the mangrove and, on the other, a form of animate risk beyond their immediate control. They often use the phrase "*jole kumir, dangaye bagh*," which translates as "crocodile in the water and tiger on land," to describe the terrain of perils in the Sundarbans. But the point of the phrase is not to identify either tigers or crocodiles specifically but rather to point out that the mangroves are full of threats.

Consider Shonkar, a crab collector who spends days at a time alone in his boat in the mangroves. He has worked various jobs in the jangal for over a decade. But as the export market in crabs has grown, he now primarily hunts for large crabs that he sells in the local markets for export to East Asia. One day, while we are chatting about the crab business and its inherent risks, I ask Shonkar what it is like to fish for crabs in the mangroves. "In the nighttime, I live inside the jungle on my boat. In my boat, I am alone," he tells me. I comment that it seems like a solitary and anxious way to make a living. "Honestly, if you are afraid, you cannot go into the Sundarbans. Slowly, I have become used to it."

"What about tigers?" I ask.

"Of tigers, I have no fears. Mandals [an Adivasi community to which Shonkar belongs that straddles the India-Bangladesh border] have a mantra. I know this mantra by heart. If I say it, the tiger will not come near me."³¹ This seemingly blasé attitude to the threat of tiger attacks is one that I have seen before. Mantras, offerings to Bonbibí, and piety offer protection to those who work the forest. Or not. As a Muslim fisherman told me in response to a similar question about tiger attacks, "If Allah wills it, my time has come."

Jalais's ethnography (previously discussed) explores a range of ways that those who live and work on the Indian side of the Sundarbans understand tiger attacks. Many of her interlocutors explain tiger attacks as the result of transformations in the environment that make it more violent. This violence has made the Sundarbans itself cantankerous—a space in which tiger, human, and tiger-human relations consequently became more quarrelsome and potentially lethal. As she writes, "Villagers explained that the growing violence of humans expressed through polluting paraphernalia such as motorboats, shrimpers' mosquito nets, and poachers' rifles, and more dangerous religious and political violence, affected the locale of the forest, which in turn affected tigers and other nonhumans' need for peace and security. This made tigers even more ferocious and increased the danger of working in the Sundarbans. The two (humans and nonhumans) however, are 'sealed' together by this common environment of the Sundarbans—the locale of the Bengal tiger."³²

Here, human-tiger relations are situated not on opposite sides of an environmental binary (hunter/prey, human/nonhuman, nature/culture), but rather are forged within and by the same environ. Human and tiger life is thoroughly, if unevenly, intertwined with a broader ecology of capture and predation. Tigers are unquestionably predators—occasionally preying upon humans. But they are also only one predatory actor among many within this ecology. Others, proximate and remote, are implicated in making the mangroves a zone characterized by capture and violence. As the climate of the Sundarbans shifts and becomes more violent, so does the delta's more-than-human social climate. There is an intimate articulation between the violence *of* the environment and violence *in* it.³³

I have asked my friends on the Bangladesh side of the delta about their interpretation of tiger encounters. Most offer prosaic and ambivalent accounts. Yet they agree that tiger encounters are enmeshed in the increasingly violent environment. As a crab fisherman named Alam put it, "There is tension (*pirron*) in the jangal. Everything feels it. Tigers, deer, forest officials, and we who go there to feed our families." Alam's point is apt. Tigers are afflicted by the same forces that shape the life and livelihoods of humans fishing the Sundarbans—the increased salinity in the water, conflict between dakats and the paramilitary forces, pollutants that degrade the mangroves, the decline of available fauna for food, increased hunting and poaching, and unpredictable weather. While such transformations mean that my friends must spend more time *under* the increasingly dangerous mangrove

canopy to capture enough resources to feed themselves and their families, it means that tigers often come *out* from under the canopy and into the densely populated agrarian space beyond to feed themselves.

Since I began working in the delta region in 2013, there have been frequent reports of tigers emerging from the mangroves to prey on domestic livestock.³⁴ Changes in ocean acidity, water levels, and salinity balances in the water pose challenges both for accessing fresh water (also a challenge for humans living in the region) and for finding enough prey in their forest habitats. Cows and goats owned by peasants living in villages near the Sundarbans have become regular supplements to tiger diets. Not surprisingly, alongside accounts of livestock attacks have been occasional accounts of villagers (regularly described as “mobs”) attacking and killing (often framed as “lynching”) these tigers-out-of-place.³⁵ Such accounts are regularly accompanied by lurid photos reproduced in local and national newspapers displaying the tiger’s dead body.

The tiger’s two bodies—the entanglements of the tiger’s cosmopolitan and fleshly form—make it difficult to see such encounters as anything other than attacks on global treasures, as the outraged online comments (many of which contrast the natural nobility of the tiger with the inherent savagery of ignorant peasants) that accompany such stories make clear. The dual nature of the tiger thus structures a range of coercive relationships between wildlife in the forest and those who make their livings in and along its borders. The killing of tigers in villages on the fringe of the jangal is rendered as crime and tragedy in the international and national press—an avoidable catastrophe caused by peasants and fishermen who fail to understand or to appreciate the import of the tiger (to everyone else). Such renderings radically simplify and erase other interpretations that highlight the more-than-human, and more-than-tiger, violence of the Sundarbans’s shifting environment.

Of these forms of violence, shrimp aquaculture is particularly significant. If tigers—*bagh*—prowl the forest and characterize global imaginations of the Sundarbans, tiger prawns—*bagdachingri*³⁶—have, during the long boom in shrimp aquaculture from the late eighties, come to structure the terrain of the delta beyond the mangroves. As noted in the previous chapter, shrimp production itself has been a fundamentally violent process—rife with land grabs perpetrated by wealthy landholders backed with armed enforcers ready to exercise occasionally lethal force on landholders and groups seeking alternative forms of production. But, *bagdachingri* production brings with it more slow, seeping, and insidious forms of violence as well. One important dynamic here is that shrimp aquaculture has led to the collapse, or at least significant restructuring, of agrarian labor markets in the delta. This, as noted, has led many to migrate and pushed others to work in the Sundarbans as fishermen. Tiger prawns outside of the Sundarbans have thus pushed many to pursue activities that conservation groups identify as harmful to tiger habitats.

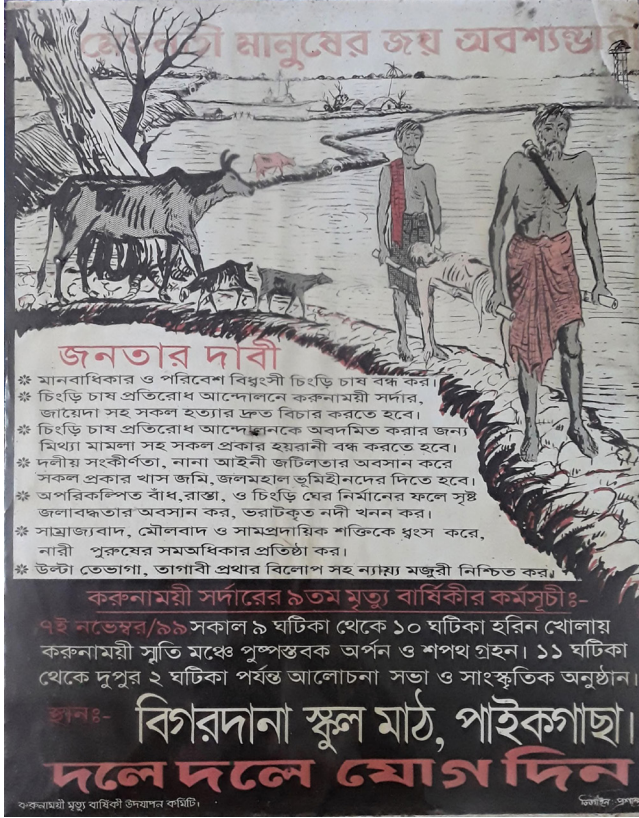


FIGURE 19. Karunamoyee Day Poster, 1999. Part of the Karunamoyee Sardar Collection by Nijera Kori, <https://archive.org/details/KarunamoyeeSarder/Karunamoyee%20Day%20poster%201999/>.

But labor is not the only way that shrimp aquaculture has drawn tigers, tiger prawns, and humans into new relationships with each other. The transformation of the delta siltcape into a terrain of tiger prawns has also radically reshaped land use in many communities living near the Sundarbans, heralding a shift from field to gher. This land transformation is dramatized in figure 19, a 1999 poster for Karunamoyee Day—an annual day of action against shrimp aquaculture hosted by Nijera Kori, Bangladesh's landless movement.³⁷ The poster dramatizes the impacts of shrimp not only on the health of humans (especially poor and landless people) living in the delta but also the effects of the shrimp on the ecology at large—the transformation of land that both humans *and* animals could use for sustenance into stagnant pools of brackish water. This has had an effect not only on humans who live in the delta but also on livestock. This point was dramatically brought home to me one day while visiting Momin and Rokeya, an elderly couple living in

a village not far from Mongla situated on the immediate fringe of the Sundarbans. Like much of the delta, this area has been profoundly transformed by brackish water shrimp aquaculture. Ghers occupy much of the open land around the village. Here and there are fields where some farmers continue to grow rice. But for the most part, the village is hemmed in on one side by the mangroves and on the other by ghers.

Momin and Rokeya's house speaks of earlier comparative wealth—built during the height of the shrimp boom, when Momin owned several profitable ghers. The building is constructed from concrete and stone. But its dilapidated condition also suggests more recent financial decline—a change in fortune that came to this family when Momin sold his ghers to a neighbor. The couple has recently lost their cow to a tiger. Momin tells us what happened: “The whole year long, I have been tying that cow and feeding her in our home. But after the recent rice harvest, I let her free to graze on the *dhan* [paddy straw]. After some time, I saw my cow had not returned home. We searched other houses but could not find her. . . . Later, I got the news that the tiger had gotten her inside the jungle.”

In many ways, Momin's narrative is a typical one. The cultivation of bagdach-ingri has produced a landscape dominated by endless shallow, stagnant saltwater ghers. There is a limited amount of grazing land, even following the rice harvest. Families like Momin's therefore often let their cows graze freely. This allows cows to consume the leftovers of human harvests. But they are also drawn to the protected mangrove forest, where they can access a range of tasty, nutrient-rich flora. Lacking enough pastureland to graze in, cows and goats turn to the mangroves, the habitat of the tiger.

Cows, like the one lost by Momin's family, often are among the most significant assets owned by peasants living in the delta. Their loss can represent a catastrophic blow to family finances. In this case, the loss is double, as the cow was pregnant and due to give birth within the next few days. As we talk, Rokeya repeatedly breaks into tears. “My heart is going to break,” she tells me. “Today we are not eating anything.” The government of Bangladesh runs a livestock insurance scheme whereby people who lose livestock to tigers can get modest compensation. However, families are only eligible if they can prove that their livestock was not grazing in the restricted space of the forest at the time of the attack. That can be difficult. Even when families muster evidence that their animals were attacked outside the forest, suspicious authorities often assume otherwise. This family's loss was compounded by a fear of arrest for having allowed their cattle to illegally enter the mangroves. “This morning, some people in the area threatened us,” Rokeya tells me. “They say the government will make a case against us. Now, our heart has come into our mouth. Maybe they will capture us and take us to the prison cell. What will happen? We cannot say.”

Such anxieties and losses speak to the ways that the web of predatory relations around tigers produce harm for humans and nonhumans alike. As the political

ecologies of production heralded by the long shrimp boom in the delta degrade and erase agricultural and grazing land, the effects of pollution and global warming—the outcomes of their own interwoven social relations of production—erode forest habitats. As tiger prawns push livestock into the mangroves, other kinds of environmental degradation push tigers to its fringe and, often, out. The effect is a blurring of the artificial boundary between forest and community that draws humans living along the Sundarbans, animals within them, and those who police this boundary together in corrosive configurations. The region's ecology emerges not only out of shifting patterns of weather but also out of a host of relations of predation, agrarian production, and consumption across scale—warming climates that push tigers out of the forest, Western diets enmeshed in the consumption of cheap seafood, conservation projects seeking to secure the future of the cosmopolitan tiger, the local politics of land, and more.

BEASTLY ENCOUNTERS

The tiger is omnipresent in the delta. In its discursive form, it prowls signboards, NGO planning meetings, development reports and press materials, the halls of guesthouses, and more. In its fleshly form, it moves elusively through, into, and out of the mangroves, sometimes preying on livestock, sometimes on humans who work in or near its domain. As the delta emerges as a climate frontier, and as the tiger multiple is reconceived as its sentinel beast, the tiger's two bodies interact in new ways. The tiger emerges as one side of a multispecies wedge—bagh and bagdachingri—squeezing those who live on the forest fringe. It becomes an icon of climate endangerment, subtly welding agendas of conservation and resilience together. It reaffirms a politics of predatory care in which peasants are, once again, figured as anthropogenic threat. The tiger thus sits at the heart of a network of relations indexed to climate change and deepening relations of exploitation and expropriation in the delta siltcape. Indeed, the tiger multiple is one node of a broader ecology through which such relations are produced and bound together anew.

Nayanika Mathur, in her exploration of human/big cat encounters in contemporary India, asks about the value of using tales of beastly encounters as a means of considering the Anthropocene. As she writes, “Taken together, [beastly encounters] ground the Anthropocene within localized politics and ecosystems and can serve to relay the voices, imaginaries, and opinions of those people . . . who are already coping with the damaging consequences of climate change.”³⁸ Beastly tales, such as those I narrate throughout this chapter, can unsettle simplistic narratives that frame human/tiger encounters simply as conflict over declining resources and declining animal populations. They resituate such encounters as nexuses of a broad swath of predatory relations and multi-scalar politics. These relations are as central to making this climate frontier as the changing patterns of the monsoon

or shifts in the downstream flow of rivers. The tiger's two bodies—as well as the humans and nonhumans who encounter them—are part of the delta's densely interwoven terrain where imagination, biology, and materiality come together to shape present and future. In the Sundarbans, tigers assemble this frontier and are one of its emergent properties.

The Bengal tiger is not only the delta's most notorious predator; it is a nodal point in a broader web of predation—not only a hunter of the mangroves but a vector of politics that captures land and those that inhabit it. The tiger's two bodies work together to foment new forms of exploitation and expropriation in the delta and to enmesh them. Tigers are thus a suggestive point of entry into understanding the complex relations of this climate frontier. But tigers are only one such node. To understand the delta's broader ecology of capture, we must turn our attention to *dakats*—bandits who also prowl the mangroves and are likewise profoundly entangled in shaping its territory and rule.

Ecologies of Capture

It is January 2018, and I am sitting with Riton on a rickety dock in Khalia Chok, a small Bangladeshi village on the fringe of the Sundarbans and the India-Bangladesh border. We are chatting with Shotish, a jack-of-all-trades in the mangroves. Sometimes he works as a boatman for tourists who come to see the world's largest remaining mangrove forest. But more often he works inside the forest as a honey collector, fisherman, or crab collector. We are talking about the everyday challenges of eking out a living from the mangroves. These challenges are at once myriad and in flux. Shotish discusses the ways that the environmental and political impacts of climate change are reworking the siltscapes—the changing balance of *labonpani* to *mishtipani* in the rivers, the increasing regulations on when fishermen can fish the mangroves and how. But other more pressing dynamics are also at play. “Now the problem for us,” Shotish tells us, “is dakats.”

“Dakat” is often translated as “pirate” in the English-language press, but its meaning is closer to “bandit” or “robber.” It is often used interchangeably with the terms *jaladossu* (water bandit) and *bonadossu* (forest bandit). In the Sundarbans region, *dakat*—or more specifically *dakati* (the business of being a *dakat*)—refers to kidnapping by gangs of men navigating the Sundarbans's waterways in swift-moving boats. As Shotish tells us, trouble with *dakats* is on the rise. Contrasting *dakats* with the Sundarbans's most notorious killer, the Sundarbans tiger, he observes, “People don't fear tigers. No one fears tigers. If we are alert, is there any kind of animal who will come near to us? But the *dakats*, if they catch you, then you will have to pay one *lakh* [100,000] taka.” The dynamics of encounters with *dakats* are markedly similar. Fishermen operate in boats of three to six people. When their boats are accosted by *dakats*, one or sometimes two fishermen are



FIGURE 20. Drying fish catch, Dublar Chor.

taken and held hostage. They are released when the remaining fishermen pay a ransom—*muktipan*—via Bangladesh’s ubiquitous mobile banking system bKash.

Organized criminal activity in the Sundarbans has a long history, and dakat groups operating under its murky canopy have regularly appeared as bogeymen for both the colonial and postcolonial state.¹ The relationships between dakat groups and fishermen is, in some ways, unsurprising. It mirrors predatory relationships between criminal groups and those who work in their territories the world over.² What is more interesting is the way that dakati articulates with a much larger spectrum of transformations in the delta’s present and recent past. Despite the mangroves’ increasing regulation through conservation and other policing regimes, capture by dakats is a pressing concern for fishermen who ply the Sundarbans waterways. How are we to understand this paradox—the seeming increase in capture of fishermen by dakats at the very moment of increased enforcement and monitoring in the mangroves? To do so requires thinking of capture not as a singular event, but rather as constituting a networked ecology—an ecology of capture.

I define “capture” as a form of predation seeking not necessarily to kill, but rather to seize and control.³ Capture is a territorial phenomenon.⁴ It involves the regulation of what moves into (control of space) and out of (hunting and removal from space). Capture is the operating logic of work in the mangroves. Here, anxieties about the delta as climate threat capture the imaginations of international

donor organizations, who in turn transform the terrain of the delta through climate-resilient interventions. Environmental NGOs capture and secure the Sundarbans for conservation and the future of “humankind”—often encouraging and aiding state actors to capture poachers, dakats, and fishermen who work within its boundaries. Fishermen capture resources such as honey, fish, crab, and timber from the mangroves, surviving through small-scale but environmentally deleterious resource extraction. Fishing syndicates capture control of both markets and fishing territories—extracting rents from fishermen and profits from the marine catch. Forest officials regularly capture fishermen, sometimes demanding that they pay bribes or suffer jail time and the confiscation of their boats, the means of fishermen’s livelihoods. NGO and public resources meant for alternative livelihood training and other development schemes in the delta are winnowed away through elite capture. Paramilitary forces seek to make the Sundarbans “safe” for conservation and tourism and, in doing so, capture—and sometimes kill—dakats themselves. The logics of all these forms of capture differ, often radically so. Yet, they nonetheless interrelate, overlap, and shape each other in ways that defy simple causal explanations. To see these as allied practices—as opposed to separate and mutually distinct forms of predation, entrapment, and extraction—is to rethink the often surprising connections that tie activities like the kidnapping of fishermen to projects such as conservation under the mangrove canopy.

In this chapter, I trace these interrelations and linkages to argue that capture is a signature condition of life on this climate frontier. To explore the complex interplays of seizure, release, evasion, and escape—the delta’s ecology of capture—is to better understand the aleatory nature of rule in the delta and the challenges of forging life and livelihood in its midst.⁵ Many seek to control the dynamics of capture—to assert, a monopoly on predation within a given territory.⁶ Yet such projects are ephemeral, shifting, and conditional upon a broad spectrum of other predatory practices. I situate the delta’s fishing industry—the fishermen who capture animals from the delta’s murky waters, the dakats who prey on fishermen, the syndicates that organize fishing territories of the delta, and the government departments that seek to also regulate and control the extraction of marine life within it—at the heart of this exploration.⁷ While there are many points of entry into the delta’s ecology of capture, the fishing industry tells a crucial part of the story of the delta’s present. It does so precisely because it exposes the ways that the Sundarbans’s ecology of capture—like the swampy terrain on which it unfolds—is a protean, emergent system that structures possibility and, indeed, life.

CAPTURE ON A CLIMATE FRONTIER

We’re in Shoronkhola, a small market town not far from Mongla. Shoronkhola is a hub of sorts for those who work the mangrove forests. While Shoronkhola’s downtown is little more than an intersection of two roads, it is a constant hub of activity—its streets full of rickshaw vans carrying goods and people bustling to

buy and sell. A particular focus of this activity is a market where crab collectors come to sell their catch. We sit in one of the town's tea stalls. It is late afternoon. Work is done for the day, at least for the men gathered under the tea stall's make-shift roof. It's time to talk, to gossip, to smoke, to chew *paan*, to drink tea. As we drink, Gopal, a crab fisherman who has worked the delta for years, is discussing a range of concerns related to working in the mangroves.

Gopal's is a common story of life in the Sundarbans region. He was born in a village in the delta to a landless family whose primary income came from share-cropping and off-farm agricultural labor. Work used to be plentiful in Gopal's village, but with the rise of shrimp aquaculture in the 1980s, which radically reduced the need for workers, off-farm labor became harder to come by and smallholder agriculture more precarious. So, like many others, he went to the mangroves for work. For years, Gopal fished in the rivers. But more recently, he has switched to hunting crabs. The business fluctuates with the seasons, but overall it's fairly good. "Big crabs are harder to find these days. But if you can get them, the rate is not that bad," Gopal tells us.

Gopal's chief concern is something of a common complaint: Dakats have, in recent years, repeatedly taken him prisoner. As he explains, "Those who work the jungle are poor people, like me. We go there because we are hungry. If dakats take me, they beat me and tell me to give fifty thousand taka for my release. I may have nothing in my house, but I will have to pay them. What can I do? I'll collect the money by begging from all the people in my village."

As Gopal's discussion suggests, there are multiple forms of capture that constitute the fabric of life for a crab collector such as himself in the Sundarbans. At play are: the political ecology of shrimp aquaculture, which has pushed many to seek their fortunes fishing the mangrove forests; Gopal's ability to capture and collect crabs that will fetch a reasonable price in the market, allowing him to keep his family afloat; the realities of capture by dakats who prowl the waterways looking for fishermen such as Gopal. Each of these forms of capture are distinct—indeed are markedly different. But each articulate with each other in ways that have both practical and vital implication.

Dakati, as noted above, has a long history on this frontier.⁸ Dakati was once a hereditary business.⁹ But in postcolonial Bangladesh, dakat has become an identity that cleaves neither to family nor even to religion. Both Hindus and Muslims become dakats and sometimes serve in the same dakat groups. People drift into and out of dakati as personal circumstances change. Indeed, in the turbulent post-colonial period in Bangladesh, dakati has waxed and waned in articulation with both the region's frontier dynamics and broader shifts in the country's political economy. In difficult and uncertain times, many are forced to take to the forest. They do so not only to earn a living but also, often, to seek refuge from the law, debt, and political and other troubles at home.

For much of post-independence Bangladesh, the state has largely turned a blind eye to dakats.¹⁰ Many, including former dakats themselves, told me that dakat groups had financial links with powerful businessmen and government officials who, for a share of dakat profits, helped them manage business arrangements outside the mangroves. This permissive relationship began to shift with the rise of climate change-related programming in the Sundarbans. Many new climate initiatives simply intensify long-standing conservation measures in the forest. But alongside this new wave of funding there has emerged a set of programs and policies designed to improve policing, monitoring, and transparency within the mangroves—that is to say, to reestablish the monopoly on predation, or at least on the regulation of predation, within the mangrove forests.

Such programs affect more than just the criminal networks working in the forest. The mangroves provide a critical livelihood for many who live along its boundaries and work within it to extract fish, honey, timber, and crab from the forests. This kind of resource extraction has a long history.¹¹ Yet, as charted in chapter 2, in the past few decades the delta's agricultural (primarily rice-based) labor market has collapsed, concomitant with the rise of brackish water shrimp aquaculture in the delta region. This has pushed many people living along and near to the Sundarbans to pursue work in the forest. At the same time, much conservation and climate change-related policymaking seeks to eliminate small-scale resource extraction from the protected forest.¹² Such programming represents a vision of the Sundarbans in which the mangrove forest figures as a critical resource in need of preservation at all costs for humanity at large, and humans who live along and have historically worked within the forest figure as an environmental threat.¹³

The goal of these programs is to protect the mangroves by gradually reducing the extraction of their resources. They accomplish this through a range of techniques, including banning the collection of timber, reducing the number and duration of permits available for fishing, closing the forest to fishing during certain months to allow marine life to spawn, banning nets of a certain size, and more. Whether or not these programs achieve their goal, they place much of the burden of conservation on communities that rely on the mangrove forest for their livelihoods. These new conservation policies are enforced by forest officials who have the power to levy fines, confiscate boats, and file legal cases (most fishermen describe them as “flexible” in their willingness to enforce these laws). The policies are also enforced by new armed forest patrols, known as SMART Teams, which are run through the Forest Department. These teams are funded through national and international conservation programs whose mandate is to protect the Sundarbans from anthropogenic ecological degradation. Most fishermen describe SMART Teams as not flexible in the least.¹⁴

The Forest Department forms one pole in the regulation of the fishing business within the delta region. Fishermen must visit forest offices to secure their fishing

permits. They can be denied permits if they have a record of being caught violating forest regulations such as fishing during spawning season or using poisons or illegal nets. Fishermen occasionally complain that they can also be denied if they are not able to offer some form of payment. An equally important force in regulating the fishing industry in the region are fishing syndicates. These groups control the fishing business, its structure, and its pricing throughout the delta. Most directly, fishing syndicates control fishing in the Bay of Bengal, organizing fishing communities in remote islands in the Bay and regulating the transport and sale of fishing catches. But they also shape the contours of fishing in the Sundarbans at large and the practice of *dakati* within it. To understand the delta's ecology of capture, then, we must first explore the rise and structure of these syndicates.

EMPIRE OF CAPTURE

Goni Miah is a man of strong emotions. Short, bald, and stout, with a ruddy-face, and a short-cropped white beard, he commands a certain authority—one mingled with a hint of unpredictability and, perhaps, violence. Miah describes himself as an old *bawali*, a woodsman of the mangrove forests. But that term hardly encompasses his illustrious career. Miah has been both predator and prey in the forest, though more often the former than the latter. He has made a living as a fisherman, a crabber, a Mukti Joddha (Liberation War fighter), a smuggler, and a local political enforcer. Now he is semi-retired, one of the *matbor*—men of power and position—of Joymonir, a village that sits on the border of the Sundarbans.¹⁵ There, he presides over village politics and village gossip, typically the loudest voice in any debate.

I first met Miah years ago when passing through the village. We were having a conversation about fishing regulations with a Forest Department official when Miah shouldered in, seemingly from nowhere. He began waving his finger under the official's nose and shouting that the Forest Department was more interested in torturing fishermen than helping them. I was taken aback by Miah's brazen anger and lack of deference.¹⁶ Over time, I came to understand that such behavior was typical of him. He often goes from a whisper to an impassioned shout within the space of a single sentence. He will rush heedlessly across a crowded road to embrace you when he sees you coming, spit on the ground in fury when discussing a perceived injustice, openly weep when remembering a lost friend.

Today, we're lounging in the late winter sun in the courtyard of Miah's home, smoking a cigarette and drinking tea. I'm struggling to stay awake and stay attentive to Miah's often-digressive stories as I digest the massive lunch that his wife and daughter have fed us. Miah is in storytelling mode. The subject is his youth. Miah grew up near Khulna, on the fringe of the Sundarbans. In 1971, during the Liberation War, he took to the forest and joined the company of the legendary Major Ziauddin Ahmed—a hero of the Mukti Joddha who led a guerrilla campaign

against the Pakistani army from deep within the mangroves, striking at Pakistani ships and infrastructure before disappearing into the jungle.¹⁷ Miah's memories of those times are vivid. He becomes animated as he talks, shouting his assent or disagreement with our questions, loudly professing his enduring love and respect for Major Zia, who passed away in 2017.¹⁸ Miah describes the many guerrilla tactics that Zia's team used in their fight. At one point, much to my profound discomfort, he has me stand with my back to him while he uses me as a model to demonstrate how to strangle a man with a *gamcha*, the ubiquitous cloth scarf carried by most men in Bangladesh.

After the Liberation War, Miah tells us, Zia's company did not wish to turn in their guns and fall into line with the Awami League as they set about constituting the post-Pakistan Bangladeshi state. Instead, the company retreated into the mangroves, taking up residence on Dublar Char—an island that sits at the mouth of the Sundarbans in the estuarian ecotone between the jungle and the Bay of Bengal. There, they set about making a private empire, living off the bounty of the forest and the ocean.¹⁹ As Miah tells it, the government was jealous of Zia's power, and sent the army in to bring the charismatic Zia to heel. Miah remembers this as one of many moments when Zia demonstrated his quality as a leader. As Miah tells us, "That night the army surrounded us. Zia knew we were defeated. He told us, 'Go, I will deal with them.'" Miah and his compatriots escaped into the mangroves, fleeing under water using long reeds as breathing tubes. Zia remained to meet the army.

Miah's narrative posits Zia's return to the fold of state power following the Liberation War as a moment of capture, when the illustrious Mukti Bahini leader was forcibly returned into the fold of state power. Official narratives of Zia's life tell a somewhat different story of his relationship to the post-Liberation War state.²⁰ Following the Liberation War, Zia seems to have departed the region for almost nine years. In 1980, Zia returned to Dublar Char and, with a collection of family and compatriots from his military days, founded a syndicate that continues to organize and regulate much of the fishing business in the delta to this day. As Miah describes it, "The government knew that they could not control him, so they gave the island to him instead." He came to be known as the Mukuthin Somrat—crownless king—of the Sundarbans. Miah, despite his love for Zia, did not rejoin him. By that time, Miah had already moved to Joymoni to work as an enforcer for a local politician—continuing, all the while, to work the Sundarbans from a stabler and more permanent home beyond them.

Miah's narrative gestures toward the complex terrain of predation in the Sundarbans—the dialectical tugs of capture and release, seizure and escape; the complex politics of affiliation and tribute that often structure relationships within it; and the ways that one form of capture often seamlessly shades into another. But it also highlights an inflection point in the recent history of the delta region.²¹ It outlines a narrative in which armed and powerful men—*sahebs*—carved out

different regimes of rule and regulation not against state power but alongside of it. Zia's reclamation of Dublar Char marked a moment when the fishing economy of the region—a force that has come to structure the livelihood of thousands of fishermen who make their living from the delta's silty waters—was constituted anew.

CAPTURING THE BAY

Dublar Char has long been an outpost and encampment for fishermen. It is a large island at the very mouth of the Pasur River in the Sundarbans. It has a protected inlet on its northeast shore, where fishing trawlers can anchor and unload. On its southwestern shore is a broad sea beach. Much of the island, especially its shoreline, is denuded of mangroves, having been cleared to make space for the fishing business. During the fishing season, the island is literally covered in drying fish—hung from poles, laid out on raised wicker mats, or lying on mats on the ground. A pungent smell permeates everything. Approached from downwind, you can smell Dublar Char from a kilometer out to sea. Up close, one of the most striking things about the business are the sheer variety of fish on offer. These range from tiny, inch-long sardines to massive sea fish, split open and fitted with wicker rings to facilitate the drying process. Small huts that comprise living quarters and workspaces dot the island. Fishing from Dublar Char thus constitutes a distinct form of labor migration that many find preferable to and more profitable than migration to urban areas within the country or across the border.

The fishing season on Dublar Char lasts from October to March. During this time, thousands of fishermen, subdivided into teams of nine, set up camp on the island and fish more or less continuously. These teams are typically from the same village and, sometimes, the same family. At any given time, seven members of the team fish the Bay. The remaining two stay on the island, working to dry, bundle, and ship the fish back to the mainland. All of these laborers work for a mohajan—a moneylender. The mohajan advances cash to the members of the team to cover expenses while they are away from their families for months at a time. But he also often travels with the teams, working as an on-island laborer, and negotiating prices for the shipments of fish back to the mainland, keeping an eye on his investments. Mohajans often own the boats from which their teams fish, though occasionally they work on behalf of someone else on the mainland or are a shareholder in boat ownership. Powerful mohajans own multiple boats and run multiple fishing teams.

Dublar Char is a fisher's siltscape—an intensely masculine space where fishermen live for months on end, separated from their families and from the everyday realities of life and social reproduction on the mainland.²² There are no women on the island. In the island's interior, a makeshift village with a handful of general shops, eateries, and tea stalls cater to the needs of the thousands of fisherman who live here during the fishing season. Immediately adjacent to this village is a

canal deep enough for trawlers and larger ships to anchor. The fishing syndicates on Dublar Char primarily fish for domestic consumption, with the exception of pomfret fish, some of which are exported. Transport vessels dock here to be filled to the gunwales with dried fish and sent up through the Sundarbans to markets in the delta where the fish are repackaged and redirected to points elsewhere. These transport vessels are owned and run by the syndicates. This is the sole formal role that the syndicates play in the business—moving the catch from the island to the mainland. It is an empire, at least on paper, of shipping. Yet the power of the syndicates to order life in the delta is much more extensive.

The story of the fishing industry in post-Liberation War Bangladesh is murky and difficult to piece together. But Zia, and the fishing syndicate he founded on Dublar Char, feature prominently within it. Zia's syndicate established a home and infrastructure on the island—over time building a system of territorial and economic control that spread inward from the mouth of the Sundarbans to shape life and political economy throughout the delta. Zia's syndicate, along with the small number of other syndicates that now share power with it, are not formal, informal, or criminal in a classical sense. It is better to understand them as paralegal—operating not in defiance of official regulation but rather in parallel with it.

Dublar Char is not an easy place to get to during the fishing season for an anthropologist like me.²³ I spent years trying to get someone to take me there. When Riton and I are able to arrange a visit in the winter of 2020, I have high hopes of meeting representatives of the fishing syndicates I have heard so much about. I am not disappointed. Shortly after disembarking, our friend Monir, who lives in the delta region and is intimately familiar with its key figures, turns to Riton with excitement and beckons us forward. We're in luck. We've arrived at precisely the right time to meet Kamal Saheb, Zia's younger brother, who took control of the syndicate after his death. Kamal is on Dublar Char for a few days. He is holding court in a tented area on the corner of the market town's main street. He sits behind a makeshift desk as a steady stream of mohajans come to him to resolve this problem or that. As we arrive that work immediately ceases.

Kamal is like many powerful individuals I have interviewed in Bangladesh. He is magnanimous, expansive, and an expert in speaking openly and saying very little. His conversation with us is, itself, a performance of power—hosting a foreign researcher in a public space within the island and inviting Riton and me to occupy the seats in front of his desk which are normally reserved for mohajans who come to ask for his help. His lieutenants and factotums cluster behind him as we talk. They are as likely to answer our questions as he is. When Kamal does speak, he offers broad statements, platitudes, and vague explanations that color around the edges of our questions and commit him to nothing.

Kamal, seeming to anticipate my purpose, immediately downplays his influence on the island. He holds very little power in Dublar Char, he tells us. Most of his time is devoted to running the Dublar Char Jele Shomitee—Dublar Char

Fisherman's Group—an organization that manages petty disputes on the island and ensures that no serious conflicts emerge that might disrupt the smooth running of the fishing business. Kamal's bland description underplays his role in the management of fishing in the Bay. The Shomitee is the central system for organizing space on the island. Through the Shomitee, Kamal ensures the orderly management and distribution of land that *mohajans* rent during the fishing season. It further ensures the smooth management of the fishing business, offers a modicum of security to those who labor within it, and provides access to the transportation vessels that connect fishermen to markets. While Dublar Char is nominally government land—owned and managed by the Forest Department—it is unambiguously syndicate territory. The Shomitee and the island itself is a system through which the syndicates capture rents, organize protection, and maintain a monopoly on transportation and market access.

Kamal chats with us about Dublar Char, about the construction of various buildings on it, and about his history with the fishing business. Our discussion shifts to life on the island and why so many are willing to live here for half of the year. His answer hinges on freedom:

Gradually, the number of fishermen increased over time. You can see today that many fishermen come here to work for the season. The easiest way to explain why is this: we are catching these fish [he gestures expansively about him] from the water. These are fish from the river. We are not purchasing these fish from anyone. Fish are free. We are catching these fish from the sea. We do not need to pay any money to the ocean. We pay taxes to the government, but nothing else. We don't take anything from the government, we don't need anything from them. As a result, many would like to join this profession.

Kamal's response frames the fishing business as a voluntary space characterized by freedom. The fish are resources there for the taking, belonging to no one, offering value to those willing to invest their labor in the catch. Here, fishermen escape the clutches of a regulatory state, of stultifying and immutable wage labor systems, of domestic routines of production and reproduction. Kamal's claim maps not only to classic narratives of the sea as freedom but to imaginations of islands as redoubts of self-determination—spaces of maneuver in a world of restriction. Such freedom may explain why some fishermen come to Dublar Char year in and year out—though none that I spoke to other than Kamal communicated this to me. But it also belies the complexities of fishing in the delta. It ignores the eroding agricultural labor markets that have forced poor and landless laborers to migrate away from their homes and communities and into the mangroves, the debt which ties fishermen to *mohajans* for seasons on end, the rigid hierarchies of the syndicates that demand that everyone pay up to a small number of figures such as Kamal.

The fishing syndicates that emerged in the post-Liberation War delta are neither new nor unique. The syndicate's organization is a variation on a theme repeated throughout South Asia. The seizure of control of the fishing business by men such as Major Zia should be understood more as displacements of older structures of control than new formations. Unsurprisingly, this form of resource capture and extraction begets other forms of capture. As fishing syndicates gained toeholds in places like Dublar Char and as the fishing business settled into new and more stable configurations following the disturbances of the Liberation War, dakat groups emerged to prey on fishermen working the mangroves and the Bay of Bengal, extracting their own rents and protection money from individuals and boats on a territorial basis.

According to Kamal, part of the work of men like himself is to offer protection to fishermen—at least to those who fish from Dublar Char—from dakats. Indeed, the Dublar Char Jele Shomitee that Kamal now runs was formed by Zia with the stated intention of securing the island from dakat raids. Yet the relationships between dakats, syndicates, and fishermen is more a negotiated terrain than one characterized by unambiguous relations of predator and prey. This was explained to me by Shohag, the retired head of Master Bahini—one of the largest and most powerful dakat groups in the delta in the past two decades. As he told me, “Honestly, we had a very good relations with the fishing business [the syndicates]. If they wanted to run their business, they had to make contact with us.”

According to Shohag, the relationship between dakati in the mangroves and dakati in the bay was largely seasonal.

Mainly we used to go for that kind of deep-sea operation [preying on fishermen in the Bay as opposed to in the mangroves] during the rainy season. At the beginning [of my time as a dakat], we did not understand that there was a lot of money running in the deep sea. Before that, we used to only move in the narrow canals in the Sundarbans, capturing honey collectors, crab collectors, fishermen. They could give us a very small amount of money. But later we realized that there was much money in the hands of those in the deep sea. So, we went to Dublar Char. Thousands and thousands of fishermen were living there. In the night, we landed on the island. We called the mohajans and asked them, How much money would you like to give per head?

Shohag's narrative seems to suggest that dakats and syndicates are better understood as making overlapping and negotiated claims on fishermen, rather than as being in direct competition. Many fishermen, indeed, take this argument a step further, suggesting that dakats are simply another group that pay protection money up the chain to the sahebs who run the syndicates—that is, that they pay for the privilege of preying on fishermen. Such stories are difficult to confirm, but Shohag suggests that at the very least there was a loose affiliation between dakats and syndicates. Making reference to Kamal, Shohag notes, “He never threatened us. He used to talk with us over cell phone all the time.” In other words, the

post-Liberation War Sundarbans is a resource frontier where fishing and dakati exist in mutual relation.

DAKAT TERRITORIES

Whatever the relationship between syndicates and dakats, the two groups have provided a structuring logic to space and to marine political economy in both the Bay of Bengal and the Sundarbans. Historically, dakats served more or less as strongmen in particular locales in the Sundarbans. Fishermen would pay these groups for protection and for the right to fish in their territory—materialized in the form of renewable passes. These passes were purchased from representatives of dakats living in towns and villages surrounding the Sundarbans. Fishermen would then carry these passes with them to present as proof of payment if they were intercepted inside the jungle. Fishermen would also often help dakats by transporting food and other goods for them. The pass system thus highlighted both the relative connections—indeed, fluidity—between dakats and fishermen and the spatial nature of patronage and rule under the mangrove canopy.

Zia Alam, a retired dakat, emphasized the explicitly territorial nature of dakati. “Inside the jangal, the biggest problem is fighting between groups. If there are two groups in one place, they will fight until none remain. So, groups defend the area they control by any means. When another group comes, they start shooting. We had our own area. And mainly, we did not leave it.” This system allowed fishermen to know exactly whose territory they fished in. Alam continued,

The fishermen knew what area was controlled by what group, so they knew who to give money to. They knew it even better than we did. There were permitted fishermen and also nonpermitted fishermen. If a nonpermitted fisherman came before us, he would definitely have to pay us money. If he could show us a permit, he would be able to survive; otherwise . . .

Alam’s explanation underscores the existence not only of territorial rule but also of a profoundly territorial moral economy of dakati.²⁴ Until recently, dakat’s principal livelihood involved extracting various forms of rents from within the territory they controlled. Such territories were well-defined, mapping to particular rivers, ranges, and spaces within the forest. The boundaries of such territory, according to Alam, were established and occasionally contested in skirmishes with rival dakat groups. The relative size of a territory was proportional to a group’s size, strength, and resources (guns, boats, and networks outside the mangroves). Indeed, the very nature of dakat power was territorial. When I asked Shohag about clashes between dakat groups in the Sundarbans, he explained this to me as a project of securing a monopoly on capture within a given territory. “The reason [for conflict] was to show your power and fight for your territory. I would not allow anyone to come

near me in our range. My group was prime there. Why would we allow another group to enter? That is power (*khomota*).”²⁵

If dakati in the Sundarbans was historically a territorial affair, today this dynamic has changed. The emergence of the Sundarbans as a ground zero of climate change has led to intense international pressure to manage and secure the mangroves from unlicensed intruders. As important have been new governmental law-and-order imperatives seeking to eliminate threats to state territorial control. After the Holey Artisan Bakery attack in Dhaka in 2016—during which a group of five militants seized control of an upscale café in Dhaka, killing twenty-two patrons and two police officers—the ruling Awami League launched a massive countrywide law-and-order initiative meant to crack down on Islamist groups, criminals, and other “anti-national” actors. The principal instrument of this initiative was the notorious Rapid Action Battalion (RAB)—a paramilitary force infamous for killing in “crossfire” those it is sent to arrest.²⁶ These displays of force had a range of intended and unintended consequences. But one important dynamic in the crackdown was to establish legitimacy by reasserting territorial control through publicly hunting, capturing, and often killing enemies of the state.²⁷ The last few years have consequently seen a stepping-up of policing in the Sundarbans to quell dakati in the mangroves, carried out by both RAB and the newly formed, well-equipped, and internationally funded SMART Teams. It is an open question whether such crackdowns are successful in their goal of eliminating dakati. Yet they have succeeded in significantly reconfiguring the territorial basis of dakat activity inside the mangroves.

Dakat groups are now smaller and control less area than in the past, but their predation has become more fierce. Whereas dakat groups used to consist of eighteen to as many as fifty people, they now more commonly have only five to six members. Because of the increased risk and smaller number of fishermen that each group can target, dakats have dramatically increased their ransom demands. Previously, most fishermen agreed, demands were reasonable—a few hundred taka. Additionally, the permit system allowed fishermen to operate in relative safety inside the forest. Now groups are demanding amounts that far outstrip fishermen’s incomes. As Alam explained, “They cannot control a big space. They catch a few people, but they have to collect lots of money. They have to torture people to get it. If we captured ten fishermen and collected one taka per head, we earned ten taka. But now they have to try to collect the same amount of money from two fishermen.” This places tremendous pressure on fishermen in the Sundarbans. Before, fishermen could predictably work within a single large dakat territory, but new, smaller dakat groups can control only small territories. To the extent that such territories exist, they are uncertain, in constant flux, and overlapping. As our friend Jolil told me, “You may run into one group on one side of the canal and negotiate your release, but then you will run into another at the other end and have to start the whole negotiation

again.” Thus, old moral economies of fishing eroded under the pressure wrought by national concerns over law and order and international concerns over the planetary threat of climate change. In the process, the Sundarbans has emerged as a new terrain of uncertainty, threat, and exploitation.

THE SOCIAL LIFE OF CAPTURE AND RELEASE

Kidnapping is only one form of illegal activity that unfolds under the mangrove canopy. As many have traced, the forest hosts a range of activities, such as illegal logging, tiger poaching (for the lucrative international trade in animal parts), deer poaching (for food), and smuggling—guns, narcotics, fertilizer, cattle, and more—across the India-Bangladesh border.²⁸ Residents of the region, and indeed dakats themselves, firmly distinguish between these activities—described as *do* or *dui nombori* (literally “second number,” but better understood as “disreputable” or “illicit”) business, and dakati, which typically refers to the kidnapping of fishermen. The distinction between dakati and *do nombori* is fuzzy at best. Most of the region’s journalists, government officials, and residents understand dakat groups to be engaged in all these activities. Moreover, many fishermen supplement their meager earnings through *do nombori* activities, sometimes in collusion with dakat groups that can supply rapid and armed transportation through the mangroves and other forms of protection.

Most dakats whom I have spoken with vehemently deny involvement in *do nombori*, especially any illicit activities that could be interpreted as harming mangrove ecologies. Some dakats have surrendered to the government and given up dakati (more on this below). Those that have often style themselves as heroic defenders of the mangroves—intervening to stop poachers and to punish fishermen who use illegal fishing techniques. Surrendered dakats, by framing themselves as eco-bandits, reproduce popular and scholarly imaginations of social banditry as a protest against the exploitation of land and resources.²⁹

Dakat groups are typically organized around a single charismatic leader. The groups take on the names or the nicknames of these leaders. Shohag’s group, for example, was named “Master Bahini” because, as Shohag told me, he borrowed the more impressive sounding name of one of his lieutenants.³⁰ Another range in the Sundarbans was controlled by two powerful groups run by brothers, one known as Raju Bahini (Raju’s Army) and one as Choto Bhai Bahini ([Raju’s] Little Brother’s Army). These groups live inside the Sundarbans, shifting from place to place, occasionally establishing more permanent bases. Dakat groups also rely on connections outside the forest for their survival. They work through middlemen in towns and urban areas in the Sundarbans region, and these middlemen provide them with goods, such as firearms and food, and manage their finances, passing portions of their profits on to powerful elites and government officials in the region to ensure dakati’s continued smooth working.

Dakati enables the capture of wealth through violence and occasionally lethal power. The dakat system relies on both the materiality of the Sundarbans itself and a broader network of parties enmeshed in the region's political economy. Dakati thrives in the Sundarbans in part because the mangroves are a shifting terrain, difficult to map and manage. In the Sundarbans, local knowledge of routes, navigation hazards, and temporalities of fishing and other kinds of resource extraction at once enable dakat groups to exploit local populations and to evade law enforcement. Retired dakats describe the ease with which forest officials could be monitored, bribed, and otherwise evaded. They claim that their situated knowledge of the mangrove's damp siltscape allowed them to move through the forest in ways that government officials categorically cannot.

Being a member of a dakat group is more than just a livelihood. It is also a way of life. Surrendered dakats I spoke with all described their current life as more peaceful than life in the jungle. Yet they also wax nostalgic for the community and freedom of dakati. Women typically do not fish in the forest in Bangladesh, and they are not part of dakat groups.³¹ Dakats I spoke with vehemently denied that they ever abducted women. And while dakats rely on women to maintain families and often businesses while they spend months and sometimes years in the forest, most scoffed at my questions about whether women ever participated in dakati. Consequently, dakat groups are intensely masculine spaces. Like Dublar Char, they are characterized by the displacement of women.³² The masculine companionship and sociality of such spaces constitutes its own form of resource. Many former dakats speak of the powerful loyalties and brotherhoods that emerged in dakat groups. Some described their relationships as "sharing the same blanket." Others readily talked about the pain of being estranged from families outside the mangroves, contrasting it with the forms of freedom experienced in the forest interior.³³

The social category of dakat is much more fluid than official and media discussions make it out to be. Unsurprisingly, people often drift into and out of dakati as fortunes and opportunities change within the delta. Dakat groups are composed partly through village and kin networks, but they also employ men who flee to the forest for other reasons. Joining dakat groups can be a way to escape various forms of trouble at home—legal, financial, and otherwise. As Shohag described his own reason for becoming a dakat:

There were bad politics in this area. . . . There was constant conflict. I had twelve legal cases against me. I am a poor man. My father also was a poor man. I couldn't bear the expenses of the cases with the money I was earning. I had a relative who was the head of Raju Bahini. He called me and invited me to join him in the Sundarbans. Given my troubles at home, I decided that I would have to join him.

Shohag speaks to ways that the mangroves have been a space of refuge—a zone that could offer alternative livelihoods and shelter in times of political and economic turmoil.

Yet the very act of becoming a dakat often constitutes a form of capture. Consider, for example, Sayeed's story. Sayeed surrendered in 2016 and now works in the shrimp business. When Sayeed was in his late teens, he and his brother, who had gone into the mangroves to collect firewood, were accosted by dakats.

They took my younger brother, but they gave me a chance for freedom. They told me, "Do not discuss anything with anybody. If you tell anyone what has happened here, we will kill your brother. Go and bring food back for us." So I left the jungle and returned carrying food for them. After I returned, they said, "*Bhai* [brother], you cannot go now. You will have to stay here for two days. The day after tomorrow, you can go home. We have some work that you need to help us with first." The next morning, they said, "*Bhai*, go to your house and bring back some rice for us. After eating rice, we will free you both." So again I left the jungle. I went to the nearest village and got rice and chicken. I brought these things back to them. Then they said, "Okay, when it is dark, in the evening, we will let you go." For ten days, it went on like this, this kind *habijabi kaj* [back and forth work].

When Sayeed and his brother finally were released, they found that their situation at home had changed. A neighbor in their village with whom Sayeed's family had a land dispute had begun to spread rumors that Sayeed had joined a dakat group. "Somehow, he realized we were captured by dakats. He told me, 'You have given food to dakats. Everyone knows it. The police have a case against you. But if you give me some money, we can arrange a solution.'" Sayeed realized that he was trapped. Unable to pay and realizing that his situation at home was perilous, he decided he had no choice but to return to the Sundarbans to seek out his captors.

I entered the jungle alone after that. I had no fear for tigers or anything else. When I found them, I explained the situation, and they said, "Okay, let's see if we can do anything for you." So I stayed. I started paddling the boat. They made me pilot the boat as they went about their business. But some of the people they captured knew me. So, the news spread that I was working with dakats. I was a victim of the situation. [. . .] What could I do? I had no elder brother, I had no father who I could go to. And my younger brother and sister had no food. I had no relatives who would help our family.

Sayeed's captivity narrative offers a vernacular theory of power within the delta.³⁴ Here, Sayeed highlights the multiple recursive relationships between forms of capture inside and outside the Sundarbans. Environmental change in the delta—linked to both climate change and the multi-decade boom in shrimp aquaculture—has pushed the margins for smallholders and landless families up to, and often past, the breaking point. Against this backdrop, land disputes, indebtedness, and legal troubles often push people into dakati—both as a means to escape legal troubles at home and to provide for struggling families.³⁵ Moreover, Sayeed's narrative hints at how release may never be complete; release and capture are dialectically entwined. Dakati here is both a form of escape and a form of entrapment. In

the Sundarbans release from capture may, and often does, simply open into other forms of capture and captivity.

There is an intimate relationship between what happens within the forest and communities that live on its fringe. Those who flee troubles in their home villages regularly encounter people from those communities in the mangroves. Such familiarity can make return and release even more difficult. As Sayeed sarcastically put it, "So when there is a problem there, I come here. When I come here, a new problem happens there. It was an excellent situation."

WEDGED BETWEEN DAKATI AND THE LAW

"You will have to pay however you can. If you cannot pay them [dakati groups], they will not give you a chance to escape." We are sitting on a beach talking to a young man named Hassan as he re-tars the hull of a fishing boat.

They beat you mercilessly. They will hold you for four, five, six days. However long it takes. During this time, if anything happens, if they run into trouble with law enforcement teams, then you are finished. All will die. Suppose they encounter a RAB [Rapid Action Battalion] team. How will they [RAB] know who [on the dakati boat] has been captured and who has not? They don't know whether we are fishermen or dakatis. They just start shooting. Mainly, it is the fishermen who die.

Hassan goes on to recount his own capture in sparse details. He tells us that while he was out fishing on a boat with three other fishermen, they were accosted by dakatis and forced into a small canal. There, Hassan was removed from the boat and held for six days. His captors demanded fifty thousand taka, but he bargained them down to twelve thousand taka. While his family pulled together the funds, he worked for the dakatis, cooking, rowing the boat, whatever they demanded. When his family finally sent the money, he was put on another fishing boat, replacing another fisherman whom the dakatis had taken for ransom, and sent home.

Dakati groups are constantly on the move. Their ability to move freely and their knowledge of the watery terrain allow them to avoid regular confrontations with law enforcement. Yet these confrontations do happen. The dakati system has persisted with little, or at best periodic, intervention from local law enforcement and politicians in postcolonial Bangladesh. It might be thought of as a paradigmatic example of the distinction between the illegal and illicit (legally and socially maligned activity) and the illegal but licit (illegal but socially tolerated activity).³⁶ With the emergence of new anxieties over the Sundarbans's climatic vulnerability, however, dakatis are seen as posing an anthropogenic threat to both those *within* the mangroves and the mangroves themselves. Or, perhaps more accurately, their free rein in the mangroves challenges imperatives and funding streams from international organizations and NGOs. Over the past five years, there have been increasingly regular reports in Bangladeshi media enumerating the deaths of dakatis in

encounters with RAB and other law enforcement groups. Often, the bodies of those killed are paraded as evidence that the Bangladesh government has reasserted its territorial power and monopoly on capture under the forest canopy. As Hassan's commentary suggests, these killings can often be indiscriminate. Dakats wear no uniforms. Who is to say whether those killed are captors or captives?

Yet, as Hassan narrates, there is a more intimate relationship between regulation and dakati in the mangroves. He tells us:

We have two problems. One is dakats. The other is the Forest Department. Even if we catch fish by net [that is, legally], the Forest Department officials tell us that we have caught them with poison [that is, illegally]. They don't believe what we tell them. Whatever they say is right, whatever we say is a lie. If they want to send us to the prison cell, they can. They have power. So we have two fears: dakats and forest officials.

In other words, for fishermen in the Sundarbans, capture by forest officials can be just as disastrous as capture by dakats.

Hassan's observations highlight one of the dynamics of increased dakati in the contemporary moment. New mobile banking technologies such as bKash—widely available in Bangladesh since 2011—provide a means of payment that radically reduces dakat groups' risk of exposure. They now rely on digital money transfers and a steady circulation of boats through their territories rather than on setting up ransom-prisoner exchanges—moments when dakat groups are vulnerable to interception by law enforcement. Frictionless mobile technologies thus also reduce friction for criminal networks, which use them with impunity. While such technologies purport to offer security and transparency, as well as speed and convenience, fishermen are typically unwilling and unable to call on law enforcement for protection, since they believe that doing so is as likely to expose them to additional exploitation by the police. This itself is linked to the profusion of new policies directed at the Sundarbans that reduce the number of legal fishing permits and place stringent limits on fishing practices—further criminalizing fishing livelihoods and exposing fishermen to new risks of capture not only by dakats but also by police and forest officials.

Fishermen in the Sundarbans have long operated on the margins of law in the forest. Yet the profusion of new attempts to preserve the Sundarbans for the future heritage of the region and the globe has undermined their capacity to seek assistance from those who regulate the mangroves. On the one hand, these new policies often necessitate that fishermen break the law to make a living.³⁷ Fishermen are often quite clear about the relationship between these policies and illegal activities in the Sundarbans. As one told me, "Without [government] fishing permits, what can we do? Should we and our families starve? If we cannot get a permit, we use other techniques." Such techniques include everything from simply fishing the Sundarbans without permits to poison fishing—in which fishermen dam small canals with fishing nets, flood them with pesticides, and collect the bodies



FIGURE 21. Confiscated boats, Forest Department Office, Joymoni.

of fish as the tide goes out. On the other hand, these new policies have made it difficult for apprehended fishermen to prove their innocence. They are assumed guilty of violating forest policy, which can be difficult to disprove. This leads to the confiscation of valuable assets, such as boats, and to imprisonment, onerous fines, and blacklisting, which makes it impossible to obtain permits to legally work the mangroves in the future. Fishermen further argue that this also increases the threat of forest officials who can—at least according to fishermen—demand bribes and subject them to other forms of extortion. New laws and enforcement measures have, then, contributed doubly to increasing precarity for individuals and communities who live adjacent to, and who rely on, the Sundarbans for survival. Such policies have criminalized fishermen and undermined their ability to seek help from law enforcement.

New forest policies, prompted by international and national concerns about the preservation of the Sundarbans in the face of climate change, appear to tighten a viselike grip on fishermen caught between forest officials and other law enforcement institutions on the one hand and dakats on the other. The articulation between these two forms of capture is seen as overt by many fishermen. I asked Miah if he believed that forest officials and dakats were connected. Growing red in the face, he shouted at me, “Of course. They have a good connection with them. They [the forest officials] arrest poor fishermen and confiscate their goods. If they

want to get at more powerful fishermen, like me, they will call the dakats and tell them to take me.”

Retired dakats confirm an intimate relationship with forest officials, often describing taking over their shelters for feasts or for protection from storms—though in their framing it is usually the forest officials who did their bidding, not the other way around. Forest officials, not surprisingly, deny such connections. One expressed his disgust at the leniency of law enforcement, telling me that all dakats should simply be shot (something which frequently does happen in encounters with policing units). Whether or not collusion exists between dakats and forest officials, Miah’s comment highlights a central fact of life for fishermen: the distinction between law and dakati is ambiguous, and navigating it is fraught with the risk of capture.

CAPTURE AND SURRENDER

If international pressure around conservation and climate has dovetailed with political imperatives to tackle the challenge of dakati, not all approaches to addressing this challenge have involved paramilitary force. The 2016 Surrender Program—organized in part through the advocacy efforts of a journalist named Mohsin Ul Hakim³⁸—attempts to tackle the question of securing the mangroves by peacefully bringing the most notorious dakats out of the forest and back into their home communities. Dakats go through this in exchange for a significant cash settlement—upward of one lakh taka—and provisional amnesty. The program might thus be thought of as a trap—a mechanism through which dakats affect their own capture.³⁹ The program also sends a clear signal to the international community that Bangladesh is taking the question of protecting the Sundarbans seriously.⁴⁰ The program has attracted, if not international fanfare, significant press coverage.⁴¹ But just as importantly, it provides a way for the government to signal its success at maintaining law and order—a question that arose with marked urgency in the context of the 2014 national elections, before and after which the Awami League suppressed opposition parties while a wave of extremist attacks swept the country.

Consequently, the Surrender Program is a highly mediatized affair that involves a public ritual in which dakats surrender themselves and their firearms to the home minister as members of law enforcement, journalists, and television crews look on. The Surrender Program stages a performance of submission to state power, complete with an elaborate process of handing over firearms to police officials and government representatives standing behind garlanded tables and curated displays of captured weapons. The intent and meaning of the performance is clear—the act of surrender brings dakats back into the fold of subservience to government. Surrendered dakats described to me in excruciating detail the anxieties of the decision, the convoluted process of negotiating the terms of surrender with RAB, the palpable fear that they might be killed in the process, and the ongoing worry that

the government would change its mind and decide to prosecute their crimes. Surrender and release are as saturated with risk and terror as the act of capture itself.

The Surrender Program has been presented as a highly successful government initiative. As of 2018, it had led to the surrender of 274 people composing twenty-nine dakat groups, leading then Prime Minister Sheikh Hasina to declare the Sundarbans “pirate free.”⁴² Many fishermen I spoke with in January 2020 suggested that dakati had indeed decreased as a result of the Surrender Program. The realities of surrender are, however, more complicated. Long after Hasina’s declaration, Bangladeshi papers continue to report encounters between RAB and dakat groups and fishermen continue to be abducted in the mangroves. Some of these remaining groups may be suspicious of the government’s intentions. Yet some surrendered dakats suggest a more troubling outcome of the program. The allure of the cash settlement and amnesty, they suggest, has encouraged some new dakat groups to form, and it has provoked them to increase the violence and frequency of kidnapping so that they can acquire the notoriety necessary to become eligible for surrender. The Surrender Program, then, highlights a moral hazard of capture—paradoxically necessitating an escalation of violence to secure amnesty from prosecution.⁴³

THE PERFORMANCE OF CAPTURE

It’s winter of January 2020, and Riton and I are enjoying our last breakfast in Munshiganj. Later, we’ll make the journey north to Jessore to fly back to Dhaka and then, for me, back home to Texas. As I mop my plate with the last corner of my roti, Riton gets a cell phone call from our friend Monir. Riton ends the call, jumps up from the table, and tells me, “We have to go. Now! Something is happening.” We’re already on Riton’s motorcycle and hurtling toward town before I can ask Riton to explain. A group of fishermen were caught crabbing illegally in the Sundarbans last night. They are being held prisoner in the Munshiganj jail.

This is not something I especially want to see. I try in vain to explain to Riton that I have no interest in making a spectacle of others’ misfortune over the noise of the motorcycle. But Riton keeps driving and we are soon at the jail. There, we are quickly ushered inside to see the fishermen, a group of young men, perhaps in their early twenties. They look tired, but otherwise none the worse for the wear. We are not allowed to talk to them, but much to my surprise, they look anything but dismayed at their capture. As we come in, they begin joking and mugging for me and for a local newspaper reporter who has shouldered his way into the jail alongside us.

Outside, the fishermen’s families have gathered. Some of the fishermen’s young wives are quietly weeping. Others are watching the jail or chatting amongst themselves. I suggest to Riton that we leave, but he encourages me to wait a few moments. Monir is on his way to say goodbye to us. While we wait, the fishermen

are released. Escorted by armed forest officials, they are taken out of the jail and returned to their families as a small crowd looks on. I note that few seem overly concerned. The fishermen continue their performances of bravado—laughing, shouting to friends who are there to see their release. The forest officials look like they are most interested in getting the release over with so they can get back to other business, or to breakfast. The reporter looks bored. It strikes me that we are witnessing a well-rehearsed performance of capture and release.⁴⁴ Indeed, I suspect that we too may have been drafted into the role of witnesses to this performance.⁴⁵ Soon the small crowd disperses. Some head to work, others to the nearest tea stall. We give our regards to Monir, pick up our bags, and depart for Jessore.

The performative nature of this event speaks to the routine of capture and release in the Sundarbans. Seizure of fishermen by dakats or by the Forest Department—as well as evasion of such seizures—are part of the fabric of daily life for those who work the mangroves. The performance of capture—the public evidence that monopolies on predation are being enforced and secured—is critical component of this ecology. Capture constitutes the fabric of work in the Sundarbans. Yet, just because such events are routine does not mean that the stakes in such events are not high. They are moments ripe with the potential for possibly lethal violence, in which the precarity of life for fishermen and their families is dramatized, concretized, and deepened. Moreover, they are moments with ongoing consequences. These fishermen will pay fines that their families likely can ill afford. They will have a difficult time securing permits to fish the forests legally in the future.

Fishermen in the delta are fond of responding to questions about the predicaments of working the delta against this increasingly saturated terrain of capture with a question of their own: *ki korte pari* (“What can I do”)? They are not about to let their families starve. Their education and experience make it unlikely that they will find work in the new export processing zones being constructed in the Mongla-Khulna industrial corridor discussed in the next chapter. They know that migrating to Dhaka or across the border to Kolkata is fraught with its own uncertainties, miseries, and risks. The unspoken answer to this question—“What can I do?”—is that they must adopt new strategies. They fish around the corners of the law. They use tools such as fine mesh nets and poison that allow them to fish faster and more efficiently but have dramatically greater impacts on the mangrove’s fragile ecology. They enlist in usurious bargains with local mohajans to migrate to Dublar Char for half the year. All the while, they deepen their enmeshment in the Sundarbans’s ecology of capture.

Capture, and the ecology thereof, help us see the entanglements amongst processes that superficially appear distinct. In the frontier space of the Sundarbans—where distinctions between different forms of territorial rule can be as muddy as distinctions between different forms of matter—the overt and covert articulations between threats of capture are particularly marked. The emergence of, or shifts

in, one mode of predation creates new configurations of opportunity in a range of others. New regimes of conservation fueled by global anxieties about a warming world overlap with new priorities of law and order to unsettle and remake the territorial basis of dakati. Small-scale land grabbing and property disputes on the forest fringe force people to escape to and be captured by dakat groups. Policies that attempt to configure space to clarify who has the right to prey on whom or what (and, as importantly, how) are moments when exploitation and opportunity are renegotiated and retrenched—as fishermen navigate new conservation measures that keep them from legally fishing in the forest, they simultaneously become more vulnerable to predation by state agents. Thinking about these processes through the lens of capture allows us to see them as at once articulating with each other and as part of the broader ecology of this climate frontier. From dakats to forest officials to fishermen to resources, in the Sundarbans it appears to be capture all the way down.

The Future Frontier

It is 2017, and Riton and I are at a development fair (Unnayon Mela) in Mongla city. Mongla is a comparatively small but rapidly growing urban area. When I first visited it in 2007, it was a sleepy port town, known primarily as Bangladesh's tourist gateway to the Sundarbans. It remains a tourist hub today. The city's walls are plastered with posters and billboards for forest trips and touts gather at transit points promising jungle adventures, luxury eco-resort stays, and close encounters with Sundarbans wildlife—perhaps, even, the elusive king of the jungle, the Sundarbans tiger. Since my first visit, the city has changed dramatically. Where once it was a sleepy port town, it has now become a frontier boomtown, bustling with change and possibility.¹ Indeed, over the past decade, Mongla has begun preparing for radical transformation—for a future of economic prosperity and sustainable growth.

Mongla is a city defined by its relationship to water. To its west, the expansive Pasur River flows, draining upstream water and sediment into the Bay of Bengal. Ships are anchored across the wide river, waiting to be unloaded in Mongla's port. The city itself is divided by Mongla River, a much smaller and narrower channel that flows east from the Pasur and divides the city into north and south. On the north side of the city is its industrial zone. The port and port authority are located here, as is the expanding Mongla Export Processing Zone (EPZ)—a commercial hub where reduced tariffs and taxation rates entice foreign businesses to set up garment, textile, and other kinds of factories. The heart of the city—its residential areas, its shops, its government buildings—all lie to the south. Thousands of people commute back and forth across the river in small ferry boats that, for a handful of taka, carry you on the five-minute journey over the water.

It's a cool winter evening and I'm underdressed, sore from a day of traversing the delta's unpaved roads, and fighting off a cold. We've been out in Mongla's



FIGURE 22. Unnayan Mela, Mongla, 2017.

countryside and have ridden home on the back of Riton's motorcycle in the dark, leaving me chilly and grumpy. As we enter the mela, my eyes are dazzled by the light, my occasional claustrophobia triggered by the crowd and the noise. It's a strange event, a mix of cultural performances, carnival rides, and booths detailing the geography, technology, and facilities that promise to make Mongla a centerpiece of Bangladesh's future.

We run into a journalist friend of ours who subsequently introduces us to Mongla's Upazila Nirbahi Officer (UNO), a man who has the difficult task of navigating the turbulent waters of development for Mongla.² Tonight, he is in high spirits. He is both a force behind the fair and one of its guests of honor. He enthusiastically whisks us into his entourage. We take tea together and chat over the din. I ask the UNO about Mongla's future. The future is assuredly bright, he tells me. Driven by the growth of Mongla's port, the city is booming. It has been identified by the Awami League government as a "development role model" and is on a trajectory toward meteoric growth.

"But what about climate change?" I ask. "What kind of impact will it have on all of this?"

I must look skeptical because the UNO frowns, then grasps my arm and takes me on a walking tour of the fair. The fair is packed with people. There are a handful of rickety, hand-operated carnival rides of the type that are often found at melas

in Bangladesh. Children queue to ride small Ferris wheels and to purchase fried sweet treats. But the majority of the fair is given over to brightly lit booths, each showcasing a dynamic that heralds Mongla's growth. It is an arcade of the future—a collection of relics of a social and economic order yet to come.

Fairs, arcades, and melas offer rich matter for interpreting social history. Walter Benjamin's unfinished opus, *The Arcades Project*, for example, reveals the Paris arcades of the nineteenth century as material evidence of past social transition—a historical juncture where consumption triumphed over production.³ To the degree that this fair showcases the Mongla to come, it is an arcade of different temporal orientation—one in which production and consumption are drawn back together. The booths at the mela foreground the intimate relationship between industrial growth, future wealth, and the political will to bring rosy futures into existence. Some booths offer quotidian displays of information—posters with charts detailing fishing catches from the Pasur River, photos of important figures in the Awami League government making official visits to Mongla, and so on. Some offer a glimpse of the prosperous middle-class lifestyle such future progress will enable—modern interior rooms created in booth form, bathed in soft colored lights. There are exhibits celebrating Mongla's schools and their students' scholastic achievements (advertising a capable and skilled future workforce), displays highlighting regional crafts and artisanal production (signaling cultural depth and dynamism), and booths on municipal and marine safety (demonstrating the resources available to ensure safe riverine commerce and development).

We finally reach a string of stalls showcasing Mongla's port. These are the centerpiece of the fair. Here, the UNO introduces me to a representative from Mongla's port authority. This man sits in front of a series of posters charting the recent and future growth of the port. Before disappearing back into the fair, the UNO looks at me, smiles, shakes my hand, and gestures toward the booth. It is here, he seems to be saying, that my questions will be answered, my skepticism put to rest, my imagination of Mongla's future put on the right track.

THE FUTURE AS FRONTIER

The vision of Mongla's future on display in the mela runs markedly counter to the one posited by many NGOs, researchers, and international organizations working in the delta. As previous chapters have explored, such entities often imagine the delta as an imperiled ecological zone or immanent climate wasteland. The mela, in contrast, renders a more optimistic future vision, one of growth and prosperity, where visitors and residents can marvel at the emergence of a resilient and prosperous city—a key site in the making of Sonar Bangla (a Golden Bengal) and a jewel in the delta crown.

The delta is awash in different imaginations of how the future might unfold in the face of climate change. In the preceding chapters, I have traced the ways

that these competing imaginations shape the delta's present. Imagining the delta as a future climate wasteland from which footloose climate refugees might spill over proximate and remote borders conjures strategies that seek to address climate security by emplacing bodies in the delta's landscape. Imagining the Sundarbans as a critical infrastructure in need of preservation for the good of humankind demands a set of policies and practices that regulate anthropogenic change within the forest. These are only a few of the visions of possible climate futures for the region. All of them assemble the delta as a climate frontier in cumulative, if not coherent, ways. The logic of development on display at the mela highlights yet another, radically different vision of the future. Here, the delta emerges *also* as an engine for industrial growth in an era of climate change. This frontier vision mines the future as a resource. It figures an optimistic horizon for the delta both in spite and because of climate change. In so doing it opens new possibilities for growth and development in the present.

This chapter asks how that imagination brushes against, interacts with, and reshapes these other competing possible futures and projects of bringing them about. It inquires into the possibilities and consequences of figuring visions of an optimistic future as frontier material in the present—of framing a space where industrial development unfolds both regardless and because of the probabilities of climate risk. That there should be multiple visions of a region's future—especially a region so central to global imaginations of planetary threat—is no surprise. But in the delta today, futures of capitalist development *and* climate resilience *and* conservation are all being brought into being at the same time, though not necessarily in coherent or conjoined ways. There is a palpable density of future projects flooding into the same space. Each of these futures is internally diverse, complex, contradictory, and varied. Yet the relationships between them are even more complex. Sometimes they are imagined as convergent—as we will see, planners today imagine a future where climate displacement can become a driver of Mongla's growth. As often these futures are incommensurate. What I mean by this is that these futures are profoundly out of proportion with each other. Squaring their competing logics and demands produces profound challenges.⁴ They posit futures that cannot all come to pass in the same place or time. Contradictions and distortions abound, particularly as these competing futures are superimposed onto a delta present that increasingly struggles to bear their weight.⁵

My goal here is not to offer a normative account of the future—to predict how the future will emerge. Rather, it is to reflect on the manifestations of these often incommensurate futures in the present. Things like the mela shimmer in the delta siltscape, conjuring a future that may, perhaps, come to pass. They offer bright, colorful, perhaps even sublime visions of the delta not just as viable but as a success. To employ a Benjaminian metaphor, they seem to conjure the angel of the future into the present, to pave a path not of ruin but of accomplishment.⁶ They conjure a population not of unskilled laborers, peasants, and fishermen working

the delta's land and reluctant to abandon their homes and fields, but of development, comparative affluence, and aspiration. Yet these visions are constructed on the delta's damp siltscape—its rapidly silting rivers, its increasingly saline soil, its imperiled mangrove terrain. If multiple visions of the future produce the future as frontier in the present, they thus also raise questions about whether any such vision can come to pass and to what ends.⁷

FRAMING SONAR BANGLA

In the delta, the challenges posed by climate change are never far from government officials' and planners' minds. Any such official or pundit in the region is ready and willing to discuss the "challenges" of climate change. Yet over years of work in the delta, I have noted that such discussions typically lack the apocalyptic tone of international development organizations. More often, they see climate change as a challenge to be worked around or bypassed in order to see the delta as a zone of opportunity. In other words, climate change is less often posited as an existential threat and more often as a set of technical challenges that can, and must, be navigated to secure future growth.

Some of these delta opportunities are imagined through the lens of disaster capitalism—short-term openings in the present to trade on long-term anticipated ecological degradation.⁸ But others look beyond crisis narratives entirely. One commentator, reviewing recent scholarship on climate change in Bangladesh, quips, "The extraordinary attention paid to Bangladesh's vulnerability to climate change is puzzling, especially when compared to other countries situated along the South Asian coastal littoral. . . . It is as if climate change has picked a personal feud with the people of Bangladesh."⁹ Put another way, Why is it that the challenges of climate change are seen as so marked in Bangladesh, particularly by the international community, when global warming poses similar challenges for many countries around the Pacific Rim?¹⁰ And what if the "feud" that nature has seemingly picked with the delta and its future obscures other possibilities and outcomes nascent in its present? What forms of future otherwise might be imagined in crisis's stead?¹¹

The catastrophist vision of the delta's future is dissonant with another imagination of Bangladesh as entering a new era of economic prosperity. This narrative of Bangladesh's economic arrival has become central to politics in the country, particularly since the end of emergency rule in 2008 and the return to power of the Awami League, the party of Sheikh Hasina—daughter of Sheikh Mujibur Rahman, first prime minister of the country and "father of the nation."¹² Bangladesh's economic ascendancy is captured in the Awami League's Vision 2021 plan, the political doctrine that the party rode to victory in the 2008 elections. This "vision" was, in part, for Bangladesh to reach "middle-income" status by 2021, the fiftieth anniversary of its independence.¹³ But Vision 2021 offered more than a finite economic goal. It was also fashioned as a manifesto for a triumphant future for the country—an era where rapid industrialization, technology, and investment would

herald a long-deferred age of prosperity, stability, and regional import—an era of Sonar Bangla.¹⁴

The phrase “Sonar Bangla” comes from Rabindranath Tagore’s 1905 poem “Amar Sonar Bangla” (“My Golden Bengal”), written amid the first Partition of Bengal. Its first few stanzas, set to music, comprise the national anthem of Bangladesh. The gold in Tagore’s Sonar Bangla refers to the color of the ripe waves of rice that blanket agrarian Bengal in the weeks leading up to the harvest. In the post-Liberation War moment, Sonar Bangla became a rallying cry for Sheikh Mujib’s development plan, which sought, amongst other things, to raise standards of living for Bangladesh’s (at the time) largely agrarian population.¹⁵ The notion of Sonar Bangla has remained a sort of promissory note in nationalist, and especially Awami League, discourse—a catchphrase summoning the end of “Bangladesh-as-basket-case” and the rise of the country as regional success story.¹⁶ Today, it is often used to invoke the country’s economic liberalization and steady growth rate (6 percent over the decade leading up to the economically turbulent 2022), its success in maintaining a robust export economy (rooted in garment manufacturing and, to a significantly lesser extent, shrimp), and the policies that continue to foster international investment in the region through a series of mega-projects and infrastructural developments. The gold in Sonar Bangla is no longer rice; it is capital.

Sonar Bangla means achieving prosperity both in the midst of climate change and in spite of it. As Bangladesh’s ambitious Delta Plan 2100—which was formulated in 2018 and is in many ways the successor to the Vision 2021 plan—has it, Bangladesh’s climatological challenges can be managed to facilitate continued growth and prosperity, allowing the country to reach upper-middle-income status by 2030 and to become “a prosperous country beyond 2041.”¹⁷ The plan foregrounds economic development first, outlining a plan for massive economic growth in the short-term and subsequent strategies to address what it calls “the longer term challenge of sustainable management of water, ecology, environment and land resources in the context of their interaction with natural disasters and climate change.”¹⁸ The country’s economic success hinges on the development of new infrastructural investments that will allow Bangladesh to capitalize on its comparative strengths: cheap and abundant labor power and geography. That is to say, Sonar Bangla hinges on making the country’s coast not into a climate catastrophe but into a gateway between interior Asia and the rest of the world. It relies on the delta figuring not as a place of disaster but opportunity.

PORT AUTHORITY

If Bangladesh stands on the doorstep of Sonar Bangla, it is regional transport and shipping that will pull it over the threshold. There is huge economic potential in the country. But Bangladesh has a port problem. To serve as a regional shipping hub, it needs port capacity to keep large ships flowing into and out of the coastal zone. The country’s largest port, Chittagong, is situated in the country’s far east,

close to the border with Myanmar. But Chittagong is not equipped to handle either the country's projected or even present shipping needs.¹⁹ The port is not deep enough to service many of the newest and largest container ships.²⁰ Nor does it have the facilities to keep pace with the demand to load and unload ships coming to port, causing delays and demanding that ships often remain anchored in the harbor for days waiting to be unloaded.²¹ Private investors, international development agencies, and the Bangladesh government have scrambled to address these issues through infrastructural development. In the east, they will construct a new deepwater port in Matarbari, which will expand the capacity of and take pressure off Chittagong.²² Further, Payra Port, situated in Patuakhali between Mongla and Chittagong on Bangladesh's coastline, opened in 2016.²³ But demand for port capacity remains high. There are thus tremendous opportunities in the muddy delta zone.

As a port, Mongla has long been a distant second to Chittagong, not only in capacity but also in national and regional importance. Yet as the delta zone is reimagined as an engine for economic growth, its actual and potential import has grown. As the stall I have been brought to at the Unnayan Mela makes clear, business is booming and the future is bright. The man staffing this booth demonstrates this to me in a series of posters charting the meteoric growth and expansion of the port over the past decade. In 2008, the average monthly arrival of ships in the port had fallen below nine. Today, it has risen to 79. In the Pasur River, dozens of ships are anchored, waiting for loading and unloading. In the last five years, the port's cargo handling capacity has more than doubled to 120 million tons. That number is projected to triple by 2041.²⁴

Much of the projected expansion of Mongla's port is intimately tied to the completion of the upstream Padma Bridge megaproject, which has made Mongla the closest port to Dhaka. Up until recently, the movement of goods from the delta was constrained by the necessity for trucks to cross the Padma River by ferry. Wait times for such a crossing could be as long as twenty-four hours during busy periods. In 2022, the long-awaited Padma Bridge opened, integrating the delta into the country and region at large in one fell swoop.²⁵ The Padma Bridge has huge implications for shipping and industrialization in the delta. Not only is it now quicker and cheaper to transport goods from the delta to Dhaka; the bridge will also shorten the transport time from the Bangladesh side of the delta to Kolkata, in India.²⁶ Mongla now is also the closest seaport to landlocked Nepal and Bhutan.

In 2020, before the opening of the Padma Bridge, I spoke with the port authority's Deputy Chief of Planning about the impacts of the bridge. He told me that the port authority was projecting that 10 to 20 percent of Dhaka-based trade would ultimately shift from Chittagong to the delta.²⁷ To prepare, the port authority was in the process of planning and executing a range of infrastructural development projects to increase capacity ahead of demand. Most notably, there were plans afoot to construct six new jetties in the port to handle the increased traffic. But



FIGURE 23. Off-loading at Mongla Port.

the port authority was also carrying out, or seeking governmental approval for, new investments in equipment, the purchasing of new pilot boats to guide ships to port, and massive dredging projects to increase depth in the Pasur River shipping channel, thus allowing larger vessels to make it to port. Today, many of those proposals proceed apace.²⁸ With the Padma Bridge completed, Mongla stands at the cusp of becoming a critical node for global and regional economic integration.

There is more at stake in the development of Mongla's port than just economic expansion. In addition to a shipping hub, Mongla has become as a node in a broader geopolitical struggle for regional hegemony between India and China.²⁹ In the previous decade, the Chinese government made significant investments in development within the country. For example, following the withdrawal of the World Bank from the Padma Bridge project in the wake of a corruption scandal, the Chinese government offered a loan for bridge construction, and the bridge was constructed by a Chinese engineering firm.³⁰ More recently, China has invested more than \$3 billion USD in the Padma Bridge Rail Link Project, which will pass through the bridge and create a transportation network that will further integrate the southwest delta.³¹ Such investment is consonant with a vision that sees Bangladesh as strategically important in securing Chinese hegemony in the region.

Beyond the Padma Bridge, China has also invested in Bangladesh's ports. In Chittagong, the Chinese government has funded new port infrastructure. It also plans to construct a rail line that will connect Chittagong to the landlocked Yunnan Province.³² The presence of Chinese investment in the delta region is evident as well.

Chinese companies have increasingly begun to bid on and manage development projects in the delta—reconstructing sluice gates in polders adjacent to Mongla, setting up a factory to construct the tetrapod structures that are used to reinforce existing coastal embankments, and more. In Mongla, the Chinese government has committed \$400 million USD toward jetty construction in the port. This investment is part of what the Bangladesh government refers to as “the Mongla Mega Project”—which involves the development of Mongla Port, the expansion of Mongla’s EPZ, and the construction of a new international airport that will serve the delta region.³³ In investing in the region, China is making a geopolitical play to make Mongla a node in its broader Belt and Road Initiative (BRI), a project designed to knit together land and water ports into a vast regional transportation network. Indeed, in recent years, Bangladesh at large has emerged as a key site in the BRI.³⁴

The Chinese government is not the only interested player in the development of the delta region. Indeed, the delta has emerged as a site where the Indian government is at once invested in countering regional Chinese hegemony and in making Mongla into its own gateway city. Mongla could provide a balm to India’s own port woes—serving as a location for the transportation of goods to and from both sides of Bengal.³⁵ To that end, India has invested the equivalent of over a half-billion US dollars to construct a new road and rail network running from Mongla to the India-Bangladesh border.³⁶ Moreover, it is competing with China to invest in the construction of Mongla Port—a contest that will play out in coming years.³⁷ India has also invested heavily in the construction of the Rampal powerplant (more on this below) as a means of developing regional energy security and as a market for Indian coal. In short, Mongla is not just an emergent hub of trade; it is also an object of desire in Indian Ocean geopolitics. Thus if climate change seems to tell one story of geography-as-destiny for the delta region, narratives of Sonar Bangla tell quite another.

CLIMATE URBANISM

Port expansion is not the only thing booming in Mongla. The first time I returned to Mongla after almost a decade, in 2015, I was shocked to see how much the region had transformed. Spanning north along the Mongla-Khulna Highway was an expansive industrial corridor where previously there had been only countryside. On the west side of the road, flanking the Pasur River, a wall of industrial development had sprung up. New cement factories, LPG storage facilities, and other industry filled the space between the road and the Pasur River. Each of these plants and factories had their own jetties on the Pasur for loading and unloading goods. Viewed from the river itself, these factories were a wall of industrialization growing steadily northward from the port to the delta interior. The road connecting Mongla to Khulna was in a state of disrepair, buckling and sinking into the siltscapes from the constant passage of overloaded trucks carrying construction materials and workers from Mongla to these sites. The region was caked in dust kicked up by these trucks as they labored by.



FIGURE 24. Mongla's industrial corridor seen from the Pasur River.

This corridor only expanded over the years as I conducted this research. On the east side of the road, an export processing zone was growing, ideally positioned to take advantage of proximity to the port. Here, jute-processing factories could turn jute into thread and, subsequently, bags. They would then place them directly onto ships bound for destinations beyond the delta. An Italian-owned marble factory off-loaded massive blocks of marble straight from the Port and cut them into high-end fittings for bathrooms and kitchens. This marble work was then put back onto ships bound, often, for the Middle East. There was room to grow in the EPZ, and through the period I conducted research much of the space remained open. Plans were in the works to fill this space with industry requiring unskilled and semi-skilled labor. As several officials told me, these jobs would be filled by, amongst others, climate migrants who were moving to Mongla from other parts of the delta.

The notion that Mongla will become a hub of climate migration has become central to contemporary discussions of the city. In 2011, Mongla had a modest population of forty thousand. That number has tripled since, largely with people migrating from other places in the delta. Here, in keeping with the ethos of Sonar Bangla, this in-migration is understood not as crisis but as opportunity. The projected growth in employment through the port and the EPZ promises to provide opportunities to those seeking work in Mongla, and the in-migration of climate refugees will fuel growth and expansion. Such growth is seen as crucial not just for Mongla as a gateway to the region but for the future of coastal urban life

in a warming world. Mongla, and midsize and secondary cities like it, are a possible answer to the challenge of climate displacement—an obverse and alternative vision to dystopian climate security outlined in chapter 1.³⁸

This is an argument that has been forcefully made by, for example, the International Centre for Climate Change and Development (ICCCAD), the premier institution for climate change research and advocacy in the country today.³⁹ Noting that midsize regional cities such as Mongla have been largely ignored in discussions of climate change and urban planning, researchers at ICCCAD have identified Mongla as a test case for regional resilience and livability. Mongla has tremendous potential for employing new migrants to the region. It has a number of challenges—perhaps most notably its exposure to storms from the Bay of Bengal and its limited and diminishing access to fresh water. But its small size makes it comparatively easy to tackle infrastructural change that will help to secure its future in the face of climate transformation. Accordingly, Mongla is framed as a success story that could become a model for urban adaptation more broadly.⁴⁰ As Saleemul Huq, director of ICCCAD and noted international expert on climate change, has observed, “Now, we expect to replicate the Mongla model to at least two dozen other coastal towns across Bangladesh as safe home for climate refugees.”⁴¹

To see cities like Mongla as solutions to climate crisis involves a certain Schumpeterian acceptance—acknowledgment that ecological degradation can serve not just as disaster but also as more creative destruction fueling urban growth. That is to say, Mongla’s success is partly predicated on the erosion of habitability within the region at large and the seemingly inevitable displacement from and dissolution of agrarian space. In many ways, it is a recapitulation of narratives that see the closing of agrarian commons as the operative condition for industrial growth, development, and capital accumulation.⁴² Here, climate change figures not as a new iteration of the agrarian question but rather as an answer. But part of what makes Mongla so appealing as a climate solution is its location in space—situated at a transport chokepoint where de-peasantized migrants might provide a labor force in a time of climate devastation.⁴³

Mongla’s growth might be termed a new form of climate urbanism—urban growth predicated on satisfying a need for housing and employment of the climate displaced in the Global South. Whether Mongla’s success is replicable in cities without booming ports and burgeoning industrial zones is an open question. But within the city, the promises of successful growth in the face of the delta’s challenges lead to a palpable sense of excitement and opportunity. It is in the air. The mela is but one example of this. Another is the giddy rebranding of Mongla municipality not just as a migrant receiving zone but as a “smart city.”

SMART GROWTH/CLIMATE GATEWAY

Over the course of the time I worked on this project, people in Mongla—particularly those working for the city, in its EPZ, and in the port authority—increasingly

began describing Mongla as a “smart city.” The reference puzzled me. I understood the notion of a smart city to refer to the integration of digital technologies into urban governance as a means of encouraging growth in high-tech sectors, digitizing urban infrastructures, and implementing new forms of digital surveillance in urban space. Yet in Mongla, while the port was unquestionably going through a boom cycle, most of the investment seemed to be encouraging more traditional manufacturing rather than high-tech growth. What, then, was smart about Mongla’s smart growth?

The man behind much of Mongla’s transformation from sleepy town to smart city was Mongla’s mayor, Md. Zufikar Ali. Ali, a member of the opposition Bangladesh Nationalist Party, was a populist politician whose claim to power resided in a range of infrastructural projects he put in place to protect the city from the impacts of climate change. Amongst these were a new embankment/seawall—constructed with earth and silt dredged and dug up from around the city perimeter—and a sluice gate to protect the city from storms and to allow for easy evacuation of water from the city in the event of flooding, a rainwater collection plant to help address the shortage of sweet water in the region, and more. Evidence of this infrastructure work was everywhere to behold. Over the years I worked in Mongla, for example, much of the surrounding countryside adjacent to the Mongla and Pasur Rivers was filled in with silt dredged and sprayed onto the shore by dredgers working to keep the rivers flowing. These silt fields were subsequently excavated and repurposed in the construction of the raised banks that would constitute Mongla’s seawall. Ali was also a controversial and somewhat embattled figure. Throughout his term, he faced continual pressure from the ruling party officials who filed a number of legal cases against him—including one for smashing of a picture of Prime Minister Sheikh Hasina.⁴⁴ Yet his populist leanings and zeal for resilient infrastructure kept him in power from 2011 to 2021, when he eventually lost his seat to an Awami League party stalwart.⁴⁵

Mongla’s government offices are situated in a somewhat dark and imposing concrete structure at the heart of the city. When we visited in 2020, we were greeted warmly and hurried into the mayor’s office on the top floor. The office was comparatively modest in size. Unlike many offices for those high in government hierarchies in the city, the mayor’s office—filled with piles of paper and crowded with bustling factotums—seemed largely like a place of work rather than a place to impress visitors. Prominently displayed within the office was a bank of CCTV screens showing street corners around the city. These were explained to us as the vanguard of Mongla’s smart city project—a dashboard surveillance system to make the city safe for economic expansion and development.⁴⁶ The screen showed sixteen views positioned across the city. The coverage was hardly panoptic—it showed only a tiny fraction of Mongla’s street life. But it gestured toward a possible broader system of digital regulation and observation.

I told the mayor that I had come to learn more about the rise of Mongla as a “smart city.” The mayor immediately launched into a much more expansive



FIGURE 25. Dredge discharge pool on the banks of Mongla River.

discussion of the public works he had engaged in and the possibilities that climate migration opened for the city. Ali noted that the Padma Bridge would herald a series of infrastructural transformations in the region (road, rail, and airports) that would further make Mongla the heart of the delta. Much of the work that his administration had engaged in was to prepare the city to take advantage of the opportunities that would flow from the opening of the region and the migration that it would further herald. After listening to this by-now-familiar narrative, I asked Ali directly what a “smart city” meant for him. He told me,

Smart city means that my city will always have good communication. It will be a totally safe area. It will have a camera monitoring system. There will be seventy to eighty CCTV cameras working. And on the other side of Mongla River, there will be another thirty cameras working. . . . One time the city was full of drugs. I made it free of drugs. Because of the CC Camera, many crimes have been stopped. We have an announcement system in nine wards. After making an announcement from here in my office, Mongla’s citizens will be able to hear messages like, “You need to pay taxes. Someone has died. Someone has lost something.”

The smart city is a concept that has a certain resonance in South Asia. It denotes, amongst other things, a vision of shining and ordered urban development that uses technology-driven infrastructure to usher in a future of prosperity.⁴⁷ In India, a



FIGURE 26. Mongla, a smart city in action.

formal Smart City Mission (SCM) was launched in 2015 as a means of integrating a wildly diverse and uneven range of urban zones into a future driven by imaginations of networked communications, surveillance, and flexible economic growth. There is no parallel SCM program in Bangladesh. But the discussions around smart cities in the region resonated with its logic. Duncan McDuié-Ra and Lauren Lai note that smart city initiatives are strategies, on the one hand, to integrate urban frontier spaces into national territory and, on the other, to recalibrate such urban spaces as new gateways for capital investment and accumulation.⁴⁸ They further argue that local authorities in such frontier cities have more often used SCM bids to shore up conventional infrastructure rather than using them to develop “smart” digital infrastructures—an observation that could similarly be applied to Mongla on Bangladesh’s climate frontier. Smart city initiatives in South Asia’s peripheries, as such, signal a suit of strategies designed to integrate peripheries into both centers and capital flows—even if smart city technologies fall far short of delivering the panoptic power they promise.

This seemed very much the case for Mongla, where the (to date) modest expansions of digital infrastructures are paired with infrastructural investments in industrial development—ports, EPZs, cement factories, LPG storage—and urban resilience—sea walls, rainwater harvesting plants. Here, in other words, smart cities were grafted onto already existing imperatives for regional integration through

industrial development and shipping. Yet as Shannon Mattern points out, grafting, whether in gardens or in urban design, is itself a form of poises—a process of bringing into being.⁴⁹ If Ali's vision for a “smart” Mongla was largely rooted in common governmental fantasies of observation, communication, and control, it was also crucially paired with a vision seeking to recreate Mongla as not only an engine for economic development for the country at large but a fortress city that would achieve resilience through cheap labor power and infrastructural defense against impending storms. The bank of CCTV screens in the mayor's office gestured toward an integrated vision of Mongla as a place that will thrive not in spite of climate change but because of it.

SUBMERGENT CHALLENGES

There are many reasons to see the narratives of Mongla-as-climate-success presented by the Bangladesh government as a useful balm to narratives of the delta-as-disaster-foretold that are common in international visions of Bangladesh in a warming world. Yet even as Mongla prepares for futures of economic and population growth, other incommensurate futures are also on the march. Many of these have already been explored in these pages. For example, the same challenges of fluidity and phase that structure the delta's siltcape also trouble visions of Mongla as gateway city. Mongla is not a deepwater port. There is simply not enough depth in the Pasur River to accommodate the Panamax- and neo-Panamax-class ships that are the global standard for transoceanic shipping.⁵⁰ This fact alone prevents Mongla from becoming a durable answer to regional shipping needs. Moreover, while Mongla is typically described as a coastal city, it does not sit directly on the open coast. The port is a hundred kilometers upstream from the mouth of the Bay of Bengal. To get to the port, ships must travel up the Pasur River, past Dublar Char, and through the Sundarbans reserve. Larger ships must anchor twenty kilometers south in the midst of the Sundarbans at the Harbaria anchorage. There they are off-loaded onto smaller vessels that can make their way for the remainder of the journey upstream. This is a costly and time-consuming proposition. It is also a dangerous one.⁵¹ Such off-loadings can be fraught with accidents, including the occasional foundering of ships. The risks inherent in this process manifested in April 2018, when a cargo vessel carrying 775 metric tons of coal foundered on a submerged embankment in Harbaria, spilling its cargo into the river.⁵² This was just one example. There have been at least nine commercial ships that have sunk in the Sundarbans since 2013, including the *Southern Star VII*, which led to the Sundarbans oil spill discussed in chapter 2, and seven vessels carrying coal or fertilizer.⁵³ This transportation of coal through the Sundarbans has only increased with the completion of the Rampal power plant (see below).⁵⁴

The port authority has engaged a number of dredging projects to deepen this channel and make it safe for bigger vessels (there is currently a plan in place to

increase the depth to ten meters).⁵⁵ But keeping the river open and flowing is a continual challenge, particularly as downstream flows decrease and upstream tidal incursions cause more and more silt to deposit in the delta's rivers and canals rather than in the bay. The challenges of siltation and Mongla Port's growth are not confined to the Passur River alone. As noted in chapter 2, the Bay of Bengal itself is shallow from the millennia-long process of transferring the Himalayas into the ocean by river. Silt banks at the mouth of the Pasur, known as the "outer" and "inner" bar, pose their own challenges to navigation. To address this, in 2018 the port authority contracted with a Hong Kong-based dredging company to undertake a massive dredging of the outer bar. The dredging project involved bringing industrial dredgers to the bay, which could be seen from miles away. The work on this was completed in December 2020, and the same company immediately began work on dredging the inner bar, with work scheduled for completion in 2022.⁵⁶

Such large-scale dredging projects raise questions about the long-term viability of the channel itself. Dredging, effectively a process of digging a deep trench in the submerged siltscape, is hydrologically never complete. As the trench is dug underwater, currents immediately begin eroding its banks, leading to the filling in of the dredged passageway over time. Dredging thus begets and necessitates more dredging, particularly in active delta basins such as the Bay of Bengal.⁵⁷ If the movement of ships through the Sundarbans itself poses threats to the mangrove forests, dredging does as well. Dredging will increase turbidity and sedimentation. Such transformations can have significant impacts on marine life.⁵⁸ As Ashley Carse and Josh Lewis note, "Because conventional cost-benefit analyses are designed to evaluate direct impacts, they can externalize political-economic and ecological problems not conceptualized as such. Indeed, dredging can be politically and ecologically consequential in ways that are difficult to trace, quantify, and litigate."⁵⁹ Cost-benefit analyses of dredging, particularly in ecologically sensitive zones such as the Sundarbans, struggle not only with the question of unpredictable outcomes but with the quandary of how to situate the "value" of nature against the demands for industrial development.⁶⁰

Dredging highlights one set of incommensurabilities between projects seeking to actualize various futures in the delta and the materiality of the delta's siltscape. Seeing the Pasur as both an ecologically vulnerable waterway (flowing through the Sundarbans) and an industrial shipping channel highlights the ways that multiple future expectations are crowding into the material space of the delta present. It is not the only such example. The industrial corridor discussed above expanding northward from Mongla presents an equally dramatic challenge. All of the factories in this industrial corridor lie, formally, in the Ecologically Critical Area (ECA) of the Sundarbans, an area within which industrial activity is prohibited by the 1995 Bangladesh Environmental Conservation Act.⁶¹ Yet these new factories have all received special permission from the government for construction.⁶² All of these plants also rely on the Pasur River for transport. Materials either



FIGURE 27. Dredging the outer bank in the Bay of Bengal.

move back and forth to them from Mongla Port or they load and unload directly onto private jetties. These plants also raise pressing questions about the future of the Sundarbans. Each releases additional waste in the Pasur. Each involves additional shipping traffic through the port with its attendant environmental impacts. And each carries its own probability for future accidents.⁶³ Yet nowhere are these risks more apparent than in the Rampal power plant project.

POWERED FUTURES

The plant, known formally as the Maitree Super Thermal Power Project, is a recently completed 1,320-megawatt coal-burning plant twelve kilometers upstream of Mongla Port and fourteen kilometers upstream of the Sundarbans. Since it was first proposed in 2010, the plant has been the subject of constant protest by environmental groups in Bangladesh and beyond. Organizations such as UNESCO have condemned its construction, arguing that it will have catastrophic effects on the Sundarbans.⁶⁴ The potential risks are multiple. Water used in the cooling processes at the plant threatens to raise water temperatures flowing through the Sundarbans. Particulates from the coal that the plant will burn threaten to dramatically increase air pollution in the mangroves.⁶⁵ Both of these could hasten degradation within the forest and have dramatic impacts on fauna



FIGURE 28. Power station construction site, Rampal.

within it. Beyond the risks of industrial pollution, the specter of more immediate accidents loom. The delta region sits on a seismic zone—the Eocene Hinge Zone—that many argue is overdue for a massive earthquake.⁶⁶ Such a quake could conceivably topple the plant and spill toxic byproducts, such as mercury, into the mangroves.

Within the Bangladesh government, such concerns have largely fallen on deaf ears. The plant is central to the government's vision of energy security in the twenty-first century and to regional economic integration—to Sonar Bangla.⁶⁷ A large-scale but grassroots protest against the powerplant, founded by a group of local landholders whose property was grabbed in the initial acquisition of land, gained momentum within the country, culminating in a series of long marches, strikes, and protests. A central rallying cry for the movement was the protection of the Sundarbans. But though the movement gained significant national and international attention, it was largely unsuccessful in halting or even slowing the plans for construction.⁶⁸ As a former landowner turned anti-Rampal activist told us, "We have completely failed. There is nothing left to do for this movement."

When I first visited the plant site in December of 2016, nine hundred acres had been cleared and a large perimeter fence built around them. An additional seven hundred acres have since been secured for future expansion. The fence enclosed a vast and eerily empty space. Within it, only a handful of temporary structures

had been raised, along with a monument commemorating the laying of the plant's foundation stone. A ten kilometer-long, raised four-lane highway (constructed on silt dredged from the Pasur) had been built, connecting the plant to the Khulna-Mongla Highway. People who had previously lived in the area had been displaced into landless encampments surrounding the plant and now lived in the shadow of both the perimeter fence and the elevated highway. Jobs were scarce. Insult was added to the injury of the displacement by the fact that the construction companies working in the power plant and on the road were importing their labor rather than hiring locals.

The plant stands as a monument to regional integration and cooperation with India. It is a joint partnership between India's state-owned National Thermal Power Corporation (NTPC) and Bangladesh's Power Development Board. The official name of the company that will run it is the Bangladesh-India Friendship Power Company. When we first visited Rampal in 2016, Riton and I were warmly welcomed by the director of plant construction, Mr. Chowdhury. He gave us a tour of the perimeter walls, taking us up into the watchtowers at the corner of the construction site. From there we looked out over the vast silt bed of the plant and the sun-washed Pasur, where barges with construction material were docked. Mr. Chowdhury, over tea and snacks, patiently answered our questions, assuring us that based on environmental assessments carried out by NTPC, the plant would have negligible impacts on the ecology of the mangroves.

When we returned in January of 2018, much had changed. The plant construction had raced ahead. Where a year before there were only a few scattered buildings, now the plant was emerging. The roads were being expanded from a four-lane to an eight-lane highway. In our previous visit, we simply walked into the plant. Now, there was a check-post preventing visitors from entering the site. In the land around the power plant, rumors were circulating that the government would acquire even more land and force people living near Rampal to move once again. As one woman, who operated a tea stall catering to construction workers on the plant, told us, "Many people have been forced to move on the road like beggars. We will soon have to do that too. We have no alternative."

The Rampal power plant is exemplary of the incommensurate futures in the delta at the current conjuncture. There is a pressing need for Bangladesh to achieve greater energy security to facilitate ongoing economic development. This is a point that every activist I spoke with in the region impressed on me. As our friend Anis, a prominent opponent of the plant, put it, "We are not opposed to development, but building this plant so close to our Sundarbans is a mistake." The reasons for the plant's location near the Sundarbans are uncertain.⁶⁹ Access to the Pasur River for transportation of coal is one often cited reason. Others argue that the Rampal area was chosen because it is an Awami League stronghold. While there may be dispute over the actual impact of the plant, the location itself is profoundly problematic. The Pasur, upstream of Mongla, becomes increasingly shallow. To get coal to the

plant will require more large coal ships to anchor in Harbaria and off-load onto barges for transportation upriver to Rampal. The increased traffic this will cause puts additional dredging pressure on Mongla's port authority, the organization in charge of the Pasur River, and raises the stakes in keeping the channels free.

These immediate challenges point to the broader contradictions embodied in the pursuit of multiple futures in the delta. The Rampal plant, the industrial corridor of which it is part, and the plans to turn the delta into an engine of economic development all threaten the ongoing existence of the Sundarbans. Indeed, as numerous environmental impact statements and activists warn, the Sundarbans, the rivers that flow through it, and the surrounding landscape may not be able to metabolize the outcomes of industrialization in the delta region. At the same time, without the Sundarbans as a buffer, all of these projects would be exposed to the full force of cyclones from the bay. The very projects that threaten the forest's existence rely on its survival.

The Rampal power plant, then, epitomizes the dilemma of navigating future incommensurability in the present. Despite the existential questions that it poses to the Sundarbans and the region at large, industrial development proceeds, and likely will continue to proceed, apace. The Rampal plant will provide an energy-secure future for the region. In the Sundarbans, dredging allows a city that is a hundred kilometers inland to be a booming coastal port. Mongla Port will continue to develop to allow more and larger ships to travel up the Pasur River. Alongside these developments, environmental degradation will continue. Tectonic shift will build toward a seismic event that could conceivably liquefy the very terrain on which these developments are being constructed. Climate change will herald more environmental transformations for those living in the delta's siltcape. All of these futures appear to be unfolding simultaneously in the delta. There is no clear way to evaluate their individual or cumulative risks. That all these futures happen on incommensurate temporalities—time frames that unfold simultaneously but toward radically different end points—suggests the very real possibility of them reaching an impasse, of coming to a point where the delta cannot allow all of these futures to advance. In other words, they collectively risk arriving at a juncture where different visions of the future reach a catastrophic convergence for the delta and its residents.

NEGOTIATING INCOMMENSURABILITY

We are having a cup of tea with our friend the UNO. We have waited for this meeting for almost an hour, watching as he signs various petitions for a crowded room full of people. Now, it is lunchtime and the office has cleared out. The UNO has kindly invited us to stay and talk. Since meeting the UNO at the Unnayan Mela, I've been thinking about his place in the balancing act of industrial growth and conservation in the Sundarbans region. While, as we've seen, the politics of each

different future imaginary bleeds across scales, the man in front of us is perhaps most directly responsible for navigating these competing futures on the ground. As we settle into our lunchtime conversation, the UNO patiently outlines the problems and opportunities apparent in the Sundarbans region—declining resources like fresh water, ecological degradation, riverbank erosion, industrial growth, further anthropogenic change, et cetera. I ask him if it's possible to navigate the challenges and, if so, what the future holds for communities adjacent to the mangroves.

"First," he tells me, "you need goodwill." What he means by this, he explains, is a willingness on the part of residents to meet the challenges of comanagement in the Sundarbans. Communities must be prepared to bear some of the costs of conserving the forest—more restrictive fishing policies, more vigorous policing of the mangroves, and so on. This is simply a reality of contemporary life in the delta. "But," he continues, "we need much labor here in Mongla. There are lots of construction opportunities here. You need skilled labor for this, but you also need unskilled. So there are opportunities for people who work in the Sundarbans." This is undoubtedly true. Construction in the industrial corridor of the Sundarbans is vigorous. There are opportunities here for work, provided one can contract with a company that will hire locally.

As he speaks, I think of my friends who work the mangroves—capturing natural resources while navigating other forms of capture, human and more-than-human, under the mangrove canopy. I struggle to imagine Jolil or Goni Miah working in such a formal setting. But perhaps the future of capture by industrial labor and its attendant disciplines is coming for them too. Though, as the UNO makes clear, there are other possible employment opportunities for those who know the mangroves. "Third, there is tourism. Many people here will depend on tourism in the future." This is a refrain I have heard often. For all of Mongla's development, the city still advertises itself as the gateway to the Sundarbans. The tourism industry in Bangladesh has, historically, struggled to bring visitors in from outside.⁷⁰ But more to the point, the tourism industry relies on people with boats large enough to accommodate groups of tourists in relative luxury and the armed guards required by the Forest Service to enter the Sundarbans. These are resources far in excess of what most who live and work along the Sundarbans's borders can manage. Moreover, it relies on the ongoing existence of the Sundarbans itself.

The UNO is aware of and openly acknowledges these challenges. But given the range of competing projects, interests, and investments in play in the delta, what else could he say? The projects crowding into the delta at present appear to be heading toward an impasse, where the narrow aperture of future possibility in an era of climate change *and* industrial growth may be closing and projects seeking to actualize these competing futures choke each other out. The material and ecological realities of the delta already auger significant challenges for those who struggle to make a living within them, even as they offer other imaginative opportunities

for those who seek to reframe land in the delta to other possible ends. Given this, one could interpret the UNO's response to my question as a commentary on the ways that peasant communities are devalued and erased within possible futures of conservation and/or industrialization. But another possible interpretation of his commentary is the sheer difficulty of coming to terms with the incommensurability of the futures crowding into the delta's present. The delta may conjure multiple futures, but its damp ground may not be able to support the contradictions at hand.

Conclusion

It is January 2020, and we've just arrived in Mongla. Disembarking from a crowded ferry as dusk falls on a rainy winter day, Riton and I trudge up the steep concrete slopes of Mongla's main *ghat*. We're looking for a place to eat, to warm up, to get out of the wet, and to begin recouping from the long trip from Dhaka to the delta region. As we trudge away from the ferry and toward the city center, we stop in our tracks. When I last visited, the pathway we are walking along was flanked by a rather unremarkable ditch. Now, there is something new and strikingly odd. It's an incongruously placed fountain, illuminated in the misty rain by a ring of colored LED lights.

The fountain sits just beyond the ferry ghat in a pond. The pond itself was excavated during Mayor Md. Zulfikar Ali's recent project of raising Mongla's embankments to protect it from anticipated winds and rising seas. The fountain seems out of place. It stands alone, unmarked, in a location neither peripheral nor central to the city at large. It is not built of materials such as concrete but rather of rings of metal that resemble nothing so much as the rebar seen protruding from the concrete slabs of unfinished construction sites across the country. There is no marker to indicate who made the fountain, why it was built, or what it stands for. It has an air of presence but also tentativeness. It feels neither permanent nor impermanent, finished nor unfinished.

In the misty dark it glows, seeming to beckon a set of possible, if paradoxical, futures for Mongla. On the one hand, it marks the city as a continued staging ground for ecotourism, where visitors from Dhaka and foreigners from abroad will come to see the region's unique fauna—such as the dolphin leaping through the fountain's base.¹ On the other, it tentatively nods toward Mongla's emergence



FIGURE 29. Fountain, Mongla.

as a hub city in the delta—a city deserving of monuments, a space worthy of visiting in its own right. The fountain thus manifests at least some of the incommensurate futures of the delta landscape. It stands for both nature and capital—verdant mangroves and Sonar Bangla. But its construction site—in the middle of an excavated dredge pond, dug out to reinforce the city’s climate ramparts—is also suggestive. It gestures toward the unstable terrain upon which future-making unfolds in the delta. The various futures in Mongla rise from the midst and mist of the present. The fountain, like the mela discussed in the previous chapter, seems to offer a modestly sublime vision of a future emerging out of incommensurability—summoning a time when all the abundant contradictions of the present are resolved, when the Sundarbans survives not in spite of the projects of bringing about Sonar Bangla but through and within them.² But whether such incommensurabilities

can be made commensurable in more than melas and monuments and policy documents such as the Delta Plan 2100 remains to be seen.

THE EVACUATION OF THE PRESENT

While Riton and I asked around about the fountain, we never discovered anything more about it. When we mentioned it to people, mostly they just shrugged or chuckled. But the various futures it seemed to beckon are emblematic of the challenges of forging the future—and preserving the present—in the delta today. The delta has been and remains a nexus of future possibility. It is a place simultaneously imagined as doomed, vital, threatening, threatened, and ripe with productive possibility. All of these imaginations invoke a set of futures, some of which are in the process of becoming, none of which has come to pass. If these futures are incommensurate—that is to say, they cannot all happen in the same space or time—they also are instrumental in overwriting the complexities of the delta's present. To paraphrase Jane Guyer's well-known formulation, these future visions evacuate the delta's present and near future even as they occupy it with a panoply of projects seeking to bring these various futures about.³ The delta's present is selectively subsumed within and reconfigured by projects of bringing these futures into being. Through this process, the delta present is made to reflect what planners and practitioners wish or fear to see. As conservationists frame the Sundarbans as a critical site for the management of climate change and the future of humankind, as discussed in chapter 4, the mangroves emerge as a space where regulation and policing can order unruly extraction regimes. As the delta becomes increasingly central to the vision of a Golden Bengal, as discussed in chapter 5, a port a hundred kilometers upstream of the Bay of Bengal is imagined as a future coastal shipping hub with the potential to integrate the delta into regional and global economies.

My point is not that these future visions cannot come to pass. The possibility that the delta's imperiled siltcape might emerge as a conservation zone, an engine for industrial growth, or a space of agrarian resilience is thinkable, even if the chances that they can all be realized at once seem vanishingly slim. Rather, the evacuation of the delta's present is a displacement of projects, possibilities, and aspirations for things that might be realized in the present or near future for delta residents in service of more remote temporalities and audiences. That planners and practitioners construct spaces—or imaginaries of them—within which their programs are likely to succeed has long been an axiomatic proposition in the anthropology of development.⁴ So too in the delta. Here, visions of a particular kind of atomized peasant family at imminent risk of becoming climate refugees yield the kinds of development interventions that attempt to produce the resilient peasants discussed in chapter 1. The social and technical configurations of what resilience means, however, often have little bearing on the lived realities

of delta life in the midst of environmental change. These visions of resilience evacuate the present of the possibility of finding temporalities and meanings of life that articulate with the lived experience of peasant life in the midst of environmental change. Similarly, the framing of the Sundarbans as the threatened habitat of climate change's sentinel beast—the tiger in the climate coal mine, discussed in chapter 3—knits encounters with tigers into the global narrative of climate change and development. At the same time, it leads to the fetishization of certain victims of misfortune in the mangroves at the expense of others who suffer more quotidian fates. In doing so, the everyday politics of risk that accompany life and work in the mangroves are erased from conversations about the preservation of tigers and their mangrove habitats.

These processes are interesting in and of themselves. But what is more significant are the density and growth of such visions, all operating at different scales and temporalities and to different ends in the delta's present. These work together to remake delta space—to reconfigure the terrain upon which the delta's residents make their life. They shape risk, possibility, and ecology in often dramatic ways. And they attempt to harness (or tame) the delta's present materialities as resources for the future. Such is true in many other spaces where climate change has come to occupy a central—though not exclusive—place in planning, development, and governance paradigms around the globe. The delta is not the only place where climate plays a central role in shaping imaginations of future possibility. Yet because of its valence within global debates over planetary peril, the delta is instructive of the ways that diverse imaginations of climate serve as an organizing principle that guides risk and opportunity, possibility and impossibility, and threat and prospect.

FORGING THE CLIMATE FRONTIER

There is a tendency in much contemporary discussion of climate change to understand the climate-affected future from a unitary standpoint. While the kinds of crises and environmental catastrophes that global warming heralds are various, our vision inclines toward an understanding of a singular future of climate chaos. This allows us to then weigh heterogeneous interventions designed to forestall climate against this looming (if unpredictable and possibly unknowable) future—how likely is such an intervention to prepare people for climate chaos, how much can a certain policy contribute to climate mitigation, what kinds of pathways do various strategies of planning leave open for response, et cetera.⁵ Yet in places like the delta, there is a vast and competing array of different climate temporalities and outcomes at play. It is certainly possible, and indeed important, to assess the probable impacts and outcomes of these different future-oriented projects. But doing so on a case-by-case basis—assessing, for example, how effective conservation regimes in the Sundarbans will be in preserving the mangroves for the future of humankind—risks missing important conjunctures and disjunctures. It becomes

easy to miss the ways that these programs assemble *different*, not just unpredictable, futures, and also the ways that both the projects and the futures they summon work against each other in the present. Moreover, imagining a space of crisis on the horizon makes it easy to miss the ways that projects addressing looming catastrophe imagine a space in the present without recent pasts—to see the Sundarbans as a blank space where unruly fishermen must be disciplined into orderly and sustainable fishing practices as opposed to a siltscape sedimented also with multiple histories and long-existing political economies and forms of territorial regulation and control.

To understand the interplay of pasts and futures in the delta, we need a framework that is at once synoptic and ethnographic. That is to say, to understand the crucial politics of future-making in places like the Bengal Delta—a politics that holds the lives of millions in the balance—we need an approach to exploring these terrains that at once can think transversally across projects while remaining focused on the ways that individuals navigate and make sense of these fractious futures today. What this book adds to contemporary conversations about climate change in Bangladesh and beyond, then, is the theorization of the delta as a climate frontier—an analytic for seeing the ways that the future yields projects of opportunity and expropriation in a present that is also fundamentally conditioned by its pasts.

Michael Eilenberg and I have argued elsewhere that frontiers must be understood as imaginative zones where the “material realities of place are inextricably bound to various visions of and cultural vocabularies for what the frontier might be.”⁶ Such cultural vocabularies in the delta are increasingly and inexorably linked to climate—even if the various meanings and implications of climate change are radically diverse. These vocabularies and the future-making projects they enable organize risk and opportunity in the delta today. As such, the various projects unfolding in the delta that seek to bring about and/or forestall different futures are best understood not individually but as a collective set of processes of making and unmaking delta space.

Not all projects at play in the delta are about climate change. Nor do all projects that mobilize the imagination of rising seas and salted lands operate with the same valence and to the same ends. I have used the concept of “frontier” in this book less as a descriptive term and more as a diagnostic tool to begin tracing the linkages between divergent projects. As I note in this book’s introduction, there are many dynamics of frontiers. These have been subject in recent years to a vast amount of scholarly analysis. But in this book, I have traced three dynamics that are centrally important to the formation of the delta as climate frontier. I have focused on its visions, its materiality, and its forms of capture to paint a picture of the delta as a space uncomfortably wedged between past and future.⁷

Visions. A fundamental dynamic of frontier-making in the delta is the imaginative rendering of delta space as open to urgent intervention—a place in need of

conservation policing, a place open for new experiments in resilient development, a place of economic and geopolitical integration. Imagination, as a place-making dynamic, is multiple. No single imagination of place is singularly implicated in the production of delta futures. However, imaginations of the delta's present and future—for example, the delta as a zone of impending climate chaos—circumscribe what is and what is not possible on this climate frontier. They are, further, central to determining what kinds of life and livelihood matter in the delta, and what constitutes risks and threats.

Imagination, as a dynamic, cuts multiple ways. If imaginations of place are productive of those places, the reverse is also true. Here, for example, the vision of the delta as a zone of climate dystopia captures the imagination of audiences in places such as the US and Europe. This, in turn, fuels the funding and implementation of projects that render the delta as precisely that—an imperiled zone in which the key fact of life is impending climate catastrophe. These imaginations yield, for example, interventions like climate-smart houses designed to turn their residents into resilient peasants standing against a future of rising tides and footloose migration, as I explored in chapter 1. Such projects are wholly inadequate in addressing the complexities of either life or environmental change in the delta zone. But they do reinforce global imaginations of the delta as a front line in the war against climate change and its displacing effects. Imaginative framings, across scales, of the delta as a remote, endangered, but possibly productive zone produce it as frontier space—they enable and transform the kinds of projects, social relations, dynamics of governance, and anxieties about security that unfold within them. Imagination thus produces the delta as a sensitive terrain where possibility is organized by or in relation to anxieties about the delta's future—that is to say, a climate frontier.⁸

Materiality. Throughout this book, I have also argued that if we wish to understand how these imaginations play out—to trace what happens when imaginations of the future are superimposed onto the delta present, and why—we must also attend to the materiality and biological complexity of delta space. That is, we must attend to the ways that future-making unfolds not on but within and through the delta's terrain. A central dynamic of this conversation is the way that delta water and land stubbornly refuse to remain fixed in singular dimensional forms. Despite projects of keeping the wet wet and the dry dry (seawalls, embankments, sluice gates, etc.), dimensional change in the delta—the shifting from solid to liquid and back—remains an inexorable part of daily life. The delta is a space of transition and transformation, constantly in dimensional flux—from wet, to dry, to the damp in-between.

To that end, I have argued that the delta is best understood not as a landscape but rather as a siltscape. As siltscape, the delta fouls the attempts of engineers, dredgers, planners, politicians, and others to maintain a distinction between the wet and the dry. The delta siltscape may seem to remain fixed in place for a time, but it is always in the process of moving back toward the muddy, transient, and

often insidious damp. This siltscapes, as I have argued, is a terrain of recalcitrance: a continual refusal to adhere to binaries that sort matter into its proper place. But as importantly, it provides a material basis for the making and unmaking of frontier projects. The postcolonial history of the shrimp frontier, its transition to a crab frontier, and the re-imagination of both within the framework of climate, which I explored in chapter 2, demand that we see the muddy terrain of the delta as intimately entangled with frontier-making. Similarly, the biological complexities of the delta—its abilities to facilitate certain kinds of life, its shifting habitats, its increasing salinity balances—are not incidental to the making of the climate frontier but are rather its basis.

Capture. To understand this climate frontier, I have attended to the complex interworkings of capture as an elementary form of frontier power. On this climate frontier, fishermen capture marine life, dakat groups prey on fishermen, shrimp and crab farmers grab lands, the government attempts to control both the past and the future, NGOs capture the imaginations of audiences elsewhere, and more. In these pages, I have framed capture as a loose way to trace predatory spatial and temporal strategies that deploy force to take humans, animals, resources, and territories into captivity for various ends. “Capture” encompasses literal practices of capture (fishermen capturing marine resources, bandits removing fishermen from boats, etc.), but it also encompasses the capture of rents and resources through the exercise of power, the more-than-human networks of hunting and capture that constitute life and livelihoods within the mangroves, the enrollment of global populations anxious about the future, and competing projects of seizing and controlling land and territory. Capture brings seemingly distinct processes of controlling the delta—conservation, policing, development, syndicates, banditry, and more—into relation with each other in ways that allow us to see their connections anew. It allows us to trace, as I do in chapter 4, the ways that new interventions in conserving the mangrove forests for the future fundamentally reconfigure—but do not erase—the territorial politics of fishing and dakati, radically increasing precarity for fishermen who make their living in the Sundarbans’s waterways.

My proposition has been that if we are to understand frontiers as processes—as forms of territorialization that happen to, in, and through certain spaces, as opposed to being innate qualities of those spaces themselves—then attending to capture helps us to map the often surprising contours of what happens within them. The making of a frontier at large is a process of legitimizing and facilitating capture, often of land and resources. It is not surprising, therefore, that the assembling of spaces like the delta as a frontier involves the knitting together of a myriad set of techniques of appropriation and seizure. To approach frontiers through capture is simply to ask how the capture of rents articulates with the seizure of land, the act of resource extraction, the mobilization of global anxieties to implement new kinds of projects, the production of new “natural” resources, and more. It is to suggest that these interrelationships are more than correlative; that

they are, indeed, constitutive of an ecology of power. And it is to posit that these linkages provide a key to understanding the making of a region at a particular moment of time.

PERSISTENT PRESENTS

The last time I saw Jolil was in Munshiganj. Jolil, who I had never seen off Gabura before, excitedly waved us down from across the street as we were riding past on Riton's motorcycle. "The government has given me a pension," Jolil told us. He pulled out a bank card, which he proudly displayed and then, just as quickly, tucked away. Jolil had an appointment at the bank, where he was going to learn how to use the card to extract money promised to him as an incentive to retire from fishing. We pressed Jolil for more details, but he was characteristically vague and in a rush.⁹ He had time to say hello, but no time to talk. As Jolil waved to us and made to leave, I asked him if this meant he would retire from working the Sundarbans. He laughed and replied, "Of course not. How else will I make a living?"

This is a question that looms large for people like Jolil, whose livelihoods continue to rely on their ability to either work their increasingly saline land or to extract resources from the increasingly regulated mangroves. The delta's imagined futures do not seem to hold a space for people like Jolil, whether it is figured as a space of imminent catastrophe peopled with a few resilient peasants clinging to their development-enhanced homes, as a conservation zone where the future of the mangrove forest has been secured by the progressive reduction of small-scale resource extraction within it, or as a zone of urban and industrial development, where climate migration fuels sustainable (and sustained) growth. While, as I explored in chapter 5, new visions of climate urbanism in Mongla imagine the city as a receiving zone for the delta's future displaced, it is hard to imagine people like Jolil as fitting into such a future. They lack the education and training necessary to find work in many of the businesses opening in Mongla's export processing zone. They know that migration to urban areas (whether proximate ones such as Mongla or more remote ones such as Dhaka or Kolkata) would likely force them to take hard and insecure jobs at low pay—that such a move would likely increase, rather than reduce, their precarity. Indeed, they know this very well, as many friends and relatives from the delta's agrarian landscape have already been forced to make such a transition. As importantly, for all of the difficulties of life in the delta—storms, dakats, tigers, government policing units, and more—bawalis like Jolil do not wish to abandon life in the Sundarbans or in the delta's agrarian space. Even as others frame their homes as uninhabitable—as resting on real or metaphorical crumbling embankments—they insist on continuing to inhabit them.

This persistence stands in stark contrast to the forms of resilient development explored in chapter 1. Rather than a politics of anticipating future shocks and girding homes, habitats, and jobs against them, it is a politics and an ethics for the time

being¹⁰—a set of strategies that are predicated on maintaining life and livelihoods against ever-increasing uncertainty and risk, of staying in places where peasant and fisher lives are constantly imagined as absent, problematic, or doomed. It is far from utopian. As these pages have shown, evading being captured by others' imagination of the delta's future exposes people like Jolil to a multiplicity of new, changing, and often difficult-to-chart forms of capture and expropriation in their everyday life—dakats prowling the mangroves, tigers inside and out of the Sundarbans, forest officials seeking to police and sometimes extort payments, and new forms of organizing land development initiatives and export-oriented production. There is no evading the cycles of capture and release in the delta siltscape. Yet persistence, if nothing else, affords those who do remain in the delta a chance to confront these cycles on their own terms, to choose the ways that they navigate the confluence of futures and pasts that occupy the delta's present.

If the project of critique is to offer alternative explanations that might frame possible different outcomes, the ideas and experiences of people like Jolil are instructive. People who fish the delta's rivers and work its siltscape often have enlightening ideas that offer an alternative—an otherwise and othertime—to grand projects framing delta futures. Some of these emerge through alternative policy and programming suggestions. Some of these are incisive critiques of the ways that current interventions do more to increase risk for those who work the delta than to stem it. Some of these are stories that offer vernacular explanations and theories of the ways that power works across scale on the climate frontier. These narratives do not offer simple solutions or clear alternatives. They do not unmake the climate frontier. But they do important work nonetheless. They reframe the delta, and the lives and experiences of its residents, not as a space where the near future has been evacuated but as an imperiled present where grappling with future-making projects might help us to rethink the risks of planning for multiple incommensurate futures at the same time. Such a subaltern perspective on climate futures recasts the diminishment and erasure of delta lives not as an inevitability but as only one (or some) of the many possible delta futures emerging from its damp and muddy terrain.

Jolil, and hundreds of thousands like him, thus persist in delta space. While pension schemes and job retraining programs may speed the transition for some from agrarian peasant or forest worker to urban laborer, it remains hard for many of them to see a better future outside of the delta. It also remains difficult for me to envision a delta future without them in it. Future-making in the delta constitutes an evacuation of the present and near future, but that does not mean an erasure. Unquestionably, the present and its occupants persist. And if it seems unlikely that the various projects of future-making afoot in the delta will bring about the specific ends to which they are set, that does not mean that they are not productive, that they do not produce an inhabited space in the present—a space in which delta residents continue to forge livelihoods and lives.

NOTES

INTRODUCTION

1. The bulk of the quotations in this book, especially direct quotations from interviews and conversations, are translations from Bengali. Where useful, I have included transliterations of the original Bengali—listed in italics—for reference and clarity. Riton Quiah assisted in translating and transcribing the hours of recorded interviews I collected during this fieldwork. All errors, however, are my own.

2. Following both my research protocols and standard ethnographic practice, I have used pseudonyms for everyone we will meet in this book with the exception of public figures and Riton.

3. The Awami League came to power in Bangladesh in 2008 following a state of emergency declared amidst the collapse of national elections in January 2007. Up until its sudden collapse in August of 2024 (as this book was going to press), the Awami League remained in power in part through a series of authoritarian measures that included suppressing the rival Bangladesh Nationalist Party (BNP). Most of the fishermen in this group belong to the BNP, which has a strong presence in Gabura. The fishermen at Nurul's stall are responding at least in part along party lines.

4. In this sense, the delta might be framed as what Michel Foucault refers to as a space of heterochrony—sites linked to a multiplicity of moments in time (Foucault, "Different Spaces"). In a formulation useful for understanding the multiplicity of delta futures, Nikolai Ssorin-Chaikov describes heterochrony as "a crossing point of several temporal disjunctures that are constituted as a relation to temporalities that extend beyond the scope and the terms of this site/span" ("On Heterochrony," 356).

5. As Frédéric Keck and Andrew Lakoff write, "The figure of the sentinel is bound up with both the problem of perception and the question of whether the detection of danger can successfully ward off a coming crisis. In the contemporary context of ecological anxiety, the sentinel has taken on an expanded meaning: it has come to describe living beings

or technical devices [or, one might add, places] that provide the first signs of an impending catastrophe” (“Preface: Sentinel Devices,” 2).

6. And especially central to the Awami League party.

7. My thinking on this multiplicity has been shaped by a fascinating set of papers engaging with the question of social time published as a special issue in the *Journal of the Royal Anthropological Institute* (see Bear, “Doubt, Conflict, Mediation”). Of particular note in this issue are interventions that point out the interface between planning, state bureaucracy, and conflicting temporalities. Simone Abram (“The Time It Takes”), for example, points out that state planning is a process predicated on conflicting temporal frames and that plans also falter through a lack of attention to such temporal contradictions, whereas Nayanika Mathur (“The Reign of Terror of the Big Cat”) argues that the failure of state projects to mediate problems often emerges not out of bureaucratic indifference but out of the failure to navigate incommensurate forms and representations of time.

8. See essays in Nicholls et al., *Deltas in the Anthropocene*.

9. This book does not propose an ethnographic study of something unfolding in a site within the delta (for example, conservation in the Sundarbans). Nor does it join with a growing critical literature assessing the impacts of climate change adaptation in the Bengal Delta as it is made in multiple sites and across scales.

10. I mean this not in a normative sense of good or bad but rather in Michel Foucault’s sense of the term—that these futures *make* something, even if it is not the thing that any one of them individually claims to produce (see Foucault, *Discipline and Punish*).

11. On life in aleatory environments, see Dunn and Cons, “Aleatory Sovereignty and the Rule of Sensitive Space.”

12. Townsend Middleton and I have explored this dynamic in depth in “Coming to Terms,” 2014. See also Cons, “Field Dependencies.”

13. Research for this book was thus carried out during a period of political ascendancy for the Awami League in Bangladesh, which held power in the country from 2008 until 2024. The Awami League maintained power through both popular and authoritarian measures. This unquestionably shaped the contours of both my fieldwork and the ways the projects this book investigates unfolded. How things might have looked differently in the delta should the Bangladesh National Party (BNP) have been more active in contesting Awami League rule is a counterfactual to which this book does not attend. How the Awami League’s economic vision of *Sonar Bangla* will change, or not, under the government that emerges in the wake of the Awami League’s fall in August 2024 remains, at the time of writing, to be seen.

14. For further discussion, see Cons and Eilenberg, *Frontier Assemblages*.

15. I am, of course, not the first anthropologist to ask such a question. For example, researchers associated with the DELTA project at Cologne University have recently begun to assemble “delta methods” for understanding what they call “hydrosocial life worlds.” See Krause, ed., “Delta Methods”; Krause and Harris, eds., *Delta Life*; and Krause, “Towards an Amphibious Anthropology of Delta Life.”

16. Nicholls et al., *Deltas in the Anthropocene*, 2.

17. See Giosan et al., “Protect the World’s Deltas.” This number, of course, depends primarily on how you define a delta space.

18. Though one could also say that the whole country and all its 171 million residents sit squarely within this world’s largest delta.

19. Krause, "Amphibious Anthropology of Delta Life," 1.
20. For a useful discussion, see Richardson, "Displacing the Delta."
21. In Timothy Mitchell's classic work on technopolitics, he writes, "From the opening of the twentieth century to its close, the politics of national development and economic growth was a politics of techno-science, which claimed to bring the expertise of modern engineering, technology, and social science to improve the defects of nature, to transform peasant agriculture, to repair the ills of society, and to fix the economy" (*Rule of Experts*, 15). While Mitchell is thinking specifically of twentieth-century Egypt, this description aptly captures the challenges of twenty-first-century Bangladesh.
22. Deltas, to borrow Dilip da Cunha's powerful argument (*Invention of Rivers*), are elements of design that enable particular interventions and managements of space.
23. See Lahiri-Dutt, "Beyond the Water-Land Binary"; and Iqbal, *The Bengal Delta*.
24. da Cunha, *Invention of Rivers*. See Debjani Bhattacharyya (*Empire and Ecology*) for a meticulous account the relationship between wet and dry, the production of new property regimes, and the making of colonial Calcutta.
25. The most significant articulation of this new land scheme was in the 1793 Permanent Settlement, which radically transformed landlord and tenant relations throughout the region. See Guha, *Rule of Property*.
26. Indeed, such an approach has been a mainstay of a range of science and technology studies-inspired ethnographies and histories, many of which this book draws inspiration from. See, for example, Mitchell, *Rule of Experts*; Barnes, *Cultivating the Nile*; Acciavatti, *Ganges Water Machine*; and Whittington, *Anthropogenic Rivers*.
27. For an ethnographic engagement with the delta's contemporary technopolitics, see Dewan, *Misreading the Bengal Delta*. For more historical explorations of delta technopolitics, see da Cunha, *Invention of Rivers*. I am indebted to such approaches even as this book departs from them.
28. IPCC, "6.4.1.2: Deltas." See also Nicholls et al., *Deltas in the Anthropocene*.
29. As Collier and Lakoff point out, vital systems security itself is a form of technopolitical thought. As they write, "For critical scholars . . . the central questions about the government of emergencies are questions of technopolitics: what political problems are rendered intelligible within the frame of vital systems security, and what problems are obscured? How are political decisions calculated? And how do the aims of vital systems security relate to other kinds of political goals" ("Vital Systems Security," 46).
30. Both India and Bangladesh have sizable minority populations of Muslims and Hindus, respectively.
31. Consider the recent implementation of the National Register of Citizens in Assam, an overtly anti-Muslim policy designed to make it easier to sort out who does and does not belong to India (and subsequently to intern and deport those who are deemed suspect).
32. The language here is borrowed from the documentary film *The Age of Consequences* (directed by Jarred Scott), which uses the fence as one amongst many examples to dramatize the global security challenges of climate change. I discuss this film further in chapter 1.
33. My focus on Bangladesh's side of the delta in this book is, thus, more than methodological nationalism. It reflects attention to complexities emerging from marked contrasts in geopolitical, economic, and demographic realities of governing and managing the possible futures of this delta.

34. It is tempting to think of deltas as what Timothy Morton (*Hyperobjects*) has called “hyperobjects”: entities massively distributed in both time and space that categorically deny phenomenological apprehension by humans. Indeed, in Morton’s influential text, one of his first examples is the Florida Everglades, a space with more than a passing similarity to the Sundarbans. Such an approach to deltas makes some sense on the surface. Yet such an approach leaves one with few ways to think, respond to, and engage the politics of delta management. Thus while my approach shares the new materialist demand that we decenter simple causal explanations, it refuses to allocate flat agency or political accountability across a multitude of actants and actors (see, for example, Bennett, “Agency of Assemblage”).

35. In an earlier essay, Kasia Paprocki also describes the delta region as a climate frontier to locate the politics of shrimp aquaculture as an ongoing and constitutive part of the formation of this frontier (something that I agree with and pick up on in chapter 2). As she writes, “The shaping of Khulna as a frontier of climate change adaptation is an active and ongoing process, involving both epistemic and material dynamics. The mobilization of shrimp aquaculture within this climate frontier is not incidental to it; rather, shrimp production plays a critical role in shaping the formation of the frontier” (“All That Is Solid Melts into the Bay,” 25). In this book, I deploy the concept of frontier broadly to pursue the dynamics through which this frontier is assembled. I use it as an analytic for tracing a broad number of strategies through which this climate frontier is constituted.

36. See Cons and Eilenberg, “Mapping Frontier Assemblages.”

37. Tsing, “Capitalist Frontiers,” 5100.

38. On recursive frontiers, see Middleton, “Frontier 2.0.”

39. Greenough, “Hunter’s Drowned Land,” 263. See also Eaton, *Rise of Islam on the Bengal Frontier*. For a famous contemporary rendering of the Sundarbans as frontier space, see Amitav Ghosh’s novel *The Hungry Tide*.

40. On land as palimpsest, see Savoy, *Trace*.

41. Khan, *River Life and the Uprising of Nature*; Dewan, *Misreading the Bengal Delta*; and Paprocki, *Threatening Dystopias*. For an excellent and contrasting engagement with adaptation in a different context, see Vaughn, *Engineering Vulnerability*.

42. See Bennett, “Agency of the Assemblage”; and Callon, “Elements of a Sociology of Translation.”

1. CAPTURED IMAGINATIONS

1. See Harms, “Filming Sea-Level Rise,” for a fascinating discussion that also engages questions of visual representation and climate change in the Bengal Delta. Harms’s work, in distinction to my argument here, is more focused on the production of memory and the fashioning of selves.

2. For an analysis that draws out the coloniality of such configurations, see Sultana, “The Unbearable Heaviness of Climate Coloniality.”

3. Agamben, *Coming Community*, 9–10.

4. The Truman Project is a Washington, DC, think tank that addresses contemporary security issues.

5. One of the clearest and most dramatic articulations of the ways that new security paradigms bundle development and military interventions on a continuum of soft to hard power is Admiral James Stavridis’s TED Talk “A Navy Admiral’s Thoughts on Global

Security.” For discussion of these various post–Cold War security paradigms, see Kaldor, *Human Security*; Duffield, *Development, Security, and Unending War*; Duffield, “The Liberal Way of Development”; Sörensen and Söderbaum, eds., *The End of the Development-Security Nexus?*; Dalby, *Rethinking Environmental Security*; and Peluso and Watts, “Introduction: Violent Environments.”

6. For a critical read on such framings, see Gupta, “Is Poverty a Global Security Threat?”

7. Duffield, *Development, Security, and Unending War*.

8. I am hardly the first person to point out this securitized imagination of climate futures. See Parenti, *Tropics of Chaos*; Marzec, *Militarizing the Environment*; and Bettini, “Climate Barbarians at the Gate?”

9. When the border was drawn by the Radcliffe Commission in 1947, the intention was to divide the majority Muslim districts from majority non-Muslim ones. This process produced a range of complications and confusions on the ground that are, in some cases, yet to be worked out. See van Schendel, *The Bengal Borderland*, for the definitive history of this border.

10. Malini Sur and Sahana Ghosh both offer rich ethnographic accounts of how debates over nationality are played out in courts in Assam and at the border. See Sur, *Jungle Passports*; and Ghosh, “Everything Must Match.”

11. See Jones, *Border Walls*.

12. The construction and planning of the fence had little, if anything, to do with climate change. See Jones, *Border Walls*; McDuie-Ra, “The India-Bangladesh Border Fence”; and Ranjan, *India-Bangladesh Border Disputes*.

13. Duffield, *Development, Security, and Unending War*.

14. Friedman, “A Global National Security Threat.”

15. Gardiner, “Borrowed Time on Disappearing Land.”

16. Chaturvedi and Doyle, *Climate Terror*.

17. For an analysis of the implications of this particular climate war game, see Marzec, *Militarizing the Environment*.

18. These war games seamlessly articulate logics of anticipatory planning that have come to dominate contemporary strategies of managing future disasters and emergencies. See Lakoff, “The Generic Biothreat”; Adams, Murphy, and Clarke, “Anticipation”; Anderson, “Preemption, Precaution, Preparedness”; Adey and Anderson, “Event and Anticipation.”

19. See Funk, *Windfall*.

20. See Jones, *White Borders*.

21. Perhaps the most well-known refutation of the tragedy of the commons thesis is Elinor Ostrom’s work on common-pool resource management (*Governing the Commons*). For a trenchant critique of neo-Malthusian environmental security narratives, see Peluso and Watts, “Introduction: Violent Environments.”

22. To be clear, one could easily trace the genealogy of orientalist imaginations of Bengal as a site of abjection and poverty back through the Bengal famine of 1943 (see Janam Mukherjee, *Hungry Bengal*) and further back into the colonial mismanagement of famine in Bengal and elsewhere in India in the nineteenth century (see Davis, *Late Victorian Holo-caust*). I am, here, merely tracing the current articulations of such imaginations.

23. Perhaps most famously documented in the work of Magnum photographer Raghu Rai. These photos are collected in his *Bangladesh: The Price of Freedom*.

24. The history of the Liberation War has been copiously documented. For histories that situate the conflict in global geopolitics, see Bass, *The Blood Telegram*; and Raghavan, 1971. For an accessible synthetic take that dwells on the relationship between the Bhola Cyclone and the Liberation War, see Carney and Miklian, *The Vortex*.

25. In reply, Henry Kissinger, to whom the phrase is often misattributed, quipped, “Yes, but not necessarily our basket case,” a commentary that prefigured American indifference to the subsequent famine in Bangladesh in 1974. See Tripathi, “Bangladesh’s Long Journey.”

26. For an excellent discussion of this history, see Naomi Hossain, *The Aid Lab*.

27. See, especially, Hossain, *The Aid Lab*.

28. See Paprocki, “We Need to Change the Way We Talk about Climate Change.”

29. I borrow the notion of “overrepresentation” from Billé, “Territorial Phantom Pains.”

30. Shibly and Mehedi, *A Tale from Climate Ground Zero*, 3.

31. See, for example, Watts, “On the Poverty of Theory.”

32. Watts, “Now and Then,” 40.

33. Shibly and Mehedi, *A Tale from Climate Ground Zero*, 8–10.

34. Resilience is a concept that has risen to prominence in development in recent years. The concept borrows from both Friedrich Hayek’s later theories about the chaos of the market and Crawford Holling’s writings on ecology as complex systems theory developed in the 1970s (Walker and Cooper, “Genealogies of Resilience”). As I have argued elsewhere (“Staging Climate Security”), its contemporary use in development signals both the limits of traditional planning—a vision of development as providing a better future—and a shift in the responsibility for preparedness from states to individuals. In short, it provides strategies to help those living in chaotic places and unpredictable times to be resilient—that is, to manage crisis on their own. See Evans and Reed, *Resilient Life*; Ranganathan and Bratman, “From Urban Resilience to Abolitionist Climate Justice”; and Watts, “Now and Then.”

35. It is important to recognize, as Camelia Dewan (*Misreading the Bengal Delta*) has noted, that broader development logics in no way encompass either the imaginations or actions of the development workers, often Bangladeshi nationals, who carry development interventions out. As her work demonstrates, reckoning with the way such workers perceive these interventions is crucial to understanding how developing is carried out in Bangladesh today. My argument here does not imply a colonization of the imagination of such workers. Rather, I seek to tease out the logics of these interventions and to diagnose the imaginations of climatic futures in which they speak.

36. See Paprocki, *Threatening Dystopias*. For a contrasting account of adaptation that highlights its role in the coproduction of race and vulnerability, see Vaughn, *Engineering Vulnerability*.

37. Redfield, “Bioexpectations,” 178. Redfield, exploring portable humanitarian technologies such as Plumpy’Nut and LifeStraw, argues that such technologies constitute a new “regime of living” in the afterlife of classical biopolitical interventions.

38. I explore this further in “Staging Climate Security.”

39. I have elsewhere (“Staging Climate Security”) called these spaces, following Michel Foucault (“Different Spaces”), “heterodystopias”—a concept I use to diagnose the relationships between global imaginations of a dystopian future and the specific locations within which these imaginations are actualized.

40. WorldFish is primarily oriented toward fisheries and aquaculture. Yet as the Pani House demonstrates, it is also involved in a broader range of climate-focused development.

41. Though that house was the only example of this particular design, the genre of the climate-proof house is one favored by multiple development agencies within Bangladesh and beyond.

42. E. Hossain, Nabi, and Kaminski, "Climate-Smart House," 3.

43. E. Hossain, Nabi, and Kaminski, "Climate-Smart House," 7.

44. Foucault ("Different Spaces," 183) describes heterotopias as zones that "everybody can enter . . . [but] by the very fact of entering, one is excluded." The heterodystopian architecture of the Pani House proved similar (see Cons, "Staging Climate Security").

45. One example of this is the Tebhaga movement in the early twentieth century, an organized communal movement seeking to collectively reconfigure the politics of sharecropping in Bengal (see Hashmi, *Pakistan as a Peasant Utopia*). A more contemporary set of articulations of this can be seen in the hundreds of local landless movements that collectively organize under the umbrella of "Nijera Kori" (see Barakat et al., *Development as Conscientization*; Kabeer and Sulaiman, "Nijera Kori and Social Mobilization in Bangladesh"; and Paprocki and Cons, "Life in a Shrimp Zone"). On the decline of support for such movements in international development work, see Lewis, "Organising and Representing the Poor."

46. See Cullather, *The Hungry World*.

47. Cullather, "Miracles of Modernization," 228.

48. It is productive to think of the Pani House, then, not just as a heterodystopia of development but also as a mechanism to entrap global interests and anxieties about a warming world. In a suggestive intervention on the anthropology of traps/entrapment, Alberto Corsín Jiménez and Chloe Nahum-Claudel write, "Traps are always technologies of inhabitation as much as they are technologies of predation. They are material designs for projects of co-habitation. Traps terraform a relationship between people, prey, and the physical and invisible landscapes they share" ("The Anthropology of Traps," 395). Such a framing offers a suggestive way to read the Pani House and the relationship it forges between global audiences interested in the abstract space of climate catastrophe and those who live in spaces such as the delta.

49. On spectacle, see Debord, *Society of the Spectacle*; and Foucault, "Different Spaces."

50. See Yeh, *Taming Tibet*.

51. See Dunn, "The Chaos of Humanitarian Aid."

52. For explorations of the lives and meanings of migration from the delta, see Dewan, *Misreading the Bengal Delta*; and Paprocki, *Threatening Dystopias*.

53. The literature on this debate is enormous and complex, though two central currents within this discussion are the ways migration by one or more family members increases household resilience through remittances (e.g., Sikder and Higgins, "Remittance and Social Resilience") and whether migration itself is best understood as a resilient strategy (e.g., Mustari and Zehadul Karim, "An Alternative to Bring Resilience"). A thrust of these studies is that it is critical to move beyond a normative frame that sees migration as a failure of adaptation and to recognize the translocality of lives and households in the delta (Etzold and Mallick, "Moving beyond the Focus on Environmental Migration.")

54. See also Vaughn, *Engineering Vulnerability*.

55. BARCIK is not a subcontracting implementer for larger international organizations. Its programs are developed in dialogue with the communities where it works.

2. FRONTIER TERRAIN

1. I use the notion of “terrain” in this chapter in Gastón Gordillo’s sense, as irreducible to human experiences of it, even as it shapes human action within it. Human action, movement, and initiatives of control are “hindered or enhanced by the raw excess of terrain” (“Terrain as Insurgent Weapon,” 61).

2. I borrow the notion of “capitalist relations” from Tania Li, who uses this term to denote the new kinds of relationships that emerge within communities in the context of integration into the circulatory and legal logics of capital. As she writes, “capitalist relations” refers to the ensemble of relationships characterized by private and unequal ownership of the means of production (land, capital), a group of nonowners compelled to sell their labor, and the use of profit to generate competitive conditions. Competition means that the owners of capital must seek profit to generate more capital to invest simply to reproduce themselves as they are, as owners. To the extent that they succeed, their accumulation squeezes others out, entrenching and sometimes deepening the unequal ownership with which the cycle began” (Li, *Land’s End*, 8). As Li’s analysis of capitalist relations in upland Sulawesi demonstrates, and as I will argue here, the materiality of those capitalist relations matters tremendously.

3. On recursive frontiers, see Middleton, “Frontier 2.0.”

4. I have elsewhere framed this as a process of “seepage” (“Seepage”; see also “Global Flooding”). Tim Ingold and Cristián Simonetti (“Introducing Solid Fluids”) have recently expanded such an argument to matter at large, suggesting that we think of matter in general as being in a constant state of flux.

5. Recent work in anthropology and geography has argued that much theorization, writing, and thinking on space and place unconsciously operates from the standpoint of the dry; it takes stable land as the fundamental ontological property of space. It uncritically figures dry land as a norm and its obverse (wet and damp space) as abnormal, problematic, and other (Steinberg and Peters, “Wet Ontologies, Fluid Spaces”). In contrast, a new generation of scholars of wet places (oceans, rivers, littoral zones, etc.) rethink theories of space and place from the standpoint of wetness (see Appadurai and Breckenridge, “Forward”; Ballesterio, “The Anthropology of Water”; Helmreich, “Nature/Culture/Seawater”; and Jue, *Wild Blue Media*). “Wet” theory (and theorists) reconceive terrain as permeable, liquid, and volumetric. Rather than solid, the terrain is framed by these authors as a viscous space that exists dynamically above and below the surface, and reframe community and ecology through the lens of ebb and flow (see, especially, Boelens et al., “Hydrosocial Territories”; Krause, “Hydro-Perspectivism”; Krause, “Water and Materiality”; Linton and Budds, “The Hydrosocial Cycle”).

6. I am hardly the first person to recognize a need to reframe our assumptions about the fixity of land in humanistic and social sciences research. Kuntala Lahiri-Dutt, writing of the delta, has provided foundational arguments to think beyond what she calls the “water-land binary” (“Beyond the Water-Land Binary”). Her work has been central to a range of scholars who have begun to reengage with the complexities of littoral space in particular. Several of these authors have productively begun to frame an “amphibious anthropology” that similarly thinks about wet/dry not as binary but as a constantly shifting and unstable interface (see Anand, “Anthroposea”; Jensen, “Amphibious Worlds”; Gagné and Rasmussen, “An Amphibious Anthropology”; contributors to Krause and

Harris, eds., *Delta Life*; Krause, "Towards an Amphibious Anthropology of Delta Life"; and Ley, *Building on Borrowed Time*).

7. My understanding of siltcape overlaps with Tim Ingold's well-known formulation of landscape as a temporally inflected, embodied taskscape, "a pattern of activities collapsed into an array of features" ("The Temporality of Landscape," 162). Indeed, the temporalities of human habitation and life ("taskscape," to use Ingold's term) are profoundly embodied within the delta's terrain of silt and water.

8. The question of geological temporality has recently emerged as a critical trope in conversations about the Anthropocene that call for the unthinking of distinctions between natural histories and histories of capital (for example, Chakrabarty, *The Climate of History in a Planetary Age*) and between geological life and human life (Yusoff, "Geologic Life"; and Clark and Yusoff, "Geosocial Formations in the Anthropocene"). These conversations typically counterpose a deep time occurring over a longue durée to the much shorter periods of human life and experience. Such conversations within this geological turn inform my thinking on delta temporality. However, the multiple temporalities unfolding within the delta siltcape suggest that imagining geological time as "long" might underplay the complex interlinkings between humans and geology.

9. Amrith and Yü, "The Himalaya and Monsoonal Asia," 30.

10. See Bookhagen, "Glaciers and Monsoon Systems." On the monsoon as assemblage, see Bremner, *Monsoon as Method*.

11. This process is beautifully described in Bremner, "Sedimentary Ways."

12. See Iqbal, *The Bengal Delta*.

13. van Schendel, *A History of Bangladesh*, 3. See also Amrith and Yü, "The Himalaya and Monsoonal Asia."

14. Mohanty et al., "Sediment Dispersion in the Bay of Bengal."

15. For a remarkable ethnography of erosion in the Indian Sundarbans, see Harms, *Enduring Erosions*.

16. Anas, "Bangladesh's Disappearing River Lands."

17. Indeed, accretion may outpace erosion in the delta. For accounts that trace the dynamics of land accretion and loss, see Brammer, "Bangladesh's Dynamic Coastal Regions and Sea-Level Rise"; Darby et al., "A First Look at the Influence of Anthropogenic Climate Change"; and Hazra et al., "Sea Level and Associated Changes in the Sundarbans." For a general discussion of the delta's geomorphology, see Brammer, *The Physical Geography of Bangladesh*.

18. Chars have provided productive spaces for rethinking concepts of nature and of delta terrain. For ethnographic explorations of life on chars, see Khan, *River Life and the Upspring of Nature*; Lahiri-Dutt and Samanta, *Dancing with the River*; and Jenia Mukherjee, Lahiri-Dutt, and Ghosh, "Beyond (Un)Stable." Chars are only one form of land transformation and accretion that are common in the delta. Others include beels, depressions caused by subsidence that can occasionally be filled in with silt to become bountiful agricultural land.

19. As Khan notes, chauras (those who dwell in char zones) transform accreted land from silt to property through labor—planting crops to both claim space and anchor the muddy silt with rhizomatic plant roots. As she provocatively argues, rather than seeing this as the production of property in a Lockean sense (claiming property rights through

improvement), property on chars is better understood as the projection of mental labor. As she notes, “We may see land-as-property as mind straining to be matter, as matter seeking to be present in absentia” (Khan, *River Life and the Upspring of Nature*, 29).

20. Bhasan Char, for example, a recently formed char in the delta’s East has served as a location for the government of Bangladesh to house unwanted Rohingya refugees—the impermanence of the island articulating with the temporariness of its inhabitants.

21. See Chatterji, “Fashioning a Frontier”; and van Schendel, *The Bengal Borderland*.

22. For example, there is a long-standing dispute over Muhuri Char on the border between Bangladesh and the Indian state of Tripura. It remains undemarcated to this day.

23. Siltscape are thus, perhaps, the ultimate examples of terrains that are constantly in the process of what Deleuze and Guattari term “territorialization” and “deterritorialization” (Deleuze and Guattari, *A Thousand Plateaus*).

24. Further, there was a gradual increase in landmass in the eastern part of the Bengal Delta from the seventeenth century onward caused by the gradual eastward movement of the Ganges, a process that was further accentuated by flooding and earthquakes in the eighteenth century, which displaced rivers in West and North Bengal. See Iqbal, *The Bengal Delta*.

25. On fugitive landscape, see James Scott, *The Art of Not Being Governed*.

26. da Cunha, *The Invention of Rivers*.

27. On colonial rule by cartography in South Asia, see Edney, *Mapping an Empire*.

28. On the Permanent Settlement, see Guha, *A Rule of Property for Bengal*. It is important to note that the Permanent Settlement was not the sole driver of property formation in East Bengal, later Bangladesh. Much of East Bengal, including the Sundarbans, was not included in the Permanent Settlement. As Iqbal notes, the dynamics of classifying the Sundarbans mangroves as “wastelands” and the policies that encouraged land reclamation in them were important to the making of property and terrain (*The Bengal Delta*; see also Paprocki, *Threatening Dystopias*, and Gidwani, “‘Waste’ and the Permanent Settlement”).

29. A dramatic example of this is the Brahmaputra Right Hand Embankment, a World Bank-funded project built on the Jamuna River in the 1960s. The embankment, which was 180 kilometers long, failed to prevent the movement of the river, which has migrated more than 1.5 kilometers east. See Nazrul Islam, “Why Western Approaches Can’t Prevent River Erosion in Bangladesh.”

30. As Lahiri-Dutt points out (“Beyond the Land-Water Binary”), the fixing of land as dry space protected from the watery outside by embankments was central to the implementation of colonial property regimes, the expansion of agrarian production necessary to feed the empire, and the extraction of revenues and rents. Colonial embankments thus temporarily provided a material fix for imperial accumulation.

31. A bounty of exceptional historical scholarship on the precolonial and colonial history of the delta has informed my thinking here. For detailed explanations, see, amongst others, Bhattacharyya, *Empire and Ecology in the Bengal Delta*; Dewan, *Misreading the Bengal Delta*; Eaton, *The Rise of Islam on the Bengal Frontier*; Guha, *A Rule of Property for Bengal*; Iqbal, *The Bengal Delta*; Paprocki, *Threatening Dystopias*; and K. Sivaramakrishnan, *Modern Forests*. In part, because of the depth of existing work, I focus my exploration in this chapter on postcolonial transformations in the frontier siltscape.

32. Richard Eaton documents the process of frontier-making as land reclamation in the mid-fifteenth century. As he writes, “First, the land had to be embanked along streams in

order to keep the saltwater out. Next, the forest had to be cleared, tanks had to be dug for water supply and storage, and huts built for the workers. These were arduous occupations since tigers and fevers were always dangerous companions of the process. When these were accomplished, rice had to be planted immediately, or a reed jungle would soon overrun the region again" ("Human Settlement and Colonization in the Sundarbans"). Iqbal (*The Bengal Delta*) shows that even in the nineteenth century, problems associated with embankments (specifically related to the construction of colonial railways on top of embankments and the growth of invasive water hyacinth within canals) plagued both ecology and governance in the region.

33. For a useful overview of the history of embankments—charting the debates over their purpose, construction, and efficacy and their gradual transformation from temporary bulwarks to permanent fixtures of delta life—see Dewan, *Misreading the Bengal Delta*.

34. As both Bhattacharyya (*Empire and Ecology*) and Dewan (*Misreading the Bengal Delta*) note, the colonial debates over the delta cannot be simply glossed as a project of imposing fixity on fluid space. Debates about fluidity, flow, and the permanence of infrastructures like embankments characterize the colonial archive. It is more correct, then, to see the move toward attempts to permanently fix land and water in place as an ideological relationship to terrain that emerged in the colonial period and grew in prominence throughout and into postcolonial projects such as the Coastal Embankment Project, discussed below.

35. This process was far from linear or singular. See Iqbal, *The Bengal Delta*.

36. For an expanded version of my gloss on this history, see Paprocki, *Threatening Dystopias*; and Paprocki and Cons, "Life in a Shrimp Zone."

37. The CEP was carried out through the East Pakistan Water and Power Development Authority, an organization that, Paprocki notes, was receiving fully 20 percent of East Pakistan's development resources (of which another 15 to 20 percent were paid to foreign consultants to develop projects such as the CEP). See Paprocki, *Threatening Dystopias*.

38. Today, the total number of polders has increased to 123. Many of these islands are simply known by their CEP numbers (e.g., Polder 22, Polder 23, etc.) For a fascinating account of polder construction that helps to draw out the complexities of translating a technology designed to manage flooding in a particular place (the Netherlands) elsewhere, see Ley, *Building on Borrowed Time*.

39. There is some disagreement over whether the CEP was explicitly designed as a Green Revolution technology or whether the adoption of HYVs was a byproduct of empoldering. There is little disagreement that the embankments allowed for such an adoption. The argument that the CEP was intimately linked to Green Revolution technologies is one that is common in social movements opposing shrimp cultivation. See, for example, Saha, "People's Movement against Shrimp Farming in Bangladesh."

40. For a detailed exploration, see Islam, *Confronting the Blue Revolution*.

41. The move toward shrimp thus exhibited all of the classic dynamics of an agrarian crop boom. Hall, Hirsch, and Li, *Powers of Exclusion*.

42. See Adnan, "Land Grabs and Primitive Accumulation."

43. An iconic moment in the struggle over shrimp was the killing of Karunamoyee Sardar, a landless leader in the island known as Polder 22. On November 7, 1990, Karunamoyee was shot by shrimp businessmen while leading a march of landless people to stop the seizure of agricultural land. Karunamoyee's death galvanized the movement, effectively stopping outside businessmen from bringing *bagdachingri* production to the island. But

Polder 22 was an exception to the general rule and much of the delta was transformed into a vast, damp, and saline shrimp frontier. For an excellent microhistory of Karunamoyee and the movement her death sparked, see Mahtab, "A Microhistory of Mass Mobilization."

44. Islam, *Confronting the Blue Revolution*.

45. Paprocki and Cons, "Life in a Shrimp Zone."

46. For an exploration, see Paprocki, *Threatening Dystopias*.

47. For an exploration, see Dewan, *Misreading the Bengal Delta*.

48. Schumpeter, *Capitalism, Socialism, and Democracy*.

49. See Bhattacharyya (*Empire and Ecology*) for a brilliant discussion of the ways that silt and the littoral landscape both complicated and shaped the formation of law in colonial Bengal.

50. For an excellent survey of cross-border water-management politics, including the Farakka Barrage, see Thomas, "International Rivers as Border Infrastructures."

51. For an overview of the spill, see Sander and Ali Husein, "Oiled Sanctuary"; and Kumar-Rao, "Oil Tankers Ply the Sundarbans Again."

52. As Ashley Carse and Josh Lewis ("New Horizons for Dredging Research") note, dredging is never a complete process.

53. Chakraborty and Eagle, "Dredging Makes a Desert."

54. I have not been back to visit this village since I was there in 2016; however, in 2018, *The Daily Star* contained a story about the canal with markedly similar claims. See Chakraborty and Eagle, "Dredging Makes a Desert."

55. Collier and Lakoff, "Vital Systems Security."

56. *Tran* can also be translated also as "relief." It is distinct from terms such as *unnayan* (development) in that it tends to refer to temporary assistance provided by organizations or the government following disasters.

57. Foucault, *History of Sexuality*, Vol. 1.

58. See Chatterjee, *Politics of the Governed*.

59. See Talukdar et al., "Molecular Identification of White Spot Syndrome."

60. For an overview of the soft-shell crab business, see Md. Mojibar Rahman et al., "Soft-Shell Crab Production."

61. See Paprocki, "Anticipatory Ruination."

62. See UNDP, "Battling the Climate Crisis."

3. AMONGST TIGERS

1. *Bawali*, especially when self-invoked (as it is in Jolil's case), also indicates someone who invokes Bauls—a mendicant sect known for their devotional songs—for protection against creatures such as tigers in the forest. Forest workers also often refer to themselves as *bonojibis* (foresters).

2. Indeed, habitat loss and environmental change may be pushing honeybees deeper into the forest than they have gone in the past, meaning that honey collectors must venture farther from home and into more remote parts of the Sundarbans (see Akter et al., "Changing Pollinator Communities").

3. The use of masks to protect honey collectors was a strategy employed by the West Bengal government in India to reduce tiger fatalities in the 1980s. The use of these masks stemmed from the observation that tigers typically attacked from the back. Annu Jalais

(“Unmasking the Cosmopolitan Tiger”) notes that these masks were ubiquitous when she first began visiting the Sundarbans as a child in the late 1980s. Jalais also raises questions about the efficacy of these masks, suggesting that they served as an experiment with the lives of those who work the forest and a marker of class and caste distinction between forest workers and forest visitors. Whether or not the masks were effective, they appear to have gone out of favor as a strategy for protecting honey collectors. Ankana Das (“Honey Collectors of the Sundarbans”) reports that these masks are often preserved as relics by forest workers in West Bengal today.

4. Nayanika Mathur, in her investigation of the entanglements between people, big cats, and climate change, notes that tales of such encounters center a series of questions. As she writes, “How might the beastly tales of crooked cats deepen our understanding of the causes, consequences, and conceptualization of the climate crisis? And, finally, how do they open out the debates on the Anthropocene?” (*Crooked Cats*). This chapter represents my own engagement with these suggestive questions.

5. For an excellent overview of tigers in the Sundarbans, see Khan, *Tigers in the Mangroves*.

6. Jalais, “Unmasking the Cosmopolitan Tiger”; and Jalais, *Forest of Tigers*.

7. Jalais, “Unmasking the Cosmopolitan Tiger,” 26.

8. With this turn of phrase, I am consciously drawing a connection between tigers (the proverbial kings of the forest) and Ernst Kantorowicz’s (*King’s Two Bodies*) famous exploration of medieval political theology. Kantorowicz argues that medieval sovereign power was predicated on a political theology where the king’s body was always double. One of these bodies was flesh and blood, the other divine—from whence sovereign authority was drawn. Tigers, similarly, draw their power and authority to speak for imperiled nature from their fleshly and cosmopolitan bodies. Indeed, this is one of the reasons for their historical enmeshment in hunting and sovereign rule in South Asia (see Pandian, “Predatory Care”).

9. “Dokkhin Rai” is also regularly transliterated as “Dakshin Rai.”

10. Not surprisingly, Bonbibi has occupied both scholarly and novelistic attention, perhaps the most well-known example being Amitav Ghosh’s rendering of the Bonbibi narrative in *The Hungry Tide*. For accounts of the Bonbibi/Dokkhin Rai saga, see Stewart, *Needle at the Bottom of the Sea*; and Amitav Ghosh, *Jungle Nama*. For further discussion of Bonbibi in the Sundarbans, see Jalais, *Forest of Tigers*; Raju, “Bonbibi”; and Uddin, “Religion, Nature, and Life in the Sundarbans.”

11. Mahesh Rangarajan (“The Raj and the Natural World”) notes that in the early twentieth century, more than a third of all deaths due to tiger attacks in the entirety of British India were from the Sundarbans. He attributes this to the fact that chance encounters within the mangroves were more common than in other South Asian tiger habitats and the field of tiger predation was narrower.

12. Paul Greenough (“Hunter’s Drowned Land”) argues that the Victorian imagination of the Sundarbans as a sinister drowned space is owed, largely, to W. W. Hunter’s rendering of the Sundarbans as an “anti-sublime” in the first volume of his *Statistical Account of Bengal*.

13. Hunter, *A Statistical Account of Bengal*.

14. For examples, see Pandian, “Predatory Care”; Jalais, “Unmasking the Cosmopolitan Tiger”; Shafqat Hussain, “Forms of Predation”; and Yeh, “Transnational Environmentalism.”

15. Pandian, “Predatory Care” (see, also, Greenough, “Hunter’s Drowned Land”). Importantly, Pandian’s essay does more than simply identify the colonial state as enacting

predatory care. Rather, he traces the politics of predatory sovereignty back through the Mughal court, demonstrating that the hunt has long been entangled with sovereign power (see also Chamayou, *Manhunts*).

16. Mandala, *Shooting a Tiger*, 1.

17. See Sramek, "Face Him Like a Briton."

18. See Jalais, "Dwelling in Morichjhanpi."

19. See Khan, *Tigers in the Mangroves*.

20. USAID, for example, set up a program known as the Bengal Tiger Conservation Activity (Bagh) in 2014 to work with WildTeam to, amongst other things, develop a Bangladesh Tiger Action Plan. The plan is meant in part to provide a roadmap for reducing tiger/human conflict and thus encourage more effective models of conservation.

21. This number is up from 106 in 2015. See *The Star*, "Bangladesh Begins Tiger Census."

22. See, for example, Mukul et al., "Combined Effects of Climate Change," which predicts that tiger habitats will vanish by 2070.

23. See Haque, "Behavioral Change Due to Climate Change."

24. See Saif and MacMillan, "Poaching Trade and Consumption of Tiger Parts."

25. Keck and Lakoff, "Preface: Sentinel Devices," 2.

26. Keck and Lakoff, "Preface: Sentinel Devices," 2.

27. Abu Naser Mohsin Hossain and colleagues note that tiger densities are actually higher close to the Indian-Bangladesh border, possibly because of the frequency of border patrols that frighten away poachers. Hossain et al., "Identifying Landscape Factors Affecting Tiger Decline."

28. USAID Bangladesh, "Protecting Wildlife and Forests in the Sundarbans of Bangladesh."

29. For an exploration of this, see Raju, "Bagh Bidhaba."

30. Lobo, Alam, and Bandyopadhyay ("Tiger Atmospheres and Co-belonging") note that tiger widows often defy stereotypes of their powerlessness and marginalization. Such seemed the case amongst this group as well.

31. Mantras such as Shonkar's are part of a complex ethics of nature in the Sundarbans (see Sivaramakrishnan, "Ethics of Nature in Indian Environmental History"). For more on this ethics in the Sundarbans, see Lobo, Alam, and Bandyopadhyay, "Tiger Atmospheres and Co-belonging."

32. Jalais, *Forest of Tigers*, 35.

33. An enduring argument in political ecology has been that environmental violence—violence correlated with resource formation and environmental change—emerges not a priori out of scarcity but rather out of social relations of production and social fields of power: political economies that can only be understood through a situated mapping of regimes of accumulation, modes of access to and control of resources, and the interplay of actors such as firms, peasants, and the state. This argument is made most forcefully and clearly in the introduction to Nancy Peluso and Michael Watts's landmark volume *Violent Environments* (2001). Jalais's ethnography deepens this insight—expanding our understanding of the social relations of production by situating violent environments in broader patterns of change and centering the nonhuman as actor in their constitution. It demands that we take more-than-human (and more-than-biotic) agency seriously.

34. WildTeam reports that between 2008 and 2022 there were 275 reports of tigers attacking humans and 349 reports of tigers attacking livestock. Reports of tigers preying on

livestock are likely severely underreported for reasons explored below. See Mitra, “Forest Means Fear.”

35. See, for example, *The Business Standard*, “Tiger Population at Risk in the Sundarbans.”

36. While the word for “tiger” in Bengali is *bagh*, the word for “tiger prawns” is *bagda-chingri*, without an aspirated *gh*. Despite the discrepancy, both refer to “tiger.”

37. This poster is part of a digital archive collecting materials around the killing of Karunamoyee Sardar collected by Moyukh Mahtab with the help of Nijera Kori. It is available at <https://archive.org/details/KarunamoyeeSarder/Karunamoyee%20Day%20poster%201999/>.

38. Mathur, *Crooked Cats*, 12.

4. ECOLOGIES OF CAPTURE

1. See Chakrabarti, “Local People and the Global Tiger”; Priyanka Ghosh, *Subsistence and Biodiversity Conservation*; Greenough, “Hunter’s Drowned Land”; Milan Roy, “Crime and Dacoity among the Bagdi Community.” *Dakati*—*dacait* in Hindi and *dacoit* in its more colonial parlance—has a rich history in South Asia, articulating both criminality—exploitation, extortion, the control of various business cartels, and more—and anti-colonial and anti-state social banditry. Much of the debate over banditry in colonial South Asia has hinged on the political relationship between *dacoits* and anti-state/anti-colonial resistance. See especially Ranajit Guha’s (“The Prose of Counter-Insurgency”) critique of Eric Hobsbawm’s (*Bandits*) characterization of social banditry as a “pre-political” form of protest. For a summary discussion, see Wagner, “Thuggee and Social Banditry Reconsidered”; and Beverley, “Frontier as Resource.”

2. Much work in South Asia has explored the inextricable relationship between *goon-dahs*, *mastans*, gangs, and bosses and political power. Much of this work identifies state formation and rule as unfolding in and through such structures in the form of a *goonda raj* (Piliavsky and Sbriccoli, “The Ethics of Efficacy”) or a *mafia raj* (Michelutti et al., *Mafia Raj*).

3. I build here on scholarship that has pointed out that predation is a (re)emergent character of contemporary life (De León, *Land of Open Graves*; Dua, *Captured at Sea*; Mathur, “Predation”; O’Neill, *Hunted*; Ogden, *Swamplife*). Central to my argument here are scholars who have recently begun exploring hunting as the original and ongoing act of state formation (Chamayou, *Manhunts*) and those who use predation to question longstanding assumptions that neoliberalism is, or has ever been, a politics of abandonment (Mbembe, *Necropolitics*; O’Neill, *Hunted*; O’Neill and Dua, “Captivity”; O’Neill and Dua, “A Forum on Captivity”). O’Neill provocatively notes, “[Hunting’s] subplot is not that the masses have been left behind. Instead, a more constructive reading, a more challenging line of inquiry, is that they have been given a head start” (“On Hunting,” 699). In response, a number of scholars have begun to explore the possibilities of thinking about captivity as an analytic that begins to tease out the interrelations between violence, imaginations of power, criminality, politics, and economy (O’Neill and Dua, “Captivity”; Lepselter, *Resonance of Unseen Things*; Doughty, “Cultural Anthropology in 2018”). I build on those lines of inquiry. But I also turn attention to capture to, on the one hand, trace out the territorial and temporal entanglements of predation and, on the other, to expand our understanding of predation beyond the human (Ogden, *Swamplife*). My goal is to see the ways capture traces

the relationships between imaginations, humans, animals, and institutions by focusing on the dynamics of capturing land, rents, territory, resources, and more.

4. See Tania Li's ("After the Land Grab") work on plantations as mafia economies and Ogden's (*Swamplife*) work on hunters' landscapes for explorations of capture that bring some of these relations into play.

5. Elizabeth Dunn and I ("Aleatory Sovereignty and the Rule of Sensitive Space") have argued that spaces such as humanitarian camps and borderlands are often so densely layered with different claims and projects seeking to achieve territorial control that sovereign power often appears ad hoc and haphazard on the ground. We call this "aleatory sovereignty." The Sundarbans is certainly such a space. Here, arguably, sovereign power or at least projects of territorial control must be extended to the nonhuman—the flora and fauna who are the object of small-scale resource extraction, the protean mangroves that shift and reclaim channels and redirect silt, the larger predators such as the tiger and the estuarine crocodile, who stalk both human and nonhuman prey. All of these contribute to the sense of rule in the mangrove as fundamentally aleatory in nature.

6. I am, of course, glossing Max Weber's famous explanation of the state as the entity with the monopoly on legitimate violence within a given territory (*The Vocation Lectures*). In substituting predation for violence, I seek to shift the normative dimensions of Weber's formulation, to open it up beyond both the state and the human, and to specify the purposes of such a monopoly. That is, I see predation as a concept that clarifies the multi-institution and multispecies attempt to control space and resources within it through various processes of capturing patronage, goods, beings, and rents to productive ends.

7. In exploring the delta's ecology of "capture," I have in mind a different goal from that of the rich literature on social banditry and on piracy's relationship to sovereign power. In much historical and anthropological research, piracy is often posed as a question of challenging or producing sovereign power (e.g., Benton, "Legal Spaces of Empire"; Dawdy, "Why Pirates Are Back"; Heller-Roazen, *The Enemy of All*) or as articulating subject positions within or against the state—posing pirates as Hobsbawmian social bandits (crime as a protest against state power), as paragons of capitalist and neoliberal logics (Dawdy and Bonni, "Towards a General Theory of Piracy"), or as figures inherent to globalization and the circulation of capital (e.g., Dua, "The Abandoned Sea Farer"; Heyman, *States and Illegal Practices*; Warren, *A Tale of Two Centuries*). Here, my interest is not *dakati's* relationship to rule or circuits of capital *per se*, but rather the ways that *dakati* is enmeshed in a web of social relations of capture and control.

8. And, indeed, in frontier space in South Asia in general. See Beverley, "Frontier as Resource"; and Kaushal, "Understanding *Dakaiti*."

9. Indeed, it is still common to meet people in the delta region with the surname of "Dakua." For a nuanced discussion of the colonial debate over hereditary criminal castes, see Singha, *A Despotism of Law*.

10. As noted above, this is in keeping with much work on contemporary South Asia, which sees practices of "criminal" predation as inextricably intertwined with more formal state institutions. See Piliavsky and Sbriccoli, "The Ethics of Efficacy"; Michelutti et al., *Mafia Raj*; Jauregui, *Provisional Authority*.

11. Priyanka Ghosh, *Subsistence and Biodiversity*; Iqbal, *The Bengal Delta*.

12. See, for example, Istiak Ahmed et al., "Climate Change, Environmental Stress, and the Loss of Livelihood."

13. In an insightful essay exploring the Indian Sundarbans, Megnaa Mehtta notes that people who work the mangroves, such as crab collectors, are targeted for regulation and censure precisely because other more significant polluters (ships, industry, states, etc.) are beyond conservation groups' powers to regulate and control. See Mehtta, "Crab Antics."

14. SMART stands for "Spatial Monitoring and Reporting Tool." SMART Teams combine technology with more conventional forms of policing to more rapidly respond to threats to wildlife and conservation efforts. As the program's mission statement has it, "An immediate priority for protecting the Sundarbans and its wildlife is to move from the current reactive law enforcement approach to prevention of illegal activities" (GIZ, "Enhancing Conservation Law," 1). These teams have been operating in the Sundarbans since 2016.

15. *Matbors* might be best described as elder strongmen with outsized say in village life and political economy. On *motbori* culture, see van Schendel, "Easy Come, Easy Go."

16. Most fishermen, in my experience, tend to be tremendously deferential to forest officials, partly because the Forest Department plays such a central role in their ability to secure fishing permits. Miah's brazenness in this encounter speaks both to his personal demeanor and to the fact that he does not rely on the Forest Department's blessing for his livelihood.

17. Zia was the commanding officer of the First East Bengal Regiment under Sector 9.

18. Miah, like many Bangladeshi men, expresses extraordinary devotion to those he calls his *neta* or "leader." This is a devotion that transcends time and, indeed, for Miah, the grave.

19. For a detailed account of Zia's campaign see his memoir, Ziauddin Ahmed, *Mukhtijodha Sundarban*.

20. Official narrative of Zia's life make no direct mention of this event. Following the Liberation War, Zia continued to play a role in Bangladesh's army and was one of the witnesses to Bangladesh's first prime minister Sheikh Mujibur Rahman's assassination in 1975. Following Mujib's death, Zia was one of the participants in the coup known as the "Day of Uprising of Soldiers and People." Zia opposed the military-backed rule that followed Mujib's assassination and returned to the Sundarbans, where he was arrested in a military operation in 1976. It is possible that this is the event that Miah is referencing here. Sentenced to life in prison, Zia was pardoned in 1980, when he appears to have returned to the Sundarbans region more or less permanently.

21. Major Zia's negotiated capture of Dublar Char, and his establishment of a fishing empire on it, also charts an alternative history of the delta, one that cuts against linear narratives of state consolidation and dissolution following the Liberation War. This history is yet to be written, but it is currently being researched by Md. Robayt Khondoker.

22. My framing of Dublar Char as a fisher's siltcape builds on Ogden's theorization of the Everglades as a hunter's landscape. She observes that hunter's landscapes are spaces where women's roles in the processes of production and reproduction are hidden. As she notes, "Hunting as a practice took place away from the household, away from the daily struggles of getting children off to school and scraping together meals during hard times. No doubt this was part of hunting's appeal. The hunter's landscape is a man's world, a world of hard labor, sweat, cigarette smoke, and raunchy jokes. The hunter's landscape is also one that features the displacement of women" (*Swamplife*, 20).

23. The island is more open to visitors during the annual Raas Mela, which typically falls in late autumn. The mela attracts thousands to the island each year.

24. On moral economy, see the classic interventions by James Scott in *Moral Economy of the Peasant*, and E. P. Thompson in “Moral Economy of the English Crowd.”

25. Arild Rudd, in an interesting discussion of the word *khomota*, frames it more as the capacity to influence people. As he has it, *khomota* “denotes above all the capacity an individual has to mobilize others, into action or non-action, a capacity for ‘getting things done’ or making others agree, inspiring confidence, arousing interest or enthusiasm, or ‘forcing’ people” (*Poetics of Village Politics*, 65). Read as such, Shohag’s point takes on an interesting double meaning. *Khomota* might be read in a Weberian sense, as an exercise of force. But it also might be read as Shohag making a point about what it means to motivate those under his command, to inspire confidence in his leadership within them.

26. See Human Rights Watch, “Judge, Jury, and Executioner.”

27. Chamayou, *Manhunts*; Weber, *The Vocation Lectures*.

28. See Istiak Ahmed et al., “Climate Change, Environmental Stress, and the Loss of Livelihood”; and Saif and MacMillan, “Poaching Trade and the Consumption of Tiger Parts.”

29. On social banditry, see Hobsbawm, *Bandits*. While such claims may be true, they are also shaped by the terms of *dakats*’ surrender. Surrendered *dakats* are typically given amnesty for kidnappings, but they may in the future face charges for murder, rape, and other crimes not covered or admitted to when they surrendered, such as poaching and cross-border smuggling.

30. As he somewhat sheepishly explained, he also hoped that this naming ruse would perhaps shelter him from prosecution on the mainland.

31. For a discussion of the gendered politics of work inside the Sundarbans, see Jalais, *Forest of Tigers*.

32. See Ogden, *Swamplife*.

33. In this sense, *dakati* resonates with social histories of piracy in which the pirate ship figures as a heterotopic space outside the strangling racial and class hierarchies of mainland life (e.g., Rediker, *Villains of All Nations*).

34. I borrow the notion of vernacular theories of power from Susan Lepselter’s exploration of alien abduction narratives in the United States. Here, she argues that captivity narratives constitute vernacular theories of power that draw meaningful connections and resonances between apparently unrelated things. Lepselter, *Resonance of Unseen Things*.

35. Capture, thus, engenders and extends a set of relational social politics around land, law, and opportunity. See Dua, *Captured at Sea*.

36. For the classic exploration of this distinction, see Abraham and van Schendel, “The Making of Illicitness.” See also Roitman, “The Ethics of Illegality.”

37. Istiak Ahmed et al., “Climate Change, Environmental Stress, and the Loss of Livelihood.”

38. See Hakim, “Pirates Free Sundarbans.” Hakim, known ubiquitously throughout the region as “Mohsin Bhai,” has become a famous chronicler of life in the Sundarbans through his YouTube channel—a channel that he launched while chronicling his work with *dakats*. Many of the *dakats* who surrendered were personally convinced by Hakim that they would be safe during the process. He chronicles this in his book, *Sundarbaner Jaladossuder Jibone Pherar Golpo* (The story of the surrender of the Sundarbans pirates).

39. My thanks to an anonymous reviewer of this book for this formulation. On trapping/entrapment, see Corsin Jiménez and Nahum-Claudel, “The Anthropology of Traps.”

40. Such strategies articulate with the tools of counterinsurgency deployed in conflicts elsewhere in South Asia. See, for example, Hettiarachchi, "Sri Lanka's Rehabilitation Program."

41. See *BBC News*, "Has Bangladesh's Piracy Amnesty Been a Success?"; and Schwartzstein, "Pirates Are Killing Bengal Tigers."

42. *Dhaka Tribune*, "PM Hasina Declares Sundarbans Pirate-Free."

43. Such quandaries, as Fiona Terry (*Condemned to Repeat?*) has argued, are common dynamics of humanitarian interventions in conflict zones.

44. As Derek Sayer famously observed about such performances, "Individuals live in the lie that is 'the state' and it lives through their performances. Their beliefs are neither here nor there. What is demanded of them is only—but precisely—performances" ("Everyday Forms of State Formation," 374).

45. Monir is quite well-connected to law enforcement agencies in the town. It would not be surprising if someone asked him to get Riton and I to the scene in time to be an audience for the release.

5. THE FUTURE FRONTIER

1. Others have also described Mongla as a frontier city. See Mundy, *Race for Tomorrow*.

2. UNO is a Bangladesh civil-service designation for the chief executive officer of the upazila, a subdistrict geographic designation. A nonelected position, the UNO controls budgets and serves as the local arm of the central government. Along with the elected mayor, the UNO wields political power within a given upazila.

3. Benjamin, *The Arcades Project*. Benjamin refers to the arcades and the world exhibitions to which they are linked as, variously, "places of pilgrimage to the commodity fetish" and as places in which the "phantasmagoria of capitalist culture attains its most radiant unfolding" (*The Arcades Project*, 7 and 8). They are places that exhibit the possibilities and promises of capitalist fantasy and futures. In this sense, the Unnayan Mela is similarly a space that produces fantasies of the future by offering snapshots and moments of both the means and end products of future industry and prosperity.

4. In her analysis of bureaucratic time, Nayanika Mathur points to the centrality of incommensurability in the failure of state projects. As she writes, "Bureaucratic time should no longer be thought of as a Foucauldian social discipline that subjects citizens to its force, making them wait in order to disempower them. Nor can its qualities be captured by an analysis of risk projects, scenario planning, or states of anticipation or preparedness alone. Instead, we must think through the various labours that are necessary within bureaucracies and between bureaucrats and citizens to make the state machinery work. Bureaucracy is revealed as a site for the mediation of heterochronies that is vulnerable to the critique that its failures to achieve this produce" ("The Reign of Terror of the Big Cat," 162–63).

5. This point bears emphasis: the projects that I discuss in this chapter unfold in the *same places* that I have been talking about in the rest of this book. Mongla is kilometers away from the other sites discussed herein. Its industrial corridors and new projects of industrial development unfold on the same terrain—or immediately proximate terrain—to projects driven by climate security and projects seeking to secure the Sundarbans's future. When I say that the delta's terrain must bear the weight of all of these future projects, I mean that literally.

6. Benjamin, "Theses on the Philosophy of History."
7. I have elsewhere figured Mongla as a "temporal chokepoint" ("Delta Temporalities"), a spatial and temporal conjuncture in which a profusion of future possibilities are constricted and constrained.
8. Paprocki, "Anticipatory Ruination."
9. Iqbal, "Climate Change Adaptation and Neoliberalism." Iqbal is raising the question of why Bangladesh has been singled out by the neoliberal development industry amongst its equally vulnerable neighbors as a climate wasteland, not questioning the seriousness of climate crisis or promoting an alternative vision of the region as fit for growth, or suggesting that the books he is reviewing are guilty of this framing.
10. A question to which chapter 1 of this book is devoted.
11. In invoking the concept of "otherwise" here, I am playing on Elizabeth Povinelli's framing of an anthropology of the otherwise as the exploration of forms of life that run counter to what she has described as "Late Liberalism" (see *Routes/Worlds*). The otherwise I am invoking here points more to a tension in late liberal imaginations of Bangladesh and its future—one that sees it as a zone of threat to liberal power and as a node of forging a possible new economic regime in the Asia Pacific.
12. At the time of writing, it remains unclear how visions such as Sonar Bangla, Vision 2021, and the Delta Plan 2100 will change in the wake of the fall of Hasina's Awami League government in August 2024, and with the coming to power of the new interim (or subsequent) governments. While the names and rhetoric of these policies are likely to change ("Sonar Bangla" is a phrase with a distinctly Awami League flavor), I suspect that imperatives for growth and economic integration will continue to be central to state policy.
13. According to the World Bank, middle-income countries fall into two categories: "lower middle-income economies—those with a GNI per capita between \$1,036 and \$4,045; and upper middle-income economies—those with a GNI per capita between \$4,046 and \$12,535" (<https://www.worldbank.org/en/country/mic/overview>). Bangladesh has, indeed, been upgraded from a lower-income country to a lower-middle-income country.
14. Much of my thinking on and understanding of Sonar Bangla emerges out of conversations with Shehzad Arifeen, whose path-breaking work on Sonar Bangla as rule by aspiration is forthcoming.
15. Indeed, the country's first five-year plan, from 1973 to 1978, was explicitly framed as building a Sonar Bangla free of hunger, poverty, and want. For analysis, see Sobhan, *Untranquil Recollections*; and Nurul Islam, "Five Year Plan of Bangladesh."
16. Endless editorials and think tank pieces heralded the achievement of Sonar Bangla during the country's golden jubilee in 2021. For a representative example, see the European Institute for Asian Studies, "Sonar Bangla."
17. General Economics Division, *Bangladesh Delta Plan 2100*, 14. It is worth noting that the delta in the delta plan is the whole country and not just its coastal regions.
18. General Economics Division, *Bangladesh Delta Plan 2100*, 4.
19. On the concept and consequences of logistics security, see Cowan, *The Deadly Life of Logistics*.
20. Chittagong currently has a depth of approximately ten meters, not large enough to accommodate the New Panamax standard ships, which need a minimum draft of 12.04 meters (see Syful Islam, "New Equipment to Mitigate Chittagong's Capacity Woes"). On the logistic transformations of the Panamax standard, see Carse, "The Feel of 13,000

Containers.” On the relationships between standards, sovereignty, and states, see Easterling, *Extrastatecraft*.

21. Though new investments may be improving circulation through the port, see Faruque, “Ctg Port Ready for Vessels with 10-Meter Draught.”

22. Matarbari will have a depth of sixteen meters and, as such, be able to accommodate New Panamax ships. The project, which began in 2020, is funded by the Japan International Cooperation Agency (Japan’s state development assistance organization) and is projected to be completed in 2026. Recent reports suggest that the project has been significantly slowed by COVID-19’s impact on the country. See *Maritime Gateway*, “Slow Progress in Construction of Deep Sea Port in Matarbari, Bangladesh.”

23. Payra Port is currently the deepest port in the country with a channel dredged to 10.5 meters. Plans are in place to continue to dredge the channel to increase the port’s capacity. See Nayal, “Bangladesh’s Payra Port Ready to Take a Piece of Pie.”

24. The growth of Mongla Port’s capacity has been heavily covered in the Bangladesh press. For a helpful and comprehensive overview, see Parvez, “Mongla Port Turns Around.”

25. The project was initially slated to begin in 2010 with a \$1.2 billion loan from the World Bank. The Bank pulled out of the project, however, after the government of Bangladesh refused to adopt anti-corruption measures recommended by the Bank upon uncovering alleged evidence of a corruption conspiracy. For a summary of the scandal, see Bergman, “Rewriting the History of Bangladesh’s Padma Bridge Criminal Conspiracy.”

26. While I am not aware of any formal connection between India’s investments in Mongla and its Look/Act East policy—which looks to build economic and political relations with Southeast Asian states—it is certainly a project that similarly seeks to develop eastward-looking economic and hegemonic expansion.

27. See also Md. Tuhin Ahmed, “Economic Impact of the Padma Bridge.”

28. See *New Age*, “Mongla Port Sees Huge Activities”; and Chakma, “Mongla Port Expansion Makes Headway.”

29. The study of Bangladesh’s present and potential role in India-China contentions for hegemony in the Pacific is somewhat of a cottage industry in regional security studies. The thrust of much of this work suggests that Bangladesh could be a key benefactor in this contest. On the one hand, it has seen Chinese investment as a flexible means to foster large-scale infrastructural development projects without having to work within the strictures of Western organizations such as the World Bank. On the other, Bangladesh benefits from proximity and a historical relationship with India that make it a logical trading partner. In both framings, Bangladesh’s ports are central to its strategic and economic value. For discussion, see Bhumitra Chakma, “Sheikh Hasina Government’s India Policy”; Delwar Hossain and Islam, “Understanding Bangladesh’s Relations”; Plagemann, “Small States and Competing Connectivity Strategies”; Rüländ and Michael, “Overlapping Regionalism and Cooperative Hegemony.”

30. There is some debate about whether the bridge should be considered a “Chinese” project or not. Following the opening of the bridge, many newspapers in both India and China trumpeted the bridge as a success for Chinese infrastructural development. The Bangladesh government claims it as a massive nationalist victory and maintains that not only was the Padma Bridge entirely financed by the government, but that it is not part of China’s Belt and Road Initiative (BRI). See *The Daily Star*, “Padma Bridge Not Part of Belt and Road Initiative.” See also Patranobis, “Bangladesh’s Padma Bridge Is a Chinese Success Story, Claims Media.”

31. In contrast to the Padma Bridge, the Rail Link Project is unambiguously part of the Belt and Road Initiative and the largest infrastructure project being built under its auspices in the country. See Mishra, “Bangladesh.”

32. See *Daily Observer*, “Bangladesh, China to be Connected by High-Speed Train.”

33. See Bose, “Modernising the Mongla Port in Bangladesh”; Rahaman, “China to Fund Potential Mongla Port Project”; and Shaikh Abdur Rahman, “Mega Development Projects in Bangladesh.”

34. In 2016, the governments of Bangladesh and China signed BRI MOUs for projects totaling \$26 billion and joint ventures totaling \$14 billion. See Muniruzzaman, “Belt and Road Initiative: Perspectives from Bangladesh.”

35. See Laskar, “Bangladesh Okays India’s Use of 2 Ports.”

36. See Mazumder, “The Assessment of Indo-Bangla Ties in a New Dimension”; and Artymiuk, “Bangladesh and India Seek to Improve Cross-Border Connectivity.”

37. See *Prothom Alo*, “China Pumps Money in Project Jointly Taken by Dhaka, New Delhi”; and Syful Islam, “Archrivals China, India Move in to Fund Same Bangladesh Port.”

38. Secondary cities are figured in contemporary debates over climate change as possible alternatives to megacities—urban areas that, because of their size and rapid growth, present opportunities for managing migration and climate resilience differently than intractable megacities like Dhaka. For an overview, see the UNOPS hosted project “Cities Alliance: The Role of Secondary Cities in a National System of Cities,” <https://www.citiesalliance.org/themes/secondary-cities>.

39. See ICCCAD, “Mongla Dissemination Brief.” I was affiliated with ICCCAD for some of the period when I conducted this research but had no connection to the Mid-Sized Cities Project.

40. See Ruszczyk et al., “Livability and Vitality”; Khan et al., “High-Density Population and Displacement in Bangladesh”; and Rahman et al., “Managed Urban Retreat.”

41. See *The Daily Star*, “Climate Resilient Mongla Offers New Life.” Huq gained prominence in recent years as one of the key voices speaking for Bangladesh in venues such as the annual Conference of the Parties meetings and for Western media seeking to understand the relationship between Bangladesh and climate change, the debates over loss and damage, and more. In October of 2023, while I was completing this book, he tragically passed away.

42. This is, of course, the story of “So-Called Primitive Accumulation” that Marx narrates as the origin of Capital. See Marx, *Capital*, Vol. 1.

43. Kasia Paprocki (*Threatening Dystopias*) has made a similar argument about narratives that foreground urban migration to cities like Dhaka as opportunity in the midst of the climate crisis.

44. For a further account of Ali’s troubles with the Awami League, see Simon Mundy, *Race for Tomorrow*.

45. See *Daily Sun*, “AL’s Sheikh Abdur Rahman Wins Mongla Mayoral Polls.”

46. As Shannon Mattern (*A City Is Not a Computer*) observes, the urban dashboard has become a trope in smart city development. As she points out, they are part of a futuristic gestalt of urban management that is a fantasy of control.

47. For an analysis of the vision of “smart cities” in India, see Datta, “The ‘Smart Safe City.’”

48. Duncan McDuaie-Ra and Lauren Lai (“Smart Cities, Backwards Frontiers”) further note that SCM programs in India’s northeast are the latest state project for taming and reintegrating “backwards frontiers,” providing impetuous for both securitized territorial

rule and economic expansion.

49. Mattern (*A City Is Not a Computer*) usefully argues against metaphors of thinking cities as computers and instead contemplates more arboreal metaphors as a way to reframe “smart” urban development.

50. Panamax ships require a draft of 12.04 meters, and the New Panamax ships require a draft of 15.2 meters, significantly larger than the plans to increase the Pasur River channel’s depth to ten meters.

51. See Arju, “Will Bangladesh and India Turn the Sundarbans into a Busy Shipping Lane?”

52. See *The Daily Star*, “Coal Ship Sinks in the Sundarbans.”

53. See *The Daily Star*, “Vessels Sinking.”

54. The environmental impact assessment estimates that the plant will need thirteen thousand tons of coal per day and will release 7.2 million tons of CO₂ into the atmosphere each year. See Harvey, “A New Powerplant Could Devastate the World’s Largest Mangrove Forest.”

55. See *The Business Standard*, “Govt Plans to Dredge Mongla Port Channel’s Inner Bar.”

56. See Srabon, “Dredging at Outer Entrance of Mongla Port”; and *The Daily Star*, “Tk 793 Crore Dredging Project at Mongla Port Begins.”

57. For an analysis of dredging as a never-ending metabolic process, see Gustafsen, “We Dredge Because It Doesn’t Work.”

58. See *The Daily Star*, “Tk 793 Crore Dredging Project at Mongla Port Begins.”

59. Carse and Lewis, “New Horizons for Dredging Research,” 3.

60. See *Arab News*, “UNESCO Puts Sundarbans on Danger List.” One of the complaints, for example, leading to UNESCO’s listing of the Sundarbans as an “endangered” heritage site was the failure of the government of Bangladesh’s environmental impact statement for dredging in the Pasur to account for the Sundarbans’s “Outstanding Universal Value” in its assessment—an abstract term that means, according to UNESCO, “cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity” (<https://worldheritage.gsu.edu/outstanding-universal-value/>). On the challenges of “valuing” nature in conservation, see Büscher and Fletcher, *The Conservation Revolution*.

61. Siddique, “In Bangladesh, Ecologically Critical Areas Exist Only on Paper.”

62. See Roy, “Critical Area at Stake”; and *Dhaka Tribune*, “HC Orders DoE to Give Permission.”

63. Here, it is useful to remember Paul Virilio’s (*The Original Accident*) classic argument that the invention of the accident is embedded in the invention of any technology.

64. See UNESCO, “Report on the Mission to the Sundarbans”; and UNESCO’s annual reports on the state of the Sundarbans available at <https://whc.unesco.org/en/soc/4143>.

65. See Chowdhury, “Environmental Impact of Coal Based Power Plant.”

66. See Nath et al., “Earthquake Scenario in West Bengal”; and Krajick, “A Giant Earthquake May Lurk.”

67. See Hamid “National Energy Security Day”; and Likhon, “Bangabandhu Initiated Energy Security.”

68. Anupam Debashis Roy (“Why the Movement against Rampal Power Plant Failed”) argues that an absence of local involvement was a determining factor in this failure. As he

notes, “The activists I interviewed noted that the high number of migrants in the region (who came from other villages in the area to find a place to live) meant that there was barely anyone who was ‘local’ at Rampal, since the locals of the area had already been displaced. . . . Large-scale shrimp cultivation, which largely began in the 1980s, disrupted established land relations and the traditional samaj. Displaced from their traditional agricultural jobs, the local populace shifted to other economic activities—driving vans, collecting honey in the Sundarbans and so on. The infusion of saltwater into farmland caused it to lose productivity. The fields neighboring the shrimp farms also experienced a loss in fertility. Then the shrimp enclosures that replaced the fields started returning lower profits due to sluggish demand in the international market. Land prices in the area plummeted as a result. When the government came in to acquire their land for the power station, titleholders were happy to receive any sort of compensation for it.” This may be a bit of an overstatement. In 2018, I spoke with a number of landholders who believed that their land had been grabbed and that they had not received adequate compensation for their loss. However, Roy’s point that the Rampal plant is part of a longer history of dispossession in the region that itself is part of the narrative of Mongla’s rise is crucial. See also Misra and Mookerjee, “Why New Delhi Must Withdraw from the Rampal Power Plants.”

69. Typically, access to navigable waterways is raised as the reason for the plant’s location. But interestingly, some others highlight the location choice as a response to the decline in viability of the shrimp business. See Mahmud, Roth, and Warner, “Rethinking ‘Development.’”

70. As an old joke in Bangladesh goes, a poster made by the Bangladesh Tourist Board in 1976 that reads “Come to Bangladesh before the Tourists Get Here!” is still in circulation.

CONCLUSION

1. Though the dolphins in the fountain seem to be common bottlenose dolphins, not the Gangetic or Irrawaddy dolphins that can be found in the delta.

2. Indeed, one might note that the sublime is the register in which resolving all of these challenges makes the most sense.

3. Guyer, “Prophecy and the Near Future.”

4. See, for example, Ferguson, *The Anti-Politics Machine*.

5. My point in calling this a singular future of climate chaos is not that experts render this future in simplistic ways. As Adriana Petryna shows, projects of what she calls “horizoning” are precisely oriented toward imagining the unpredictable and nonlinear transformation and preserving (or opening) possible strategies of response (*Horizon Work*). This is similarly demonstrated by the literature on anticipation as an emergent paradigm of planning—a paradigm that posits a chaotic and possibly unknowable future that is discontinuous with the past and then asks about how to best prepare for it (for discussions, see Armondi et al., “Preparedness as a Technology of the Imagination”; and Lakoff, “The Generic Biothreat”). Rather, what I am suggesting is that the array of temporalities of climate in the delta do not frame a singular unpredictable future but rather an array of possible futures unfolding at different timescales and to different ends. For further discussion, see Cons, “Staging Climate Security.”

6. Cons and Eilenberg, “Mapping Frontier Assemblages,” 7.

7. I am here recalling Tsing's invocation of frontiers as "visions and vines and violence" ("Natural Resources and Capitalist Frontiers").

8. My argument about the articulation between imagination and territory-making is an extension of the argument I make in my previous book (*Sensitive Space*), an exploration of the ways anxieties about enclaves along the India-Bangladesh border produce these zones as sensitive spaces in nationalist imaginations and the implications of such imaginations for those who live in these zones.

9. In 2023, the Bangladesh government initiated a universal pension scheme. My meeting with Jolil in 2020 was long before this, and I have neither been able to identify what program was providing Jolil with a bank card nor clarify whether this was a government- or NGO-based scheme.

10. On the ethics of the time being, see Middleton, *Quinine's Remains*.

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