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'Climate Change as a Spice': Brokering Environmental Knowledge in Bangladesh's Development Industry

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ABSTRACT

This article examines whether the use of climate change as a 'spice' in order to attract donor funding may instead exacerbate existing environmental problems. The World Bank's latest adaptation project in coastal Bangladesh aims to create higher and wider embankments against rising sea levels. This disregards a long history of how embankments, by stopping beneficial monsoon inundations, result in dying rivers and damaging floods that devastate rural livelihoods. Bangladeshi 'development brokers' must therefore balance their roles as project employees supporting embankments as adaptation, and as locals knowledgeable about their harmful effects. The article shows how donors, NGOs, consultants and government bodies with different agendas, priorities and knowledge backgrounds 'translate' climate change to legitimise their activities. It contributes to debates about the politics of environmental knowledge production by arguing that development brokerage helps explain why some climate adaptation projects increase environmental vulnerability, while others address local needs.

KEYWORDS Development; Bangladesh; climate change; embankments; knowledge production

Introduction

On 'World River's Day' in 2014, I accompanied my friend Sanvi[1] to a workshop organised by a grassroots environmental movement (GEMOB) in southwest coastal Bangladesh. We arrived on foot to the basement parking area of a simple three-story plastered brick-building in central Khulna city. The concrete space was filled with several rows of plastic chairs facing a table with a large poster with the words 'Save our Rivers' in Bangla hanging above it. The main panellists, all Bangladeshi, sat at the table – a woman activist at a rights-based NGO, a lawyer at an environmental NGO and a professor from the local university. There was no fan, no air-conditioning. The conditions were like

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in so many places in Bangladesh. It was a 'development' meeting conducted entirely in Bangla with no presence of English-speaking 'international experts' or donors – making it fundamentally different from the air-conditioned, mosquito-proofed bubble of Dhaka's development industry of which I had formerly actively participated in 2011–12 as an international research consultant working on water governance in coastal Bangladesh.

The meeting was fully autonomous from development-project related funding as GEMOB does not depend on, nor seeks to attract, donor funding. Thus, rather than an official performance of narratives emphasising how project activities are needed and successful so as to legitimise them to donors and relevant stakeholders (Mosse 2005; Green 2003; Heaton Shrestha 2006), the GEMOB participants each voiced their personal views on pressing environmental problems in the coastal region – and how the developing industry is in many ways exacerbating the problems. One of the participants, Mr Shahid, stated the following:

> *Climate change shobche darun masala* [climate change is the most amazing spice], add climate change, poverty alleviation and gender and you will have a recipe for success for your development project [funding application]. But will this 'recipe' help save the river?[2]

Mr Shahid's critique of how the funding preference for climate change may not necessarily help 'save the river' struck a chord with me. Back in 2012, I wanted to pursue a PhD that would help shed light on how to deal with destructive siltation of Bangladesh's rivers and canals. A senior researcher in Dhaka gave me the following advice: 'There is a lot of money going into climate change research. Whatever you want to do for your PhD, add climate change to the title and you'll increase your chances of getting funding'. Like Shahid, I used climate change as a *masala* and obtained several funding offers. However, I felt that my own strategic use of climate change to attract donor funding deflected attention away from the very environmental problems I sought to investigate.

Climate change as a *masala* illustrates the importance of climate change as a 'password for funding', a new development buzzword that like its predecessors can easily be co-opted and reconfigured, in ways that empty its original meaning (Cornwall & Brock 2005; Cornwall & Eade 2010). In this case, the extent to which development interventions can address pressing and long-standing environmental issues, such as that of siltation in the Bengal delta. Development actors themselves, myself included, participate and reproduce such narratives when using climate change as a 'spice' for a variety of different purposes, complicating my pre-fieldwork notion that there is a dominant hegemonic climate discourse exerting agency and power 'rendering' other issues 'invisible'.

Furthermore, climate change is significantly different from previous development buzzwords, such as poverty reduction and gender empowerment geared to improve an already poor situation. Anthropogenic global warming is one of the key challenges of our time and development funds are seeking to adapt or mitigate against this increasing crisis. Bangladesh deals with an extremely complex environment, and climatic change will make its existing problems of droughts, floods, erosion and severe cyclones substantially worse (Hanlon *et al.* 2016). Thus, development aid-funded climate

adaptation interventions in Bangladesh must address the challenges brought on by global warming, including the health of rivers upon which Bangladesh and its people depend. In the *Annual Review of Anthropology*, Crate (2011: 185) suggests that anthropologists ought to replace 'environmental ethnography' with 'climate ethnography' to denote the urgency of localised experiences of weakened livelihood capacities and advocate climate justice at global policy levels.

However, 'climate ethnography' assumes that climate change causes all the problems local people are experiencing and risks being a form of 'climate reductionism', i.e. the increasing tendency to attribute all changes in environment and society to climate (Hulme 2011). Drawing on theoretical approaches to brokerage (Mosse & Lewis 2006; Bierschenk *et al.* 2000) and metacodes (Rottenburg 2009) in the anthropology of development, the article pays special attention to the politicised production of knowledge regarding climate change (Barnes *et al.* 2013). It contributes to the anthropology of climate change by proposing the concept of 'climate reductive translations'. By translation, I do not mean translating climate change from one language to another (Cameron *et al.* 2015), but translation as the processes by which development brokers produce coherence [make projects real] by generating and translating interests, mutually enrolling supporters and stabilising interpretations and representations so as to match causal events to the prevailing project logic (policy theory) (Mosse and Lewis 2006: 13; Mosse 2005: 9).[3] The policy theory in Bangladeshi climate change projects tend to be climate reductive: the country will drown due to rising sea levels caused by global warming. Climate reductive translations thus help conceptualise how different climate projects produce coherence, i.e. create causal narratives linking development interventions to the policy theory of climate change.

The article builds on participation in various events in Bangladesh's development industry from 2010–2015, on long-standing friendships, as well as on forty interviews with Bangladeshi development professionals in Khulna and Dhaka, and on doctoral fieldwork in 2014–15 in an embanked floodplain in 'Nodi', (pseudonym, transl. river) a place in the southwest coastal zone of Bangladesh. It argues that climate change as a metacode enables an analysis of the brokers and assemblages – their considerations and constraints – required to translate climate adaption interventions in development. First, using the case of the World Bank's latest flood-protection embankment project cast as 'climate adaptation', the paper contends that climate reductive translations alter causality to legitimise projects in ways the exacerbate existing environmental problems. Second, it proposes that Bangladeshi development brokers maintain a coherent representation of climate reductive translations through performing ignorance, strategically switching between donor-facing official scripts in English and contextual knowledge in Bangla. It highlights how development brokers, by adopting the climate change metacode, also reinforce the incontestability of donor narratives, which in the case of the World Bank results in an official neglect of siltation. Lastly, I contrast two adaptation projects to suggest that the extent to which different translations of the climate change metacode may benefit the populations they seek to assist depends on the constitution of heterogeneous actors and donors in a particular development assemblage. Power in international development cooperation may be

unequal, but – depending on the development assemblage – translations of climate adaptation do not necessarily have to be dispossessing (cf. Paprocki 2018).

Development Brokerage and Climate Change in Bangladesh

Climate change currently receives a high allocation of Bangladesh's current development spending.[4] Since there is a fixed sum of money available for aid, this means that when donors allocate their funds to a particular cause – like climate change – less aid will be allocated to other sectors (Hossain *et al.* 1987: xxii–xiii). Thus, donors' changing funding priorities means that aid-receiving actors must adapt their development activities accordingly. By critically examining the narratives of climate-funded development projects – and the causal logics that they espouse – anthropologists of development can help ensure that interventions strengthen, not worsen, a country's capacity to deal with climatic change.

This is particularly pertinent when it comes to Bangladesh. It has long been 'acted upon' by outside development agencies (Wood 1994), resulting in a crisis of external dependence from even before its inception in 1971 (Sobhan 1982). Donors are now recasting Bangladesh with its low-lying floodplains as an 'epicentre of climate change', making it into 'a laboratory for so-called resilient development' for the rest of the Global South to follow (Cons 2018: 272). Existing enquiries into this development-climate change nexus in Bangladesh have focused on English-speaking Western development professionals portraying Bangladesh as a Foucauldian 'heterodystopia' (Cons 2018), and on donor-facing events in Dhaka to suggest that climate change funding in Bangladesh has resulted in an 'adaptation regime' that governs both people and landscapes in ways that results in agrarian dispossession and outmigration (Paprocki 2018). This article contributes to these debates on climate change and development through its examination of brokerage undertaken by local Bangladeshi development professionals in climate-funded projects. With this focus on actors and their agency – though structurally constrained by the funding paradigms of development donors (Long 2001) – it 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), where climate change constitutes anti-politics (Paprocki 2016) or an adaptation regime (Paprocki 2018).

This approach builds on the ethnography of aid where development is 'not a coherent set of practices but a set of practices that produces coherence' (Yarrow 2011: 6). It nuances conceptualisations where development discourse is cast as internalised by development actors in ways that control and shape their thoughts and actions (cf. Ferguson 1990: 18; Escobar 1995: 52). I suggest that Bangladeshi development professionals can be theorised as development brokers. [5] While some anthropologists have suggested that brokers are assemblers (Koster & van Leynseele 2018), it is unclear what they assemble (Jensen 2018: 889). I draw on literature conceptualising brokers as social actors that actively build social, political, and economic roles rather than simply following normative scripts (Bierschenk *et al.* 2000; Mosse & Lewis 2006). Building on Deleuze and Guattari (1987, 69), I suggest that these Bangladeshi

development brokers partake in development assemblages constituting of multiple, heterogeneous development actors (donors, NGOs, state units, consultants) that come together to create a common development project. It is in the particular characteristics of each development assemblage that a broker may translate the *metacode* of climate change in distinctively different ways. Rottenburg (2009) defines metacode as a code that strips out context so that it appears neutral and universal. This enables transnational negotiations and cooperation between heterogeneous development actors, with differing and sometimes conflicting agendas. Building on Rottenburg's description of how the metacode acts as an official script for players in the technical game of development, I argue that the official script of particular development projects is something that is actively worked on, brokered, to help maintain a project's representation of coherence. That is, the translation of project activities is the result of the implementation of the official script. I suggest that distinct development assemblages work together to create and sustain a common causal logic (i.e. the official script) that legitimises their project activities, and by doing so, particular translations may conceal contexts (historical, environmental, political) that could jeopardise the coherence of the intervention.

Climate Reductionism: Embankments as Adaptation Infrastructure

During the GEMOB meeting, an NGO-acquaintance of mine, whom I will call Amir, spoke about the Coastal Embankment Project that constructed 4000 km of 'flood-protection' embankments in the 1960s. Amir stated:

> Every year, embankments prevent more than a billion tonne of silt in the rivers from depositing on the land. The silt instead deposits outside the embankments and raises the riverbeds. Not only does this reduce the fertility of agricultural land as it is deprived of fertile silt; during the monsoon, the raised riverbeds prevents the rainwater inside the embankment from draining out the river outside [due to the inability of water to flow uphill]. The trapping of heavy rains increases the risks of *jalabaddho* floods [waterlogging/drainage congestion] harmful to crops, as well as tidal surges due to the raised river beds. Since the creation of embankments, the rivers' sediment has nowhere to go and our rivers and canals are silting up - they're dying. Embankments are causing riverbed rise and waterlogging; these issues have no link to sea level rise. Even Bangladesh's most famous 'water specialist' never mentions sedimentation because of pressure from international donors. We [in Khulna] are not able to do anything. We may continue this movement for the environment, but we are all voiceless against those [who hold the real power] in Dhaka.

The CEP was funded by USAID, the World Bank and the UN with the aid of Dutch consultants, and similar embankments were proposed in the 1990s in the Flood Action Plan, and now as climate adaptation. In his speech, Amir eloquently captures key concern arising from my fieldwork and research since 2011 – from applied researchers, government officials and Khulna activists, to many rural people inside the embanked floodplains – that embankments by preventing beneficial *borsha* [monsoon] floods silt up key rivers and increase damaging *jalabaddho* floods.[6] He also points to the perceived hegemonic status of donors in 'dictating' development in Bangladesh via the power-wielders in Dhaka, whom he had accused of not

understanding the local environment as they continued to promote the construction of embankments while ignoring the devastating siltation they cause.

* * *

A few weeks after the grassroots environmental meeting in Khulna, I returned to Dhaka to attend my former research project's closing conference and to present the findings from our published papers. My former research project covered this trip, the airfare and several nights at a cosmopolitan conference hotel in upscale Dhaka. The morning after my arrival, a rented air-conditioned microbus transported my recently-arrived international colleagues and I from the hotel through the congested roads of Dhaka to the venue – a majestic tall and red brick-building characteristic of the Government of Bangladesh offices. The headquarters of all of Bangladesh's government ministries and their agencies are located in Dhaka along with all the main offices of donor embassies and private consulting firms. The great domed air-conditioned meeting hall was filled with hundreds of people from Dhaka's development industry and foreign 'experts' who had flown in from all over the world. The lavish lifestyle and surplus of Dhaka's development industry felt bizarre compared to the humble simplicity of an isolated embanked polder like Nodi where there were hardly any brick houses, let alone electricity or indoor plumbing.

The conference targeted international donors to showcase both old and new projects, all the conference speeches were thus in English, the donor language (See also Paprocki 2018). The performative aspects of development brokerage in maintaining such narratives of legitimacy and coherence was illustrated by the Minister of Water Resources – who opened the conference. Like the participants of the Khulna environmental meeting, he started off talking about how the flood-protection embankments built in the 1960s under the Coastal Embankment Project resulted in damaging siltation. He, like Amir, brought attention to how these embankments obstruct more than 1.5 billion tonne of sediment in the delta each year from depositing on the delta, causing many of Bangladesh's rivers, tributaries and canals to silt up.[7] The top tier of the Ministry of Water in Bangladesh clearly recognised the consequences of embanking four thousand kilometres of the coastal zone and how it resulted in a widespread problem of siltation of the rivers, which necessitates substantial maintenance to support agrarian livelihoods. Contrary to their Khulna colleagues' beliefs, these policymakers in Dhaka do understand the environmental problems of the coastal zone.

Nevertheless, the Minister later deflected from the role of polders causing siltation in his speech and instead stressed that the sediment in the delta requires regular excavation of canals and rivers: 'The fault is not with the polders [embankments], but with us. We should have excavated the rivers and canals, which we did not do. The problem is that we lack funding'. This is problematic since the CEP's extensive embanking of 136 floodplains of coastal Bangladesh was, is, unsuitable to the local conditions of the Bangladesh delta with its eroding rivers, heavy monsoon rains and complex relations between siltation and flooding. Indeed, this unsuitability is the result of modelling the embankments after Dutch dykes ('polders') – where the historical counterparts of the World Bank, USAID and the Netherlands implemented the project according to the technical blueprints designed by international consultants. This

foreign solution did not 'translate' well into a heavily-sedimented, tropical monsoon delta and has resulted in longstanding – and difficult to overcome – problems of siltation and waterlogging.

The existence of polders themselves now restrict the types of solutions available[8] limiting short-term options to extensive *and regular* maintenance, requiring large sums of money to repair (and relocate) continuously eroding embankments, excavate canals and dredge rivers. Despite that such maintenance arose in the first place to address negative ecological effects of donor-funded infrastructure, donors like the World Bank refuse to fund periodic maintenance – seeing it as the responsibility of the Government of Bangladesh through the Ministry of Water Resources (Dewan *et al*. 2015). By doing so, the World Bank avoids responsibility for the negative effects of projects they themselves supported.

The World Bank has also consistently eroded the capacity of the state to do maintenance. The CEP was implemented by the East Pakistan Water and Power Development Board (E-WAPDA), now called the Bangladesh Water Development Board (BWDB), a government agency under the Ministry of Water Resources responsible for surface water and groundwater management. Until the 1990s, BWDB had an extensive field presence (Dewan *et al*. 2015). With donor-prompted structural adjustment policies, the was substantially downsized as per the recommendations of the World Bank (MoWR 2005). This exacerbated the state's inability to meet the regular maintenance demand of the silting and eroding delta. They lack both staff and a regular budget for maintenance – funds are inadequate. The Ministry of Water Resources is therefore highly dependent on donor projects in order to excavate canals and repair embankments (Dewan et al. 2014).

In light of this, it is perhaps not odd that the Minister – after having spoken about embankments causing the problems of siltation and stressing how this necessitates regular excavation of canals and rivers in the delta – concluded the speech by casting these very same embankments as a form of climate adaptation:

> Polders are necessary, especially in the light of climate change. We must thoroughly redesign our polders; we need to address the threat of rising sea levels. The southwest coastal zone is the most backward region of this country because of salinity, tidal surges, cyclones and sea level rise. I don't believe climate change will destroy Bangladesh. We can fight our way. Bangladesh will survive and it will survive very well.

Not only does this remark illustrates that not all adaptation projects capitalise on 'anticipatory ruination' of Bangladesh sinking (Paprocki 2019), it also highlights how climate change can be used as a spice even here. In this case, like many official speeches I had observed in Bangladesh's development industry for several years: it reiterated the project rationale and project goals in the conclusion (polders as climate adaptation), irrespective of the preceding content (polders cause siltation). This highlights the importance of seeing development as a practice that requires joint-coherence making and re-arranging causal events to legitimise the success of projects (Mosse 2005): in this case to introduce the World Bank's newest technical intervention, the Coastal

Embankment Improvement Project (CEIP) that translates existing 'flood-protection' embankments as 'climate change adaptation'.

Yet not all stakeholders were concerned with maintaining this translation, and as Mosse and Lewis (2006) suggest, a joint interpretation must be successful in enrolling supporters. The following speaker, the Minister's colleague at a policy department tasked to coordinate all water issues in Bangladesh, Dr Samir, spoke about the problem of heavy siltation outside the embankments causing permanent drainage congestion (water logging, a damaging form of flood called *jalabaddho*) and silting up rivers and canals who argued that: 'We are currently not allowing sedimentation inside the polder, we need to correct this error'. In contrast to the Minister, Dr Samir, whom I later interviewed, did not attempt to make any link to climate change, his organisation is rarely involved in donor-funded or capital-intensive infrastructure projects, like that of embankments.

These remarks about siltation, however, were notably ignored by the next speaker, part of the World Bank's CEIP that is implemented by BWDB. In his speech, this Bangladeshi water professional did not mention siltation caused by embankments or riverbank erosion regularly damaging embankments. Instead he focused on the link between the rationale of climate change and his own project: 'Due to this region's vulnerability, the World Bank is spending 400 million USD loans to improve the coastal embankments'.

The CEIP casts higher and wider embankments as a technical solution to Bangladesh's 'vulnerability' to climate change. It proposes that existing embankments are ill-equipped to help Bangladesh adapt against climatic change and the project would therefore 'improve the coastal embankments to increase climate resilience towards natural disasters and rising sea levels' (World Bank 2012). Such a translation of the metacode of climate change connects and legitimises embankments as a way to deal with rising sea levels. However – since this translation also casts floods as *caused solely* by rising sea levels – it is also a form of 'climate reductionism', i.e. the increasing trend to ascribe all change in environment and society to climate change (Hulme 2011: 255–56) – and in this article I will briefly outline the key reasons for why embanking whole floodplains actually exacerbates risks of flooding.

Climate reductionism is important to bring attention to due to the actual climatic changes that Bangladesh risks facing. The Bengal region is subject to tropical cyclones and extreme weather events like cyclones will intensify and increase in frequency with climatic change. Since deforestation of the Sundarbans mangroves has resulted in more people living in closer proximity to the Bay of Bengal, with less forest cover as protection, this means more people are also at risk.[9] Changing monsoon patterns will be unpredictable ranging from irregular rains, too much precipitation during the monsoon and/or longer dry seasons enhancing already existing seasonal saline tidal incursions. 'Flood-protection' embankments exacerbate all of these problems.

I conducted most of my doctoral fieldwork in Nodi. It was surrounded by water: by the tributary rivers of the Ganges from the north and by a tidal brackish river from the south (originating from the Bay of Bengal). Along Nodi's edges ran a large CEP embankment built in the 1960s. As both Amir and the Minister of Water Resources

mentioned: these permanent embankments obstruct annual monsoon floods of sediment-laden river water mixed with freshwater rains, instead all the sediment is deposited on the riverbed outside the embankment.

Figure 1 shows a part of Nodi's embankment, its flat surface acts as a road. The embankment demarcates the floodplain on the inside, instead of sediment raising the interior farmland as was previously the case, embankment caused the silt to deposit on the riverbed and banks outside. This elevation difference prevented large quantities of monsoon rainwater to drain from the fields out into the river and can cause a damaging type of flood called *jalabaddho* (drainage congestion or waterlogging), creating flooded landscapes like in those images so commonly circulating of a drowning Bangladesh, a victim of rising sea levels. By the 1980s and 1990s *jalabaddho* floods caused more than one hundred thousand hectares to be permanently flooded and took a much more dangerous turn than monsoon *borsha* floods (Iqbal 2010), inhibiting cultivation, damaging crops and preventing crop rotation (Adnan 1994). From previously beneficial monsoon floods, embankments have contributed to damaging *jalabaddho* floods that increases the risk of *bonna* floods, caused by cyclones and tidal surges. Floods in Bangladesh are therefore more complicated than simply that the country will drown due to rising sea levels. A recent, independent research study carried out at the University of Vanderbilt found that areas in southwest Bangladesh enclosed by the CEP embankments have lost 1.0–1.5 m of elevation, while the neighbouring unembanked Sundarbans mangrove are gaining elevation due to sedimentation. They conclude that riverbed sedimentation in Bangladesh caused by the embankments poses a greater threat of coastal flooding than predicted sea level rise in the future (Auerbach et al. 2015). Nevertheless, the CEIP's project documents do not mention siltation, or the connection between flood protection and the silting up of important water bodies. The World Bank and MoWR translation of these embankments as climate adaptation infrastructure is therefore extremely problematic since they by worsening existing types of floods, will only exacerbate further climate risks.

Figure 1. The Embankment of Nodi, raised riverbed to the right, embanked floodplain to the left. Source: Author, November 2012.

In addition, to finance embankments as climate adaptation infrastructure is short-sighted since rivers erode and damage embankments so that they must constantly be repaired or moved further inland. The Bengal delta is a hydrologically active region that is constantly subject to riverbank erosion as the main rivers meander eastwards – as they have for millennia – eroding land and now embankments (Brammer 2012). Archival records indicate that land has long been lost, but also created, through riverbank erosion and sediment accretion, which is also now evident through NASA satellite imaging (Dhaka Tribune 2018). People of Nodi depend on the embankment for travel, some even living beside it next to the river, and they worried how it was crumbling apart due to riverbank erosion as the rivers meandered.

Arguably then, climate change is distinct from development buzzwords such as poverty reduction and gender empowerment. While ineffective development interventions might not necessarily always had the intended results (Ferguson 1990; Mosse 2005), the stakes were low since the interventions aimed to alleviate already poor situations. With the monsters of anthropogenic environmental destruction (Tsing *et al.* 2017) and increased environmental uncertainty, the stakes of ineffective development interventions earmarked as climate funding is far higher. For example, the CEIP project does not engage with how the solution that it is proposing has historically reduced the water retention capacity of Bangladesh's water bodies through siltation, causing worse *jalabaddho* floods through riverbed rise, while creating a false sense of security as riverbank erosion eats away at embankments every year. Climate reductive translations of the climate change metacode that increase environmental vulnerability such as of embankments in the CEIP and the Bangladesh Delta Plan 2100, as well as brackish tiger-prawn cultivation and intensive high-yielding agriculture 'adaptation' misread the coastal landscape in the causal logic promoted through their official script (Dewan inpress b). Funding earmarked towards addressing climatic change must include actual environmental conditions in their official script so as to remediate, rather than exacerbate, climatic risk.

Brokering Knowledge, Switching Scripts

The World Bank's translation of flood-protection embankments as 'climate adaptation' infrastructure illustrates how development actors can use the metacode of climate change to continue to their longstanding development agenda, similar to tiger prawn actors' use of rising sea levels to expand their activities (Paprocki 2018). The World Bank was one of the key actors behind the 1960s Coastal Embankment Project, the 1990s Flood Action Plan (stopped by civil society) and one of the actors behind the Bangladesh Delta Plan – supported by the Netherlands and Dutch consultants (involved in the 1960s and 1990s 'polders'). Despite over 150 years of knowledge of the extensive problems of *jalabaddho* floods and siltation caused by early colonial 'watertight' embankments as well as the 1960s flood-protection embankments as they simplify the complexities of flood in the delta (Dewan inpress a), this very same infrastructure is cast by the same actors as 'climate adaptation' infrastructure.

The World Bank is a very particular actor preferring the transfer of technical knowledge and resources: both the CEIP and Delta Plan 2100 make use of capital-intensive modelling and studies, and infrastructure investments. Conversations with colleagues representing both the British donor DFID and Norwegian NORAD highlighted their own role in opposing the 1990s Flood Action Plan and the 'Flood of Consultants' who sought to profit from more technical solutions such as embankments.[10] Goldman (2005: i) points out that a World Bank consultant earns more than thirty times that of an equally qualified economist, making it much harder to say 'no' to the World Bank (Goldman 2005). Rather than development brokers being 'corrupt' or 'greedy', participating in World Bank projects can be seen as making bad circumstances less bad (Long 2001).

Mr. Balam is a research consultant at a private research organisation specialising in GIS modelling in Dhaka. His organisation has conducted research on water problems in the coastal regions for several decades and in our conversation he described how embankments are responsible for silting up Bengal's rivers, while attempts to resolve siltation have failed due to being nearly impossible to implement.[11] He then mentioned his firm's decision to participate in another study on embankments (worth more than USD 152 million). By participating in the technical game and reproducing project narratives they could earn considerably more than if they openly criticised it based on their existing knowledge. He ended our conversation with the following words: 'There is no real democracy in Bangladesh. It is limited, an imported model from the UK. The right to speak exists formally in Bangladesh, but people are afraid to speak'.

As an organisation, the World Bank is dominated by economists and economic paradigms that provide the ontological backdrop for framing goals, definitions and measurement of development 'success' and 'progress' (Broad 2006; St. Clair 2006; Mosse 2011b). Its research department plays a central role in 'policing' certain paradigms through incentives in hiring, promotion and publishing, as well as selective enforcement of rules, discouragement of dissonant views and manipulation of data (Broad 2007) with career incentives, or 'golden handcuffs[12]' towards 'right thinking' (Mosse 2011a: 88). The World Bank-funded study *Climate Change Risks and Food Security in Bangladesh* by Yu et al (2010) is an illustrative example of paradigm-maintenance, particularly that of avoiding the issue of siltation. The report is thorough and explicitly states that the competing processes related to sedimentation and accretion are 'largely unknown'. The complex matters of siltation, active river morphology and transboundary water sharing are omitted from an otherwise sophisticated analysis owing to 'resource limitations' or are relegated to topics of 'future research'. Despite this, the report uses the narrative of rising sea levels as a climate risk to recommend 'protective' embankments (Yu et al. 2010: 105).

By not engaging with problems of siltation and how this is exacerbated by embankments, World Bank researchers/consultants avoid entering an area that is at risk of becoming politicised. Maintenance of silted water bodies is entangled with local and national political projects that require long-term solutions and substantial regular funding, thereby exceeding a project's short-term life span. Development-funded translations of the metacode of climate change must work to make the project appear

coherent. This report does so by excluding information that is beyond the remit of the donor and the planned activities (siltation), to produce coherence and stabilise representations to match events to the prevailing policy theory (Mosse 2005), in this case the relationship between climate change and flooding, that the World Bank-funded development assemblage can solve. This 'anti-politics' is not a machine, but sustained by the practices of development brokers, with less power than donors.

Climate change as a metacode acts as an official script, a public transcript (Mosse 2005; Scott 1998), that strips out context to appear neutral and universal in different ways depending on the specific assemblage of development actors. In the case of World Bank-funded embankment projects, the avoidance of context is integral to paradigm-maintenance as it maintains official ignorance disguising contentious issues beyond the project's mandate (such as long-term maintenance of siltation). In this sense, the public transcript of World Bank project endorse embankment projects, while long-term solutions to address siltation – exceeding a project's short-term life and embedded in both local and national politics – may end up in the hidden transcript (Scott 1998; Mosse 2005) as part of the need to ignore context. As the Minister of Water Resources pointed out, the current embankment system requires maintenance and canal excavation, supporting this official script can thus also, from the perspective of Bangladeshi implementing agencies, help provide funding for activities otherwise underfunded. But by repeating the World Bank's translation of the climate change metacode, they are also contributing the incontestability of it – thereby keeping out siltation from the official agenda.

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Considering the consequences of transgressing boundaries of public versus hidden transcripts, how do then Bangladeshi development professionals reconcile their own knowledge of the environmental problems with donors' pre-conceived ideas of climate change that simplify the complexity of the delta? I wanted to understand how development brokers connected to the new World Bank embankment project legitimised it and their participation in them. I met Mr Kazi, connected to the CEIP project –in the project's air-conditioned office in an affluent part of Dhaka. This was our first meeting and I introduced myself as a PhD student from a Western university. He pitched the project to me in in English – as if I were a donor – and stressed that embankments can protect against rising sea levels. Considering the frank conversations I had ended up having with colleagues once I felt comfortable speaking Bangla, I asked, this time in Bangla, whether the project is a way of obtaining maintenance funds for the silting delta to excavate canals and repair eroding parts of the embankment. Mr Kazi switched the conversation back to English:

> The current polder system is fully functioning and is in no need of maintenance. However, if we consider climate change: sea levels will rise, cyclones will increase and floods will turn into permanent waterlogging with increased and erratic rainfall.

His reply attributed floods solely to sea level rise and he did not address how embankments, particularly in the southwest, worsen Bangladesh's ability to withstand climatic change by exacerbating siltation and riverbed rise resulting in reduced rainwater

retention capacity of water bodies coupled with damaging *jalabaddho* floods. I therefore I asked him, again in Bangla, whether there are other problems with embankments beyond global warming. This time he spoke back in Bangla and provided an in-depth, historical account of the negative ecological effects of embankments. I questioned the benefits of the project in light of this, and Mr Kazi reverted back to English: 'The World Bank is funding this project to improve coastal embankments. They are funding this project due to climate change, this is a climate change adaptation project'. This explanation offered by Mr Kazi reiterated and emphasised the coherence and legitimacy of this internationally-funded project and its links to global warming, conforming to the paradigm-maintenance characteristic of the World Bank (Broad 2007).

Mr Kazi's code-switching arguably demonstrates the high degree of agency and strategic manoeuvring done by Bangladeshi development professionals to maintain official narratives that can attract funding and make the project appear coherent, and thereby successful, by compartmentalising knowledge to maintain the organisational need for ignorance about what is going on locally (van Ufford 1993). The thoughts and actions of Bangladeshi development actors are thus not automatically shaped by an external discourse that they have internalised (cf. Nijbroek 2012). Competing environmental knowledge contained within the same person, illustrates that epistemic politics of differing knowledges are not necessarily divided between different groups of 'experts' (Vaughn 2017), vs 'scientific' vs 'indigenous knowledge' (West 2005), 'early adapters' vs. 'local activists' (Paprocki 2016) or even different segments of the population (coastal community, project employee, government official). Rather, such a strategy to broker environmental knowledge in a way that helps perform ignorance of local context, of separating public transcripts from hidden transcripts, is particularly useful for ensuring the continued 'coherence' of a project linked to one's professional survival.

In Bangladesh's development industry, English is the main language of donor-facing communication and 'development performances', while hidden transcripts are more safely spoken (and written) about in Bangla.[13] I discussed, riverbank erosion and sedimentation with Mr Manzur, once holding a leading position at BWDB. I asked why new and higher embankments are being built when all parties involved know it is ineffective and does not resolve the siltation of canals, he replied:

> *Rajar kono dosh nei* [the king is never at fault]. The donors are the ones with money, thus they are above criticism. A few years ago, I published an article in an English-language newspaper publicly criticising the World Bank. I asked why the World Bank will not bear the yearly maintenance costs of the Jamuna [Brahmaputra River] as the embankment is damaged in several places and it was part of their project. I was promptly blacklisted; this was over a decade ago.

To officially criticise capital-intensive infrastructure projects like the current World Bank embankment project comes at significant career costs. Manzur mentioned the two contentious elements of siltation and maintenance and wrote his critique in English in one of the main newspapers in Bangladesh, read internationally. By doing so, he transgressed the public transcript of the donor. He lost his job and was not able to find equivalent positions, others feared that association with the blacklisted

reduced their own chances of participating in similar projects. From this perspective, when a particular assemblage of development actors polices knowledge, code-switching like that of Mr Kazi becomes a practice to broker different knowledges, to keep up paradigm-maintenance, by switching between transcripts.

Several Bangladeshi development professionals, consultants and researchers stated that there was no point in discussing how another embankment project might be futile or make things worse. Most of them stressed that mentioning local realities that jeopardise state politics and/or project legitimacy could result in their work would be dismissed and discarded, or that they themselves may become 'blacklisted'. The development industry is an important employer for middle-class and educated Bangladeshis and for aspiring rural youth. To maintain their professional careers, to enable the survival of their organisations and the pay checks for their staff, to support their families, Bangladeshi development brokers adhere to the official transcripts of the project or institution paying them, while (to the extent they can) conduct meaningful work of local importance.

Translating Climate Change Adaptation in Nodi

The World Bank's CEIP project actively avoided the issue of siltation and erosion in the Bengal delta but by no means am I claiming that climate change projects in Nodi were part of an all-powerful development discourse that sought to render siltation invisible. Rather, power is dispersed and reinforced through the strategic tactics of development actors, that in the case of the CEIP contribute to the incontestability of western models (See Rottenburg 2009). Yet not all development assemblages are the same. By looking at climate adaptation projects that were more aligned to local interests, particularly of Nodi's poorer constituents, than others, this section highlight the importance of analysing particular development assemblages (especially donors – their different institutional agendas and interests) and how this creates widely different translations of development projects that are bottom-up and locally relevant.

While conducting fieldwork in Nodi, I met a young NGO fieldworker who was conducting a household survey for a climate-related water and sanitation project. She organised a meeting for me to meet her senior colleague Badrul the following day at their NGO's simple two-storey building of brick and cement in Shobuj town. Despite having explained that I was a PhD student unaffiliated with any development project, Badrul pitched the project in English as if I were a prospective donor. He emphasised how the internationally-funded project aims to improve the situation of livelihoods in 'climatic vulnerable areas' through safe drinking water and latrines. I asked him in Bangla why they had 'climate' in their project title and how it is linked to water and sanitation, he replied back in Bangla:

> To be honest with you, there's no real link between climate change and WaSH [water and sanitation] but we need to put 'Climate Change' on everything. You see, the total amount of global development funding has not increased, but climate change is getting more funds diverted to it. For us to continue with the work that still needs to be done, we need to change our *masala*.

> Hygiene has been an important part of the international development agenda for a long time, but to continue with it, we need to twist the way we 'sell it'.

Like Mr Shahid observed, Badrul used climate change as a *masala*. For NGOs to survive, they must adapt to donors changing funding priorities – highlighting how players in the technical game cater to actors adopting their metacodes (Rottenburg 2009). Scarcity of safe, accessible and drinkable water was a widespread and pressing problem in Nodi, which suffered from high levels of arsenic, salinity and iron in its groundwater. Translating water and sanitation into being climate-relevant thus helps acquire funding for problems that this particular NGO is equipped to solve. In this instance, the institutional assemblage's agenda matched the needs and preferences of the people it is seeking to help: of the more than four hundred household surveys I carried out, most people in Nodi worried about the lack of safe drinking water as many ponds were silting up, and tube wells were going dry/or found to contain arsenic.

My interlocutors in Nodi consisted of female and male landless agricultural daylabourers and farmers. They viewed the canals as public goods for irrigation and for catching wild fish and most expressed concern over the many *mora khal* [dead canals] where there had once been deep waterbodies connecting the river to the fields. For example, Nitesh spoke about how once Nodi was divided in two parts separated by the once great Bhadra River where steamboats could pass, but which is now a mere silted canal:

> The Bhadra River is now the Dead Bhadra [*Mora Bhadra*]. Siltation caused the canals to die. Riverbank erosion damages the embankment and might wash away our homes any time. We can no longer catch fish from the canals or irrigate our crops.

Several of my interlocutors emphasised that if these public canals were excavated every five years (even excavated canals silt up over time) people could grow more crops locally while retaining more water from the monsoon onto the water-scarce dry season. This was in response to a highly praised climate change adaptation project entitled *Enhancing Resilience to Disasters and the Effects of Climate Change* funded by the World Food Programme (WFP) together with 'new donors' such as Brazil and Japan. This was a Cash and Food for Work-scheme that provided rural training and work to women and men in the coastal communities in Bangladesh. Nodi experienced the first phase of the project, when it hired around 200–300 people to excavate large canals that had silted up across the polder and thus provided income opportunities to local families, including landless day-labouring single mothers without husbands. By widening and deepening the heavily silted canals, the project envisaged a greater absorption capacity of monsoon rains – expected to increase with climatic variability – while allowing for water storage from the monsoon to the dry season thus providing a space for fishing and irrigation as a public common (Figure 2).

This labour-intensive project saw the main cost of wages deposited to the private bank accounts of locally-hired labour and through food grants distributed by NGOs. The project was designed to be bottom-up, where local government officials, community members and NGO staff in consultation were to discuss and identify which of these

Figure 2. Canal excavation in 'Nodi', May 2015 (Source: Author).

activities to implement (World Food Programme 2012). Whether climate change adaptation projects can benefit or local populations or not depends on how climate change adaptation is translated in the shaping of a particular development intervention, which itself depends on the constitutions of donors and their implementing partners in specific development assemblages.

Badrul's project used climate change adaptation funds to install wells and latrines in rural areas and was locally relevant and valuable, as was the World Food Project's interventions that both excavated canals and provided local employment opportunities. The different activities of these two projects, safe drinking water, and canal excavation as a remediation of siltation – thus complicate ideas of climate change as an adaptation regime (Paprocki 2018).

The diversity of outcomes of projects in Nodi demonstrate how the metacode of climate change is actively translated and that the final intervention will depend on the specific constellations of actors with different agendas, priorities and knowledge backgrounds that come together to create a joint and mutually-relevant translation. Thus the widely different translations of the very same metacode of climate change will depend on the composition of the particular assemblage of development actors – donors, government agencies, NGOs, consultants etc. – working together with resulting development interventions that vary greatly in their local benefit/continuation of creating longstanding environmental problems.

Conclusion

This article contributes to anthropological debates on development, environmental discourses and climate change by showing that climate change as a metacode not only attracts donor funding, but provides a space for resolving tensions of actors and agencies with different agendas. Performativity in the interstitial spaces of development allow for a degree of ambiguity and room for manoeuvring while maintaining the required official representations (Desai 2006; Heaton Shrestha 2006). Mr Shahid, Professor Hossain and Mr Kazi are players in the technical game of international development. To participate, they reproduce the official script of the project while at the same time explicitly avoiding articulating their own knowledge of local context. In contrast to scientists who do not understand local knowledge and need it to be translated to them (West 2005), they strategically deal with the constraints of global development and donor agendas by translating the metacode of climate change in ways that maintain a project's representation of coherence, i.e. that project activities are the result of the implementation of the official script, to justify project activities and conceal contradictions (Mosse 2005: 159).

Bangladeshi development brokers – researchers, engineers, activists, NGO-workers, government officials and academics – are enmeshed in various networks as professionals with decades of practical experience not only from development projects, but also as representatives of the state, as providers for their families and as Bangladeshis who have lived through the independence war of 1971 and its aftermath. The switching between official and unofficial script, one in English and the other in Bangla, is illustrative of the discursive importance of English as a donor language in a country that since its inception has been aid dependent, with external ideas and interests setting the agenda (Wood 1994). Thus, by switching language when speaking about the problems beyond the mandate of the project, and the subsequent return to the metacode to maintain the project's legitimacy, shows how the statements of Bangladeshi development professionals are always articulated in specific situations contingent on the compartmentalisation of knowledge. Like NGO workers elsewhere, Bangladeshi development brokers are not uncritical about embracing institutional and political structures that go tangent towards their beliefs (Yarrow 2011: 162), but they broker environmental knowledge and perform ignorance to subversively deal with the unequal constraints of the technical game of international development.

Drawing on long-term interactions with Bangladeshi development professionals, this paper combined approaches to brokerage in the anthropology of development with the growing field of the anthropology of climate change to show how the translation of climate change depends on specific assemblages of brokers, of multiple, heterogeneous development actors. Contrasting different adaptation projects – from labour-intensive canal excavation projects to the World Bank's translation of embankments as 'climate adaptation', I showed that when such actors with different agendas, priorities and knowledge backgrounds come together they form a distinct assemblage of socially-embedded relations that will jointly create a shared translation – linking their project activities to the metacode of climate change – that will be different from assemblages consisting of other brokers with a different set of diverse agendas. It is the composition

of brokers and donors in these assemblages, their various institutional agendas and mandates, that shape whether the final interventions are closer, or far removed from, the needs of the populations they are seeking to assist.

Climate change is one of the most pressing issues of our time, and it is pertinent to critically scrutinise the official scripts of development projects using climate change as a metacode in the technical game of development, so that those that pursue old agendas under the guise of climate adaptation/resilience do not exacerbate Bangladesh's climatic vulnerability now, or in the long-term – as embankments inevitably do.

Notes

1. All names of persons, organisations and places like 'Nodi' and Shobuj town are anonymised for privacy.
2. All quotes are translated from Bangla to English by the author if nothing else is noted.
3. This work draws on Latour's concept of translation 'as a relation that does not transport causality but induces two mediators into coexisting [with each other] … translations [exist] between mediators that may generate traceable associations' (Latour 2005: 108) and is now increasingly used also in environmental anthropology (See e.g. Di Giminiani and Haines 2020).
4. The Bangladesh Climate Change Resilience Fund, initially rejected by the Government of Bangladesh disbursed approx. USD 136 million from 2011–17 from various EU donors, and the World Bank (Global Climate Change Alliance+ 2012). The total government revenue for 2015 was approx. USD 35.2 million (BBS 2015, 239).
5. Development professionals, those working for the state, NGOs or private consulting firms, do not refer to themselves as brokers in Bangla. A broker is usually a *dallal* (for labour, migration) or *ghottok* (e.g. for marriage).
6. For a detailed history of embanking of the Sundarbans, including how state simplification combined with capital interests (revenue from agriculture, roads, railways for military and economic purposes) enabled the continuation of embankment construction despite their environmental consequences since the 1880s – see Dewan (inpress b).
7. Prior to these permanent embankments, earthen dykes would be built after rice harvest and before the dry season to stop saline tidal incursion from the Bay of Bengal. Before the monsoon, these dykes would be broken so as to enable beneficial monsoon *borsha* floods, that irrigated paddy fields while providing a fertile breeding ground for fish. With the construction of these Dutch-inspired permanent embankments, the process of borsha floods was stopped. For more details see Dewan (inpress b)
8. Bangladesh cannot simply remove embankments that act as roads. Homes are placed atop or outside of embankments. The old practice of temporary earthen embankments is gone, and a past development aid effort to remove parts of embankment to enable flooding and silt deposits – the Tidal River Management project - failed due inability to provide monetary compensation in a complex landscape of tenure and under-tenure holdings.
9. My field site is in the southwest which is protected by a belt of Sundarbans which helped against Cyclone Bulbul in November 2019. However, the southeast coastal zone with its complete lack of forest cover does require ocean-facing embankments against cyclones and tidal surges. But the CEIP homogenises the entire coastal region in its official script.
10. See also Shapan (1994; 1992), Shaw (1992) and Dewan (inpress b).
11. The Asian Development Bank funded the Tidal River Management project based on previous grassroots and local initiatives to strategically breach embankments in Jessore district. The ADB project was highly contentious as it failed to implement the necessary relocation and compensation programme to the many actors (landowners, share-croppers, tenants, those living on it) seeking compensation for their loss.

12. i.e. being held captive by high salaries, lifestyles, work permits and commitments to children's education.
13. Many foreigners who have worked and lived in Bangladesh for long periods know both Bangla, the longstanding problems of siltation and embankments and the performance of development events.

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