Multi-track water diplomacy: current and potential future cooperation over the Brahmaputra River Basin

Water International

ISSN: 0250-8060 (Print) 1941-1707 (Online) Journal homepage: https://www.tandfonline.com/loi/rwin20

Multi-track water diplomacy: current and potential future cooperation over the Brahmaputra River Basin

Yumiko Yasuda, Douglas Hill, Dipankar Aich, Patrick Huntjens & Ashok Swain

To cite this article: Yumiko Yasuda, Douglas Hill, Dipankar Aich, Patrick Huntjens & Ashok Swain (2018) Multi-track water diplomacy: current and potential future cooperation over the Brahmaputra River Basin, Water International, 43:5, 642-664, DOI: 10.1080/02508060.2018.1503446

To link to this article: https://doi.org/10.1080/02508060.2018.1503446

WATER INTERNATIONAL
2018, VOL. 43, NO. 5, 642–664
https://doi.org/10.1080/02508060.2018.1503446

Routledge
Taylor & Francis Group

RESEARCH ARTICLE

Multi-track water diplomacy: current and potential future cooperation over the Brahmaputra River Basin

Yumiko Yasuda[a,b,c*], Douglas Hill[d], Dipankar Aich[c**], Patrick Huntjens[c***] and Ashok Swain[b]

[a]International Centre for Water Cooperation (hosted by Stockholm International Water Institute), Stockholm, Sweden; [b]Department of Peace and Conflict Research, Uppsala University, Sweden; [c]Hague Institute for Global Justice, The Netherlands; [d]Department of Geography, University of Otago, New Zealand

ABSTRACT

This article analyzes key factors affecting transboundary water cooperation in the Brahmaputra River basin at multiple scales. The analysis of multi-track diplomacy reaffirms the potential of actor-inclusive approaches, arguing for a need to go beyond purely focusing on formal legal norms and consider the possibilities of cultural norms of informal processes of cooperation. Various 'windows of opportunity' exist in the current phase of the Brahmaputra basin's development, leading to exploration of a Zone of Possible Effective Cooperation, arising from the effort to scale up multi-track initiatives as well as broader geo-political-economic changes happening across and beyond the basin.

ARTICLE HISTORY
Received 12 August 2017
Accepted 17 July 2018

KEYWORDS
Brahmaputra River Basin; multi-track water diplomacy framework; transboundary water cooperation; institutions; regional economic cooperation; Zone of Possible Effective Cooperation

Introduction

The Brahmaputra[1] is one of the most significant river basins within Asia, encompassing approximately 400 million people, many of whom depend on the basin for their livelihoods (WWF, 2017), hydropower generation potential, and mega-biodiversity, with a great number of endemic flora and fauna. The river flows from the high Tibetan plateau, at an altitude of 5000 metres, descending rapidly as it enters India, where tributaries from Bhutan join the mainstream, and flowing down towards Bangladesh through diversifying terrain (Sharma, Gorsi, & Paithankar, 2016).

There are international dimensions to the management and distribution of the resources among the riparians, as four countries – China, India, Bhutan and Bangladesh – share various parts of the basin. Several unresolved issues of transboundary water management pose challenges to the institutionalization of an integrated basin management approach, including trust issues between and within the countries of the basin. The management of the Brahmaputra has long been marked by political complexity at a range of scales, including long-standing civil society activism in India over the social and environmental impacts of large-scale hydropower projects and bilateral

CONTACT Yumiko Yasuda yumikoyasuda@gmail.com
*Yumiko Yasuda is currently with the Global Water Partnership; **Dipankar Aich is currently at Oxfam, Bangladesh and GIZ, Bangladesh; ***Patrick Huntjens is currently at Inholland University of Applied Sciences and The Hague Humanitarian Cooperative for Water

disputes between India and Bangladesh over the terms of water sharing, which has generated widespread enmity in some quarters in the latter country. The emergence of China as a more significant stakeholder in the basin in recent years has added further dimensions to this complexity, not least because many stakeholders in India have felt aggrieved at the perceived threat to the latter's traditional role as the hegemonic power in the basin. Certainly, there are also cooperative mechanisms in place among the riparian nations, but these presently mostly take the form of bilateral cooperation, and even well-established mechanisms are seen by some commenters as insufficient to create a whole-of-basin approach. Civil society actors are also taking the lead in facilitating dialogue by leading some of the concrete actions of cooperation among riparian actors.

In exploring a better governance of this complex basin, it is crucial to understand the political economy context, including the relationships of various actors. In particular, understanding the key factors that affect current and potential future cooperation can shed light on how further cooperation could be driven. However, most scientific analysis surrounding the Brahmaputra River in the past has focused on its biophysical conditions.[2] And an emerging body of analysis that provides understandings for socio-political-economic perspectives of the river basin mostly provides limited geographic scope rather than a whole basin.[3] Just as significantly, most of the literature does not draw specifically on the work on multi-track diplomacy, though there are many initiatives taking place in the basin at a range of scales that fit into this conceptual approach. At the same time, much of the popular commentary in different parts of the basin is mired in polemical assertions and distrust that discursively construct the basin as a zero-sum game (Hill, 2017).

To fill this gap, this article analyzes the key factors affecting transboundary water cooperation over the Brahmaputra River, drawing on the insights of the bourgeoning literature on transboundary water governance and multi-track diplomacy. In doing so, the analysis encompasses both current and potential future cooperation over the river. Key action situations analyzed in this article include China–India bilateral cooperation as well as civil-society-driven multi-track dialogue processes such as the Brahmaputra Dialogue. In examining these different action situations, the article argues that there are different lessons to be drawn that are of wider applicability. First, current processes of potential water cooperation between India and China are problematized by the lack of transparent information flow between the parties, a situation that only increases the discursive construction in some Indian media outlets of water sharing in the Brahmaputra as a zero-sum game. However, our analysis demonstrates that an actor-inclusive approach that includes sub-national bureaucrats and civil society members can increase the legitimacy and robustness of processes. This demonstrates the need to consider the potential of Track II/III diplomacy to create the conditions by which Track I arrangements can take up proposals that might otherwise gain little traction. More broadly, evolving processes of economic cooperation can enhance the potential for building trust and workable institutions, which could then enhance cooperation on water.

In bringing these factors together, our analysis demonstrates some of the key features of the proposed Zone of Possible Effective Cooperation (ZOPEC) for the Brahmaputra, where basin-wide cooperation among all the riparian countries might occur in conjunction with economic cooperation, allowing cross-sectoral cooperation and benefit

sharing. In doing so, we demonstrate the necessity of thinking through the mutual gains of a whole-of-basin approach to developing the Brahmaputra basin.

Methodology

To analyze the key factors that affect water diplomacy over the Brahmaputra River, the research team[4] first developed a multi-track water diplomacy framework (to be discussed in the next section) as a conceptual and analytical framework for this research (Huntjens et al., 2016). Using this framework, eight cases of transboundary water cooperation action situations in the Brahmaputra Basin were analyzed, further refining the framework and subsequent analysis.[5] These were intended to capture the range of different stakeholders involved in this incredibly diverse and complex basin, as well as looking at how the sharing of water is embedded in a broader range of action situations that can both enhance and constrain water cooperation.

Our mixed-methods research involved collecting and triangulating data of three types: literature, interviews, and inputs from a stakeholder workshop.[6] Our 59 informants came from a variety of sectors, including government agencies, research organizations, media, NGOs and civil society in all four basin countries.[7] To validate the research findings and to gain further inputs to the research, a stakeholder workshop was conducted with 27 participants from different parts of the basin and beyond,[8] representing a variety of sectors (Furze, 2016).

Multi-track water diplomacy framework

The conceptual approach used in this article to understand the potential and limitations of cooperation over the Brahmaputra Basin draws on the bourgeoning literature that analyzes the factors affecting water cooperation, including those that work within political economy and institutional approaches.[9] The Multi-Track Water Diplomacy Framework (Figure 1) developed as the analytical framework for this research contains several key components that assist in understanding the potential cooperation, including the action situation, the broader and specific contextual situations, the mix of formal and customary institutions involved, and how these influence the interaction of actor and agency. The unique value of this framework lies in the fact there were no other frameworks that attempted to lay out the comprehensive political economy factors that affect water diplomacy, and that could also be used to analyze cooperation at different temporal scales. In addition, each component of the framework has detailed indicators that were used as guiding points for semi-structured interviews, as well as code for analysis using Max QDA, allowing detailed analysis of various factors affecting cooperation.[10] The framework takes its structure from the theory of structure-agency, where social structure (institutions) shapes actors and agencies, and vice versa (Giddens, 1984; Wendt, 1987).

Action situation

Our conceptual and analytical framework is centred around an *action situation*, which Huntjens et al. (2016) refer to as the social space where participants with diverse preferences

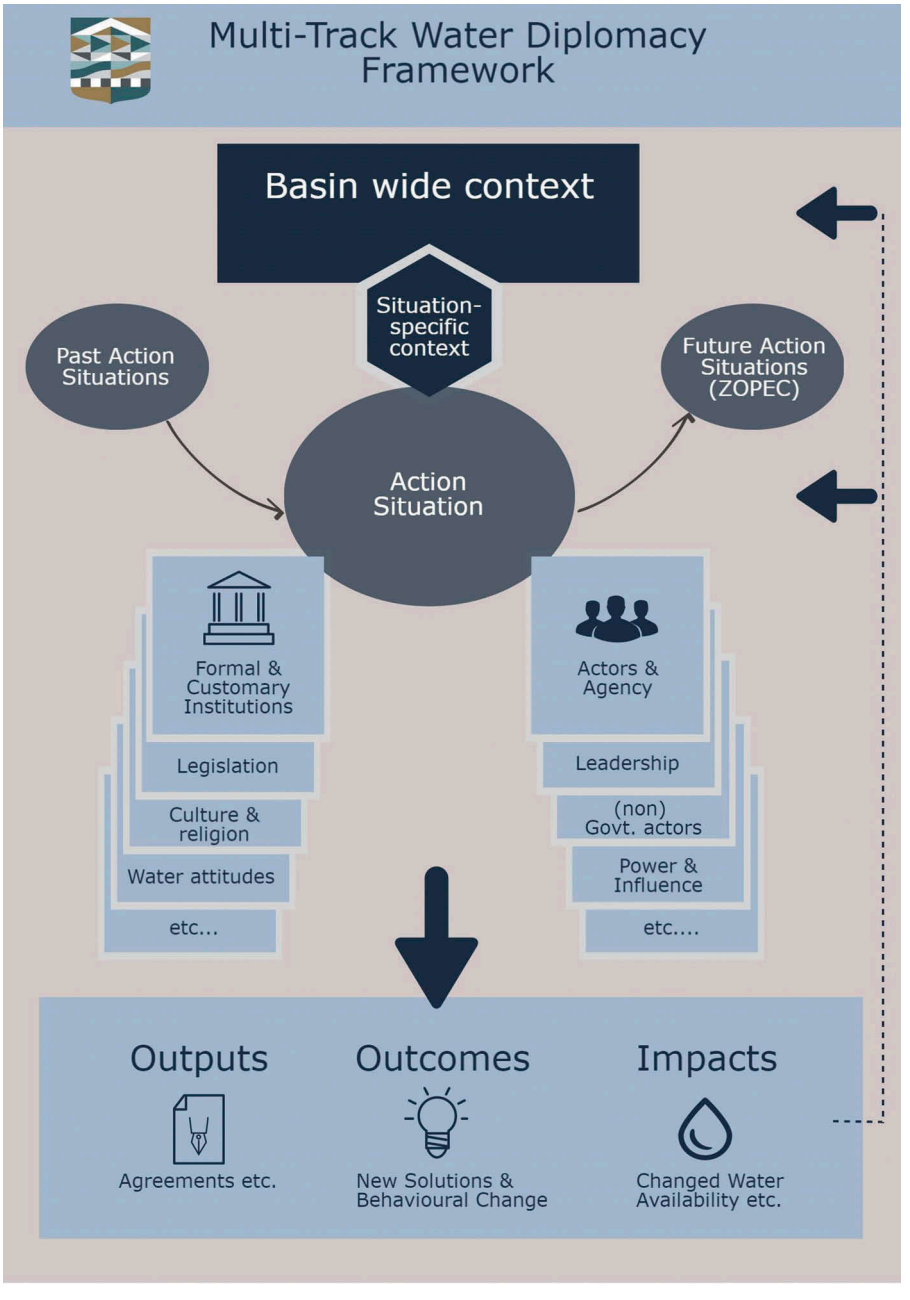

Figure 1. Multi-track water diplomacy framework. Source: Huntjens et al. (2016, p. 25); figure created by the research team, including the authors.

interact, exchange goods and services, solve problems, dominate one another, or fight (among the many things that individuals do in action situations). Although institutions may have some permanency, in our analysis of action situations the institutions are sustained or altered by the actions of the people that reproduce or change them (Huntjens et al., 2016). It is exactly at this juncture (i.e., in the action situation) that institutions are 'renegotiated' and

changed. Indeed, as Ostrom (2005, p. 32) defined it, an action situation can be thought of as a 'situation when two or more individuals are faced with a set of potential actions that jointly produce outcomes'. Consequently, each action situation will have a certain set of outputs (e.g., decisions, agreements), outcomes (e.g., new solutions or behavioural change) and impacts (e.g., changed water availability). This, then, is a dynamic and contingent situation, since the outputs, outcomes and impacts may in turn impact, or feed back into, structure and agency. Each particular action situation has a situation-specific context that is multi-scalar in its dimensions, since some aspects of this context might be viewed as basin-wide, while other aspects are far more localized.

To understand the particulars of this multi-scalar context, our analysis needs to include key analytical components such as the biophysical material characteristics of the river; key socio-economic characteristics; the nature and extent of development; and past and ongoing water cooperation. Thus, our analysis of action situations acknowledges that pre-existing conditions will influence the structure and agency of different actors in the Brahmaputra, but also asserts that such situations are laden with the potential for change. In particular, we outline a range of instances that might be thought of as constituting a 'window of opportunity', where policy shifts might occur.

Formal and customary institutions

Both formal and customary institutions were identified as important factors affecting water cooperation. Adopting the definition of Calhoun (2002, p. 233), this framework defines institutions as 'deeply embedded patterns of social practices or norms that play a significant role in the organization of society'.

Formal institutions are institutions that are adopted through a formalized process. They include constitutional rules, codified laws, rules adopted by organizations, and policies (Huntjens et al., 2016). Codified laws and policies are often considered symbols of cooperation and often influence the status of cooperation (Wouters, Vinogrado, Allan, Jones, & Rieu-Clarke, 2005). Formal institutions not only include rules adopted by government entities but also refer to rules adopted by non-governmental organizations or the community through a formalized process.

Customary institutions are institutions that are embedded in organizations or groups without a formalized process. Culture, norms, religion, historical factors, and attitudes to water can all influence water cooperation (Aggestam & Sundell-Eklund, 2014; Creighton, Priscoli, Dunning, & Ayres, 1998; Johnston, 1998; Swain, 2004; Wigfield & Eccles, 2000).

Actors and agency

Water cooperation encompasses various actors, including government, political leaders, non-governmental organizations, civil society actors, religious organizations, academia, researchers and the private sector. In the context of water cooperation, actors' relationships, particularly their power relationships, is one of the key factors that affects cooperation (Zeitoun & Warner, 2006). Agency, which is the ability of an actor to exert influence, is therefore one of the key factors that can influence cooperation (Ali-

Khan & Mulvihill, 2008). Thus, this framework includes the existence of actors, actors' influence, power relationships, and leadership as key criteria for analysis.

Results

There is a well-documented tension in the literature and among practitioners regarding state-led Track I approaches and multi-track diplomacy approaches (Grech-Madin, Döring, Kim, & Swain, 2018). Our research sought to understand the state of cooperation across the basin by analyzing Track I (state-to-state) water diplomacy, Track II/III cooperation (facilitated by non-state actors), and potential future cooperation.

Track I cooperation

Status of cooperation

Although there are long-standing bilateral treaties between several riparian nation-states on the Brahmaputra River,[11] there is currently no Track I cooperation or dialogues involving all the riparian states which is specifically focused on the Brahmaputra.

While multilateral cooperation clearly holds great potential for the Brahmaputra River basin, current state-to-state cooperation is focused on bilateral cooperation, including China–India, India–Bangladesh, Bhutan–India, Bangladesh–Bhutan and Bangladesh–China. There is no bilateral cooperation related to the Brahmaputra River between China and Bhutan. While our broader research (Yasuda, Aich, Hill, Huntjens, & Swain, 2017) has analyzed the factors affecting these five situations of bilateral cooperation, as well as the factors affecting non-cooperation, this article focuses on analysis of bilateral cooperation between China and India.[12] Arguably, this is the most vital of any of these relationships, since it concerns the two largest and most influential countries in the basin and because the evolving relationship between these two is also the source of a great deal of uncertainty and tension.

India and China have signed two memoranda of understanding (MoUs) related to the Brahmaputra basin, which constitute the core of their existing cooperation. The first was signed in 2002, and has been renewed twice since then. Through this MoU, China collects flood-season hydrological data in remote locations in the upper reaches of the Brahmaputra River and provides them to India, and India pays China to cover the cost of data collection (Central Water Commission of India and Bureau of Hydrology and Water Resources of China, 2014). Another MoU was signed in 2013 to strengthen cooperation on the transboundary river through the existing 'expert-level mechanism' between the two countries, where member experts discuss technical issues of hydrology information sharing, monitoring and information sharing, and building hydrology models (CH13, 2016). There is also a cooperation on emergency responses to hazards (Ministry of External Affairs, Government of India, 2013).

Factors affecting cooperation

Key factors affecting this cooperation were analyzed using the Multi-Track Water Diplomacy Framework (Figure 2). One of the key basin-wide contexts that affected this cooperation is the recent development of Chinese hydropower dams in the

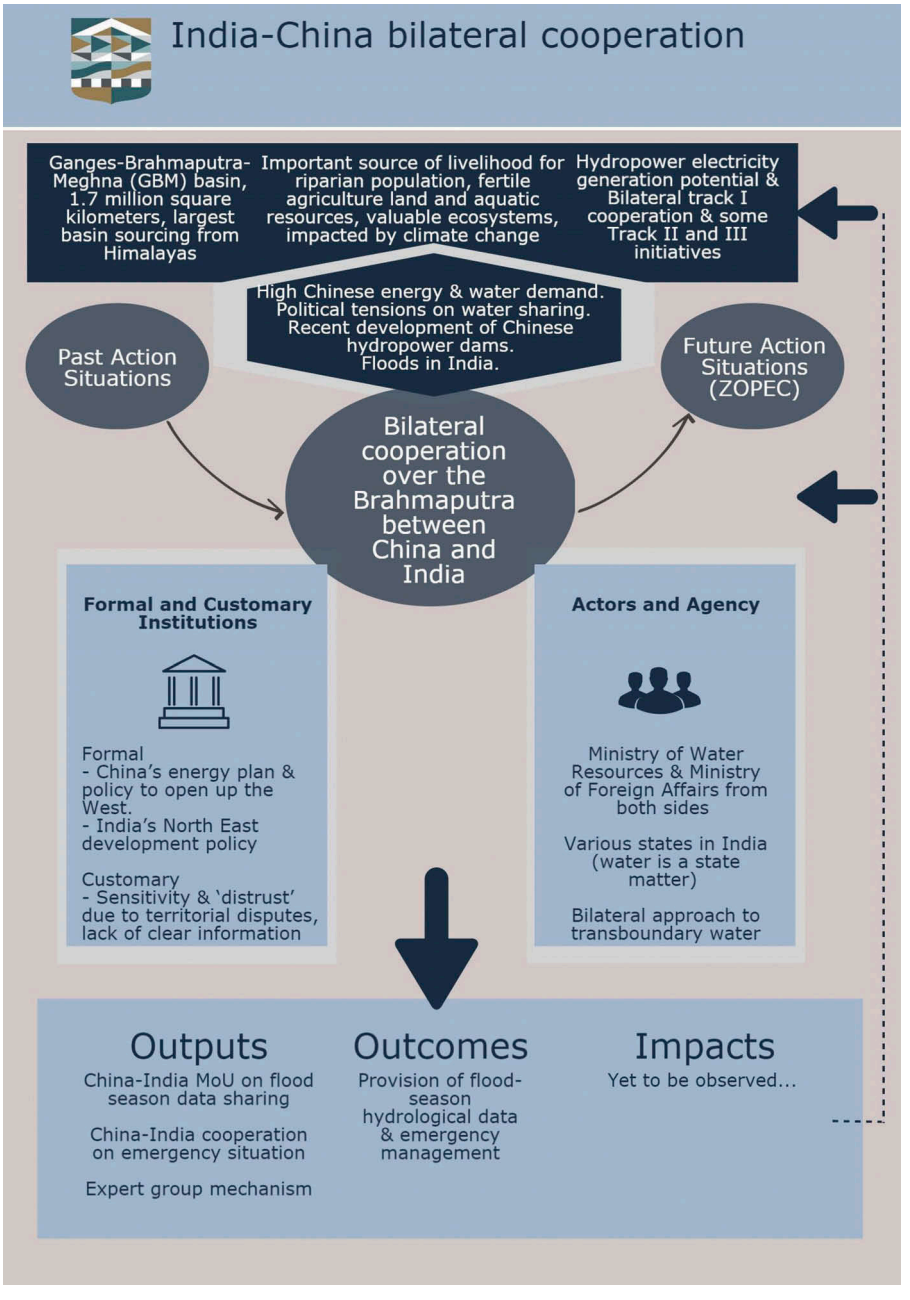

Figure 2. Factors affecting water cooperation between China and India. Source: Yasuda et al. (2017, p. 31); figure created by the authors.

upstream of the Brahmaputra River. The first of these built in the Chinese part of the Brahmaputra, the Zangmu Dam, was operationalized in 2014, and three more (Da Gu, Jie Xu and Jia Cha) are planned by the government (Samaranayake, Limaye, & Wuthnow, 2016; State Council, 2013). There has also been a debate in China about whether to divert water from the Brahmaputra to water-scarce parts of that country.

Some commenters report that the plan is currently on hold as other inter-basin transfers within the country are undertaken (Amano, 2015; Samaranayake et al., 2016), while some commenters outside China assert that satellite images show possible signs of the construction of water-diversion tunnels (Bhat, 2017; Dasguptal, 2017). What is undoubtedly true is that these relatively new developments in the basin have created concerns downstream in India. These concerns accelerated after 2000, when a naturally formed dam in one of the tributaries of the Brahmaputra in the Chinese part of the basin broke and flooded Arunachal Pradesh and Assam (north-eastern provinces of India), killing 30 people and leaving 50,000 homeless. Samaranayake et al. (2016) argues that this incident was catalytic in initiating the cooperation on data sharing between China and India.

Several formal institutions affect this basin-wide context. Recent development of Chinese hydropower dams is specified in the energy plan under the 12th Five-Year Plan, a socio-economic development plan covering the development period of 2010–2015 (Samaranayake et al., 2016; State Council, 2013). More specifically, the Open Up the West policy, launched in 2000 to encourage development of the impoverished western part of China, means a greater focus on areas within or closely connected to the Chinese part of the Brahmaputra (Lai, 2002; Samaranayake et al., 2016). In the lower riparian parts of the basin, in India, there are also attempts to increase infrastructure development. Indeed, while the North-East region has historically been politically unstable and comparatively neglected, the Modi government's Act East policy has increased Indian government attention to this part of the country and seeks to foster increased interconnectivity with neighbouring countries (Ministry of Development of North Eastern Region, Government of India, n.d.).

While there is evidently a lack of trust between the two nations with regard to competing plans for economic integration, including around hydropower, this distrust has broader and deeper contours, which means that it is a key customary institution that affects the cooperation. Indeed, disagreement over territory between China and India has existed since 1947, when the British colonial government of India drew a border not recognized by China, but this enmity intensified as a consequence of the Indo–Chinese war in 1962 (Lidarev, 2012). A number of interviewees in both China and India indicated this unresolved border dispute as a key source of distrust between the two nations, affecting the status of their transboundary cooperation (CH7, 2016; CH8, 2016; CH11, 2016; CH14, 2016; IN5, 2016). In addition to distrust arising from this long-standing border dispute, the lack of information sharing in the past has contributed to distrust. Particularly in relation to the Brahmaputra River, information about its hydropower plans were not disclosed officially by Chinese government until 2010, and it had denied construction and planning of these dams, raising concern and suspicion in downstream nations (IN8, 2016; Samaranayake et al., 2016).

In addition to traditional government actors engaged in transboundary water cooperation, such as the Ministry of Foreign Affairs and the Ministry of Water Resources, many interviewees indicated the role of media, particularly in India, as raising awareness (and nationalist fervour) over development in upstream parts of the Brahmaputra River (CH1, 2016; CH15, 2016; CH17, 2016; CH18, 2016; IN11, 2016). There was a perception among some of the Chinese interviewees that Indian media were not necessarily communicating the 'true' information (CH1, 2016; CH6, 2016; CH17,

2016), contributing to distrust between the two nations. Such comments fit with the widely noted role of Indian media as too often encouraging hyperbole and public speculation over Chinese actions in the basin (Hill, 2017, 2015)

Track II/III cooperation

Status of cooperation

In addition to bilateral cooperation by state actors, non-governmental actors also take initiative in facilitating cooperation. One of these facilitated processes is the Brahmaputra Dialogue (hereafter, the Dialogue), which was initiated by NGOs and research institutes, including the South Asian Consortium for Interdisciplinary Water Resources Studies (SaciWATERS), the Indian Institute of Technology Guwahati and the Institute of Water and Flood Management Bangladesh. The Dialogue was initiated in 2013 and since then has had three phases. The first phase focused on facilitating dialogues among non-state actors, starting with national dialogue in India and Bangladesh, then moving to a transboundary dialogue between Indian and Bangladeshi stakeholders (Banerjee, Salehin, & Rames, 2014). The second phase of the Dialogue expanded its scope to encompass dialogues between Indian states, including Assam and Arunachal Pradesh, which included some of the state actors from both central and provincial governments (SaciWATERS, 2015). The first multi-country dialogue was also initiated during this phase and included Bhutan and China (SaciWATERS, 2016b). The third and current phase of the dialogue aims to include all the riparian countries of the Brahmaputra basin, to bring political willingness, and to develop a joint mechanism for effective basin management (SaciWATERS, 2016b).

While the Dialogue is still an ongoing process, that this process has shifted its nature from Track III to Track I.5 is one of the key achievements. This shift to Track 1.5 was undoubtedly helped by the fact that a government official facilitated one of the country dialogues during this phase. As a concrete output from the Dialogue, a joint research proposal was developed by research organizations in China, India and Bangladesh to conduct a vulnerability assessment for the entire stretch of the river (BA10, 2016), which would be a useful input to policy development.

Factors affecting cooperation

The Brahmaputra Dialogue process recognizes the existence of competing and complementary stakeholders in each country's water sector. Thus, during the first phase, the processes sought to build confidence and create understanding between the stakeholders in India and Bangladesh. In India, the dialogue initially engaged civil society groups, academics, and, later on, bureaucrats from the upper and lower riparian states of Assam and Arunachal Pradesh, as well as representatives from other parts of the Indian water sector (SaciWATERS, 2015). Considering that effective development of the basin is not under the ambit of a single ministry, but rather of many actors that have overlapping jurisdictions and claims and exist in a variable chain of influence, it is also necessary to have representatives of different bureaucracies, such as the Ministry of Environment, Forest and Climate Change and the Central Water Commission, as well as other state and central authorities. A wide range of governmental actors have a stake in reconciling the interests of different states, and these actors are not necessarily

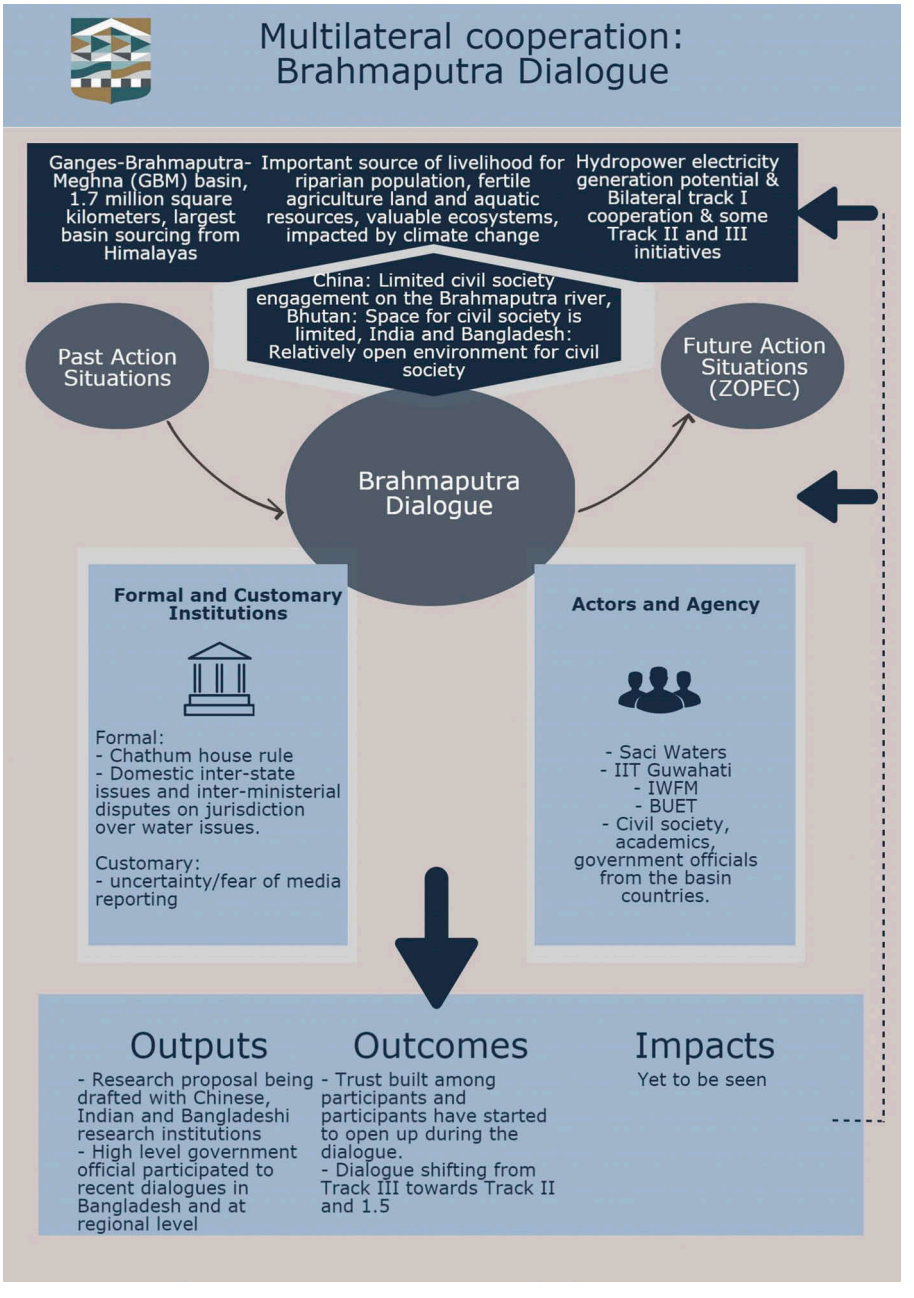

Figure 3. Factors affecting the Brahmaputra Dialogue. Source: Yasuda et al. (2017, p. 96); figure created by the authors.

involved when India is negotiating with another country in the Brahmaputra. The Brahmaputra Dialogue broadened the inclusion of actors to a multilateral level at a later stage, recognizing the issue as multilateral. Recognizing the complexity of the issue, the Brahmaputra Dialogue gradually scaled up the process to encompass various actors who have stake in the basin.

The inclusion of various kinds of stakeholders in the dialogue was also affected by how India's formal institutions shape responsibility over water resources management. The Constitution of India (1949, Seventh Schedule) gives major responsibility over water to the states, which makes it challenging to resolve inter-state water disputes. Within the Brahmaputra basin, there is an ongoing inter-state conflict between Assam and Arunachal Pradesh, particularly related to Assam's opposition to hydropower dam plans in Arunachal Pradesh and fear of the flooding it may create (IN17, 2016). This situation resulted in the need for attention to inter-state dialogue and discussions within India as one of the key dialogue process for the Brahmaputra.

Another formal institution that guided the dialogue process is adherence to the Chatham House Rule, which allows anonymity and openness of discussion (Chatham House, n.d.). The lead author's observation of one of the Dialogue meetings affirms that this rule allows openness in discussion among participants. One of the Bangladeshi interviewees echoed this observation, while also pointing out that some of the participants in their national dialogue were uncomfortable with the situation where they are not able to speak freely about what they had learnt during the Dialogue process (BA10, 2016). While the Dialogue process could be elevated to a wider public discussion, media representatives have not been invited to any of these sessions. This is related to uncertainty and fear of how the media may misreport the dialogue, particularly the regional dialogue processes (BA10, 2016; SaciWATERS, 2016a).

While many of our respondents were supportive of the Chatham House Rule, some believed more engagement with the media could be helpful. For example, some Bhutanese interviewees commented that these kinds of initiatives could foster more discussion in their relatively small and closely knit society, where it is not customary for the public to openly react or to express grievances (BT4, 2016). More broadly, civil society actors in the Brahmaputra basin work in a range of varying social contexts. Of the four countries, civil society in India and Bangladesh acts more openly compared to China and Bhutan. There is also variance in how much attention the Brahmaputra basin is afforded by civil society in each country. In China, a number of interviewees commented on the absence of NGOs working on the Brahmaputra (CH1, 2016; CH3, 2016; CH4, 2016), and one of the Chinese participants in the Dialogue appreciated that their participation allowed them to understand each other and the issues other riparian countries face.[13]

Figure 3 illustrates these factors and how they have influenced the Brahmaputra Dialogue process.

Zone of Possible Effective Cooperation

As well as analyzing the contours of disputes between the different stakeholders in the basin and the range of institutional responses currently devoted to their resolution, the research also analyzed potential areas of future cooperation. The ZOPEC refers to a combination of viable future action situations that allow mutual gains, where parties gain more by cooperating than by not cooperating (Huntjens et al., 2016). This research identified the ZOPEC through three inputs: analysis of existing cooperation action situations along the Brahmaputra River; analysis of current and future factors that potentially influence cooperation; and a stakeholder workshop involving 27 participants from all the riparian countries and regional actors (Furze, 2016).

Emerging factors that could affect the ZOPEC

Several emerging factors in the Brahmaputra basin could affect the ZOPEC (Figure 4). While there is currently no basin-wide Track I cooperation over the Brahmaputra River involving all the riparian countries, the basin encompasses existing and emerging regional economic cooperation mechanisms that could benefit cooperation over

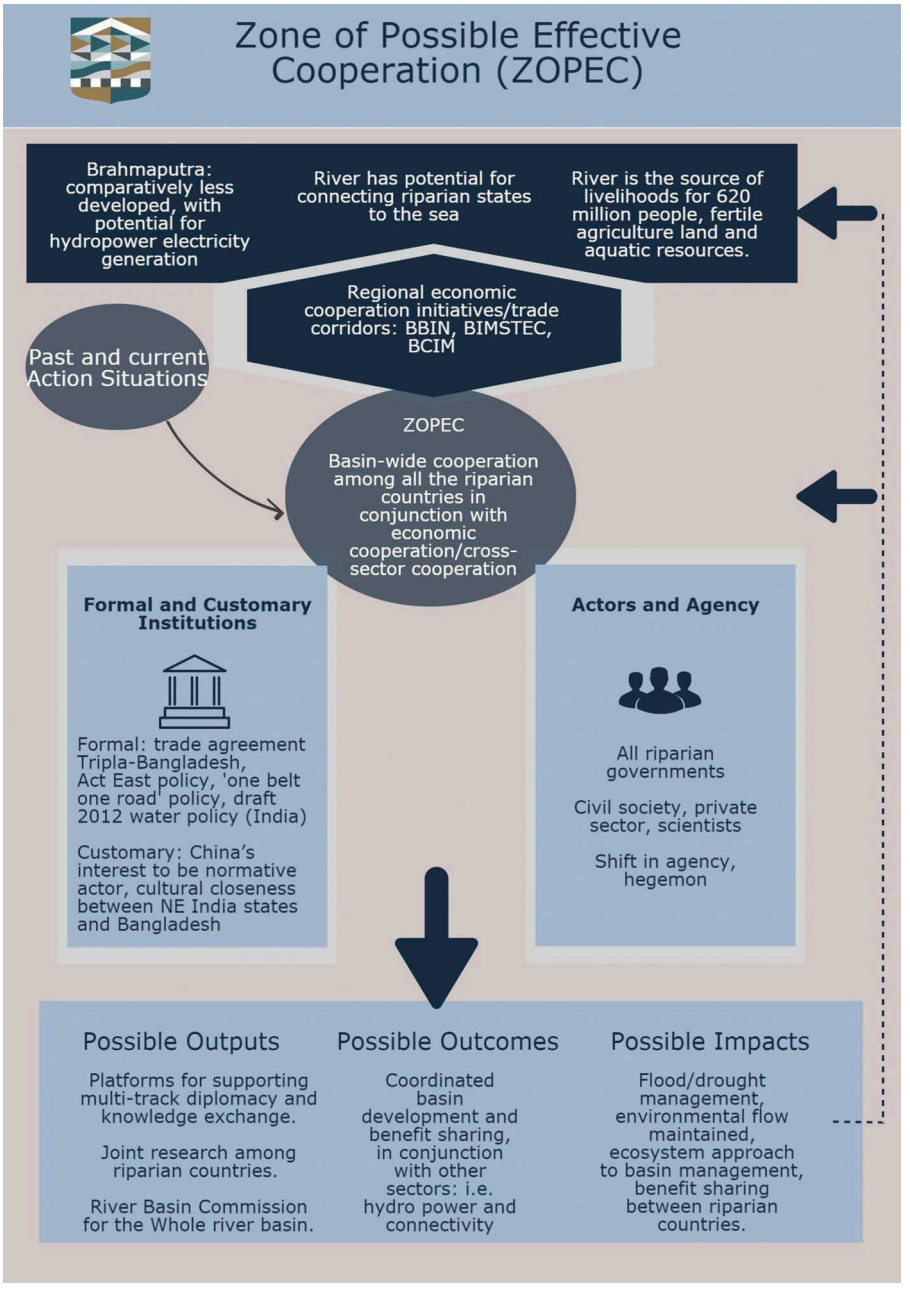

Figure 4. Factors affecting the Zone of Possible Effective Cooperation. Source: Yasuda et al. (2017, p. 104); figure created by the authors.

water. One of the most significant mechanisms is BBIN (Bangladesh Bhutan India Nepal), which hosts a Joint Working Group on Water Resources Management and Power as well as one on connectivity and transit (Energy Bangla, 2015). The terms of reference for the Joint Working Group include exploring hydro-power, undertaken jointly with at least three countries on an equitable basis; exchanging experiences and best practices; and developing grid connectivity (Sachin, 2016). Clearly, BBIN has the potential to directly influence cooperation over the water and energy sectors associated with the Brahmaputra (BA8, 2016; Energy Bangla, 2015; Economic Times, 2015).

While BBIN might be the most directly notable initiative in terms of directly seeking to coordinate the possibilities of water and energy cooperation in eastern South Asia, there are a range of overlapping and competing mechanisms for enhancing economic cooperation that could impact the Brahmaputra basin. For example, the Bangladesh-China-India-Myanmar Forum for Regional Cooperation is a sub-regional organization that aims to promote a multimodal trade corridor connecting the south-western part of China with Bangladesh through Myanmar and India (Aneja, 2015; Sajjanhar, 2016). If this vision is realized, the Brahmaputra River could become a trade route.

At a global scale, China is leading the Belt and Road Initiative, which aims to establish new land-based and ocean-going trade routes (Verlare & van der Putten, 2015). While the enormous roll-out of infrastructure mooted under the Belt and Road Initiative could alter geo-economic realities around the globe, in the Brahmaputra basin it is likely to have an impact through the section of the policy that encompasses the China–Myanmar–Bangladesh–India Corridor. The Belt and Road Initiative sees an increasing role for Bangladesh in particular, as it can offer an ocean trade route through its port facing the Bay of Bengal. Another, somewhat competing, version of regional economic cooperation is the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC, 2015), which includes Bangladesh, Bhutan, India, Nepal, Sri Lanka, Myanmar and Thailand.

These more general regional economic cooperation initiatives demonstrate a desire among a range of stakeholders across the Brahmaputra basin for greater economic integration, which may enhance the potential for cross-sectoral collaboration, expandand the 'pie' of possible cooperation. Again, however, we need to be conscious that such top-down initiatives have their own priorities and ideas about the kinds of trade-offs that are desirable in the search for closer economic connectivity (Hill, 2015).

Clearly, different combinations of formal institutions and geopolitical contexts in the region will also affect potential shifts in the agency of riparian states. Historically, India has been the largest and strongest country in South Asia, both politically and economically. Its hegemonic situation vis-à-vis smaller neighbouring countries has affected water cooperation. In particular, Bangladesh, as a lower riparian and smaller nation to India, has always has difficulty in transboundary water cooperation with its upstream neighbour, but broader developments within and beyond the basin have arguably shifted this situation (BA2, 2016; BA3, 2016; BA4, 2016; BA6, 2016; BA7, 2016; Swain, 2010). China's recent development upstream of the Brahmaputra River means that India is now more definitively a middle riparian, concerned about the actions of its upstream neighbour (The Hindu, 2016), a shift that arguably provides an incentive for India to collaborate multilaterally over the Brahmaputra River. Similarly, China's emerging interest in the use of a port in Bangladesh as a gateway to the sea potentially raises

Bangladesh's position in negotiating with India over transit trade, a point that has long been difficult.

Cross-border collaboration between North-East India and Bangladesh, which could enhance benefit sharing, is backed by both formal and customary institutions, including, for some respondents, a sense of shared culture (BA5, 2016). There is certainly a significant precedent for drawing on shared culture to facilitate enhanced cooperation over water in the region, particularly in the case of the role that then chief minister of West Bengal, Jyoti Basu, played in fostering the 1996 Ganges Water-Sharing agreement between India and Bangladesh. Many commenters have written that Basu was important in this negotiation because he was able to draw on the common culture of Bengalis on both sides of the border. Conversely, the obstructionist attitude of the current chief minister of West Bengal, Mamata Banerjee, in delaying the signing of an agreement between India and Bangladesh over the Teesta River demonstrates that domestic subnational political priorities can override these shared cultures and histories. Perhaps more troubling in this sense is the long history of anti-Bangladeshi-migration rhetoric in some political parties in North-East India's most populous state, Assam, which is evidence of long-standing sentiments against closer connectivity, at least in terms of population movements (Hazarika, 2000). Nevertheless, there are some positive signs to indicate that cross-sectoral collaboration is occurring in different parts of the region. For example, from 2016 onwards the Indian state of Tripura has provided 100 MW of electricity to Bangladesh in exchange for 10 gigabits-per-second internet bandwidth from Bangladesh (Express News Service, 2016).

Another formal institution that enhances cross-border collaboration is the collaboration between Bhutan, Bangladesh and India in hydropower development in Bhutan. Bangladesh had long been interested in investing in hydropower in Bhutan, but the electricity transmission needed to cross Indian territory. Reports at the end of 2017 indicate that a tripartite agreement on this investment might soon be realized, which opens new directions in multilateral cooperation over the use of the river (ANI, 2017; Tribune Desk, 2017).

And it is not only in the economic realm that potential basin-wide cooperation might occur. Indeed, if riparian countries adopt some of their existing formal institutions to the context of transboundary waters, there is a potential for basin-wide cooperation with ecological considerations. Such initiatives are extremely important because despite some of the ongoing physical alterations to the river, the Brahmaputra is relatively pristine compared to other large rivers in the world, allowing room to manage the river while ensuring ecological integrity.[14] While Bhutan has long been heralded for the space it gives in policy to environmental concerns,[15] other countries in the region have historically given this sphere less emphasis. An important step towards this is that China has embraced the concept of environmental flow in how it conceives of the management of its rivers, while more broadly adopting a policy on Ecological Civilization, which aims to ensure conservation and sustainable economic and social development (UNEP, 2016). Through this policy, the current Chinese leader, President Xi, has pointed out that 'green is gold' (CH16, 2016; UNEP, 2016). In its domestic policy, China has adopted its own version of payment for ecosystem services in a scheme called Eco-Compensation, and conducted pilot work applying the scheme to watersheds and river basins (Bennett, 2009; Zhang, Lin, Bennett, & Jin, 2010). Such

changes are important in light of the comments of several of our Chinese respondents, who pointed to China's interest in being a normative actor in the international context. This desire can arguably act as a significant catalyst for cooperation over the Brahmaputra and particularly application of these progressive domestic environmental policies in the context of transboundary waters (CH13, 2016; CH14, 2016; CH20, 2016).

Potential future cooperation: the ZOPEC for the Brahmaputra River basin

Given these emerging factors allowing potential regional cooperation, shifts in actors' agency and potential for cross-sectoral benefit sharing, it is reasonable to propose that the ZOPEC for the Brahmaputra is basin-wide cooperation among all the riparian countries in conjunction with economic cooperation, allowing cross-sectoral cooperation and benefit sharing. Such cooperation integrates all sectors, involving water, ecology and economy in its scope, and could provide mutual gains for the riparian countries and bring solutions for sustainably managing the river basin. Any type of development in the basin, including infrastructure (in particular for hydropower, flood control, irrigation and navigation), needs to take a whole-of-basin approach. For example, the development and the level of flow and sediments needs to be coordinated jointly to maintain the ecology of the river system, as well as to ensure navigation. Benefits derived from this infrastructure can be shared fairly among riparian states.

Taking a cross-sectoral approach to water cooperation can open up space for sharing benefits from different sectors. For example, downstream countries (e.g., Bangladesh and India) can benefit from upstream hydropower generation by offering trade routes (navigation, road and rail) and access to port facilities in return for energy from the hydropower-generating country (e.g., China or Bhutan). At the same time, there are inevitably trade-offs between sectors, and these need to be discussed and negotiated in an open and transparent manner if inclusive development and environmental sustainability are to be achieved.

Concrete outputs suggested in the stakeholder workshop discussing the ZOPEC included joint research among riparian countries; improved data and information sharing, particularly through establishment of a knowledge platform; economic cooperation, with mechanisms to facilitate cooperation through the development of platforms to support multi-track diplomacy; and as a River Commission for the Brahmaputra basin (Yasuda et al., 2017).

Discussion

Our analysis of the three cooperation action situations outlined above indicates the shifting political economy of the Brahmaputra Basin, which can organically affect relationships and the dynamics of how cooperation takes place. The emergence of Chinese activities upstream on the Brahmaputra River, coupled with its interests in expanding its trade routes using waterways, could change Bangladesh's relationship to its upper-riparian states. Similarly, analysis of Bhutanese relationships with other riparian countries identified the democratization of Bhutan and its shift away from dependence on Delhi for its foreign policy as enabling Bhutan to draw closer to China, which would contribute to broader changes in the relationships among the riparian states.

The analysis also confirmed that all the analytical factors of the Multi-Track Water Diplomacy Framework – basin-wide context, formal institutions, and customary institutions and actors – played roles in influencing the status of cooperation. Clearly, the interaction of these analytical factors influenced outcomes. For example, the contextual factors of Chinese upstream development are shaped by its formal institutions of energy development policy, which affects the positioning of India vis-à-vis its neighbouring states, including China and Bangladesh, in its water diplomacy efforts. In the analysis of the ZOPEC, the emergence of new formal institutions shifted actors' positions and agency. These interactions and influences between institutions and actors/agency prove the relevance and validity of the structure-agency approach in the analysis and the framework.

The application of the Multi-Track Water Diplomacy Framework in different tracks of water diplomacy (Tracks I, II and III), as well as different temporal scales (current and future), proved the robustness of the framework in analyzing factors affecting various forms of water diplomacy. The framework allowed analysis of institutions and actors separately, as well as their interactions, in understanding the influences and relationships among them in water cooperation. Analysis of the key factors affecting cooperation, including legal, political and economic, also enabled identification of the ZOPEC, which integrates different sectorial interests, potentially leading to a whole-of-basin approach to managing water that is conscious of the various trade-offs involved (Ringler, Bhaduri, & Lawford, 2013).

Analysis of existing and potential initiatives for water diplomacy, as well as inclusion of emerging basin context, allows us to identify 'windows of opportunity' that could facilitate a shift in thinking about mutual benefits or introduce a new dimension in transboundary water cooperation. Windows are 'particular moments in time (for instance an election or disaster) that offer opportunities for policy entrepreneurs to launch and gain support for new policy proposals' (Huitema & Meijerink, 2010, p. 30). As water diplomacy takes place within a dynamically changing basin-wide context with shifting power dynamics (Barua, Vij, & Zulfiqur Rahman, 2017), observing the right timing and identifying the window of opportunity for policy shifts is critical. However, most existing scholarship on water diplomacy and transboundary water cooperation does not specifically take into account this concept of windows of opportunity but focuses on either substantive aspects of cooperation or the shifting context of conflicts (Sadoff & Grey, 2002; Tarlock, 2015; Zeitoun & Mirumachi, 2008). Identification of the ZOPEC using the Multi-Track Water Diplomacy Framework, which takes into account factors affecting cooperation from different tracks of water diplomacy, and consideration of the temporal aspect by analyzing emerging basin context, allows transboundary water cooperation research to identify windows of opportunity.

The emergence of a civil-society-led process such as the Brahmaputra Dialogue provides an example of a process that could be the vehicle to facilitate multiple tracks of water diplomacy. The flexible nature of the civil society process allowed the dialogue to expand to basin-wide cooperation, including all the countries. Engagement of all the basin countries, including multiple layers of stakeholders, will be an important step in future basin-wide cooperation and development with integrity. While there are certainly grounds for optimism around these processes, it is also clear that they are constrained in what they can achieve. Thus, the leadership of civil society in starting

dialogues can foster relationships that government actors would find more difficult to initiate with other riparian countries. On the other hand, scaling up lower-track dialogues so that they begin to influence the policies of governments is far from guaranteed, although there are examples of multi-stakeholder dialogues in the Rhine, Mekong, and Ganga-Brahmaputhra-Meghna river basins which have informed and shaped more formal negotiation and decision-making processes (Huntjens et al. 2017). Nevertheless, the trust engendered by the Brahmaputra Dialogue among various participants in the basin must be recognized as an important step forward.

Conclusion

Transboundary water cooperation over the Brahmaputra River faces important junctures. Since one of the goals of water diplomacy is to strengthen the viewpoint of mutually shared benefits in bilateral and basin-wide contexts (Keskinen, Inkinen, Hakanen, Rautavaara, & Niinioja, 2014), our results confirm that water diplomacy cannot and does not focus only on water. Our argument in this article is that each action situation holds the possibility for the renegotiation of the terms of water cooperation, and thus there is considerable potential for more appropriate institutional arrangements to emerge. Therefore, having identified the key factors of each action situation, according to our framework, and how they influence each other, we are a step closer to a holistic understanding of three aspects of water cooperation. First, it supports existing claims that broader-perspective water diplomacy can result in broader diplomatic cooperation, much as cooperation (or non-cooperation) in other sectors can be manoeuvered towards diplomatic solutions to regional challenges (Keskinen et al., 2014; Sadoff & Grey, 2002). Second, the impact of multi-track diplomacy approaches, especially the initiatives of Track III and II dialogues, become effective and popular across non-state and, to an extent, state actors. Finally, shifting political relationships and agencies among basin riparian states, coupled with trends towards more regional economic cooperation, supported by formal and customary institutions, provide an opportune moment to move water diplomacy in the basin to the next level.

These geopolitical and economic trends also give pressure to the way development occurs in the river basin, and if appropriate measures are not taken sooner or later, the Brahmaputra could risk having uncoordinated development. The emergence of civil-society-led water diplomacy can bring various stakeholders closer to each other in the basin, where various actors' interests coexist. Identifying the ZOPEC that can bring mutual gains to different parties and exploring options for expanding the 'pie' that can be shared among basin countries are crucial in finding solutions to transboundary water conflicts. Analysis of the various factors that affect water diplomacy supports identification of solutions that exist outside the 'water box'.

Notes

1. This river has different names in different sections. It is called the Yarlung-Tsangpo in China, the Brahmaputra in India, and the Jamuna in Bangladesh. The Manas River in Bhutan flows into the Brahmaputra in the Indian section of the river. While recognizing this variety of names, this article refers to the river as the Brahmaputra River.

2. A representative selection of the kinds of articles found using 'Brahmaputra River' as keywords includes James M. Coleman, 'Brahmaputra River: Channel Processes and Sedimentation', *Sedimentary Geology* 3, 2–3 (1969); M. M. Sarin et al., 'Major Ion Chemistry of the Ganga-Brahmaputra River System: Weathering Processes and Fluxes to the Bay of Bengal', *Geochimica et cosmochimica acta* 53, no. 5 (1989); and Colin R. Thorne, Andrew P.G. Russell, and Muhammad K. Alam, 'Platform Pattern and Channel Evolution of the Brahmaputra River, Bangladesh', *Geological Society, London, Special Publications* 75, no. 1 (1993).
3. The following reports analyse the political economy perspective of the Brahmaputra River, with a limited geographic scope: Samaranayake et al. (); Prasai and Surie, 2013; Price and Mittra, (2016); Bandyopadhyay and Ghosh (2016); Hill (2015). A more recent article that includes analysis with a wider scope within the basin is Barua et al. (2017).
4. More info at http://www.thehagueinstituteforglobaljustice.org/projects/water-diplomacy-making-water-cooperation-work/.
5. The broader findings of this research can be found in Yasuda et al. (2017).
6. The literature included academic articles, reports, websites, government documents, laws, policies, newspaper and media articles, maps, and other published and unpublished data on water ecosystems and biodiversity. The literature review was conducted throughout the research, which took place from October 2015 until December 2017.
7. A total of 61 interviews were conducted in four riparian countries of the Brahmaputra River, as some of the interviewees were seen twice. Interviews were recorded or interview notes taken, with permission from the interviewee. Due to the sensitivity of the subjects discussed, all interviews are cited anonymously. Interviews cited are abbreviated in the following ways: Interviews conducted in China (CH), India (IN), Bhutan (BT) and Bangladesh (BA).

BT4. (2016): Interview with BT4 on 1 September 2016.
BA10. (2016): Interview with BA10 on 28 October 2016.
BA2. (2016): Interview with BA2 on 28th March 2016.
BA3. (2016): Interview with BA3 on 29th March 2016.
BA4. (2016): Interview with BA4 on 30th March 2016.
BA5. (2016): Interview with BA5 on 30th March 2016.
BA6. (2016): Interview with BA6 on 31st March 2016.
BA7. (2016): Interview with BA7 on 31st Mach 2016.
BA8. (2016): Interview with BA8 on 2nd April 2016.
CH1. (2016): Interview with CH1 on 3 April 2016.
CH10. (2016): Interview with CH10 on 26 April 2016.
CH11. (2016): Interview with CH11 on 26 April 2016.
CH13. (2016): Interview with CH13 on 27 April 2016.
CH14. (2016): Interview with CH14 on 27 April 2016.
CH15. (2016): Interview with CH15 on 29 April 2016.
CH16. (2016): Interview with CH16 on 2 May 2016.
CH17. (2016): Interview with CH17 on 4 May 2016.
CH18. (2016): Interview with CH18 on 5 May 2016.
CH20. (2016): Interview with CH20 on 5 May 2016.
CH3. (2016): Interview with CH3 on 5 April 2016.
CH4. (2016): Interview with CH4 on 5 April 2016.
CH6. (2016): Interview with CH6 on 6 April 2016.
CH7. (2016): Interview with CH7 on April 2016.
CH8. (2016): Interview with CH8 on 12 April 2016.
IN11. (2016): Interview with IN11 on 16 May 2016.
IN17. (2016): Interview with IN17 on 9 November 2016.
IN5. (2016): Interview with IN5 on 2 September 2016.
IN8. (2016): Interview with IN8 on 11 May 2016.

8. There were three participants from Bangladesh, five from Bhutan, five from China, five from India, two from regional organizations and seven from the workshop organizer.
9. Key literature consulted included Creighton et al. (1998), Grey et al. (2010), Priscoli and Wolf (2009), Sadoff and Grey (2002), Swain (2004), Wouters et al. (2005), Zawahri (2008), Zeitoun and Mirumachi (2008), Huntjens (2011) and Huntjens et al. (2011, 2012).
10. For details of these indicators, see Huntjens et al. (2016).
11. Most significant here are the bilateral treaties between India and Bangladesh and between India and Bhutan. Between India and Bangladesh, the key treaties are the Statute of the Indo-Bangladesh Joint Rivers Commission (1972), which established the Joint Rivers Commission, and the Ganges Treaty (1996). Between India and Bhutan, there are a Treaty of Friendship (signed in 1949 and revised in 2007) and a cooperation agreement on hydroelectric power (2006).
12. Analysis of cooperation between other riparian states is available in Yasuda et al. (2017).
13. Informal conversation with one of the participants in the Brahmaputra Dialogue Workshop, Singapore 2016. Permission to cite given by the participant.
14. Chinese experts from the Ministry of Water Resources collaborated with international experts in 2013 to publish a report on basin water allocation plan that integrates the concept of environmental flow (Speed, Yuanyuan, Quesne, Guy, & Zhiwei, 2013). A Chinese respondent indicated that China has recently adopted the concept of environmental flow in developing the master plan for the Yangtze River, which suggests that such approaches might become more widespread throughout that country (CH10, 2016).
15. Bhutan has a pro-environmental constitution that requires a minimum of 60% of the land to be covered with forest, providing important watershed for rivers (Constitution of the Kingdom of Bhutan, 2008).

Acknowledgments

The authors thank all interviewees and workshop participants for their kind contributions. The research team appreciates the contribution of IUCN Asia for the research work in Bangladesh, India and Bhutan, as well as the multi-stakeholder workshop conducted for this project. Many thanks to Archana Chatterjee and Brian Furze for their kind support of this research project. The authors sincerely thank Marian J. Neal for taking time to provide constructive feedback to the overall research leading to this article, and Rens de Man for his coordination of the multi-stakeholder workshop. We are grateful to Josh Weinberg for his input to the fieldwork in China and for written feedback on an earlier draft of this article. The authors also thank Bjørn-Oliver Magsig and Thom Almeida for their input to the legal analysis.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

The research leading to this article was funded by the Hague Institute for Global Justice and the Stockholm International Water Institute.

References

Aggestam, K., & Sundell-Eklund, A. (2014). Situating water in peacebuilding: Revisiting the Middle East peace process. *Water International*, *39*(1), 10–22.

Ali-Khan, F., & Mulvihill, P. R. (2008). Exploring collaborative environmental governance: Perspectives on bridging and actor agency. *Geography Compass*, *2*(6), 1974–1994.
Amano, K. (2015). Analysis of conflict and cooperation between China and India on the Brahmaputra River Basin water resources. *Asian Studies*, *61*(2), 55–68.
Aneja, A. (2015, June 26). China, India fast-track BCIM economic corridor project. *The Hindu*. Retrieved from http://www.thehindu.com/news/national/china-india-fasttrack-bcim-economic-corridor-project/article7355496.ece
ANI. (2017, July 4). Bhutan to supply hydropower to Bangladesh through India soon. *ET Energyworld*. Retrieved from https://energy.economictimes.indiatimes.com/news/power/bhutan-to-supply-hydropower-to-bangladesh-through-india-soon/59434785
Bandyopadhyay, J., & Ghosh, N. (2016). Hydro-political dynamics and environmental security in the Ganges-Brahmaputra-Meghna basin. *Social Sciences*, 24, 1–25.
Banerjee, P., Salehin, M., & Rames, V. (2014). *Water management practices and policies along the Brahmaputra River Basin: India and Bangladesh: Status report 2014*. India: SaciWATERs.
Barua, A., Vij, S., & Zulfiqur Rahman, M. (2017). Powering or sharing water in the Brahmaputra River basin. *International Journal of Water Resources Development*, 1–15. doi:10.1080/07900627.2017.1403892
Bennett, M. T. (2009). *Markets for ecosystem services in China: An exploration of China's "eco-compensation" and other market-based environmental policies*. Retrieved from http://www.forest-trends.org/documents/files/doc_2317.pdf
Bhat, V. (2017, December 13). Images show China may be using a secret tunnel to divert Brahmaputra water into desert. *ThePrint*. Retrieved from https://theprint.in/2017/12/13/first-evidence-of-complete-brahmaputra-by-china/
BIMSTEC. (2015). *Organization structure*. Retrieved from http://www.bimstec.org/index.php?page=working-structure.
BT4. (2016). [Interview with BT4 on 1 September 2016].
Calhoun, C. (2002). *Dictionary of the social sciences*. Oxford University Press on Demand. Retrieved from http://www.oxfordreference.com/view/10.1093/acref/9780195123715.001.0001/acref-9780195123715
Central Water Commission of India and Bureau of Hydrology and Water Resources of China. (2014). *Implementation plan between the central water commission, ministry of water resources, river development and Ganga Rejuvenation, the Republic of India and the bureau of hydrology and water resources, tibet autonomous region, the People's Republic of China upon provision of hydrological information of the Yarlung Zanbgu/Brahmaputra River in flood season by China to India*. Retrieved from http://indianembassybeijing.in/implementation-plan.php
Chatham House. (n.d.). *Chatham house rule*. Retrieved from https://www.chathamhouse.org/about/chatham-house-rule
Constitution of India. (1949). Retrieved from https://www.india.gov.in/my-government/constitution-india/constitution-india-full-text
Constitution of the Kingdom of Bhutan. (2008). Retrieved from http://gov.bt/wp-content/uploads/2017/08/Constitution-of-Bhutan-Eng-2008.pdf
Creighton, J. L., Priscoli, J. D., Dunning, C. M., & Ayres, D. B. (1998). *Public involvement and dispute resolution - volume 2: A reader on the second decade of experience at the institute for water resources*. Unpublished report. The Hague Institute for Global Justice. Alexandria, VA: US Army Corps of Engineers. Water Resources Support Centre. Institute of Water Resources. Retrieved from file:///C:/Users/yumya701/OneDrive%20for%20Business/Literature/Effective%20water%20cooperation/Deliscolli%201998.pdf
Dasguptal, S. (2017, October 31). China mulls 1,000 km tunnel to divert Brahmaputra waters to Xianjiang region. *The Times of India*. Retrieved from https://timesofindia.indiatimes.com/world/china/china-plans-to-divert-brahmaputra-waters-to-its-xinjiang-region-through-1000-km-long-tunnel/articleshow/61346091.cms
Economic Times. (2015, January 31). India explores scope for power trade with Bangladesh, Bhutan, Nepal. *Economic Times*. Retrieved from http://articles.economictimes.indiatimes.com/2015-01-31/news/58650561_1_power-trade-the-jwg-inter-grid-connectivity

Energy Bangla. (2015). *Power & transit cooperation between BBIN*. Retrieved from http://energybangla.com/power-transit-cooperation-bbin/

Express News Service. (2016, March 24). Take 100 MWs of power, give 10Gbps internet speed: India-Bangladesh deal. *The Indian EXPRESS*. Retrieved from http://indianexpress.com/article/india/india-news-india/take-100-mws-of-power-give-10-gbps-internet-speed-indo-bangla-new-deal/

Furze, B. (2016, November 8-9). Making water cooperation work in the Brahmaputra Basin. Draft report of the dialogue organized in Bangkok by the Hague Institute of Global Justice.

Giddens, A. (1984). *The constitutions of society: Outline of the theory of structuration*. Berkeley and Los Angeles: University of California Press.

Grech-Madin, C., Döring, S., Kim, K., & Swain, A. (2018). Negotiating water across levels: A peace and conflict "Toolbox" for water diplomacy. *Journal of Hydrology*, *559*, 100–109.

Grey, D., Andersen, I., Abrams, L., Alam, U., Barnett, T., Kjellén, B., … Wolf, A. T. (2010). *Sharing water, sharing benefits: Working towards effective transboundary water resources management*. Retrieved from http://unesdoc.unesco.org/images/0018/001893/189394e.pdf

Hazarika, S. (2000). *Rites of passage: Border crossings, imagined homelands, India's east and Bangladesh*. Penguin Books India.

Hill, D. P. (2015). Where Hawks Dwell on water and bankers build power poles: Transboundary waters, environmental security and the frontiers of neo-liberalism. *Strategic Analysis*, *39*(6), 729–743.

Hill, D. P. (2017). The discursive politics of water management in India: Desecuritising Himalayan river basins. *South Asia: Journal of South Asian Studies*, *40*(4), 827–843. doi: 10.1080/00856401.2017.1380576

Huitema, D., & Meijerink, S. (2010). Realizing water transitions: The role of policy entrepreneurs in water policy change. *Ecology and Society*, *15*(2). doi:10.5751/ES-03488-150226

Huntjens, P., Yasuda, Y., Swain, A., De Man, R., Magsig, B.-O., & Islam, S. (2016). *The multi-track water diplomacy framework: A legal and political economy analysis for advancing cooperation over shared waters*. The Hague: The Hague Institute for Global Justice.

Huntjens, P. (2011). *Water management and water governance in a changing climate – Experiences and insights on climate change adaptation in Europe, Africa, Asia, and Australia. Delft*. The Netherlands: Eburon Academic Publishers.

Huntjens, P., C. Pahl-Wostl, Z. Flachner, R. Neto, R. Koskova, M. Schlueter, I. NabideKiti and C. Dickens, (2011). Adaptive water management and policy learning in a changing climate. A formal comparative analysis of eight water management regimes in Europe, Asia, and Africa. *Environmental Policy and Governance*, 21(3): 145–163.

Huntjens, P., L. Lebel, C. Pahl-Wostl, R. Schulze, J. Camkin, and N. Kranz, (2012). Institutional design propositions for the governance of adaptation to climate change in the water sector. *Global Environmental Change*, 22, 67–81.

Huntjens, P, Lebel, L, & Furze, C, (2017). The effectiveness of multi-stakeholder dialogues on water: reflections on experiences in the Rhine, Mekong, and Ganga-Brahmaputhra-Meghna river basins. *International Journal of Water Governance*, 5(3), 39–60. doi:10.7564/15-IJWG98

Johnston, B. R. (1998). Culture, power and the hydrological cycle: Creating and responding to water scarcity on St. Thomas, Virgin Islands. In J. M. Donahue & B. R. Johnston (Eds.), *Water, culture, and power: Local struggles in a global context*. Washington, DC: Island Press.

Keskinen, M., Inkinen, A., Hakanen, U., Rautavaara, A., & Niinioja, M. (2014). Water diplomacy: Bringing diplomacy into water cooperation and water into diplomacy. In G. Pangare (Ed.), *Hydro-diplomacy: Sharing water across borders* (pp. 35–40). New Delhi: Academic Foundation.

Lai, H. H. (2002). China's western development program: Its rationale, implementation, and prospects. *Modern China*, *28*(4), 432–466.

Lidarev, I. (2012). *History's hostage: China, India and the war of 1962*. Retrieved 2017, from http://thediplomat.com/2012/08/historys-hostage-china-india-and-the-war-of-1962/

Ministry of Development of North Eastern Region, Government of India. (n.d.). *Background*. Retrieved from http://mdoner.gov.in/content/background-1

Ministry of External Affairs, Government of India. (2013). *Memorandum of understanding between the Ministry of Water Resources, the Republic of India and the Ministry of Water Resources, the People's Republic of China on Strengthening Cooperation on Trans-border Rivers*.
Ostrom, E. (2005). *Understanding institutional diversity*. Princeton: Princeton University Press.
Prasai, S, & Surie, M. D. (2013). *Political economy analysis of the teesta river basin*. New Delhi: Asia Foundation.
Price, G., & Mittra, S. (2016). *Water, ecosystems and energy in South Asia: Making Cross-Border Collaboration Work. Research paper*. London: Chatham House.
Priscoli, J. D., & Wolf, A. T. (2009). *Managing and transforming water conflicts*. Cambridge: Cambridge University Press.
Ringler, C., Bhaduri, A., & Lawford, R. (2013). The nexus across water, energy, land and food (WELF): Potential for improved resource use efficiency? *Current Opinion in Environmental Sustainability*, *5*(6), 617–624. Retrieved from http://www.sciencedirect.com/science/article/pii/S1877343513001504
Sachin, C. (2016). *East Asian regional development models: Lessons and way forward for South Asia*. Delhi: Observer Research Foundation.
SaciWATERS. (2015). *Consolidated report - Brahmaputra dialogue phase II*. India: SaciWATERS.
SaciWATERS. (2016a, October 27). *Regional level workshop: Transboundary policy dialogue for improved water governance in Yarlung Tsangpo-Brahmaputra-Jamuna River Basin*. Singapore: Nanyang Executive Centre (NEC), NTU.
SaciWATERS. (2016b, October 27). Transnational policy dialogue on improved water governance of Yarlong Zangpo-Brahmaputra-Jamuna River Basin. *Presentation at the Brahmaputra Dialogue*. Singapore.
Sadoff, C. W., & Grey, D. (2002). Beyond the river: The benefits of cooperation on international rivers. *Water Policy*, *4*(5), 389–403. Retrieved from http://www.transboundarywaters.orst.edu/publications/publications/Sadoff%20%26%20Grey%20Beyond%20the%20River%2002.pdf
Sajjanhar, A. (2016). *Understanding the BCIM economic corridor and India's response*. Retrieved from http://www.orfonline.org/wp-content/uploads/2016/06/ORF_IssueBrief_147.pdf
Samaranayake, N., Limaye, S., & Wuthnow, J. (2016). *Water resource competition in the Brahmaputra River Basin: China, India, and Bangladesh*. Arlington, TX: CNA.
Sharma, R., Gorsi, M., & Paithankar, Y. (2016). *Brahmaputra*. Retrieved from http://www.india-wris.nrsc.gov.in/wrpinfo/index.php?title=Brahmaputra
Speed, R., Li, Y., Quesne, T. L., Guy, P., & Zhou, Z. (2013). *Basin water allocation planning: Principles, procedures and approaches for Basin allocation planning*. Paris: UNESCO.
State Council. (2013). *12th five-year plan for energy development*.
Swain, A. (2004). Diffusion of environmental peace? International rivers and bilateral relations in South Asia. In R. Thakur & O. Wiggen (Eds.), *South Asia in the world: Problem solving perspectives on security, sustainable development, and good governance*. Tokyo: United Nations University Press.
Swain, A. (2010). Environment and conflict in South Asia: Water-sharing between Bangladesh and India. *South Asian Journal: Quarterly Magazine of South Asian Journalists & Scholars*, *28*, 27–34.
Tarlock, D. (2015). *Promoting effective water management cooperation among riparian nations*. TEC Background Papers No. 21. Stockholm: Global Water Partnership Technical Committee.
The Hindu. (2016, October 1). China blocks tributary of Brahmaputra to build dam. *The Hindu*. Retrieved from http://www.thehindu.com/news/international/China-blocks-tributary-of-Brahmaputra-to-build-dam/article15421066.ece
Tribune Desk. (2017, December 18). Bhutan, Bangladesh, India hydropower treaty soon. *Dhaka Tribune*. Retrieved from http://www.dhakatribune.com/world/south-asia/2017/12/18/bhutan-bangladesh-india-hydropower-treaty-soon/
UNEP. (2016). *Green is gold: The strategy and actions of China's ecological civilization*. Nairobi: United Nations Environment Program.

Verlare, J., & van der Putten, F. P. (2015). *'One belt one road' an opportunity for the EU's security strategy*. Retrieved from https://www.clingendael.nl/sites/default/files/One_belt_one_road_vdPutten_Verlare_Clingendael_policy_brief_2015.pdf

Wendt, A. (1987). The agent-structure problem in international relations theory. *International Organization*, *41*(3), 335–350.

Wigfield, A., & Eccles, J. S. (2000). Expectancy–Value theory of achievement motivation. *Contemporary Educational Psychology*, *25*(1), 68–81.

Wouters, P., Vinogrado, S., Allan, A., Jones, P., & Rieu-Clarke, A. (2005). *Sharing transboundary waters: An integrated assessment of equitable entitlement: The legal assessment model*. Retrieved from http://unesdoc.unesco.org/images/0013/001397/139794e.pdf

WWF. (2017). *Brahmaputra*. Retrieved from http://wwf.panda.org/about_our_earth/about_freshwater/rivers/brahmaputra/

Yasuda, Y., Aich, D., Hill, D., Huntjens, P., & Swain, A. (2017). *Transboundary water cooperation over the Brahmaputra River: Legal political economy analysis of current and future potential cooperation*. The Hague: The Hague Institute for Global Justice.

Zawahri, N. (2008). Capturing the nature of cooperation, unstable cooperation and conflict over international rivers: The story of the Indus, Yarmouk, Euphrates and Tigris Rivers. *International Journal of Global Environmental Issues*, *8*(3), 286–310.

Zeitoun, M., & Mirumachi, N. (2008). Transboundary water interaction I: Reconsidering conflict and cooperation. *International Environmental Agreements: Politics, Law and Economics*, *8*(4), 297–316. Retrieved from https://ueaeprints.uea.ac.uk/18988/1/ZeitounMirumachi_-_TBW_-_I_(2008).pdf

Zeitoun, M., & Warner, J. (2006). Hydro-hegemony-a framework for analysis of trans-boundary water conflicts. *Water Policy*, *8*(5), 435–460. Retrieved from https://www.uea.ac.uk/polopoly_fs/1.147026!ZeitounWarner_HydroHegemony.pdf

Zhang, Q., Lin, T., Bennett, M. T., & Jin, L. (2010). *An eco-compensation policy framework for the People's Republic of China: Challenges and opportunities*. Retrieved from https://www.adb.org/sites/default/files/publication/28010/eco-compensation-prc.pdf