

Chapter Title: Introduction Climate Reductive Translations in Development

Book Title: Misreading the Bengal Delta

Book Subtitle: Climate Change, Development, and Livelihoods in Coastal Bangladesh

Book Author(s): Camelia Dewan

Published by: University of Washington Press. (2021)

Stable URL: <https://www.jstor.org/stable/j.ctv2114fm3.8>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <https://about.jstor.org/terms>



This book is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (CC BY-NC-ND 4.0). To view a copy of this license, visit <https://creativecommons.org/licenses/by-nc-nd/4.0/>. Funding is provided by Andrew W. Mellon Foundation, as part of the Sustainable History Monograph Pilot.



JSTOR

University of Washington Press is collaborating with JSTOR to digitize, preserve and extend access to *Misreading the Bengal Delta*

Introduction

Climate Reductive Translations in Development

In 2018, climate-related overseas development assistance totaled US\$33.2 billion globally, up from US\$24.2 billion in 2014. In order for countries and NGOs to access this funding, climate change adaptation or mitigation must be a principal or significant goal of development interventions (Donor Tracker 2021). The Intergovernmental Panel on Climate Change (IPCC) ranks Bangladesh as one of the most climate vulnerable countries in the world, and climate change is now mainstreamed into all of Bangladesh's development activities (Lewis 2010; Alam 2019). From 2011 to 2018, donors and development agencies (including EU member states and the World Bank) allocated approximately US\$20.59 billion to Bangladesh.¹ In 2012 the World Bank allocated US\$400 million for flood-protection embankments as climate adaptation infrastructure. To access such considerable funding streams, nongovernmental organizations, state bureaucracies, and research institutions in Bangladesh must ensure that their project proposals for development interventions appear as climate relevant. Often, such project proposals rely on appealing to donors' perceptions of Bangladesh's low-lying floodplains as being at particular risk as global sea levels rise, making the country an "epicenter of climate change" (Cons 2018, 272).

The common reading of Bangladesh as a victim of climate change assumes that as global warming increases, ice caps will melt, sea levels will rise, low-lying Bangladesh will drown, and people will flee because of floods and increasingly frequent natural disasters (cyclones), thus in turn becoming climate change refugees (Jolly and Ahmad 2019; Vidal 2018). While simplified narratives may help make development interventions seem related to climate change adaptation or resilience in order to attract aid funding, does it accurately capture the causality of floods in complex coastal landscapes? Might it even risk exacerbating environmental degradation and increasing coastal vulnerability to climatic change?

Bangladesh is located in the largest delta in the world, formed by the Ganges, Brahmaputra, and Meghna rivers. This is a hydrologically active delta with meandering rivers that continuously reshape the land, through both erosion and sedimentation. Each year, these rivers carry approximately 40 billion cubic feet of silt on their journey from the Himalayas down to the Bay of Bengal—an

incredible 25 percent of the total annual sediment of the world river system (Iqbal 2010). Silt can be described as part water and part mud (Lahiri-Dutt and Samanta 2013, 7) and is the intractable soil-water admixture particular to the Bengal tidal basin (Bhattacharyya 2018). Accumulated sand and silt are embedded into riverine environments making it hard to distinguish solid land from fluid waters, especially during the annual monsoon. Indeed, silt destabilizes a clear dichotomy between land and water. Silt in these waters have, after all, the ability to raise existing land levels and create new land masses in the rivers, locally known as *chars*, best described as islands made of silt. Silt can change whole waterscapes and ecologies. In the unembanked Sundarbans mangrove forests, the flooding of silted river water raises land levels each year, keeping pace with sea level rise (Auerbach et al. 2015).

This silted delta has an innate ability to adapt to a certain amount of sea-level rise caused by global warming. Together with monsoon rains, rivers, canals, (agricultural) wetlands, mangroves, and *char* islands (da Cunha 2018), the hydrological characteristics of this delta complicate narratives of Bangladesh's vulnerability to rising sea levels. A misreading of the coastal landscape, such as viewing embankments as "flood-protection" infrastructure against rising sea levels, diverts attention away from environmental processes that compromise Bangladesh's ability to withstand future climatic risks.

Misreading the Bengal Delta combines detailed environmental history with an ethnographic study of southwest coastal Bangladesh to show how the development industry tends to simplify the complexities of a wetlands delta in ways that may exacerbate environmental risks and the vulnerability of the people it seeks to help. My intent is not to deny climate change, but to show the risks of development projects attributing environmental change to climate change, even when it is not the case. Until the 1990s, global warming was often associated with "*climatic* change," an index of change in the climate system to which interseasonal variations in weather would contribute. Since then, the term has been increasingly replaced by "*climate* change," a discursive shift from an adjective to a noun that denotes the role of climate as the main causative agent of interannual weather variation (Hulme 2015; 2011). *Climatic* change denotes the physical effects of anthropogenic global warming. It is a real material phenomenon that will subject Bangladesh to a certain amount of sea level rise, changing monsoon patterns, variability of the dry season, and increasing frequency and intensity of extreme weather events such as cyclones, thunderstorms, and tidal waves (Hanlon, Roy, and Hulme 2016). By differentiating between physical processes of climatic change and the discursive ideas of climate as the main cause of

change, this study demonstrates how climate change can be a powerful discursive phenomenon that alters expectations of causality.

As more attention and resources are shifted toward tackling climatic change both in the Global North and Global South, it is necessary to recognize that knowledge production of climate change is situated in particular social contexts (Barnes et al. 2013). Detailed ethnographies anchored in real places, ecosystems, and societies can illustrate the complex environmental challenges that face many low-lying coastal countries: the double-edged swords of flood-protection embankments and their interwoven relations with meandering rivers, sedimentation, and different types of local floods.

In this post-truth era, critical engagements with scientific research run the risk of being co-opted by climate change deniers to dismiss the scientific consensus on global challenges caused by anthropogenic climatic change (Kofman 2018; Latour 2004). To support anthropologists' efforts to advocate for climate justice globally, Susan Crate has advocated for the practice of "climate ethnography" to describe local experiences of weakened livelihood capacities: "By using the term environmental ethnography, we lose both the urgency and reflexivity necessary to advance our methods to address climate change. . . . Climate ethnography, by contrast, is tied to the global phenomenon and communicates a sense of immediacy and of an ethnography with a mission" (Crate 2011, 185).

Although this concept acknowledges multistressors and other environmental factors that affect livelihoods, it risks suggesting that climate change is a causative agent—that is, that it causes most of the environmental problems local people are experiencing. Archaeological analysis of human agency and historical climatic change shows that the impact of any climatic event depends on the local and social ecological settings in which they take place, urging caution against simplified notions of change that attribute causality to climate change alone (Hassan 2009). By replacing "environmental ethnography" with "climate ethnography," anthropologists may be at risk of losing a holistic understanding of localized processes that are tied to context-specific anthropogenic land-use practices, environmental degradation, and social issues that affect livelihoods in specific places.

The use of "climate ethnography" may thus play a reductive role in describing human–environment interactions and increase the risk of "climate reductionism"—a trend that ascribes all changes in the environment and society to climate, where climate plays a reductionist role in discourses about the environment, society, and the future (Hulme 2011). As political ecologists point out, climate change adaptation is an increasingly political industry: "In this vast industry of

work on adaptation to climate change, critical social science and hard-edged political economy are strikingly absent. The rough and tumble of actual struggles and the relations between households, communities, and powerful state and corporate agents are missing” (Peet, Robbins, and Watts 2011, 10).

A growing body of anthropological literature engages with the politics of knowledge production about climate change. In Egypt, climate change is not the only factor that will shape water availability, yet the political decisions about water allocation and access are neglected when discussing Egypt’s water future through the lens of climate change (Barnes 2015). In Vietnam, ethnographic fieldwork among environmental policymakers highlights the social embeddedness of knowledge production where real climatic change coincides with “discursively and socially constructed climate changes” (Zink 2013). Ethnographic specificity can also be used to understand the different levels of performativity required in building expertise amid a changing climate affecting mangroves in Guinea (Vaughn 2017) and to understand how Western development professionals come to imagine climate heterodystopias in the Global South (Cons 2018). By deconstructing the production of knowledge (and ignorance), anthropologists are thus able to critically engage with discourses of climate change at both local and global levels.

A historical approach to human perceptions of climatic change helps to further unpack the complex relationships between society and climate (Barnes and Dove 2015). Carefully examining the colonial and postcolonial history of flood-protection embankments, aquaculture, and agriculture in the dynamic delta of Bangladesh, this book shows how knowledge about climate adaptation is not necessarily bifurcated between different groups of experts (Vaughn 2017), but can be contained within the same individual. While it is important that anthropologists relate local community experiences of adaptation to climate change to global policy levels (Crate 2011), it is also imperative that anthropologists reflexively analyze discourses of climate change. This is particularly the case in development projects, which are sites of competing interests and conflicting agendas (Mosse 2005), resulting in divergent conceptions of the very notion of climate change. Such a critical approach to the knowledge production of climate change by particular actors and interests can help shed light on how policy discourses may work as instruments of governance to “identify the mobilizing metaphors and linguistic devices that cloak policy with the symbols and trappings of political legitimacy” (Shore and Wright 1997, 3). Bangladesh’s ability to deal with environmental challenges is entangled with the priorities and funding concerns of international bodies—an inherently political dynamic that constitutes

an example of unequal power relations at global levels. This monograph contrasts the narratives of climate-funded projects with local environmental history and the lived experiences of social and environmental problems. By doing so, it illustrates the broader dynamic interrelations between development, anthropogenic environmental problems, and climatic change.

Decolonizing Development in Bangladesh

Climate change is increasingly, and intimately, tied to significant financial funds distributed through international development. As such, it is important to look at how development in the form of capitalist (extractive, colonially rooted) practices forms part of current representations of Bangladesh. I am a second-generation Bangladeshi born and raised in Sweden, and I have grown up in a society where media portrayals of Bangladesh are often victimizing, pauperizing, and condescending. This book is a decolonial project that historically situates “development” in Bangladesh and the continued image of the country as poor and vulnerable in order to understand the links between colonial knowledge production and the knowledge production of climate change.²

The concept of “decolonizing development” contests the ways in which development has been used as a way to legitimize external actors radically altering environment and societies in former colonies of the Global South. This is part of a wider agenda of decolonizing the curriculum and higher education, which is based on the assumption that global histories of Western colonial domination have had the effect of limiting what counts as authoritative knowledge, whose knowledge is recognized, what universities teach, and how they teach it. The university, as a privileged space of knowledge production and dissemination, is a key site where the historical legacy of colonial social constructions, imaginaries, practices, hierarchies, and violence still resonates today (Decolonising SOAS 2018). The image of Bangladesh as a climate change victim reproduces such historical imaginaries of its inferiority while ignoring its complex past.

The state of Bangladesh came into being through two traumatic partitions—one in 1947, where independence from colonial rule also split Bengal in two (West Bengal to India, East Bengal to newly created Pakistan), and the other in the 1971 War of Liberation, when East Pakistan broke away from oppressive West Pakistani rule to reclaim Bengali language and culture. Yet despite eastern Bengal’s central importance in British India, Bangladesh often falls out of discussions of the history of India. For example, the Victoria and Albert Museum’s *Fabric of India* exhibition (2015) included colonial-era textiles from Dhaka (now

in Bangladesh), but the modern-era textiles in the exhibition were only from the nation-state of India (created in 1947), thus excluding both Bangladesh and Pakistan. The separation of West Bengal in contemporary India and East Bengal in Bangladesh is noteworthy since the Bengal region was integral to “India” and its ancient history goes back to when it formed part of the Maurya and Gupta empires in northern India. The Pala empire was established in Bengal in the eighth century and continued until the twelfth century. It was the dominant power in the northern subcontinent. At the height of its power, it included parts of modern-day eastern Pakistan, northern and northeastern India, Nepal, and Bangladesh (Majumdar 1991). The Pala Empire had a strong administrative system from the village level to central government, including a system for tax collection. It expanded Buddhism; created outstanding works of art, literature, and architecture; implemented policy oriented toward the welfare of the people; and undertook public works like excavating water tanks, ponds, and canals (Majumdar 1991). After Pala’s fall, various dynasties ruled wider Bengal, from the Sena dynasty to the Moghul empire in the sixteenth century. State administration continued with complex systems for revenue collection and public works—but this came to change under the colonization of Bengal under the East India Company and the British Raj.

British colonial officials came to use representations of “modernity” and “progress” to legitimize the exploitation of the Indian subcontinent, its natural resources, and its people. Through its efforts to understand its “subjects” and comprehend the internal workings and logic of India, the colonial state created various censuses, surveys, and classifications (Cohn 1996) and ethnographies (Dirks 2001, 59; Willford and Tagliacozzo 2009, 2). Regardless of whether or not the flawed categorization of Indian knowledge was intentional, colonial knowledge cemented a view of India as a Hindu, caste-stratified, ancient, unchanging village society (Cohn 1996)—an image further reproduced through official colonial documents (Cohn 1996; Dirks 2001). The British administration increasingly engaged in historical revisionism and instructed their officers through James Mill’s (1817) *The History of British India*, a book that ignored ancient Indian history and emphasized British superiority (Hill 2008, 90–91). This construction of India and its diverse population served to alienate non-Hindu groups from the narrative of India (Cohn 1996). While Indians would negotiate and reconstitute their identities, they could only do so within the limits of these colonial categories (Arnold 2009, 34). As an increasing number of Bengalis joined the British as civil servants during the Raj (1857–1947), the narrative of superiority crept into the minds of some Indian colonial subjects, who reproduced

British claims of progress by viewing precolonial institutions as traditional to legitimize colonial interventions as a means to reach Western modernity (Chatopadhyay 1990).³

This is in turn linked to the perceived superiority of the European Enlightenment that emphasized rational knowledge and the importance of technology and science. The historian Fredrik Cooper suggests that modernity is a way of talking about the world, where western Europe is the model to which the rest of the world should aspire. Such a representation casts modernity as a condition in and of itself; it creates a story of people becoming modern. The colonizer's society is presented as "advanced" and embodying "progress," while colonized societies are portrayed as "traditional" and "backward" (Cooper 2005). Modernity has come to be associated with progress, development, the West, science and technology, high standards of living, rationality, and order. Tradition, in contrast, is associated with stagnation, underdevelopment, the Orient, conventional tools and technologies, poverty, superstition, and disorder (Gupta 1998).

Colonial knowledge production corresponds with Foucault's "governmentality," or the "art of government," where power is the ability to impart knowledge in a way that means it is internalized as truth (Foucault 2007).⁴ In the Foucauldian sense, to be governed is not only to have a form imposed upon one's existence, but to be given the terms within which existence will, and will not, be possible (Butler 2002). Colonial knowledge both enabled conquest and was produced by it (Cohn 1996). Without understanding "precisely how the social domain has been restructured (constituted), our accounts of the dynamic connections between power and knowledge during the colonial period will remain limited" (Asad 1991, 324).⁵ This is important, since the colonial dichotomy of modernity and tradition continued in the postcolonial period through a new dichotomy of developed and underdeveloped (Gupta 1998, 9). After independence from colonial rule, India and Pakistan saw the post-World War II rise of the Bretton Woods Institutions (World Bank, International Monetary Fund) that institutionalized a global governmentality of development, where underdevelopment became a new form of identity for North Indians (Gupta 1998, ix).

Development is thus a highly contested and ambiguous term that carries several layers of meaning: an organized system of power and practice that has formed part of the West's colonial and neocolonial domination of poorer countries; a form of "planned social change" that involves external intervention by one group in the affairs of another; the activities required to bring about change and progress often linked to economic growth; an adjective that implies there is a subjective standard against which different rates of progress may be compared

(Lewis 2005, 474). Since it came into being in 1971, Western countries have perceived Bangladesh as a “bottomless basket case”—a country of poor and starving people (New York Times 1972). This image, along with those of famines (including the one in 1974–75) and floods, portrayed an inferior Other (Said 1979) that needed the superior expertise and funds of foreign donors and consultants to bring growth and progress—to “lift it up from poverty.” This “development industry” is “a powerful and complex constellation of public and private agencies channeling large amounts of international development assistance, including intergovernmental organizations of the United Nations, multilateral and bilateral donors such as the World Bank or the United States Agency for International Development (USAID), and a vast array of nongovernmental organizations (NGOs) ranging from small specialized, grassroots concerns to large transnational organizations such as Oxfam or the Bangladesh Rural Advancement Committee (BRAC)” (Lewis 2005, 473).

This longer history shows how Bangladesh has long been acted upon by both colonial administrators and foreign donor agencies. *Misreading the Bengal Delta* discusses the ways in which development in the context of aid projects in Bangladesh constitute a continuation of the preceding notions of progress and modernity used to justify interventions in its environment and society. This illustrates how external ideas, external institutions, and external resources shaped the current form of Bangladesh and its state—from the creation of colonial railways and World Bank embankments to its dependency on development funding allocated to poverty reduction, modern agriculture, and now climate change—rather than creating a system of citizen entitlements to reduce societal inequalities.

The priorities of the development industry may not match those of the people it is seeking to help. As anthropological studies of development have long shown, the latest development paradigms and donor priorities can be summed up with specific buzzwords that unlock funding and influence the direction of intervention (Cornwall 2007). Buzzwords include *agricultural development* (Ferguson 1990; Li 2007), *gender* (Cornwall and Eade 2010), *participation* (Harriss 1988; Cooke and Kothari 2001), and *poverty reduction* (Cornwall and Brock 2005). Such buzzwords are easily co-opted and reconfigured into “fuzz-words”—that is, they no longer contest the argument they may originally have challenged (Cornwall 2007). The vagueness of buzzwords is also a part of the anthropological critique of development, which shows how development projects, particularly at the World Bank, are made to appear disembedded from a historicized, politicized, and social context (Ferguson 1990; St. Clair 2006; Broad 2006; Goldman 2005).

Today, *climate change adaptation* has become one of the main development buzzwords (Barnes and Dove 2015). However, climate change is distinct from development buzzwords such as *poverty reduction* and *gender empowerment*. While ineffective development interventions may not have had the intended results (Ferguson 1990; Mosse 2005), the stakes were low since the interventions aimed to alleviate already poor situations. Yet the stakes of ineffective development interventions earmarked as climate funding is far higher as they should address actual environmental conditions and challenges so as to remediate climatic risk, rather than exacerbate it.

Climate Change and Capitalism

The misreading of the coastal landscape illustrates the entwining of capitalist practices and development buzzwords. As this book shows, old forms of capitalist activities are continued in many development interventions now posing as climate related. This is a significant problem since the environmental challenges we face on a global scale today are inextricably linked to the advent of capitalism, which reduced both human beings and the natural environment to pure commodities. Political economist Karl Polanyi (1957) predicted such commodification would lead to the destruction of both. As political ecologists point out: “Environmental degradation is not an unfortunate accident under advanced capitalism, it is instead a part of the logic of that economic system” (Peet, Robbins, and Watts 2011, 26), where economic acceleration caused by late capitalism has resulted in considerable environmental overheating (Stensrud and Hylland Eriksen 2019).

Today, we are witnessing the most rapid and extensive destruction of biodiversity in human existence, a trend that has escalated since the Industrial Revolution. Climatic change arose from the unsustainable exploitation of nature in the name of profit and progress. Polanyi (1957, 42) further suggested that capitalism “was utterly materialistic and believed that all human problems could be resolved given an unlimited amount of resources.” Herein lies the contradiction between capitalism and the environment. For capitalism to thrive, it requires endless natural resources. Yet, natural resources are finite (Soule, Carre, and Jackson 1990). The extraction and use of fossil fuels has resulted in greenhouse gas emissions that contribute to long-term climatic change through global warming. While some academics propose to call our current geological epoch the Anthropocene, in which humans have become the dominant force shaping the earth (Gan et al. 2017), others suggest that we call it the Capitalocene to

highlight the system of power, profit, and re/production in capitalism and the way it has, and continues to be, entwined with the [use and abuse of the] environment (J. Moore 2016).

Indeed, in today's focus on climatic change, rising sea levels, and extreme weather phenomena, there is sometimes a risk of neglecting how capitalism, based on the commodification of nature (land) and humans (labor), has contributed to global warming. In addition, capitalist land-use and industrial practices have also resulted in significant localized environmental degradation, including, but not limited to, pollution, water scarcity, soil acidification, deforestation, desertification, and salinization of once fertile lands. Those climate-related projects that are based on the same capitalist modes of production as in the past exacerbate environmental crises while diverting funds and attention away from where they might be most needed.

Furthermore, capitalism's quest for profit leads to the expansion of technologies that seek to control and tame nature. The embankments of Bangladesh's coastal zone embody such technological visions of control as they facilitate profit-oriented agriculture and aquaculture while enabling land-based transport such as railways and roads. The entanglement of embankments with the environment and with human livelihoods illustrates the ways in which environmental degradation is the result of modern land-use practice. This is a factor that is often lost in problem formulations that focus solely on global warming through greenhouse gas emissions, where mitigating policies are often reduced to CO₂ caps and trading. But most importantly, we must be aware that climate change adaptation and mitigation can be harnessed by particular capitalist actors to continue with their existing and environmentally damaging activities.

Simplifying Floods and Embankments

Misreading the Bengal Delta begins by historicizing the World Bank's current framing of flood-protection embankments as a new form of "climate adaptation infrastructure." Drawing on archival sources and oral histories, it reveals how the ecological problems now associated with climate change, and the embankments that are proposed as its solution, both have their roots in an unfolding sequence of colonial initiatives dating back to the mid-nineteenth century. Development portrayals of floods as being caused solely by rising sea levels is complicated by the fact that Bangladesh experiences three types of floods: *borsha* (annual monsoon rains), *bonna* (irregular destructive floods in the wake of cyclones, tidal surges, and storms) and *jalabaddho* (waterlogging, drainage congestion). The

earliest embankments in the Sundarbans were not made to stop floods. They were temporary and made of earth to prevent the dry season incursion of saline tidewater: they were broken each year to support monsoon flooding, which colonial accounts lauded as a “blessing of fertility” for Bengal and the cost of repair was borne by the cultivators and landholders themselves (1770s–1850s).

However, under the centralized administration of the British Raj, the narrative shifted: all floods were viewed as damaging to life and property, which justified the creation of watertight embankments so as to reduce the costs of annual repairs. Not only did these new embankments not break, but railways and roads, crisscrossing the delta, were built on top of them to promote British military and economic interests. The imposition of a permanent infrastructure on top of a dynamic landscape interrupted the natural cycle of monsoon floods and silt deposits. Like the “schemes of improvement” described by James C. Scott (1998), embankments were cast as part of modernity and a vehicle for betterment. In reality, they oversimplified complex environmental and social processes and profoundly damaged the fragile coastal ecology. Similar to how “policymakers may have been misreading Kissidougou’s landscape by reading forest history backward” and wrongly blaming local villagers for deforestation and environmental destruction in Guinea (Fairhead and Leach 1996, 3), representations of Bangladesh’s climate change vulnerability also risk reading the coastal landscape backward by simplifying the complex and interlinked processes affecting Bangladesh’s southwest coastal zone.

This longer history of how permanent embankments in a dynamic eroding, accreting, and meandering delta highlights how efforts to prevent monsoon floods have had the unintended effect of increasing siltation in the southwest coastal zone of Bangladesh.⁶ Silt trapped in the canals and rivers makes the waterbodies shallow and reduces their water-retention capacity during the dry season, while raising the riverbed levels outside embankments. The difference in elevation traps rainwater inside the embankment, river water then overflows and the ensuing drainage congestion causes damaging floods called *jlabaddho* or waterlogging (Adnan 1994; Iqbal 2010). Thus, while many international experts argue that climate change causes floods in Bangladesh, floods in Bangladesh are not just about climate change.

To build flood-protection embankments as a form of adaptation to climate change may in fact only serve to worsen preexisting flood problems (Auerbach et al. 2015). A historical discussion of floods and embankments further illustrates the role of donor-funded development projects in shaping water management in southwest coastal Bangladesh. This contributes to existing scholarship on

how managing water and the movements of water bodies in South Asian deltas impose artificial land-water separation (Lahiri-Dutt and Samanta 2013; Mukhopadhyay 2017) while being deeply entangled in projects of state-making from the colonial period to today (Mosse 2003; D'Souza 2006; Bhattacharyya 2018).

Translating Climate Change

While this book begins with a critical analysis of embankments as adaptation, not all projects using climate change to attract donor funding exacerbate or ignore environmental problems. Various development brokers (specific donors, NGOs, consultants, and government agencies) use climate change to attract and legitimize funding for their particular development interventions. These projects simplify complex environmental processes, especially in deltaic waterscapes. They do this by rearranging events and outcomes to alter expectations of causality, thus making the interventions appear as if they were addressing climate change.⁷ They translate the *metacode* of climate change—a code that strips out context so that it appears neutral and universal in order to provide a space for resolving differences and carry out transnational negotiations (Rottenburg 2009, 142). Translation here refers to the processes by which development brokers produce “coherence”; that is, they make projects real by generating and translating interests, mutually enrolling supporters, and stabilizing interpretations and representations so as to match causal events to the prevailing project logic or policy theory (Mosse and Lewis 2006, 13; Mosse 2005, 9).⁸ The policy theory in Bangladeshi climate change projects tends to be climate reductive: the country will drown because of rising sea levels caused by global warming. “Climate reductive translations” thus help conceptualize how different climate projects produce coherence, creating causal narratives linking development interventions to the policy theory of climate change.

This approach is anchored in the anthropology of development that analyzes development as a practice of politics (Li 2007). It draws on “aidnographies,” or ethnographies of aid, where development is “not a coherent set of practices but a set of practices that produces coherence” (Yarrow 2011, 6). Power in development is not simply a hegemonic discourse *forcing* certain outcomes (Mosse 2011), but is a practice resulting from the actions of development professionals complicit in maintaining and reproducing dominant development narratives (Mosse 2005). Bangladeshi development professionals can be conceptualized as development brokers—social actors that actively build social, political, and economic roles rather than simply following normative scripts (Bierschenk, Chauveau, and

de Sardan 2000; Mosse and Lewis 2006). Building on *assemblage* as a concept that captures how multiple parts form a whole (Deleuze and Guattari 1987, 69), these Bangladeshi development brokers can be understood as partaking in “development assemblages” that constitute heterogeneous development actors (donors, NGOs, state units, consultants) that come together to create a common development project by translating climate change.

To illustrate the importance of brokerage in such development assemblages, I draw on ethnographic materials from development meetings, conferences, and interviews with researchers, NGO workers, and development professionals who work with climate-related aid-funded development projects in Bangladesh. Such an ethnography highlights how the development industry forms part of a “technical game”—a game that strips out context in order to resolve differences and carry out transnational negotiations between diverse actors with different interests, beliefs, and knowledge backgrounds. To participate in the technical game, Bangladeshi development brokers use climate change as a *metacode* (Rottenburg 2009, xxvi), or what they themselves refer to as “spice.” Their performativity helps explain the diversity of development project proposals and highlights the importance of analyzing the actors and networks that actively *translate* climate change to legitimize widely different project activities, such as those that generate rural employment, restore important local canals, and provide safe drinking water. This is a stark contrast to top-down projects such as large infrastructure projects (such as embankments) or export-oriented brackish aquaculture, which contributes to agrarian dispossession.

The concept of “climate reductive translations” thus centers on heterogeneous development brokers who are social actors with a high degree of agency, but who are structurally constrained by the funding paradigms of development donors (Long 2001). This focus on development brokerage nuances previous work suggesting that development discourse is internalized by development actors in ways that control and shape their thoughts and actions (Ferguson 1990, 18; Escobar 1995, 52) and complicates ideas of development as an “extremely efficient apparatus for producing knowledge about, and the exercise of power over, the Third World” (Escobar 1995, 9). Existing enquiries into this development–climate change nexus in Bangladesh have focused on English-speaking Western development professionals. For example, Jason Cons suggests that Bangladesh can be viewed as laboratory for donor-funded climate interventions best conceptualized as a Foucauldian “heterodystopia” (Cons 2018), while Kasia Paprocki proposes that the increased amount of climate funding in development has resulted in an “adaptation regime” that governs both people and landscapes in ways that

results in agrarian dispossession and outmigration where climate change projects operate as an “anti-politics machine” (Paprocki 2018; 2016). *Misreading the Bengal Delta* contributes to this critical literature on climate change and development through its examination of brokerage undertaken by local Bangladeshi development professionals in climate-funded projects to better understand why climate-related projects can have such widely diverse interventions, aims, and outcomes both on the environment and society.

Climate Reductive Translations in Salt- and Freshwater Villages

The particular characteristics of each development assemblage helps explain the shape and form of widely different adaptation projects, such as saline tiger-prawn cultivation and intensive high-yield agriculture, that repackage longstanding interventions as climate solutions. The recasting of brackish-tiger-prawn cultivation as climate adaptation by foreign actors and research institutes in Bangladesh serves as another illustration of a climate reductive translation that is out of touch with the lived experiences of the landless poor. Tiger-prawn-related brokers translate climate change as the sole, or inevitable, cause of salinity in the coastal zone in order to legitimize the expansion of brackish shrimp aquaculture for exports. By doing so, they ignore how salinity is both seasonal and reversible and can be alleviated by temporary breaches during the monsoon and tidal river management, which may help enable longer agrarian futures.

Land-centric Marxist theories of accumulation and the privatization of common lands are difficult to apply in the analysis of tiger-prawn cultivation because of the Bengal delta's fluid land- and waterscapes where the rights to water bodies are as important as, and often indistinguishable from, land rights. This results in multiple and more-than-economic dimensions of dispossession where the quality of water used in aquaculture matters. A gendered ethnography in the saltwater village of Lonanodi captures how suffering is used as an affective critique against saltwater practices and its devastating ecological effects—showing the relevance of emotional political ecologies to better understand shrimp aquaculture (Sultana 2011).⁹ Rather than being against capitalist land use practices, people in the embanked floodplain of Nodi are happy with export-oriented and capitalist crab and freshwater *golda* prawn production as these require fresh—not saline—water.

In Dhanmarti village, locals stopped tiger-prawn cultivation and returned to freshwater farming. Because salt reduced the soil fertility, they are now dependent on a package of agricultural technologies (intensive crop patterns, pesticides,

synthetic fertilizers, and high-yield and high-value crops/seeds). These interventions formed part of the Green Revolution that American actors introduced to Bangladesh in the 1960s. Today, particular development assemblages, including USAID and the World Bank, are repackaging these same agricultural technologies as adaptation measures in most of Bangladesh using neo-Malthusian discourses. This image of Bangladesh as Malthusia (poor and starving because of a large population) is contested by local critiques of yield-centric modes of agriculture through technology. Such critiques are articulated through emic concepts such as *shakti* [strength, power, soil fertility] and *bhejal* [impure, adulterated, corrupted].

While anthropological critiques of Green Revolution technologies have generally focused on the symbolic dimensions of social change, the lived experience and materiality of *shakti* and *bhejal* illuminate the interlinkages between the environment, agriculture, and health. New interdisciplinary findings in biology and environmental anthropology on the importance of microorganisms for human health highlight the multispecies entanglements between environment, food, and humans—captured through local conceptualizations of *shakti*. Climate change adaptation projects that promote intensive agriculture fail to address historical lessons of soil degradation and biodiversity loss, while ignoring how weak institutional structures of enforcement contribute to an increasingly toxic landscape with health-harming foods. This focus on climate change in the development industry is thus at risk of failing rural society and ecology in southwest coastal Bangladesh in several ways: by funding unsustainable infrastructure, aquaculture, and agriculture that damage the local environment and weaken livelihood capacities by promoting capital-intensive technologies.

Misreading Coastal Vulnerabilities

Development projects not only simplify complex environmental processes by misreading the coastal landscape, they also misread coastal vulnerabilities in ways that do not always match the livelihood concerns of those they seek to help. On donor websites on climate-related development activities, several initiatives aim to “educate and train coastal communities” in Bangladesh to “build capacity” and “raise awareness” on natural resource and disaster risk management (USAID 2013). In light of the historic devastation brought on by cyclones, tidal waves, and storm surges, such disaster preparedness and shelters are important means to address a particular form of vulnerability of the biophysical coastal landscape. Notably, donors suggest that strengthening emergency preparedness

is a means to reduce “coastal vulnerabilities,” where climatic change will increase the “vulnerability of coastal populations” and the poor in the Global South (World Bank 2018) that risks reversing the effects of development interventions to date (UNDP 2019). Indeed, donor projects tend to view women as especially vulnerable. For example, the UNDP’s (2019) climate adaptation project “Coping with Climate Risks by Empowering Women in Coastal Areas” is based on the idea that “women in the project area are highly vulnerable to climate change impacts given their limited access to resources and limited stake in decision-making. . . . Their dependency on degraded natural resources makes women especially vulnerable to diminished livelihoods and increased poverty.”

Such a narrow concept of vulnerability has been criticized for enabling paternalistic, patronizing, and controlling tendencies toward those groups in society deemed differentially vulnerable, thereby reproducing and ratifying vulnerability (Gilson 2016). It is also based on a very simplified understanding of gender dynamics in rural Bangladesh, illustrating a wider tendency of projects and recent development literature on gender and climate change to reproduce stereotyped ideas of women as particularly vulnerable, poor, and needing special attention (Arora-Jonsson 2011). This is a typical example of how emphasizing vulnerability can be employed to get decision-makers to pay attention and do the right thing, while obfuscating the agency, knowledge, and resilience of marginalized groups (Cuomo 2011, 695).

Designating vulnerability to different groups—as many development interventions in Bangladesh do—becomes a political decision that may entrench the very conditions that it seeks to alleviate by making that group accountable for their own precarious situation and thus indirectly justifying injustice (Butler 2014, 111). In this sense, the widespread use of the concept of vulnerability in the literature on adaptation and climate change has often been conflated with poverty and diluted the concept. It has gone from being an inherently critical concept to becoming a dehistoricized term used to describe a set of fixed conditions and thus fails to systematically address imposed social vulnerability (Crate and Nuttall 2009).

What is imposed social vulnerability? There seems to be a tendency to use *vulnerability* synonymously with *precarity*, which may result in both words losing their analytical purpose (Millar 2017; Runacres 2020). Social vulnerability could be seen as a form of “ontological precarity,” where anthropologist Anna Tsing (2015, 20) argues that precarity is the *condition* of our time in a world filled with indeterminacy and unpredictability. This condition of precariousness is quite different from precarity used to understand “the predicament of those who

live at the juncture of unstable contract labor and a loss of state provisioning” (Han 2018, 331). The focus on loss of state provisioning in the term *precarity* captures a critique of contemporary capitalism and is linked to the concept of *precariat*, where workers in the West have come to lack benefits and securities once common before global outsourcing (Standing 2016). Yet workers have constantly been in precarious positions in the Global South: there were no labor rights in Bangladesh to dismantle to begin with. Instead, the precarity of work in Bangladesh—its insecurity and lack of stability—is arguably a demonstration of how global capital moves to low-income regions to exploit the lack of worker rights in countries that have not had an opportunity to develop them. Labor opportunities are sparse for the landless in Nodi, while the costs of healthcare, education, dowry, *ghush* (bribes), and microcredit result in unequal outcomes for the poor. This is further exacerbated by structural underemployment resulting in—and propagating—precarious work and uncertain livelihoods.

Thus, the development industry’s use of “coastal vulnerabilities” conflates the vulnerability of a particular place to climatic risk with the socioeconomic constraints of the people living there. Arguably, this is an example of an “antagonistic clash” between multiple vulnerabilities existing in the same context (Runacres 2020). Climate adaptation projects, like most development projects, are short and fleeting interventions that do little to remediate these widening socioeconomic inequalities in Bangladesh where the rich are becoming richer and the poor are becoming poorer. Moving away from the vulnerability of people in an area deemed by donors as climate vulnerable to understand everyday precarity arising from the long-term effects of donor-demanded structural adjustment policies illustrates how coastal vulnerabilities are fundamentally tied to inequality.

The macroeconomic effects of reducing the role of the state while targeting women in development projects have gendered effects that complicate narratives of poor Bangladeshi women as more vulnerable in an oppressive and patriarchal society. Structural inequality and everyday precarity of people in Nodi takes the form of women accumulating microfinance debt to afford education for their children, healthcare for their loved ones, dowries for their daughters, and even the labor and migration brokerage costs required to secure employment opportunities for their male family members. Providing a space for the livelihood concerns as they are articulated by landless earthworking women and their families in the embanked floodplain of Nodi sheds light on how misreading the coastal landscape also involves misreading the socioeconomic landscape.

Long-term ethnographic fieldwork with a historical outlook helps bring these complexities to light through the messy disjunctures of history and the voices of

people so often neglected. It highlights the livelihood concerns of these people so that development funds may be redirected toward these ends. It is essential to add these perspectives to discussions of climate change, which otherwise tend to be dominated by natural science perspectives and scientific models based on assumptions that risk overlooking the intricate chains of causality behind the correlations they measure. Examination of the intersection of ecology, politics, and society in this aid-dependent “climate hotspot” reveals the flawed assumptions of Western development donors seeking to save an “inferior other.” By understanding how development projects misread climate change in such an unequal aid context, we are better able to identify, and thereby address, pressing livelihood problems such as the environmental degradation caused by embankments and saltwater tiger-prawn cultivation, reduced soil fertility, food becoming an adulterated commodity, and weak public institutions. This analysis of the knowledge production of climate change in the global development industry is relevant for other places in the Global South, particularly coastal communities facing floods and rising sea levels.

Chapter Title: Assembling Fish, Shrimp, and Suffering in a Saltwater Village

Book Title: Misreading the Bengal Delta

Book Subtitle: Climate Change, Development, and Livelihoods in Coastal Bangladesh

Book Author(s): Camelia Dewan

Published by: University of Washington Press. (2021)

Stable URL: <https://www.jstor.org/stable/j.ctv2114fm3.11>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <https://about.jstor.org/terms>



This book is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (CC BY-NC-ND 4.0). To view a copy of this license, visit <https://creativecommons.org/licenses/by-nc-nd/4.0/>. Funding is provided by Andrew W. Mellon Foundation, as part of the Sustainable History Monograph Pilot.



University of Washington Press is collaborating with JSTOR to digitize, preserve and extend access to *Misreading the Bengal Delta*

Assembling Fish, Shrimp, and Suffering in a Saltwater Village

Mr. Jones is a Western development professional at a leading aquaculture research organization in Bangladesh. During our meeting in the city of Khulna, while discussing the grassroots movements against brackish aquaculture and tiger prawns, he stated: “Climate change is a fact. [All of] Bangladesh will become saline; it is inevitable. Bangladesh should accept this and focus on cultivating saline-tolerant species such as tiger prawn and [foreign] tilapia and export them. This is its comparative advantage. Why grow rice when Bangladesh can import rice from Myanmar? If you ask me, this *is* the future.”

His words stunned me. Nodi is part of the Ganges tidal floodplain and is classified as a subregion “ebb”: mixed Ganges River and tidal floodplains, where rivers are nonsaline except for the dry season, from January to June (Brammer 2012). Thanks to embankments, such salinity incursion from tidal rivers originating from the Bay of Bengal is prevented from salinizing the soil (chap. 1) and agriculture is possible in the monsoon season. Indeed, following the Coastal Embankment Project, dry season agriculture was also possible. However, starting in the late 1980s, tiger-prawn cultivators cut and breached embankments to *bring in* saline water in the dry season—reversing the very purpose of embankments in the Bengal delta. Purposeful salinity intrusion by tiger-prawn cultivators is well-documented for its violence and contention that also made embankments structurally vulnerable during cyclones (Guhathakurta 2003; Deb 1998; Paprocki and Cons 2014a; Adnan 2013). Yet Mr. Jones, a capitalist tiger-prawn promoter, rephrased salinity as a form of adaptation to climate change despite his knowledge of the seasonal and human-made nature of salinity.

Mr. Jones’s remarks reflect the beliefs of the “adaptation regime,” where the threat of climate change and its associated migrations are reframed as an opportunity for development and growth through the production of export

commodities such as frozen shrimp (Paprocki 2018, 955). It also illustrates how development actors translate funding buzzwords in ways that fit their agenda (chap. 2). Mr. Jones's statement demonstrates how actors interested in promoting high-value tiger prawns for export can engage in climate reductive translations through the following policy theory: sea levels will rise, salinity will inevitably increase, and Bangladesh should therefore adapt to this salinity by cultivating brackish *bagda* (*Penaeus monodon*, or tiger prawns). He is by no means representative of all development professionals in Bangladesh, but his words indicate how particular development assemblages seek to legitimize a further expansion of tiger-prawn cultivation.

This reframing of adaptation further shows how what counts as adaptive is always political and contested, and that which is seen as positive to some may be seen as maladaptation to others (Eriksen, Nightingale, and Eakin 2015, 523; Paprocki and Huq 2018). Parsing out supposedly climatic drivers of changes in salinity, as Mr. Jones does by attributing it solely to rising sea levels, not only leads to an impoverished understanding of the ways in which environmental change is embedded within social change (Nightingale et al. 2020, 2), but also furthers ignorance of the complex causal drivers of salinity and their reversibility in particular parts of the Bengal delta.

What problems arise when tiger-prawn cultivation is translated as a climate adaptation intervention? There are specific and complex causes of salinity in the southwest coastal zone that problematize this narrative of inevitable salinity. Embankments and silt management strategies such as Tidal River Management are important in countering seasonal salinity, and an examination of the specificities of salinity in tidal rivers highlights how tiger-prawn cultivation is an unsuitable adaptation measure in areas where freshwater cultivation is possible in the monsoon season.

Another misreading of this translation is how it misses the socioeconomic inequalities of this export-oriented mode of brackish aquaculture, which is deeply entangled with environmental degradation. Combining theories of primitive accumulation and accumulation by dispossession with political ecologies of water grabbing—that is, the contested control of water resources (Mehta, Veldwisch, and Franco 2012)—illustrates a long history of violence caused by brackish aquaculture in the southwest coastal zone. “Canal grabbing” (*khal dakal*) refers to the privatization of once public (state-owned) canals. This dispossession of commons was integral to facilitate export-oriented cultivation profits starting with the 1980s Blue Revolution that deprived local people of their customary rights to wild fisheries and recreational uses of wetlands. In addition, the purposeful

salinization of once freshwater bodies came to have negative embodied and gendered effects. A critique of brackish aquaculture that incorporates the importance of a healthy environment for well-being also helps capture the affective and embodied experiences of socioenvironmental inequalities.

Contextualizing Salinity in the Southwest Coastal Zone

Mr. Jones, by attributing all changes in salinity to climate change, engages in climate reductionism. Such a narrative not only ignores the coercive and purposeful ways in which salinity is brought into coastal areas in the dry season for tiger-prawn cultivation, but also the various other causes of increased salinity in the coastal zone. As a local environmental scientist from the Khulna region said, “Do not relate everything to climate change, it blinds against the role played by embankments and the environment. How much of salinity is due to climate change? And how much is due to polders and/or groundwater withdrawals with naturally saline aquifers? How much is due to brackish tiger-prawn cultivation?”

Most importantly, salinity is seasonal and *bagda* cultivation is reversible. After the meeting with Mr. Jones in Khulna, I went downstairs where Hassan—my motorcycle driver and local guide—was waiting to take me back to Dhanmarti in northern Nodi, where I had a meeting with met a group of rice farmers. I repeated Mr. Jones’s words to them. The atmosphere in the small tin room changed; the men were furious. Murad, a vocal forty-year-old farmer, responded:

People are eating *bideshi* [foreign] tilapia, *bideshi* poultry, *bideshi pangash* fish: this is poisoning people. The person who said this is a *shaitaner hardi* [devil’s bones]. Saline *bagda gbers* [tiger-prawn ponds] destroy nature. Nothing grows when *bagda chingri* [tiger prawn] is cultivated. We had it here until eight years ago when we [local people] fought to end it. Now we have fruit trees—mango, dates, and we can grow vegetables and freshwater crops, our rice yields have increased—though the soil has still not fully recovered from decades of salinity. *Bideshi* [foreigners] introduced *bagda*. It was, it is, a *bideshi* idea. Selling *bagda chingri* to *bidesh* [abroad] brings money into Bangladesh, but local people are not getting anything from this. The salt kills our ability to grow local foods; it reduces the quality of our lives. *Apa* [sister], I know you are not bringing in a project yourself. But please make sure that no saline fish project comes here. We want freshwater fish projects, like *rui*, *katla*, *golda chingri* [giant freshwater prawn], even crab. Please do not let *bagda* come here again.¹ We refuse it.

The remaining men nodded and agreed with Murad, stating that though their incomes have declined since the end of tiger-prawn cultivation, their living costs have also gone down, they can access different types of water, and they feel happier and at peace (*shanti*) with a higher quality of life. Brackish aquaculture is reversible; ruination is not inevitable.

Nodi's particular location in the Ganges tidal floodplain makes it suitable for freshwater (rice paddy) cultivation, though salinity levels increase during the dry season when the salinity and tidal limits in rivers moves northward (Brammer 2012, 246). Low salinity starts with the monsoon in mid-June when rainwater and the Himalayan runoff in the rivers combine to push out tidal brackish water from the Bay of Bengal. The force of this freshwater is reduced by mid-January, enabling the salt tides to encroach inward and turn the rivers saline. During this time, the sluice gates of coastal embankments, situated at the mouth of canals as they merge with the river, can be closed to prevent saltwater from coming in to the inhabited floodplains and agricultural fields (mimicking the function of *aushtomashi bandhs*), or they can be opened to facilitate brackish aquaculture. Salinity fluctuates throughout the year and is regulated through (sociopolitical) control of embankments and their sluice gates.²

The monsoon rains thus play an important role. They fill the rivers with freshwater, as this colonial account describes: "We find the force of the freshwater sufficient to overcome the strength of the tide, and the influx of saltwater from the sea. And down the very mouths of the river here, freshwater (often for hours in the day flowing over a basis of saltwater beneath) can readily be procured" (Dr. Oldham, cited in O'Malley 1908, 5). The capacity of the delta to retain such a "force of freshwater" has unfortunately been reduced. A century ago, there were thousands of canals that retained monsoon water and the freshwater flowing down from the Himalayas to the Bay of Bengal. After the construction of polders that obstructed the natural monsoon floods from depositing sediment on the floodplains, the silt, now confined to the rivers and canals, clogged up several of the canals so that only a limited number of them are able to retain the monsoon water into the dry season. This reduced freshwater availability permitted brackish tidal water to seep further into the interior: "Salinity intrusion used to reach up to Satkhira, and now salinity reaches Jessore," Bakul (whom we met in chapter 2) explained. The Gorai River, the main tributary of the Ganges in Bangladesh, supplies freshwater to the Khulna region and Nodi. However, the extreme amount of sediment has resulted in the Gorai disconnecting from the Ganges in the dry season (Z. Khan et al. 2015a, 20).

Bangladeshi scholars, activists, and local farmers have argued that much of the reduction of freshwater in the Gorai and its reduced ability to temper salinity encroachment from the Bay of Bengal is due to India's unilateral construction of the Farakka Barrage in 1975, resulting in Bangladesh receiving less water during the dry season (Swain 1996; Hill 2008, 179).³ Historical government documents such as *Deadlock on the Ganges* shows that following the construction of the Farakka Barrage, salinity increased heavily from the annual average and penetrated 132 kilometers further into Bangladesh from the normal incursion limit. Within a year of construction, Khulna's thermal power station had to be shut down because its boiler feed from the Bhairab River had become too saline and caused corrosion (Government of Bangladesh 1976, 3–4). Prior to 1975, salinity was below one ppt at Khulna and the river water was used for drinking, agriculture, and industrial purposes. By 2015, river water salinity at Khulna had increased to more than fifteen ppt during the dry season, making it unsuitable for most purposes (Z. Khan et al. 2015b, 35).⁴ The delta's ability to retain freshwater into the dry season is vital in preventing long-term salinization.

*Ruination and Removing Embankments:
Differences between India and Bangladesh*

Mr. Jones's narrative overlooks the complex factors behind seasonal salinity, including how silted rivers and canals reduce the capacity to retain rainwater to counteract tidal saline flows in the dry season. His claim that Bangladesh will drown in rising sea levels illustrates how shrimp aquaculture is integral to the dynamics of "anticipatory ruination," a discursive and material process of social and ecological destruction in anticipation of real or perceived threats (Paprocki 2019, 295). Anticipatory ruination is seen as a legitimizing discourse for depolderization—that is, removing the embankments to allow tidal waters to inundate the area within, either completely or partially during certain times of the year or for an extended period of several years.

Thus, removing the embankments today would likely cause complete inundation of entire islands, and the necessary displacement of the communities that inhabit them. Depending on the scale of depolderization, the populations affected could be tremendous. . . . Wherever depolderization is discussed (by consultants, donors, and practitioners), it is talked about as an integral component of a broader vision of development for the region. That is, the anticipation of climate crisis combines with and brings about a normative vision of developed futures. These imagined futures entail the

end of rural livelihoods in the delta, replacing them with a highly stylized (and age old) vision of development where the rural population transitions into an industrial labor force (Paprocki 2019, 306–7).

Depolderization illustrates the materiality of discourses of ruination used not only by the tiger-prawn adaptation regime, but also conservation and tourist interests (WWF and World Bank) in West Bengal seeking to remove populations from southern Sundarbans forest islands (Paprocki 2019). This is an important point considering West Bengal public debates about “planned retreat” and moving mostly Bangladeshi migrants away from areas deemed more worthy of conservation to attract high-end tourism (Mehtta 2019; Bhattacharyya and Mehtta 2020).

Such planned retreat interventions in India, which involve removing embankments and stopping human habitation, would result in year-round, permanent salinization. As such, depolderization is different from Tidal River Management (TRM) in southwest coastal Bangladesh. TRM is a silt management strategy to solve embankment-caused siltation by strategically cutting the embankments at the mouths of canals and rivers to allow sediment into the floodplain with the tides. Bringing sediment onto the floodplains would reduce silt choking up rivers and in the long-term helps increase freshwater retention capacity. TRM started as a bottom-up people’s concept known as *jowar bhatar khelano* (free play of tidal flows): to cut embankments as a response to extensive waterlogging. This was then formalized by the Bangladesh Water Development Board and the Asian Development Bank in the 1990s Khulna-Jessore Drainage Rehabilitation project—a project that was heavily criticized (ADB-OED 2007; Kibria 2006; Tutu 2005; Pasha 2010). When I conducted fieldwork in Bangladesh in 2015, there was little hope that TRM could be implemented because of the institutional constraints of compensation to polder communities when the embankment is temporarily breached. However, there appears to be a paradigm shift in terms of trying to deal with siltation management in the southwest coastal zone. TRM is now accepted by those working in Bangladesh’s water sector as effective in managing the delta’s silt problem (Hanlon 2020, 31), and more attention is directed toward how to compensate and engage local community ownership through experiments with NGOs such as Uttaran (Ahmad 2020; Gain et al. 2020).

The Benefits of Tidal River Management

A meticulous review of changes in Bangladesh’s water policy highlights the possibilities of TRM as a hybrid solution: it departs from existing engineered

embankments, but is distinctly open in regard to the temporary restoration of tidal flood dynamics in the wetlands. Researchers highlight how dealing with tidal flood dynamics is not about closing down rivers in the face of twice-daily rising water levels; it is also about occasionally opening up a river for its suspended sediments (van Staveren et al. 2017).

A study of Polder 32, where Cyclone Aila breached the embankment in several places in 2009, highlights the sediment starvation inside embankments. Within the two years that it took for the embankment to finally be repaired, the sediment had considerably raised land levels inside the embankment (Auerbach et al. 2015). Rather than complete inundation, breaching embankments helps raise land levels so that longer agricultural lives can be sustained in the southwest coastal zone, revitalizing water bodies and futureproofing against damaging *jalabaddho* floods. Contrary to depolderization as anticipatory ruination, such a silt management regime impedes the activities of tiger-prawn *ghers* as they are unable to operate. Furthermore, depolderization and planned retreat for the southern West Bengal Sundarbans islands, with their year-round saline tidal rivers, constitutes both a different political and socioenvironmental context compared to Bangladesh's southwest coastal zone, where agriculture was (since the 1800s) and still is possible because of freshwater rivers.

TRM has the potential not only to sustain freshwater agriculture and local livelihoods, but also to resolve siltation and raise land levels, as well as ensure higher retention of freshwater to counteract salinity—all needed to increase Bangladesh's capacity to deal with climatic change (Hanlon 2020). However, institutional mechanisms for its implementation must ensure compensation to all affected (e.g., universal basic income) and provide alternative livelihoods (e.g., rural employment schemes such as pond and canal excavation projects) so that TRM does not end up also being a case of dispossession by development (Makki 2014; Ahasan and Gardner 2016).

The Blue Revolution: Expanding Brackish Aquaculture through Water Grabbing

Sandip, who is from the Khulna region and works as a researcher at an international NGO, was outraged by Mr. Jones's suggestion. Like Murad, he describes the introduction of tiger-prawn cultivation during his childhood as a *bideshi* (foreign) donor-backed project: "The Bangladeshi government promoted the shrimp industry since the 1980s with *bideshi* funds in the name of *sada sona* [white gold]; children even had to write essays on *sada sona* in school. . . .

The primary beneficiaries were *gher* owners as a lot of *khas* [public-or government-owned land] was converted into *ghers* [enclosed dikes for aquaculture], or what were called *jal mahals* [water palaces]. Before it was introduced, environmentalists and scientists advised against *bagda* cultivation and tried to stop it. But *bideshi* projects destroyed our environment, our biodiversity.”

Salinity in Nodi is not permanent or inevitable; it is linked to the use of embankments. Tiger-prawn cultivators purposely draw in tidal water from rivers when they are saline in dry season, thus degrading the environment and reducing local food production and quality of life in these coastal areas. The violence of salinization extends debates on land grabbing to water: tiger-prawn cultivation constitutes water or wetlands grabbing, where “powerful actors are able to take control of, or reallocate for their own benefits, water resources already used by local communities or feeding aquatic ecosystems on which their livelihoods are based” (Mehta, Veldwisch, and Franco 2012, 197). The violence of salinization by influential elites entails *khal dakal* (canal grabbing) and has serious implications for people’s livelihoods.

The exponential expansion of shrimp aquaculture in coastal areas of the Global South (from Thailand and Vietnam through Bangladesh and Sri Lanka to Honduras) in the 1980s and 1990s was part of the Blue Revolution. By the 1990s, 72 percent of shrimp was farmed in Asia; the majority were exported to the United States, Europe, and Japan (Stonich and Vandergeest 2001). Similar to “adaptation” today, this “revolution” was promoted under narratives of improvement such as “feeding the hungry” (Saidul Islam 2014), “reducing poverty,” and relieving pressure on wild fish stocks (Thornton, Trent, and Williams 2004; Stonich and Vandergeest 2001).⁵ While implementing actors may have sincerely aimed for these goals, the narratives also legitimized the implementation of Structural Adjustment Policies (SAPs). By producing tiger prawns for export, “developing countries” could accumulate foreign exchange to repay their loans (Saidul Islam 2014), loans shaped by the conditionalities of trade liberalization required by the International Monetary Fund and World Bank (Mansfield 2011; Muhammad 2003; Pokrant, Reeves, and McGuire 2001; Stonich and Vandergeest 2001).⁶

As Sandip mentions, foreign funds played an important role in the name of white gold. The World Bank, the Asian Development Bank, and USAID provided support for aquaculture through substantial support and incentives. By the early 1990s, the export of shrimp had become a major growth area of Bangladesh’s economy, but it was also highly controversial (Lewis 2011, 151). The export of tiger prawns increased from US\$90.8 million in 1986 to US\$280 million in

2002 and 2003, while during the same period more than 350,000 acres of agricultural land in the coastal districts of Bangladesh were turned into *bagda ghers* (enclosed tiger-prawn farms; M. Rahman and Wiest 2003).⁷ The most dramatic example is how the Chakoria Sundarbans, a vast mangrove forest protecting the southeast of Bangladesh from the Bay of Bengal, was irretrievably destroyed to give space to this new mode of export—in a project funded jointly by the Asian Development Bank and World Bank in 1982 (Deb 1998).

In the southwest coastal zone, tiger-prawn cultivation prompted further deforestation, leading to *bagda ghers* encroaching on the mangrove forests and pushing their boundary farther southward (Thornton, Shanahan, and Williams 2003)—highlighting the similarities of mangrove grabbing elsewhere in the Global South (Veuthey and Gerber 2012). Notably, the World Bank's first, second, third, and fourth fisheries projects in the 1990s explicitly created more sluice gates in the embankments to expand aquaculture under the guise of poverty reduction while being at odds with the interests of freshwater paddy farmers (Hasan 2012). The conflicts between freshwater farmers and brackish *bagda* cultivators remains today and creates tensions between different organizations and government agencies (agriculture and environment versus fisheries and aquaculture).

Furthermore, this expansion was characterized by resistance and violence (Islam 2014). While Sassen (2014, 86–87) suggests that SAPs weakened developing economies and made their governments willing to “sell vast amounts of land and expel whole villages from their land to do so,” thus provoking an imagery that land is suddenly and violently seized, Gardner and Gerharz (2016) point to how the transfer of land from one group of users to another is often incremental, shifting over time according to complex political processes. In Bangladesh, the promotion of export-oriented aquaculture increased the price of land and resulted in a new lease system (A. Rahman 1994, 510). Poor smallholders leased out their land to large farmers or nonlocal shrimp businessmen for six months during the saline dry season and regained the land for paddy cultivation before the start of the monsoon. To maximize profits, tiger-prawn cultivators retained salinity in the fields instead of returning the land back to rice farmers, thus negatively affecting the latter's crops (M. Rahman and Wiest 2003, 17; M. Rahman 2003; Guhathakurta 2003).

Such purposeful salinization of wetlands formed part of larger patterns of violence. These shrimp businessmen-cum-powerful elites often employed local *mastaans* (armed gangsters) to open existing sluice gates in the dry season and to breach the embankments with unauthorized pipes and private sluice gates in order to increase the amount of saltwater within the *ghers*.⁸ Not only did

the *mastaans* breach the embankment—making it structurally weak and more prone to collapsing during cyclones, such as Aila in 2009 (de Silva 2012)—they forced saline water into the beels and made whole areas unsuitable for paddy cultivation.⁹ Many smallholders who had not yet leased out their lands saw their crops devastated by salinity and were forced to lease out their land (Deb 1998; A. Rahman 1994) or convert their land into a *gher* and give it up completely (Paprocki and Cons 2014a; Hasan 2012). The transition to tiger-prawn cultivation was fraught with human rights violations, such as torture, threat of police arrest, physical assault, kidnapping, intimidation, rape, and murder (Paprocki and Cons 2014b, 3; Thornton, Trent, and Williams 2004).

Water Grabbing and the Loss of Commons

This violence was also connected to water grabbing. *Gher* owners not only illegally appropriated public land intended for state distribution to landless people (*khas jomi*), but also public canals (*khas khal*) (M. Rahman and Wiest 2003, 17; M. Rahman 2003; Guhathakurta 2003). This process of accumulation was very much characterized by canal grabbing (*khal dakal*)—the appropriation of *khas* canals and the imposition of private fishing rights in public water bodies. This was a major problem in embanked floodplains such as Nodi, a wetland ecology. Many of these leased *khas* canals have “private” nets that compartmentalize and obstruct the free flow of canals and migratory routes of fish, reducing both the access to fish as well as the fish’s ability to breed (Hasan 2012). Neither fish nor people could now move through these canals.¹⁰

Canal grabbing is intrinsically connected to the expansion of brackish shrimp aquaculture, as Bakul pointed out: “Entire rivers and canals are blocked and used as *ghers*. You will not be able to differentiate between a river, paddy land, or land grabbing; all these processes are linked together.” In this context, water grabbing, or taking control over water resources, entails salinizing freshwater bodies and altering their seasonal properties by reversing the original purpose of embankments. Local people were no longer able to travel by boat in the canals, nor were they able to fish for their own consumption in the deltaic commons, which were now privatized to produce tiger prawns for export. The recreational use of the canals for play and swimming was also taken away, and the salinity of the rivers made the nearby areas desolate and unfit for lush and green vegetation. Dispossession here is thus one both of violent land grabbing and the reduction of labor opportunities (Paprocki 2019, 305), as well as one where the salinization of wetlands and canals is coupled with the loss of social and reproductive spaces.¹¹ This highlights how it is the brackishness of tiger-prawn aquaculture,

rather than the capitalist activity itself, that contributed to the affective and socioecological dimensions of dispossession.

The appropriation of previously open-access wetlands and canals for *bagda ghers* resulted in the poorest of the poor losing access to fish. Ahmed Kaka, an eighty-year-old man, describes how the leasing system to outside *bagda* interests prevented locals from fishing in canals, while the conversion of fallow fields into saltwater ponds entailed a loss of grazing lands for cows. Since the 1793 Permanent Settlement Act, public navigable rivers were defined as state property and the public had every right to fish in them, unless the state leased out part of the river (Pokrant 2014, 96). The practice of leasing out *khals*, even for a period of ninety-nine years, thus deprived local people from common resource pools for fisheries, resulting in de facto privatization.¹² This illustrates how the transformation of multiple-use coastal resources into privately owned single-purpose artificial and regulated *ghers* for profit-driven brackish shrimp cultivation (Pokrant, Reeves, and McGuire 2001; Deb 1998; A. Rahman 1994; Adnan 2013; de Silva 2012; Hasan 2012) deprived coastal communities of access to *khas* water bodies in a “fake Blue Revolution” (Deb 1998, 81).

Capitalist Relations in a Fluid and Seasonally Saline Delta

In practice, *bagda ghers* privatized the open-access commons of wetlands, canals, and mangrove forest. Yet what enabled the state-owned canals to be leased in the first place? Is this loss of land and access simply a case of “primitive accumulation” (Marx 1976, 500–502)¹³ or “accumulation by dispossession” (ABD; Harvey 2005)?¹⁴ These influential concepts have shaped the analysis and conceptualization of land grabbing in the Global South (Kelly and Peluso 2015; Makki 2014; Sassen 2014; Walker 2008) and act as powerful correctives to liberal narratives that see markets solely as spheres of voluntary, mutually beneficial exchange (Hall 2012). However, several empirical studies highlight that a significant flaw with both primitive accumulation and ABD is the way in which the concepts dichotomize and homogenize the actors into the state versus the dispossessed (Adnan 2013; Levien 2011, 457).¹⁵ For example, Gardner (2012) shows that land loss among the local population is “not a simplistic tale of exploited peasants resisting development.” In contrast to ideas of the state simply clearing the way for multinational corporations (MNCs), the corporations were found to have negotiated with different local and national political groups with contradictory interests (Ahasan and Gardner 2016, 12).

Similarly, Shapan Adnan (2013; 2016), in his case study of the shrimp industry in the southeast coastal zone of Bangladesh, criticizes primitive accumulation

and ABD for being unable to explain complex processes of capitalist development. He points to the diverse coalitions between foreign aid funders and domestic actors (World Bank, NGOs, private businesses, governments, and powerful elites) involved in promoting (and opposing) the *bagda* industry, including local (wealthy) landowners. Through their own relations of political support and patronage, tiger-prawn cultivators use violence with impunity (Finan 2009). Such capitalist assemblages are linked through class and power that favor the relatives of army officers, bureaucrats, bankers, and businessmen, where there is an inherent inequality of access to the technology and capital necessary to adopt aquaculture (Deb 1998, 81).

As Marx noted, a distinguishing feature of capitalist relations is the ironic combination of an ideology that stresses freedom, but with material relations that simultaneously restrict it (Li 2014, 3). Cash crops require an ability to mobilize capital and land, meaning that not everyone can benefit from their introduction (Li 2014). Large landowners in Lonanodi are those that are most able to participate in the capitalist relations required for tiger-prawn cultivation, while poor landless people's capacity to survive is governed by rules of competition and profit that dismantled their rights to the commons. Furthermore, tiger prawns were heralded as "white gold," and many poor families indebted themselves as a result, dreaming of wealth and prosperity. Those able to engage in these capitalist relations were able to benefit, while those who could not, like the landless, lost out.

The structure of capitalist relations, and the way they produce new forms of poverty, is invisible in liberal accounts that advocate the expansion of the market as the route to increased productivity and wealth (Li 2014, 7). This is illustrated in Bangladesh's *bagda* industry where these capitalist relations are obscured in narratives of both "poverty reduction" and climate change. Rather than a straightforward case of primitive accumulation or ABD, tiger prawns were expanded through capitalist relations between various coalitions of domestic actors, including local landowners and assemblages of development actors, of which Mr. Jones is one.

Thus, forced salinity intrusion is not simply a case of a sudden land grab or "ex situ displacement"—that is, a decisive expulsion of people from their homes, communities, and livelihoods. The long-term salinity intrusion of the coastal land- and waterscape has resulted in local people losing their life-support services over a prolonged multistage process of removal with a slow-motion loss of entitlements from previous rights and identities. This could be referred to as "in situ displacement" (Feldman and Geisler 2012, 974). The concepts of *in situ* and

ex situ displacement shed light on the processes of land dispossession, and how shrimp aquaculture reduced labor opportunities and increased indebtedness and greater rates of migration in Polder 23 in the Khulna District (Paprocki and Cons 2014a), a few hours north of Lonanodi. These problems of underemployment, debt, and migration are also common in the freshwater villages of Dhanmarti. Ending brackish aquaculture through social protests—characteristic of dissent against accumulation by capital—involves a return to freshwater cultivation. Yet, this may not help address the problems of out-of-pocket expenses and indebtedness for rural Bangladeshis that motivate migration (chap. 5).

In addition, Marxist concepts such as primitive accumulation and ABD are inherently “land-centric,” as nature is reduced to land as a “fixed stock” of the means of production in a given location (Adnan 2013). Yet Lonanodi belongs to a monsoon-dependent delta. “Land,” as Bakul pointed out, “merges with rain, rivers, and canals,” making any demarcation or boundary fluid. Thus, enclosures do not capture the fluid entanglements of deltaic ecologies. Indeed, the focus on land grabbing may be Western-centric in its very conceptualization of nature and the environment. Furthermore, the difference between Lonanodi and Dhanmarti highlights that the problem is not that of accumulation for capitalist production alone. By producing capitalist commodities in a freshwater environment, not only would the environment be saved from salinity, but women could more easily carry out reproductive tasks.¹⁶

Lonanodi: Salt and Barren Desert

What are the lived experiences of living in areas where freshwater cultivation was once possible, and where *bagda gbers* now dominate the waterscape? How does living with salinity help us grasp the everyday realities of economic theories of “dispossession” and “poverty reduction” and their consequences? Ethnography can help us understand not only the social aspects of everyday life and the private domains of households and families, which sustain social reproduction across generations (Narotzky and Besnier 2014), but also the affective importance of a healthy biodiverse environment for making life worth living. By focusing on the affective dimensions of suffering in a saltwater village and contrasting it with a village that has returned to a freshwater environment, it is possible to examine what kinds of embodied experiences of anxieties arise when embankments are repurposed to bring in salinity during the dry season and how this is tied to the loss of agroecological and species diversity. Furthermore, Marx described social reproduction as a free good, while natural resources were “free gifts of

nature” (*Capital*, vols. 1 and 2; Harvey 2017). Marx did not discuss them other than stating that they provided contextual conditions for capitalist processes. Women in Lonanodi are affected most by changes to saltwater production, as it makes their unpaid, noncommodified (social) reproductive labor much harder to do, as Noshima and my household survey with Lonanodi women painfully makes clear.

The Emotional Suffering of Saline Water

Noshima lives with her son Sohel, his young wife, their baby son, and her adolescent daughter Nisha in a half-broken hut—part crumbling mud, part sticks with ragged cement bags as cover—next to the embankment. She has had a hard life from the onset. Her parents were landless and moved to Khulna city in the 1990s when tiger-prawn cultivation was first introduced to the area. She worked as a *kajer meye* (child maid) and was married off at the age of fourteen. When her daughter Nisha was only three months old, her husband brought her to Lonanodi and left her there. He then went on to start a new family with a new wife. She describes how it felt to return:

I returned to a *lona desh* [saline land] without vegetables. The salt is even in the air, eroding the walls of the houses so they crumble. Everything is *lona* [saline]. Everything dies. There are no fruit trees; the few date and coconut trees here do not bear fruit. Goats and chickens are too expensive to buy, and they often die due to the saline water. We need to buy all [our] cooking fuel, there are no trees or cow dung for us to use. There is no grass for livestock, the ponds are too saline for bathing, clothes washed in saltwater do not get clean and ruin quicker. We need to buy everything and because of this we cannot afford to buy fruit, eggs, or meat. . . . The canals are gone; we used to bathe in canals that are now no more. During this time, we must bathe in the saline river. Salinity is the worst problem in our area. Our eyes sting, our skin itches and becomes dark. Our ponds are now saline. We used to drink pond water filtered with *fitkeri* [alum stone], now we must drink tube well water that we collect from far away. We suffer now, but the rich do not care.

Noshima’s statement captures not only the loss of food sovereignty caused by shrimp aquaculture’s saline and barren deserts, but also the emotional suffering that saline lands bring about.¹⁷ Rice is harvested in January, after which dry season salinity intensifies, making the situation in Lonanodi increasingly worse. From mid-March to mid-June, the salinity levels in the rivers are at their



FIGURE 3.1. Cracked soil in Lonanodi during the dry season, March 2015. Photo by author.

highest. The freshwater that filled the rivers during the monsoon had receded, and is unable to stop salt tidewater from creeping upward from the Bay of Bengal. Cracked mud fields (fig. 3.1) illustrate how tidewater penetrates the soil and makes it dry and less fertile.

During this time, ponds and canals slowly dry up and tiger-prawn cultivators open the embankment sluice gates during high tide to bring in salt tidewater for their *ghers*. Embankments, originally envisaged to protect fields from dry-season salinity, are now serving the opposite purpose. By May, there were brackish *ghers* as far as the eye could see.

Reproductive Suffering

It was during this saline dry season, after having spent several months regularly visiting Noshima, that I asked her whether she could take me around Lonanodi village to conduct a *gorib* (household survey), so I could better understand how other local people in Lonanodi experienced living in a brackish aquaculture village. Through oral histories, they described how replacing the fallow period with tiger-prawn cultivation reduced the number of livestock that

landless day-laboring families kept for fertilizer, meat, and milk. It also reduced the availability of, and access to, fish, and brought on lower rice yields, dying fruit trees, nonexistent vegetable gardens, the loss of grazing lands, and the loss of by-products from paddy cultivation such as *kurte* (rice grains left over after the paddy harvest) and *nara* (paddy straw used for roofs, as cooking fuel and livestock feed).¹⁸ *Nara* and *kurte* are some of the foods and materials that the poor (*garib*) in Lonanodi, particularly women, can no longer freely access. Large landowners prohibit others from entering their monsoon season rice fields, and keep *nara* so that it decomposes and becomes fertilizer, prompting people like Noshima to buy *nara* for their roofs, buy fuel for cooking, and buy feed for the cows and goats given to the poor by NGOs.

Bakul noted: “When *bagda* is cultivated, the land turns to salt. Nothing else can grow. The cows and milk, chicken and eggs, are no longer produced in these *gher* areas. We cannot just look at how much money it brings in per kilo.” The costs of rice, fish, vegetables, cooking fuel, fodder, and other items, exacerbated by environmental degradation caused by salinity, are seldom considered when the “profit” and monetary value of shrimp is calculated, nor is the personal suffering and anxiety of living in a barren, saline environment. Bakul highlighted the importance of how the income of the rural poor (the landless and the near-landless) consists of two components: exchange income (primarily wage income) and nonexchange income obtained directly from nature without monetary exchange. This includes wild fruits, wild animals, firewood, building and thatching materials, water from tanks, streams and ponds for growing vegetables and fruit (mainly for domestic consumption), free-ranging poultry, and grazing or fodder for livestock, including sheep, goats, and cattle. These nonexchange sources of income depend to some extent on common access or low-cost access to natural resources (Alauddin and Tisdell 1991, 161).

As the “market” develops, everything required to engage in capitalist production becomes a commodity, including the food to be consumed (Li 2014, 7). The salt reduces the health of the soil, resulting in a wilted environment that makes survival difficult for all forms of life. In addition to reduced livability for livestock, freshwater fish, rice and fruit trees, reproductive labor is impeded by the lack of vegetation to collect for cooking fuel for earthen stoves (I spent a day with Noshima trying to collect fallen leaves from the few saline-tolerant trees). Furthermore, for the people of Nodi it is not just calorific intake that matters. The quality of food, particularly sensory experiences of freshness and taste, plays an important role in well-being and social interactions. Drawing on emotional political ecologies—that is, affective realities that have direct bearing on how

resources are accessed, used, and fought over (Sultana 2011, 163)—sheds light on how the struggle for resources is not only economic, social, or rational choice issues centered on food sovereignty, land control, and labor.

The intense salinity that accompanies tiger-prawn cultivation is felt most severely by marginalized, landless families who rely on agricultural labor opportunities to sustain their livelihoods. Nowhere was this as visually stark as in Lonanodi. In the days I spent in the barren earthen homes of Rozina and Noshima, looking at large enclosed mansions with their own water systems and tall lush trees peeking above the high walls, it became clear that the burden of living with salinity was unequally borne by the poorest. Large landowners—those most able to participate in the capitalist relations required for tiger-prawn cultivation—do not feel the environmental cost of their lucrative practices. Noshima expressed her bitterness: “Rich people live comfortably in these saline lands. We do not have access to our own saline-free enclaves with rainwater tanks, ponds, and tube wells in our own homesteads, isolating our orchards and vegetable gardens from saline water. We must live in this saline environment; we have no choice but to live with it. . . . It’s better for the rich people with leases [to do tiger-prawn cultivation]. Will they listen to me? I’m poor. What’s the point in complaining?”

The results of the survey showed that a clear majority of the landless poor stated a clear opposition to brackish aquaculture. Small tiger-prawn farmers and their families, meanwhile, argued that there are no other means of cultivation when everyone else is bringing in saltwater—they favored a collective return to freshwater cultivation—thus contesting Saidul Islam’s (2014) claim that tiger-prawn cultivation is now “normalized” and accepted in southwest coastal Bangladesh.

Most notably, all women—including those married to small tiger-prawn cultivators—emphasized how they suffer, whether it be because of a lack of drinking water and water for rinsing rice, the difficulty in washing clothes, the lack of cooking fuel (cow dung, wood, leaves), the complications involved in cooking food, or the amount of time it takes to fetch usable water. They also worried about skin diseases from bathing in saline rivers, damage to their hair, and the increased darkness of their skin, which makes them less attractive as future brides and daughters-in-law. They described the experience of living in the barren saline villages as *ashanti* (unrest, worry, turmoil, anxiety): an ambiance that was simultaneously suffocating and draining with an embodied heaviness that brought out the negativity in people through *tension* (anxiety). Whenever I left the arid shrimp deserts of Lonanodi and entered into Shobuj town and

Dhanmarti union with their lush vegetation, I instantly felt that a weight had been lifted from my chest as *ashanti* dispersed and I could breathe easily.

When I described this feeling to Hassan as we rode into Shobuj town under the thick tree cover, he replied: “Dhanmarti was once like Lonanodi. The barren desert, the dryness, the *ashanti*, this was the same here in Dhanmarti.” Hassan, who had once cultivated tiger prawns on his five *bigha* (traditional unit of land area), noted: “Our incomes are less now, but our costs have reduced. Our lives are much better now. We no longer need to buy rice. Local people can gain shares of the rice harvested locally and get more vegetables and fruit trees. We feel *shanti* [peace].” In contrast to the rich *gher* owners in Lonanodi, who are able to diversify risks through owning several large *bagda gher*s, small *bagda* cultivators in Dhanmarti like Hassan felt the losses of failed tiger prawn harvests keenly and they played an important part in ending *bagda*.¹⁹

For many women, the end of tiger-prawn cultivation heralds the rejuvenation of the land. Hassan’s neighbor Sayma is a widow with four daughters who benefited from the noncommoditized food and fuel in a freshwater environment:

Everything grows here now, sunflower, *boro* rice, sesame. There is more work for day laborers. We can excavate canals and repair roads. We can grow vegetables and rice, keep goats, chicken, and cows. There is much rice and *kurte* [residue rice] from the harvest. I spent a month going through the fields collecting *kurte* and managed to get two to three *mon* [eighty to 120 kilos] it will last us a good few months and helps me save money from buying rice. Now with the *gher*s gone, *shojna* [moringa] trees are lining the roads. Its delicious fruit are available to all of us. Sometimes, my youngest daughter manages to catch some fish from the canal that we eat, or neighbors like Hassan share fish he has caught with us. During the monsoon rice season, the fish moves freely, anyone can catch fish from these inundated lands. Once the rice is harvested, I can collect *nara* [residue rice straws] to use for fuel and for thatching the roof. Hundreds of cows will freely graze on the green pastures and eat what remains of the tall *nara* and the quickly growing grass. Many women like myself collect the cow dung and make *bori* [used for cooking stove fuel] that we can also sell to other households. I am lucky that there is no *bagda* here.

Sayma’s account of living in freshwater village (see figs. 3.2 and 3.3) stands in stark contrast to Noshima’s life in a saltwater environment that undermines livelihood strategies—both paid and unpaid. To make ends meet, Noshima also works for people in the villages as a *kajer mahila* (working woman, maid). She brings her



FIGURE 3.2. Woman fishing in a field of rice, 2014. Photo by author.



FIGURE 3.3. Woman making cow dung sticks, 2015. Photo by author.

employers water from afar, washes dishes, engages in sporadic earthwork, and works in *ghers*. The latter entails standing up to the neck in saline water contaminated with chemicals to remove aquatic weeds (*sheula bacha*), an activity that often results in skin disease. However, with a transition to herbicides in the *ghers*, this has resulted in less work for Noshima. Noshima and other landless women unable to migrate also collect tiger prawn fingerlings from the river: “It’s the easiest available income for us. On a good day, I can catch thirty to forty fry, but generally I end up only getting ten to twenty taka per day. One kilogram rice costs twenty-eight taka.” Catching tiger prawn fry provides an important, albeit small, source of income in an area where other opportunities are sparse.²⁰ Noshima takes any job as it comes, each day filled with uncertainty. Ultimately, women’s work in Lonanodi is irregular, and where local labor opportunities are limited, any means of income is essential for buying rice and other food items.

Salinity and Mourning the Loss of Fish

People in Lonanodi also missed the taste of freshwater fish, which were no longer available in local ponds or beels. The way in which tiger-prawn fingerlings are caught in the wild contributes to the bycatch of several fish species that are thrown away, reducing their availability in the wild.²¹ Furthermore, freshwater species are unable to thrive in saline *ghers*. Thus, tiger-prawn fry collection contributes to the reduction of the number of fish in the rivers and poses a major threat to the long-term sustainability of wild fisheries (Deb 1998; Thornton, Trent, and Williams 2004).²² Ahmed Kaka recalls how before embankments and *bagda gher*s there were many canals and an abundance of fish: *bhetki, tengra, shoil, koi, golda, bagda, chela, chingri, rui, katla, mrigal*.

The canals were *khas* [public] and there were no restrictions because there was so much fish. Everyone could eat fish all year and several times a day. . . . We can no longer freely access fish; the canals have also been leased. We must buy fish now. Once, *bagda* cost one taka per kilo, now it’s two hundred taka per kilo. Months pass before we can eat [larger] fish. When we buy fish, we can only afford cultivated *bideshi* fish and they do not taste as good as wild fish. They are filled with lime, pesticides, and fertilizer to keep the water clean and to make the fish big. It’s like soap, how can eating soap be good for us? Cultivated fish is *bhejal* [impure, adulterated], but they don’t care. They only care about profit.²³

This lived experience of the loss of fish highlights not only the importance of food sovereignty, but also the affective entanglements between food and

well-being. The frequency and quantity of fish pre-*bagda* is reflected in the Bengali proverb: *Maach-e, Bhaat-e Bangali* (rice and fish makes a Bengali).²⁴ The taste, freshness, and quality of the fish matters for all classes of people in Nodi—it was my first time seeing people preparing live fish—and they were all notably suspicious of *mora maach* (dead fish). *Desi* (indigenous) fish are seen as filled with *shakti*, and small indigenous fish species in Bangladesh—consumed whole—are an important dietary source of vitamin A and calcium in rural Bangladesh (Roos, Islam, and Thilsted 2003). *Bagda*, in contrast, is not even available for the poor to eat. Instead, it takes six kilograms of wild fish to produce one kilogram of farmed shrimp (Reinertsen and Haaland 1995, 73), calling into question the claim that export-oriented *bagda* cultivation helps “feed the hungry.” With the introduction of export-oriented *bagda*, fish became a commodity to be owned and sold for profit, available to those that could afford it.

The leasing and subsequent salinization of *khas* canals and wetlands produces a range of emotions and experiences of loss and suffering. These conflicts of salt-water versus freshwater, and *khas* versus leased waters, illustrate how broader social relations of power are (re)negotiated and (re)produced in water–society relations (Sultana 2011, 171)—illustrated also by Ahmed Kaka’s skepticism toward poor quality farmed fish. Taking seriously the everyday affective dimensions of food and eating illustrate the processes through which political and economic forces take shape and are coconstituted (Hayes-Conroy and Hayes-Conroy 2013, 88). The structural political and economic forces of *bagda* production that produce these socioecological inequalities are made explicit through Sayma’s and Noshima’s contrasting experiences. Ahmed Kaka’s longing for wild-caught indigenous fish and his dismissal of farmed fish as *bhejal* captures a critique of the current aquaculture regime, an experience highlighted by how Sayma feels fortunate to have regained access to fresh fish from local ponds and canals. This highlights what emotions *do* rather than what emotions *are* (Ahmed 2004, 4). In addition, attention to the embodied experiences of *shanti/ashanti* (peace/suffering) help us to critically question what constitutes “well-being,” the “good life” (Elmhirst 2015), and what makes life worth living across generations (Narotzky and Besnier 2014).

Export-oriented shrimp aquaculture forms part of global capitalist systems of accumulation (Paprocki and Cons 2014b). Juxtaposing the different affective responses to well-being in a saline versus freshwater environment further highlights that global capitalist production in itself may not be uniformly dispossessing in ways that reduce income or food sovereignty. Both freshwater *golda* prawns (*Macro brachium rosenbergii*) and brackish tiger prawns are cultivated

for export-oriented profit, but farmers organize against *bagda* in favor of *golda*. *Golda* can be cultivated together with rice crops and freshwater species, thus enabling crop diversification and biodiversity (Ito 2002).

The forced salinity intrusion of *bagda ghers* causes great anxiety and inhibits socioecological entanglements of social reproduction. Thus, people in Dhanmarti are happy to fish for crabs in the Sundarbans and cultivate freshwater *golda* prawns for export, but they do not want saline aquaculture that negatively affect their lived environments. These concerns are not limited to food but also extend to trees; earthworms; drinking, bathing, and cooking water; cooking fuel; freshwater fish; and earthen homes that do not crack as a result of salinity.

Reversing Salinity

The benefits of freshwater land use practices are clearly visible and valued in local communities. How is it, then, that Dhanmarti Union managed to stop tiger-prawn cultivation while the people of Lonanodi continue to suffer? During my previous work in the coastal zone, the popular narrative among development organizations I worked with was that farmers could not stop with tiger prawns because it would take seven years for the soil to recover—how could people survive during that time? Hassan's elderly neighbor Fupu, however, stressed that it is possible to reverse salinity: "Our fruit trees—coconut, betel nut, mango, *jam* [*Syzygium cumini*], *jamrul* [*Syzygium samarangense*], jackfruit, lychee—they all died when they started leasing out land to 'outside' tiger-prawn businessmen [in the late 1980s]. Now, slowly, the trees are returning since we stopped with *bagda* here. They are weaker with less fruit than before, but each year, the salinity during the monsoon is washed away by the rainwater and the trees grow stronger."

The importance of the monsoon in returning lush vegetation to saline deserts was new to me. The reversibility of salinity was rarely mentioned by those promoting tiger-prawn cultivation and I wondered how this was possible in Dhanmarti when several grassroots movements consistently failed to stop *bagda ghers* in the 1980s and 1990s. Hassan arranged for me to meet Dr. Amit, a key figure in the movement, at his office in Shobuj town. Dr. Amit mentioned how he had been arrested many times for organizing protests, and that people were afraid of the *gher mastans* (gangsters) and the powerful politicians that backed them. It was only in 2008 that they were able to stop *bagda* cultivation in Dhanmarti:

Our movement gained ground in 2007 when there was no proper government in power.²⁵ The national cabinet was defunct, while Sheikh Hasina

and Khaleda Zia [the leaders of the two main political parties] were arrested and charged for corruption. The *bagda* cultivators had no powerful politicians to protect and support them. Instead, the military were in power and they had a temporary camp with one hundred military officers based in the *upazila* [subdistrict]. I spoke to them about our movement and the camp leader said that if we provided the time and place of our protests, they would ensure that the police do not use unlawful brutality or illegal arrests. The “Dhanmarti” sluice gate belonged to the most powerful *ghers* and the biggest *mastaan* engaged in torture and killing. In December 2007, we were almost five hundred people, mostly women, trying to break the gate so it could no longer be used for saline intrusion. When the police tried to attack us, the military questioned them. We sealed the sluice gates with cement during the six saline months and opened it for paddy cultivation during the monsoon. We closed a total of six thousand *ghers* but were unable to close the remaining four hundred *ghers* in the southern parts of Nodi, like Lonanodi. Two of the MPs did not have *ghers* at the time and supported us; it made them popular.

According to Dr. Amit, the combined role of the military and the suspension of power of both major political parties were the main reasons they could stop brackish aquaculture in so many places. Under the interim caretaker government, local people were able to override local configurations of power facilitated by political connections; the networks of political patronage were made void and the collusion of impunity broken (Adnan 2013; Finan 2009). The *andolan* (people’s movement) in Khulna with the poor and landless can therefore be seen as closely linked to the “environmentalism of the poor” (Guha and Martínez-Alier 1997; Guha 2000; Veuthey and Gerber 2012).²⁶

Dr. Amit explained that the movement did not have enough support for the anti-*bagda* movement in Lonanodi: “The main difference between Lonanodi and Dhanmarti was that in Dhanmarti Union the landowners *wanted* to stop *ghers*, while in Lonanodi Union only a few landholders own most of the land and they preferred *bagda* and were part of drawing in saline water from the river.” Noshima added that the Lonanodi Union Parishad chairman owns large-scale tiger-prawn farms throughout Lonanodi: “They [powerful elites] don’t care about the poor, they only think about money, not the poor and not the environment. The rich stay rich and the poor are left to die. The Lonanodi Union Parishad chairman doesn’t come to the village to speak to us, he doesn’t listen to what people want.” The Dhanmarti Union Parishad chairman, on the

other hand, sought to stop tiger-prawn cultivation. The different outcomes in the grassroots movement against brackish tiger-prawn cultivation illustrate how this land-use practice is linked to processes of political power, patronage, and economic status where landholding patterns have visible effects. Any discussion of zoning for aquaculture that claims that these lands are unsuitable for agriculture must therefore critically engage with these political realities, so that landless people's preferences for freshwater cultivation are not undermined by development assemblages that represent particular places as unsuitable for agriculture when they are not.

Conclusion: Capitalist Assemblages and Saline Suffering

Brackish aquaculture in Lonanodi is characterized by ideas of profit and monetary value. While fish were once a public resource and an essential protein in people's diets, they have now become a private commodity available only to those who can afford it. Common wetlands were leased out to tiger-prawn capitalists who through their social and political alliances were able to take control over *khas* (public) commons such as canals, thereby complicating theories of primitive accumulation or ABD focused on land as a fixed resource. The fluidity of the delta and the inseparability of land and water further highlights how water grabbing for brackish aquaculture entails salinizing previously freshwater environments.

Bringing in saltwater through the embankment during the dry season not only structurally damages embankments and increases local vulnerability to tropical storms and cyclones, this also salinizes the soil and local water sources in ways that prohibit the environment from supporting many forms of life, thereby further weakening the livelihood capacities of the rural poor. "Rice and fish make a Bengali," yet saltwater *bagda* impedes the growth and availability of both in areas like Lonanodi. The meaning of food in this context goes beyond local food self-determination, and rural people hope to see a return to freshwater living and be free from the suffering and anxiety of barren saline landscapes. These embodied and affective experiences in two starkly different areas so geographically close but ecologically different convey a deeper understanding of the struggles inherent in the political ecology of water grabbing—where water is not only privatized but salinized. As the movement in Dhanmarti shows, reversing salinity is possible and can be combined with export-oriented crab fishing and *golda* cultivation that also form part of global capitalist food regimes. While alliances of rural landless farmers, government officials, and NGOs may sometimes

be successful, corresponding alliances of those vested in the tiger-prawn industry may also be able to thwart such attempts.

Salinity in Bangladesh is not an inevitable outcome of climatic change, nor is it irreversible as the returned vegetation in Dhanmarti demonstrates. As Tidal River Management gains ground as a possible means of addressing Bangladesh's dying rivers and canals, resisting the narratives of *bagda* cultivators who claim that certain areas will never be fit for agriculture remains a priority. Debates on southwest coastal water management should pay more attention to the ways in which saline intrusion in the dry season can be stopped so that soils are not salinized when implementing TRM.