

Entangled Earth

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This article tells a story of the entanglement of human and non-human actors in contemporary practices in Bangladesh. It claims the agency of nature in shaping geopolitical forces, which in turn encroach on nature itself. It adopts an ecological perspective, viewing ecology as a pluralistic practice that permeates the earth's minorities and socialities with catalytic energy. It attempts to decentre a humanist narrative in favour of earth-objects as a way to engage a politics of entanglement with things.¹ Tracing this history will present the conditions under which current anti-capitalist struggles in the environmental regime in Bangladesh occur.

The three objects discussed in the article are cyclone, iron and gas. In Cyclone I tell a history of a state that forms from within the liquid motions of powerful spiralling winds. Iron is the metal undergoing transformation from the hulls of ships in which the material history of oceanic flow of capital is blowtorched into national infrastructure. Natural gases in very large quantities, trapped inside hydrate deposits in geological systems, form part of a deep-sea ecology where symbiotic relationships amongst bacteria, hydrocarbons and ice warmings are about to be entangled in a global natural gas hydrate race.

Human population is an important actor within this natural-political assemblage, in which Bangladesh has been seen by Western neoliberal hegemony for several decades now as a Malthusian time bomb already detonated, whose shrapnel is migrant bodies. Although the friction between human population and nature is always already present, the article proposes that this friction is made explicit in points of contact, such as natural disasters and epidemics.

This article is not an attempt to present a survey of environmental art in Bangladesh. Rather I will articulate in each case an aesthetic regime operating within contemporary political ecology. In the case of Cyclone, it is the humanitarian-architectural form of cyclone shelters and meteorological infrastructure networks that continuously survey the coastal zones; while the ship-breaking industry has transformed the low-intensity beaches of Chittagong into a spectacular scenography for nature-labour exploitation. The Gas section then proposes to cast open the environmental activist struggles whose political work takes on

1. This thesis is indebted to the work of Bruno Latour and Michel Serres among others.



Existing cyclone shelter, Rangabali, photo: Lindsay Bremner

complex multiple dimensions which, in traversing the theoretical, legal-scientific matrix, has included using highways and television as mediums of democratic social technology.

'Aestheticized geology' is a term used by Mike Davis in his discussion of the role of photographs, drawings and narratives in the invention of a new science, geomorphology, as encountered by surveyors of the Colorado plateau in the nineteenth-century United States. A landscape of 'strange spires, majestic cliff facades, and fabulous canyons' was brought within the scientific realm through the work of artists and photographers whose work supplanted the technical reports of the surveyors.² Thus image-making can not only facilitate science in its 'specificity' but also constitute a scientific practice. This line of constructivist inquiry, which Isabelle Stengers calls an 'ecology of practices', can be a valuable conceptual tool for the purpose of this article, as it allows for earth-objects, social movements and art to co-produce the word-order global south, particularly as strange attractors in defying hegemonic power.³

2. Mike Davis, *Dead Cities and Other Tales*, New Press, New York, 2002

3. Isabelle Stengers, *Cosmopolitics I*, Robert Bononno, trans, University of Minnesota, Minneapolis, Minnesota, 2010

CYCLONE

The contemporary history of Bangladesh is one of the starkest examples of the politicization of natural disasters; part of this can be traced from Bhola cyclone, which devastated its coastal zones in 1970.

Bengali nationalism, from colonial rule onwards, takes the form of a social movement in the province of East Pakistan. The cyclone spanned a political movement from a social movement and thereafter armed conflict. Although the liberation war (*Mukti Juddho*) of 1971 remains central to the political imaginary of every Bangladeshi and post-colonial history, this article proposes a revisionist history in which the cyclone is an actor in a national liberation. Such environmental historiography challenges the dominant nationalist historiography that has also marginalized non-Bengali populations and led to a decades-long separatist struggle of indigenous tribes in the Chittagong Hill Tracts. It responds to an atrophied, communalist and militarized nationalism that devalued the role of the left and peasant movements in the liberation struggle.⁴

4. See also Ranabir Samaddar, *In the Time of Nationalism: Political Essays on Bangladesh*, University Press, Dhaka, 2002 and Mohammed Sajjadur Rahman, 'Politics of Nationalism in the post-71 Bangladesh', in *Peace Audit: Interrogating Partitions*, South Asia Forum for Human Rights, 2010.

5. 'Storms and Depressions', from *Indian Weather Review, Annual Summary: Part C*, Indian Meteorological Department, 1970

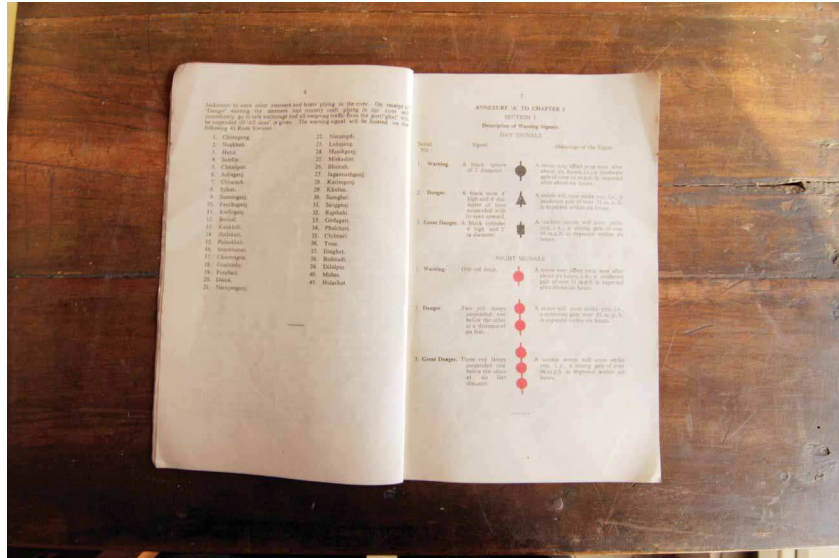
On the morning of 8 November 1970, six hundred kilometres to the south of the port city of Chittagong, an area of low pressure formed in the central Bay of Bengal and intensified into a severe cyclonic storm on the morning of the 11th. Taking a north-easterly course it crossed the coast of East Pakistan during the night of the 12th.⁵ The ocean was a dark mass of turbulence. As the storm made landfall, it caused a seven-metre-high storm surge. A population of at least 300,000 along the coastal areas drowned in their sleep in one of the most devastating natural disasters in history. In the following days and weeks the ruling government in West Pakistan was deeply incriminated in its failed humanitarian efforts, mismanagement of relief funds and sluggish disaster response. The decision to hold general elections in the last weeks of 1970 spelled political suicide for Pakistan as the Awami League, the main opposition party in East Pakistan, which already had massive popular support, won by a huge margin. The positive and negative feedback of the cyclone fed into a social-political movement for



Proposed cyclone shelter design by Lindsay Bremner and Jeremy Voorhees for the village of Rangabali, photo: Lindsay Bremner

6. The precise numbers of dead are not known and no war crimes tribunal was ever set up; Pakistan denies committing genocide. Bangladeshi figures place civilian casualties at three million although this is contested. In 2010 a local initiative to investigate alleged war crimes by Bangladeshi collaborators was established by the Awami League government. For further reference on the topic see W Akram, 'Atrocities Against Humanity During the Liberation War in Bangladesh: A Case of Genocide', *Journal of Genocide Research*, vol 4, part 4, 2002, pp 543–560. Also a useful comparison is Mahmood Mamdani's fascinating account of the complex politics of body count in Darfur, in Mamdani, *Saviors and Survivors: Darfur, Politics and the War on Terror*, Pantheon, New York, 2004.

7. The term 'development' is first specifically used in the case of newly independent postcolonial countries after the Second World War to address the issue of integrating pre-capitalist economies into the capitalist system. Foreign aid was the main way of providing capital and expanding government and governmentality. Abdul Bayes and Anu Muhammad, eds, *Bangladesh at 25: An Analytical Discourse on Development*, University Press, Jahangirnagar, 1997, pp 47–48.



Storm warning signals in East Pakistan, 1969, photo: Nabil Ahmed

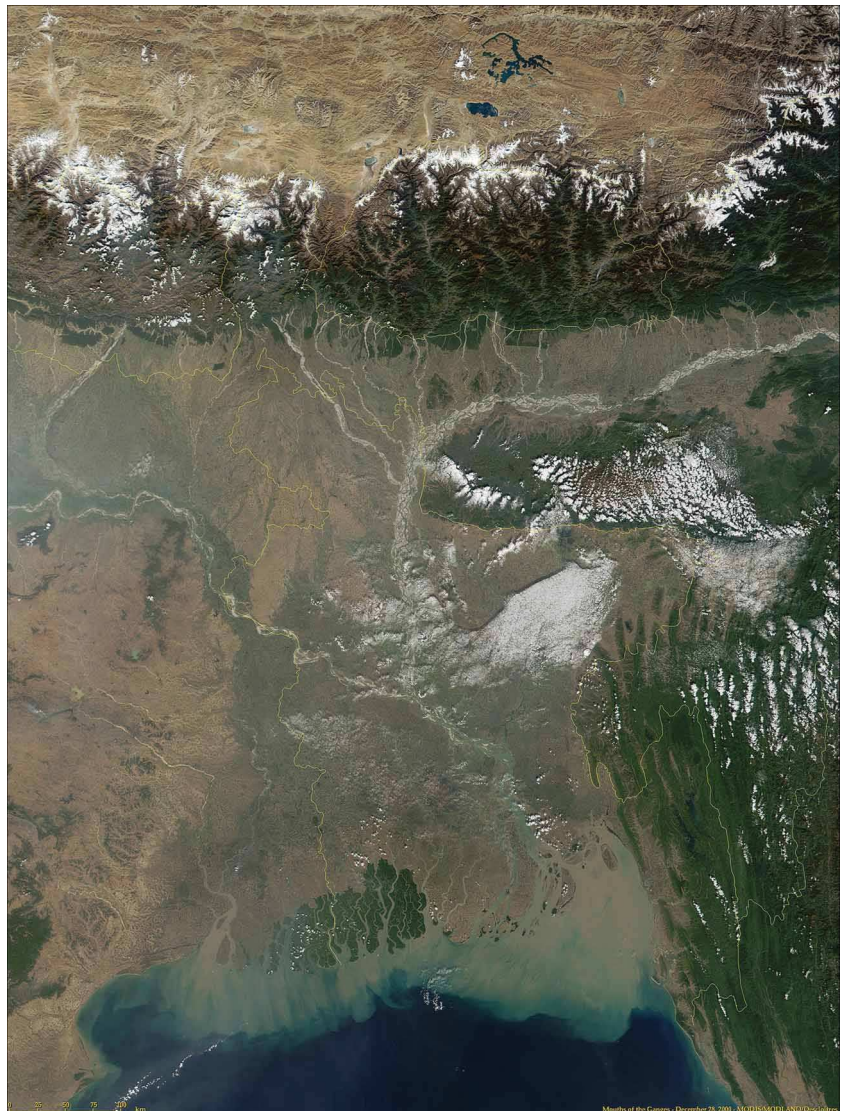
self-determination. Pakistan refused to give up power to the democratically elected party, leading to a guerrilla war for liberation and genocide perpetrated by the Pakistani armed forces and their Bengali-Islamist collaborators.⁶

After gaining independence in 1971, one of the mandates of the fledgling Bangladeshi state was to develop an infrastructure against catastrophes and to rationalize the space of disaster. In the building up of this infrastructure over the next decades lies the story of development aid and neoliberal policies, ushered in and mixed in equal parts, under the autocratic rule of Hussein Mohammad Ershad in the 1980s. As Bangladesh is one of the most vulnerable countries facing 'climate change' in the Anthropocene, government policy and rhetoric has shifted considerably from humanitarian response to risk reduction and disaster management inscribed within a wider development paradigm, but at the same time acting to protect the interests of foreign investment and stabilize national political forces.⁷ Infrastructure funded through intergovernmental development agreements, such as meteorological stations, embankments and cyclone shelters, attempt to bring within a scientific order the sea and its storm systems, and at the same time to governmentalize coastal territories.

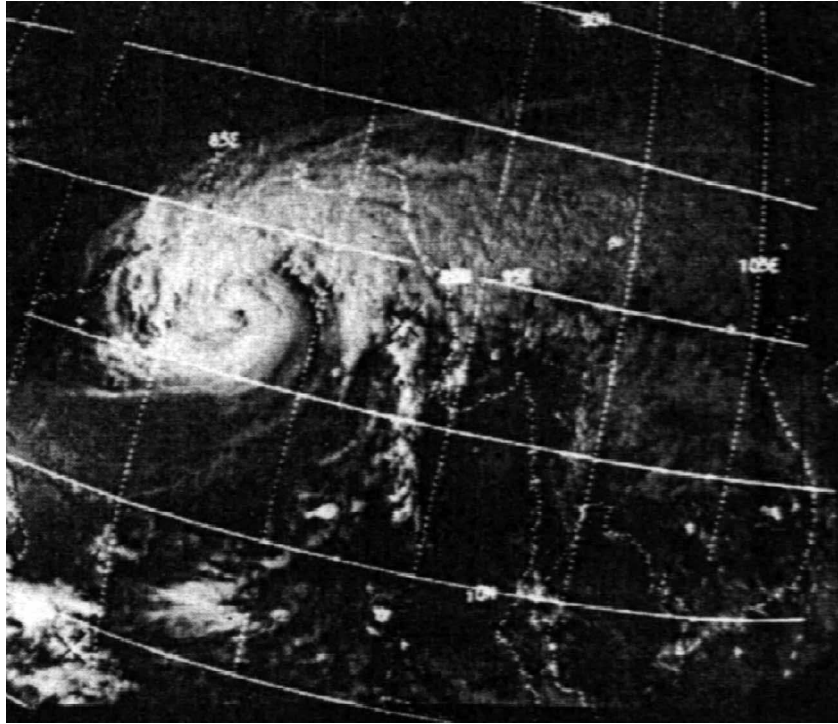
This is manifest particularly in the cyclone shelters that mineralize the coastal zones as part of the building up of infrastructure, displaying a stark modernism in their visual language. Made of reinforced concrete, they are shaped like two sides of a triangle, facing into the wind. People can climb into the structures from stairs at the back. Each shelter can house between 700 and 1500 people, depending on their size. The first cyclone shelters were built in the 1950s. However, a real awareness of their effectiveness only emerged with the 1991 cyclone, which claimed over 140,000 lives. Over the next two decades more than 2100 shelters were built between land and sea, a major infrastructural achievement. Structurally these modernist architectures

share a common characteristic of being at least two storeys off the ground, like bunkers in the air. This is mainly for protection against storm surges when the sea enters the land. The shelters are usually multi-purpose and used as community centres or schools.

In 2010 the Service Civil International Japan devised an International Design Competition for a cyclone shelter in Rangabali, a small village in the Patuakhali district of Bangladesh. Among the entries, the proposal by architects and writers Lindsay Bremner and Jeremy Voorhees presented a new conceptualization of a shelter, in the form of a boat-building. This brings into relief experimentation with architectural form and ecological thinking and draws on two local sea-faring typologies: the boat and the



Ganges delta, satellite photo: NASA



Bhola cyclone, 11 November 1970, National Oceanic and Atmospheric Administration

landing ghat.⁸ Designed for people to assemble in its hull (made of bamboo and reinforced concrete), which resists floodwater, it proposes the radical idea that during a cyclone the shelter would actually be half-submerged in water, responding to the unique characteristic of the delta region and the constant shifting of land and water. Thus, by designing the first underwater cyclone shelter, Bremner and Voorhees challenge the relationship between safety and being-in-the-air. Their design made it into phase two of the competition, which took Lindsay Bremner on a journey to Rangabali as part of a public consultation process, but where the village elders duly rejected the plan. For them a shelter that would be submerged in water during a storm was against convention. She then asked why the women of the village were not present and some were hastily assembled.⁹ Although the women present were in favour of the underwater cyclone shelter design, the men did not approve it. As a piece of speculative infrastructure, it tells how architectural practice allows us to invert concepts of safety and belonging which carry differential gendered implications in local culture.

8. Alison Furuto, 'Cyclone Shelter/Lindsay Bremner and Jeremy Voorhees', 27 January 2012, ArchDaily, online at: <http://www.archdaily.com/202268/cyclone-shelter-lindsay-bremner-and-jeremy-voorhees/>, accessed 23 April 2012. The article describes the design in greater detail.

9. Conversation with Lindsay Bremner, London, February 2012

IRON

The conduct of life today is utterly dependent on the sea and the ships it bears, yet nothing is more invisible.

Michael Taussig¹⁰

Sixty per cent of iron used in the construction business in Bangladesh comes from the ship-breaking industry, earning the state-capitalist apparatus annual revenue of US\$900 million. It employs 30,000 people directly and 250,000 people indirectly. Yet the labour laws in the sector are not applied to protect the workers from grievous injury. In the last decade 250 workers have died and more than 800 have been handicapped for life.¹¹ Hulking steel remains of ships that took part in maritime trade across the earth's ocean spaces in the last century undergo radical transformation, reverting from ship back to steel. The process of breaking down the massive ocean liners uses a mixture of acetylene and muscular power. Within the rusting structural frames lie the secrets of steel reclaiming its form. Here is the inverse of the shipyards of northern maritime powers, where steel, through the power of capital infrastructure, was reshaped into objects that would produce the conditions for capital to reorganize itself. The long stretching beach and the bay provide the scenography as the labourers struggle to dismember rusting leviathans in the oily mud.

The bosses of the ship-breaking yards of Chittagong have an appalling human rights record despite global media coverage and impose a notorious no-photography rule. Yet the yards attract legions of amateur and professional documentary photographers, and more recently documentary film-makers from around the world, whose often clichéd images connect neither to the politics of the area nor to the ecological regime. The stuff of mud and the oil that seeps through it are ignored. The beach, it seems, is still all-too-human. This complex ecology is addressed in the work of photographer and artist Edward Burtynsky in whose *Oil* series the ship-breaking yards themselves become the subject of the 'end of oil' or the place where the nefarious talismans of petro-capital completely subsumes labour power. Burtynsky draws profitably from the New Topographics, the maverick landscape photographers of the American West who developed the photography of human influence on nature as central to their practice.

In the field of documentary film, recent notable works include Shaheen Dill-Riaz's *Iron Eaters* (2008) and Park Bong-Nam's *Iron Crows* (2009). Both films employ stunning cinematography and focus on human toil (men making a living) against the massive backdrop of the ghostly ships and the sea. While Dill-Riaz's film attempts to open up the complex labour relations taking place between workers and the management, Bong-Nam's tearjerker focuses solely on the human suffering. However, neither film actually connects to the longstanding environmental legal activism pioneered by organizations such as the Bangladesh Environmental Lawyers Association (BELA), which has been actively working on promoting environmental justice since the early 1990s and was the first in setting the precedence for Public Interest Litigation (PIL) practices within human rights law in Bangladesh.¹² In 2009 BELA, led by Supreme Court lawyer Syeda Rizwana Hasan, successfully campaigned to regulate the industry through a court ruling that stipulated conditions relating to the decontamination of foreign ships of toxic chemicals and the safety of workers. The

10. Michael Taussig, *Walter Benjamin's Grave*, University of Chicago, Chicago, Illinois, 2006

11. Ain o Salish Kendra, *Janaswathbey Mamlā*, ASK, Dhaka, 2010

12. Ibid

problem of accountability and compliance, however, remains as the images of the shipyards and their workers continue to circulate.

GAS

In March 2010 the *Sydney Morning Herald* reported the claim of Sugata Hazra, the head of Oceanography at Jadavpur University, Calcutta, that a tiny uninhabited island (New Moore/South Talpatti), long an object of border dispute between India and Bangladesh, had disappeared under the Bay of Bengal due to rising sea levels. Appropriating statements made by the oceanographer, many newspapers then published the story and made it seem that global warming had resolved what political negotiation could not. South Talpatti is thought to have appeared in the aftermath of the Bholā cyclone. The dispute over the island lay dormant for decades until natural gas was discovered in the Bay of Bengal in 2003. Under the spell of the disappeared island, suddenly maritime boundaries in the Bay of Bengal entered the legal imaginary in India, Bangladesh and Myanmar. The Indian Ocean world is once again the object of re-territorialization. The dispute in effect intensified, with India and Myanmar claiming maritime boundaries from both sides of the bay, encroaching into what Bangladesh considers its own territory. Bangladesh and Myanmar were close to entering a conflict situation when the Bangladesh Navy sent battleships near the disputed waters as Myanmar attempted to start drilling into the seabed. The matter has since been taken to the International Tribunal for the Laws of the Sea (ITLOS) in Hamburg, the first maritime boundary case to be settled by the tribunal in its history.

Natural gas hydrates are found in two geological settings, 'onshore, in and below areas of thick permafrost and offshore, in the marine sediments of the outer continental margins'.¹³ Clustered in subsurface fields, congealed within strange crystalline forms, are familiar hydrocarbons which are freed through the technical practice of extraction. Remote-sensing technologies, first developed as part of Cold War oceanology, are mobilized to locate oil and natural gas, cutting vertically through ocean spaces. Deep sea gas blocks DS-08-10 and 11 in the Bay of Bengal are rectangular lines that draw out the great infrastructure politics of South Asia. In 2009 the government of Bangladesh placed an international tender for the exploration of the deep-sea natural gas. Both offshore gas blocks were awarded through a production-sharing contract (PSC) to the energy giant ConocoPhillips, which was given the provision to export the liquefied form of the gas. A Wikileaks cable revealed that James Moriarty, the then US Ambassador to Bangladesh, insisted the contract be given to the US multinational corporation (MNC).¹⁴ The PSC allows exploration of the undisputed part of the blocks that cover an area of 5158 square kilometres. The contract allows Bangladesh access to twenty per cent of the explored gas, while the company can export the remaining eighty per cent.

This set of events offers a stark contrast with the acute energy shortage in the country and has led to actions of anti-capitalist environmental activism unlike any seen previously. Leading a sustained campaign against neoliberal energy imperialism, the National Committee to Protect Oil, Gas, Mineral Resources, Power and Ports (NCPOGMRPP), a radical

13. J Marcelle-De Silva, R Dawe, 'Towards Commercial Gas Production from Hydrate Deposits', *Energies*, vol 4, no 2, 2011, pp 215–238

14. Sourcewatch, 'Bangladesh and Coal', online at: http://www.sourcewatch.org/index.php?title=Bangladesh_and_coal, accessed 23 April 2012

environmental activist group, has called for the ConocoPhillips deal to be scrapped. The group was established in 1998 and came to prominence through its activist work, spearheading the counter-hegemonic Phulbari movement, against the controversial open-pit coal-mining project proposed by Asia Energy Corporation, a wholly owned subsidiary of UK-based energy company GCM Ltd. The deal would have displaced hundreds of thousands, including indigenous communities, with far-reaching impact on the local ecology. After the police killed three villagers during a peaceful protest in Phulbari in 2006, the movement found its spark, compelling the government to ban Asia Energy from doing business. NCPOGMRPP, the key organizer and ideological facilitator, is certainly not alone but part of a wider social movement, as it brings together many smaller groups as well as the population of Phulbari. Since then the movement has been continually vigilant in keeping Asia Energy out, the most recent support coming from the office of the Special Rapporteurs of UN Human Rights in February 2012.¹⁵

From their continuing work on the Phulbari movement, to campaigns against the ConocoPhillips contract, NCPOGMRPP deploys a set of practices ranging from theoretical writing to protest action such as mobilizing long marches, *Hartal* (strike action as a form of civil disobedience) and *Gherao* (encirclement). Since the privatization of television channels in the late 1990s, broadcast television has become an important political forum in Bangladesh and several political parties have opened their own ideologically aligned television stations. As a bottom-up environmental activist group, albeit one without the legitimacy of a political party, the National Committee is successful in using television as a platform via communiqués, commentary and expert opinion, while its direct actions continue to gain wide television coverage.

Despite the protracted efforts of the NCPOGMRPP, ConocoPhillips succeeded in leveraging the production-sharing contract. On 14 March 2012, ITLOS declared a judgment whereby both Bangladesh and Myanmar made gains in relation to their maritime boundary claims.¹⁶ One of the legal-scientific arguments in favour of Bangladesh centred on its concave coastline, which would extend its delimitation claims in the exclusive economic zone and continental shelf. The MNC is already seeking to take control of six more deep-sea gas blocks along that border. We might see the alliance between civil disobedience and a recalcitrant Indian ocean deepen.

CONCLUSION

In the most densely populated delta in the world it is not possible to differentiate between land and river, human populations, sedimentation, gas, grains and forests, politics and markets. Human habitations are superimposed on an even more dense river system, which is a constantly shifting, soggy planet. Sequenced with this pulsating beat are flows of capital and technology, both of which are problematized within a development paradigm. Here the call for climate justice can be articulated in the idea that technology transfers from the West to the East, such as dead ships made of iron or the petro-capitalist technical practice of extraction, are not equitable with the flow of legal accountability for

15. UN News Centre, 'Open-pit Coalmine Project in Bangladesh Threatens Human Rights', 28 February 2012, online at: <http://www.un.org/apps/news/story.asp?NewsID=41398#.UKfXWYthWBA>, accessed 23 April 2012

16. Sharif Bhuiyan, 'ITLOS Judgment: An Analysis', *Daily Star*, Tuesday 17 April 2012, online at: <http://www.thedailystar.net/newDesign/news-details.php?nid=230381>, accessed 23 April 2012

their human–nature costs.¹⁷ This articulation has found the strongest voice in activist practices all over the global south, and in the work of groups such as the Bangladesh Environmental Lawyers Association and the National Committee to Protect Oil, Gas, Mineral Resources, Power and Ports. In this article I have tried to bring some of the social activism, science, law and cultural production into dialogue with the contested earth-objects in the context of Bangladesh.

In November 2007, the number of deaths of up to 10,000 from cyclone Sidr was considered a success in humanitarian terms, thanks to a supporting global network of weather satellites, local early warning systems and volunteers, supercomputers and cyclone shelters. Yet Professor Anu Muhammad points out that the government and international development should give more credit to the Sundarbans, the largest mangrove forest on the planet, which stood directly in the storm's path and absorbed much of the cyclone's intensity.¹⁸ The forest transforms as it recovers, while demographics rise and fall to an infradian rhythm as, through immense struggle, human activity resumes at a virulent rate in the disaster zones.

Here I want to draw a parallel with W G Sebald's retelling of the phenomenal rate at which both vegetation and social life renewed in German cities after firestorms produced by Allied bombings during the Second World War. Sebald asks:

If the Morgenthau Plan [*to pastoralize Germany through de-industrialization*] had ever been implemented, how long would it have taken for woodland to cover the mountains of ruins all over the country? Instead, and with remarkable speed, social life, that other natural phenomenon, revived.¹⁹

This dual propensity for revival in nature-culture indexes a mechanics of resilience in the cosmos. As a task of counter-hegemonic environmental activism, the act of translation is to explicate this cosmic resilience fearlessly in material culture.

17. I am indebted to Sheila Jasanoff for this insight. See her reflections on the Bhopal Disaster, in Jasanoff, ed, *Learning from Disaster: Risk Management after Bhopal*, University of Pennsylvania, Philadelphia, Pennsylvania, 1994. The same can be said on the question of epistemology, in which Western science considers non-science, magic, and indigenous knowledge as (a) void. On this subject see Boaventura de Sousa Santos, *Another Knowledge Is Possible: Beyond Northern Epistemologies*, Verso, London, 2007 and João Arriscado Nunes, 'Rescuing Epistemology', *RCCS Annual Review 1*, September 2009.

18. Interview with Professor Anu Muhammad, Dhaka, December 2011

19. W G Sebald, *On the Natural History of Destruction*, Hamish Hamilton, London, 2003, italicized text added