

Manufactured Landscapes: Law and Hydraulics in the Bengal Delta

Debjani Bhattacharyya



The island is called Talpatti in Bangladesh and New Moore in India. Claimed by both countries, this uninhabited island is part of a water-border-complex and the flashpoint of conflict over territoriality, sovereignty, and ownership rights within a new economic regime created by the various

continental shelf enactments of the past decades.¹ This land-sea-scape was formed initially by gradual deposition of silt from the various inland rivers in the region. A cyclone in 1970 precipitated this fluvial mix as the geographical entity of an island. This was just one year before the nation-state of Bangladesh was born. This island measures between two to twelve square kilometers depending on the season, rainfall and the tides in the Bay of Bengal.

While both the nations lock horns, sign multiple treaties and successively violate them, fishermen from the neighboring areas often drift into this zone of conflict. Fishermen, like the silt and alluvium in the area, challenge the idea of boundaries. While cross-border tensions remain unabated, the island continues to disappear as sea-levels rise, eroding and remaking the landscape of the delta. This is not something new or unique to the Bay of Bengal. Landmasses in bays and coastal areas have a different relation with water;² the landmass flows, moves, and challenges the fixities of cartography, ownership and territorial sovereignty. In the case of Talpatty/New Moore Island perhaps the rising seas will solve the cross-border conflict of ownership. But the mobility that defines land-water relation in this region has a long and complicated history.

Talpatty Islands makes us aware of the “aquatic reality” of land and its possession.³ It also attunes us to the fact that the temporality of land as fixed and cartographic, is just one among many. However, it is idea of land as fixed and immobile, rather than moving and seasonal that has been woven into our histories of property, law, and design.

Yet, spaces like Talpatty are what I call temporary landscapes, often also known as *char* or *diara* in the region. They are mere moments in the flow of water in a tidal basin. Such moments manifest themselves geographically either as seasonal sedimentations, or sometimes might have a decade-long existence, but

¹ Salman M.A. Salman and Kishor Uprety, *Conflict and Cooperation on South Asia's International Rivers: A Legal Perspective* (The Hague: Kluwer Law International, 2002).

² Ari Kelman, *A River and its City: Nature and Landscape in New Orleans* (University of California Press, 2006).

³ Gaston Bachelard, *Water and Dreams: An Essay in the Imagination of Matter* (Dallas Institute of Humanities, 1999 repr.).

chars by nature are not fixed land, and they can move as much as seventy-seven miles from year to year.⁴ The temporariness and flux within the landscape challenge the permanence that bolsters our thinking around law, market and design.

How do I define and demarcate this space of sedimentation – of silt and time? This space stretches from the tip of the Bay of Bengal, also known as Sagar Islands where the early mercantile ships of the monsoon traders from Europe were docked to the city of Calcutta, which grew to become the second capital of the British empire. This envirotechnical space is a veritable “water-machine,” in an increasingly fortified landscape.⁵ Yet, unlike other envirotechnical spaces, it is a landscape that has resisted and often overwhelmed hydraulic engineering and fortification technologies, sometimes dramatically, and at other times slowly.⁶

Thus the historical ecology of this aqueous landscape is uncovered by cutting vertically into a century of deposition, revealing the layers of infrastructure “thick with power,” politics, bureaucracy, speculation, legal maneuvering and cultural practices.⁷

Indeed, from the 19th century onwards vast amounts of bureaucratic ink have been spilled in efforts to map this landscape and its seasonal rivers, spill

⁴ Stephen Kiernan and James Timberlake, *Alluvium: Dhaka, Bangladesh in the Crossroads of Water* (ORE, 2015), 262; see also Kuntala Lahiri Dutt and Gopa Samanta, *Dancing with the River: People and Life in the Chars of South Asia*, (Yale University Press, 2013).

⁵ Sara Pritchard, *Confluence: The Nature and Technology in the Remaking of the Rhone Valley* (Harvard University Press, 2011); for work on technological remaking and state-building in India see Christopher V. Hill, *River of Sorrow: Environment and Social Control in Riparian North India, 1770-1994* (Michigan: Association for Asian Studies, 1997); David Mosse, *The Rule of Water: Statecraft, Ecology and Collective Action in South India* (New Delhi: Oxford University Press, 2003). I borrow the term water machine from Anthony Acciavetti’s recent work *Ganges Water Machine: Designing New India’s Ancient River*, (Applied Research Design, 2015).

⁶ Rohan D’Souza, *Drowned and Dammed: Colonial Capitalism and Flood Control in Eastern India* (Oxford: Oxford University Press, 2006).

⁷ Wiebe E. Bijker, “Dikes and Dams, Thick with Politics,” *ISIS*, vol. 98, No. 1 (March 2007):109-123.

channels, freshes or those spaces that became *soaked* in water annually.⁸ This technology story focuses one of these aspects, namely on how the bureaucratic labor of law had a significant role to play in manufacturing this landscape.

A closer look at a recent aerial photograph reveals a landscape of multiple spatialities. What we see is not merely a technologized landscape, or a hybrid landscape of wetlands and megacity infrastructure. It is a landscape that was produced through a particular legal infrastructure and market logic that are singular to postcolonial cities of the global south. To understand how this came about, we need to turn to some key moments in the nineteenth century.



Construction in the Eastern Kolkata Wetlands, © Pradipta Ray, 2009

II. Limiting the Fluid City

⁸ I borrow the concept of soak from Anuradha Mathur and Dilip da Cunha, *Soak: Mumbai in an Estuary* (Rupa, 2009).

Around 1804-5 the river Hughli started changing in its course as it flowed to the Bay of Bengal. By the 1820s, the Hughli had meandered so far west that it had deposited alluvial land approximately four miles long and roughly half a mile wide along the western banks of Calcutta. The fickle river had rendered irrelevant the existing forms of land and ground measurements conducted in 1797 by the East India Company upon the newly acquired land.

The movement of the river resulted in a spate of surveys and protracted legal and municipal debates about property rights over the newly formed space from the 1820s.⁹ This was a period when the city's urban land tenure was in a flux, and the indigenous residents refused to recognize the Company's authority to collect taxes. The emergence of the new strip of land opened up a discussion of property rights upon that space and a larger debate about the East India Company's ownership status within colonial Bengal.

Following the shifts in the course of the river, the Conservancy Department of the Justices of the Peace was charged with the responsibility for technologically separating the land from water and fortifying the marshes into a recognizable geographical formation – the riverbank. The fortification of the land gave impetus to carrying out a survey of the riverbank which was conducted by the Territories Department in 1820 in order to ascertain which part of the ground along the river could be considered the property of the Company.¹⁰ The Territories Department recommended improvements in the riverbank area by establishing a Strand Bank Fund to raise money to improve the river bank, which would also be named the Strand Road. However, a functioning Strand Bank Fund was not established until 1837, a full seventeen years after this initial recommendation. Through the efforts of the Strand Bank Fund, the Territories Department gradually secured the appropriation of riverfront lands from wealthy

⁹ Magistrate to Direct their Surveyors to Survey and Report on the Bank of the River mentioned by the Mint Master, Fort William. Judicial [Criminal], June 25 1807, Prog. 1, WBSA, Kolkata.

¹⁰ Extract of the Territories Department, 1 April 1820, Judicial [Criminal], Prog. 15, WBSA, Kolkata

Indians and British residents for beautification, trade and warehouse purposes.¹¹ No residents with property along the riverbank were ready to give up their land to the Company without a fight.

This was when a new *fiction* of law, deploying novel technologies of legitimation, was generated to render previous authority and claims to the land along the riverbank *fictitious*. The legal battles precipitated by land acquisition were a clash of two narrative genres attesting to two forms of authority. An analysis of some of these long overlooked property disputes over the newly formed land reveals that a new language of legality possession was forged.¹²

In 1820 Esq. Holt Mackenzie, Secretary to the Territorial Department conducted the first survey of the riverbank and the newly formed land in order to assess the extent and potential appropriation of this newly formed ground which the government could then claim as its property. As a governing document or a “graphic-artifact,”¹³ this Territories Department Report mediated and transformed many social relations into political and economic contracts, and became a significant part of the nineteenth-century social life of the city.

The Report stressed that, in Calcutta, the Company had the *double right* of both the Sovereign and the Zamindar, and therefore it harnessed the laws of the sovereign alongside the established custom. Mackenzie stressed throughout the Report that “[t]he company is the general Zamindar [landlord] and as such any new lands must, we conceive, be considered at its disposal.”¹⁴ Apart from collapsing the role of the state and market into the corporate body of the joint stock company, it also laid down a legal regime for acquiring land without any juridical justification.

¹¹ Strand Bank Funds, Judicial [Judicial], 10 October 1963, Prog. 123-131, WBSA, Kolkata.

¹² Extract from the Proceedings of the Territories Department, Judicial [Criminal], 1 April 1820, Prog. 15, WBSA, Kolkata.

¹³ I am borrowing this concept from Mathew S. Hull, *Government of Paper: The Materiality of Bureaucracy in Urban Pakistan* (Berkeley: University of California Press, 2012).

¹⁴ Extract of the Territories Department, 1 April 1820, Judicial [Criminal], Prog. 15 § 48, WBSA, Kolkata.

Through multiple bureaucratic maneuvers, the colonial officials transformed a geographically indeterminate and communally heterogeneous space into clearly demarcated “public” space to be used under Company stipulations. The translation of this water-land admixture into Company property within law was coterminous with the production of a market in land. The Report further mentioned that, although the government stood to accrue a considerable amount of revenue from this, the immediate pecuniary gain was hardly the driving force behind the Strand Bank project. Rather impulses much larger than mere pecuniary gains were at work here. Indeed, the economic basis of colonial legal production of spaces becomes apparent through an analysis of this process.

The Territories Department Report provides compelling evidence for the frustration encountered in attempts at mapping in the face of the moving river. The major thrust of the Report was to acquire lands which the Territories Department found to be in excess of any previous documentation, or spaces where inhabitants could not produce any “recognizable” land-titles. Whenever residents, mostly native, but sometimes also Europeans, failed to supply the surveyors with paper documentation, the officials declared their possession to be of a “dubious sort of occupancy” and dismissed their claims. The Report prescribed an arbitrary provision for applying to have the extra land counted as part of existing ownership. However, by a sleight of hand, it stipulated that papers legitimizing ownership must be produced to justify claims upon the newly emergent land. Finally, it foreclosed even that ludicrous provision in the next sentence by saying that, in spite of any legitimate claim one may produce, the “state” may decide to take over the land or refuse granting rights to it. Through these bureaucratic maneuvers, merchants of a joint stock company turned themselves into landlords and laid the “legal” groundwork for land acquisition in the colony.

Two decisive aspects of colonial law and economy converge here: On the one hand, there was the attempt by the Company agents to initiate a process whereby a heterogeneous body of ownership practices was condensed into

contractual paper-based exchange and establishment of rights. On the other hand, the slippage between the terms interchangeably used in the Report point to the operation of colonial power as corporate sovereignty — just as the Company becomes the *Zamindar* (landlord) in the course of the report, it eventually becomes the Government and finally the State. This deliberate slippage throws light upon the unique political power of the Company-State with the authority to deploy expansive legal powers to acquire land that they could claim to be in excess of any recorded deeds. Within five years of the publication of the report two new landmark regulations were enacted: one was the land acquisition law for infrastructural development, and another that created a new legal taxonomy to render this landscape legible to the British bureaucrats. A law to adjudicate disputes about what now came to be known as “accreted and derelicted land.” With this new legal terminology, the Company bureaucrats eclipsed a rich ecological life world. It simultaneously laid the groundwork for a thriving market in urban property in colonial Calcutta and infrastructural expansion that did not take into account the unique geography of the active delta.

V. Concluding Remarks: Muddying Property

Deltaic ecology is one that is dynamic, one where sedimentation and erosion co-exist. Therefore, it is not surprising that there are seven ways to describe erosion in Bengali, which signals a dynamic and complex relation between land and water, that fortified geography of property cannot encapsulate. The formation of the fixed Strand Road became a manifestation of imperial infrastructure and consolidation of the colonial administrative town of Calcutta. As a public space for the growth of trade and commerce it restructured the real estate market. Thus, today the urban landscape at the edge of the delta is completely cut off from its watery history. When water appears, it comes as a violation, as a destructive force that destroys property and livelihood.

The dynamic landscape, which was critical to the founding of the second capital of the British empire ultimately became a “collage of disconnected fluvial

events that were regulated principally as practices of political economy.”¹⁵ The legal creation of a margin between land and water so as to adjudicate property disputes and acquire more land also produced the natural formations of an active delta as "ecologically" unstable. The delta had to be managed through law and fixed through a market in urban property. The management of the delta, which resulted in the construction boom, is intricately linked with the rapidly vanishing coastline of the Bengal delta.

The current urban landscape in this tidal delta comprising Dhaka, Calcutta, Diamond Harbour, Sandeep Islands, and Canning, to name a few, seem remotely connected to the delta, if at all. The only way water figures in these spaces now is as disaster, flood, inundation, disappearing coastline or waterlogging. An antithetical relationship of dry culture emerged not just through infrastructural projects but also through a particular reality that law created in this space.¹⁶ The implications of this dry culture are manifold and they manifest themselves economically, ecologically and legally. This particular arrangement is what I am calling the manufacturing of the hydrological landscape. This manufacturing did not merely entail consolidation of the land and water-scape as various forms of privatized landholding. It also involved abstraction of various judicial and legal fictions of ownership, as well as of things “apparently inaccessible to private appropriation (private property): nature, the earth, life energies, desires and needs.”¹⁷ The infrastructural refashioning and hydro-engineering of the landscape continues even today. Calcutta’s new satellite town, full of high-end real-estate shopping etc. is being built by filling up ecologically critical wetlands in this area. This is not unique to Calcutta, but is taking place also in Dhaka and the other smaller towns in the area. These cities are

¹⁵ Rohan D’Souza, ‘Seeing Like a River: The Bengal Presidency’s Hydraulic Transition’, in Arun Bandopadhyay (ed.), *Science and Society in India 1750-2000* (Manohar: New Delhi, 2010), 174.

¹⁶ For an elaboration of the concept of law and the particular social reality it creates see my “History of Eminent Domain in Colonial Thought and Legal Practice,” *Economic and Political Weekly*, 50, no. 50 (December 2015), 45-53.

¹⁷ Henri Lefebvre, *Production of Space* (London: Wiley Blackwell, 1991), 350.

threatened to gradually disappear as the current real estate expansion gobbles up the wetlands, marshes and floodplains that protect their existence in the first place. Is this not perhaps another hubris of the property regime that chooses not to remember or know how to live with marshes and water bodies around it?

Bibliography

Primary Sources:

- Magistrate to Direct their Surveyors to Survey and Report on the Bank of the River mentioned by the Mint Master, Fort William. Judicial [Criminal], June 25 1807, Prog. 1, WBSA, Kolkata.
- Extract of the Territories Department, 1 April 1820, Judicial [Criminal], Prog. 15, WBSA, Kolkata.
- Strand Bank Funds, Judicial [Judicial], 10 October 1963, Prog. 123-131, WBSA, Kolkata.

Secondary Sources:

- Acciavetti, Anthony. *Ganges Water Machine: Designing New India's Ancient River*, (Applied Research Design, 2015).
- Bachelard, Gaston. *Water and Dreams: An Essay in the Imagination of Matter* (Dallas Institute of Humanities, 1999 repr.).
- Bhattacharyya, Debjani. "History of Eminent Domain in Colonial Thought and Legal Practice," *Economic and Political Weekly*, 50, no. 50 (December 2015), 45-53.
- Bijker, Wiebe E. "Dikes and Dams, Thick with Politics," *IS/S*, vol. 98, No. 1 (March 2007):109-123.
- D'Souza, Rohan *Drowned and Dammed: Colonial Capitalism and Flood Control in Eastern India* (Oxford: Oxford University Press, 2006).
- _____. 'Seeing Like a River: The Bengal Presidency's Hydraulic Transition', in Arun Bandopadhyay (ed.), *Science and Society in India 1750-2000* (Manohar: New Delhi, 2010).
- Hill, Christopher V. *River of Sorrow: Environment and Social Control in Riparian North India, 1770-1994* (Michigan: Association for Asian Studies, 1997).
- Hull, Mathew S. *Government of Paper: The Materiality of Bureaucracy in Urban Pakistan* (Berkeley: University of California Press, 2012).
- Kelman, Ari. *A River and its City: Nature and Landscape in New Orleans* (University of California Press, 2006).
- Kiernan, Stephen and James Timberlake. *Alluvium: Dhaka, Bangladesh in the Crossroads of Water* (ORE, 2015).
- Lahiri-Dutt, Kuntala and Gopa Samanta, *Dancing with the River: People and Life in the Chars of South Asia*, (Yale University Press, 2013).
- Lefevbre, Henri. *Production of Space* (London: Wiley Blackwell, 1991).
- Mathur, Anuradha and Dilip da Cunha, *Soak: Mumbai in an Estuary* (Rupa, 2009).

- Mosse, David. *The Rule of Water: Statecraft, Ecology and Collective Action in South India* (New Delhi: Oxford University Press, 2003).
- Pritchard, Sara *Confluence: The Nature and Technology in the Remaking of the Rhone Valley* (Harvard University Press, 2011).
- Salman, M.A. Salman and Kishor Uprety, *Conflict and Cooperation on South Asia's International Rivers: A Legal Perspective* (The Hague: Kluwer Law International, 2002).