

The Politics of Water Governance in the Ganges-Brahmaputra-Meghna Basin

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ABSTRACT Transboundary water politics in the Ganges-Brahmaputra-Meghna basin are affected not only by inter-government relations between India, Nepal, Bhutan and Bangladesh, but also by dynamics on different scales, including the hydropolitics between Indian states within the basin. At the same time, the disputed issues, and the patterns of power dynamics between actors, are similar in transboundary interactions in the basin as well as in inter-state interactions within India. Both transboundary water disputes and India's inter-state ones are subject to intense politicking. Within the Indian polity, however, domestic water issues divert political attention away from transboundary ones. Indian states also have significant influence over transboundary water governance, and at times this is at odds with India's central government. This paper describes the parallels and interdependencies between inter-state water conflicts within India, and the transboundary ones with India's neighbours.

INTRODUCTION

There is no dearth of literature on issues related to water security and water conflicts in India. Most studies, however, focus on inter-state conflicts, the constitutional provisions for jurisdictions over water issues, or the legal aspects of India's water conflict tribunals. Absent is any analysis of how hydropolitics between Indian states relate to water interactions with Nepal, Bhutan and Bangladesh. This paper describes the parallels and interdependencies between inter-state water conflicts within India, and the transboundary ones with the country's neighbours.

Similarly, there has been no assessment of how the decentralised and fragmented approach to water governance within India affects transboundary water governance. Although there is an extensive body of literature on devolved federalism and its effect on different sectors—such as land, law and order, and education—of interest here is the effect of state-based water resource management on transboundary water governance.

India is assumed, in relation to its neighbours, as a unitary, cohesive unit rather than an

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aggregate of states, ministries, and interests that compete and sometimes conflict with each other. Taking a constructivist view of India's water governance, i.e., one that accounts for these complexities, contradictions and conflicts in water governance networks, allows for a more nuanced understanding of the transboundary water interactions between India and its co-riparians. This, in turn, allows for the exploration of a more flexible and appropriate transboundary water policy.

This article examines state-level political dynamics that affect the water interactions that India has with Nepal, Bhutan and Bangladesh. The purpose of this analysis is to provide insights into an overlooked aspect of regional hydropolitics that may be of relevance to Indian hydrocrats as well as international organisations engaged in water resource policy-making in the region (e.g., the World Bank-led South Asia Water Initiative). Relations with Pakistan over the rivers of the Indus basin are outside the scope of this paper as the political relationship between India and Pakistan is highly securitised and their water interactions are largely governed by one international agreement, the Indus Waters Treaty.

Understanding how water resources are governed within India should provide insights into the management of transboundary waters. There are three reasons for this. First, water disputes within India are more conflictual than transboundary—indeed, hydropolitics between India, Nepal, Bhutan and Bangladesh are highly cooperative in comparison to water interactions between some Indian states.¹ This means that domestic disputes attract more political attention within India than do international ones. Second, Indian states have significant influence over transboundary water governance, and at times this is at odds with India's central government. Third, the principles that underpin domestic water governance and water conflict resolution between states are reflected in India's approach to transboundary water issues. These themes are extrapolated in the following sections.

INTER-STATE VS. TRANSBOUNDARY WATER DISPUTES

Governance of water issues in India is fragmented and decentralised. It is fragmented because there are numerous bodies, authorities, departments and institutions that have responsibility over water, and many laws that create ambiguous and complex regulations regarding water resources.² The governance of India's rivers is also decentralised as the states, rather than the central government, have primary jurisdiction over the management of water within state borders.³ This means that the governments of Nepal, Bhutan and Bangladesh must negotiate (in the broadest sense of the word, meaning formal and informal discussions on a topic of mutual interest) with Indian states in addition to the central government. This adds an extra layer of politics and difficulty to transboundary water governance.

The decentralised authority over India's rivers becomes increasingly problematic as the growing demand for water directly contributes to the politics of federalism; the movement towards economic liberalisation in the 2000s has increased federalist competition, as each state has become more responsible for attracting investment and funding its own development efforts.⁴ Competition is thus one of the causes of inter-state water conflicts in India. The issue of ownership is another cause. As Lahiri-Dutt points out, the question of ownership is posed at different scales: “Between the state and communities in general, between the central government and respective states, and between local and state governments”.⁵ Water ownership, then, is the source of disputes.

The Indian Constitution does provide for the establishment of tribunals for the resolution of inter-state river water disputes, but in practice this gives the central government no real advantage or manoeuvrability over the states, as it is still constricted by the influence of interest groups and voters.⁶ These tribunals “have been largely ineffective in resolving disputes between

the contesting states”.⁷ Without an effective oversight and arbitration mechanism, the inter-state water disputes within India are left in a similar position to transboundary water disputes which, because of the anarchic nature of international law, cannot be adjudicated by a higher authority (especially not in the Ganges-Brahmaputra-Meghna basin, where no River Basin Organisation exists).

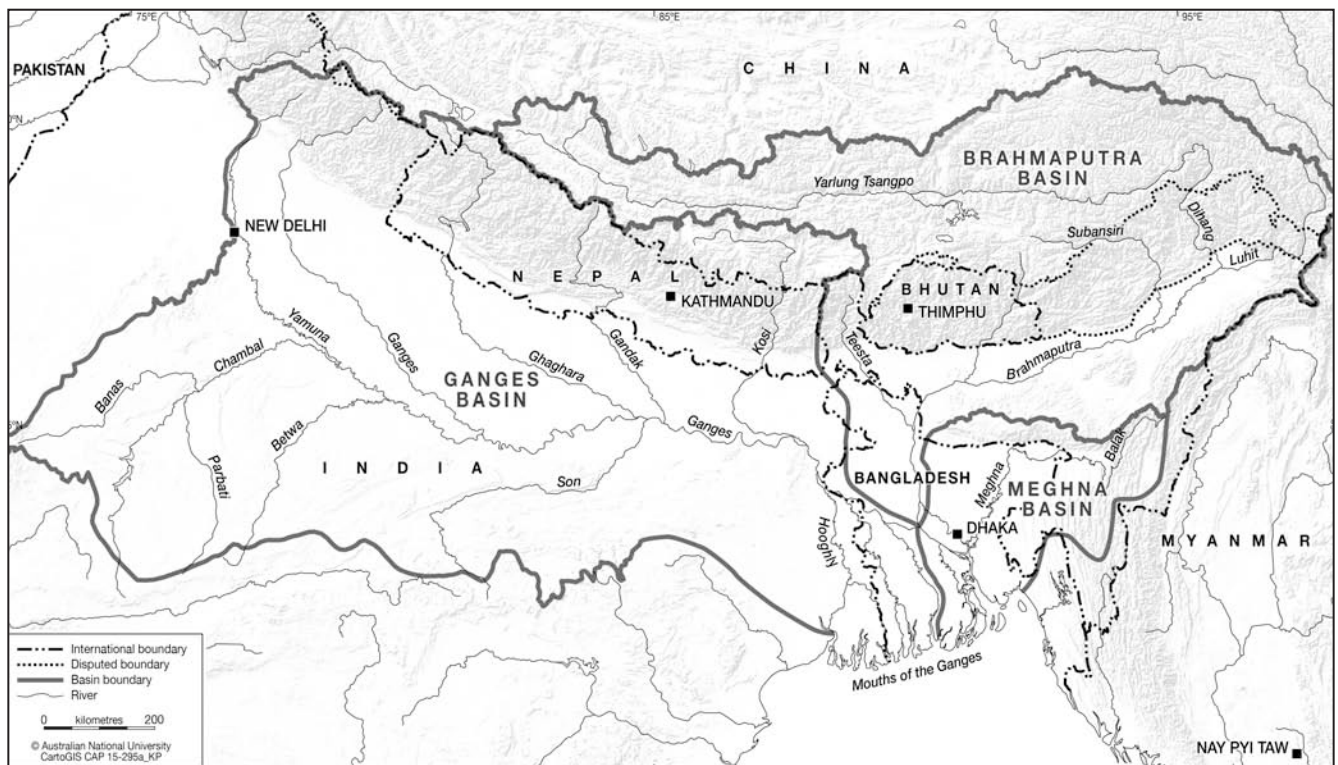
Part of the problem of unresolved inter-state water disputes is not so much the structure or mandate of the tribunal themselves, but rather that water disputes within India are “characterised by bitterness, tend to get enmeshed in party politics, and become intractable”.⁸ The domestic politicking over inter-state water disputes within India distracts political attention from transboundary matters. This has significant implications for policies aiming to improve water cooperation in the Ganges-Brahmaputra-Meghna basin. As Dash notes, “Regional cooperation is a two-level process in which domestic support and regional bargains and negotiations must overlap if cooperation is to proceed”.⁹ Domestic issues

simply take precedence over regional cooperation. In the words of S. Dinar:

“In the GBM [Ganges-Brahmaputra-Meghna] Basin, for example, domestic politics play a large role in the hydropolitics between the basin riparians. Political factions that accuse the ruling party of compromising their respective nation's sovereignty and national interest often curtail cooperation between Bangladesh, Nepal, and India. Although hegemonic stability theory tells us that a lack of regional cooperation is due to the desires of India to prevent multilateral regional cooperation, domestic factors including political instability and nationalist fervor intensify the conflict and also prevent collaboration”.¹⁰

The nuances of inter-state hydropolitics in India also illustrate that dispute resolution mechanisms and institutions alone are not immune to politics and that the political context must be considered when addressing water conflicts. The significance for transboundary

MAP: THE GANGES-BRAHMAPUTRA-MEGHNA BASIN



Source: Australian National University CartoGIS CAP

water policy of the intense politicking between Indian states is that it creates an unhelpful impression: that if India cannot manage its own domestic water conflicts, it will not be able to manage the international ones.¹¹ Also, there is an assumption that “conflicting needs and interests of the different states must be reconciled domestically before any international agreement can be reached”.¹²

Yet India's transboundary water relationships are better than the water interactions between Indian states.¹³ While there is a degree of basin-wide coordination and integration between India and its neighbours, no such arrangements exist within India; indeed, there is a strong resistance to the idea of the River Basin Organisation on the part of the state governments.¹⁴ This poses a policy challenge to those within and outside the region who are working to build a River Basin Organisation in the Ganges-Brahmaputra-Meghna basin.

Moreover, existing legal structures do not allow for the participation of non-state political actors in the adjudication of inter-state water disputes.¹⁵ This is problematic because, as Iyer argues, any consultative, interactive approach to conflict-resolution must also be inclusive: “It must include and involve those who have a vital interest in the decision, namely the farmers, industrial establishments, municipalities, and people in general because all of us are water-users”.¹⁶ He continues that the present system of inter-state water dispute resolution is *de facto* an inter-government system. As such it cannot be said to be one that focuses on water justice outcomes or procedural justice. Yet water justice is increasingly an important issue in the scholarly and policy discourse even though it is still grappling with how to apply a justice approach to transboundary water governance.¹⁷

Mohan explains that the political boundaries of states “often subsume issues that are humane, common and social in nature”,¹⁸ meaning that they are rarely addressed in state-centric water dispute mechanisms. This is also the case in transboundary water governance in the Ganges-

Brahmaputra-Meghna basin. As Prasai and Surie point out:

“Consideration of broader stakeholder perspectives is vital to effective trans-boundary water governance in South Asia [but] the lack of regional cooperation and the absence of local and sub-national perspectives continue to prevent sustainable development and management of transboundary water resources for livelihood improvement, food security, poverty reduction, and effective adaptation to climate change”.¹⁹

Furthermore, the relationship between India's state governments and the central government is largely a zero-sum game: the attitude prevails that one side's gain is the other's loss.²⁰ Nonetheless, as Mohan argues, this need not be the case and that, in relation to the governance of transboundary rivers at least, “Increasing roles for Central institutions...does not necessarily mean a whittling down of the powers of the states”.²¹ This may become a necessary paradigm shift if – or when – India embarks in earnest on the Inter-Linking Rivers Project. If it does, the Inter Linking Rivers Project will require India's central government to better coordinate and control the states on water issues because of the vast amounts of water that will be moved between the states. The Centre will also have to take ownership of the transboundary aspects of this ambitious project, such as water flow into Bangladesh.²² Thus an important challenge for policy is to establish material incentives and disincentives that enable dynamics at the negotiation table based on positive-sum thinking.

Under India's Constitution, the central government already has significant leeway to take charge of transboundary rivers – and inter-state ones too, should Parliament deem it in the national interest (for example, when one state's water management has harmful effects on another). Yet, “the Center has never exercised its powers...and always allowed States to take the larger responsibility. This wilful abdication by the Center led to an understanding that the States

have exclusive power to manage water resources".²³ This complicates water governance because states must be consulted in transboundary water policy.

STATES' INFLUENCE ON WATER INTERACTIONS WITH TRANSBOUNDARY NEIGHBOURS

Indian states have significant influence over the governance of transboundary rivers. States are, in the words of an environmental lawyer, "the biggest stakeholders" in transboundary water interactions and must be part of discussions about how transboundary waters that flow within their boundaries should be managed – though there are numerous joint river commissions to which state representatives are invited, but rarely come.²⁴ The governance of the Ganges-Brahmaputra-Meghna basin is largely dependent on how Indian states manage their water because most of these rivers flow through India: how much water is taken out or polluted within Indian states, will have effects downstream, i.e., for Bangladesh,²⁵ and how much water Indian states claim they need will enter water-sharing negotiations with upstream Nepal and Bhutan.

States are also influential over the central government, though this is not often acknowledged.²⁶ For example, Gujarat saw the World Commission on Dams as "a conspiracy against and a threat to the [Sardar Sarovar Project], and its perceptions had a strong influence on the government of India" that resulted in India rejecting the findings of the Commission's report.²⁷

In terms of transboundary water governance, the influence of the states is significant because international water-sharing treaties cannot be reached with the input of the central government alone; the support of the relevant states is crucial.²⁸ The water interactions between India and its co-riparians are complicated by the involvement of several Indian states, such as Uttar Pradesh, Bihar, and West Bengal.²⁹ For

example, Sikkim was recently able to prevent a water-sharing deal that the central government was negotiating with Bangladesh on the grounds that it did not allocate satisfactory amounts of water for Sikkim.³⁰

There are other complicated issues in north-eastern India that affect transboundary water governance. Arunachal Pradesh, for instance, holds enormous hydropower potential on the Brahmaputra River, which is fast-flowing in the state's mountainous terrain. There are 160 dams being planned to harness this potential and boost economic development in Arunachal Pradesh, but the state is having trouble reaching an agreement with downstream Assam, which is concerned about flooding and siltation. Assam could strengthen its case against Arunachal Pradesh by engaging directly with Bangladesh – which is downstream of Assam and would likely also be affected by dams in Arunachal Pradesh. However, an ongoing dispute between Assam and Bangladesh over compensation for Bangladeshi migrants stands in the way of any such discussion being instigated.³¹

Bangladesh has also been affected by the influence of the state of West Bengal. That state's Chief Minister, Mamata Banerjee, refused to endorse the proposed agreement between India's central government and that of Bangladesh over the Teesta River.³² The Modi government may be more successful in getting the agreement signed because it has a better relationship with the government of West Bengal than did the previous central government. Again, domestic politics matter in transboundary hydropolitics, and must be factored into policy-making processes at the international level.

Similarly, Bihar continues to resent the central government for not being brought into negotiations over the Ganges Treaty with Bangladesh like the state of West Bengal was.³³ This is important because the support of Bihar, and that of Uttar Pradesh, will be critical for any agreements India negotiates with Nepal.³⁴ Significantly for the negotiation process, Bihar

does not have a great power asymmetry with Nepal, unlike India as a whole.³⁵

INTER-STATE AND TRANSBOUNDARY WATER GOVERNANCE: PARALLELS

In addition to the influence of Indian states on transboundary water governance, there are several parallels between the way water is governed within India and the way it is governed in the region. These parallels illuminate possible policy approaches for water governance; what works at one level may work on another, and vice versa.

First, inter-state water disputes, as well as transboundary ones, are driven, in the words of Iyer, by “a competitive unsustainable demand for water...Supply creates demand and necessitates more supply”.³⁶

Second, power asymmetry between actors, and the broader political context, matters significantly. The theoretical aspects of power in relation to hydropolitics is well established (cf. Zeitoun and Allan³⁷). For the purposes of this article, however, a general understanding of power asymmetry suffices. In other words, the same political, military, economic and upstream power dynamics play out between Indian states as do between India and Nepal, Bhutan and Bangladesh. For example, Arunachal Pradesh opposes the restructuring of the Brahmaputra Board (which consists of India's north-eastern states) because the new configuration may undermine its power position.³⁸ India, meanwhile, is the undisputed hydro-hegemon of the Ganges-Brahmaputra-Meghna basin despite being downstream of three co-riparians, namely, China, Nepal and Bhutan.³⁹ Likewise, the political context matters; negotiations over water are about 'horse trading' and the actors with the most issue power hold the upper hand.

The third parallel between inter-state and international water governance is the strong preference for bilateral, rather than multilateral, cooperation. Bilateral agreements tend to benefit the most powerful party, while multilateral ones

are more likely to benefit weaker parties,⁴⁰ thus this preference relates to the importance of power asymmetry. For example, upstream Arunachal Pradesh favours strictly bilateral cooperation with downstream Assam instead of the River Basin Organisation that the latter is proposing.⁴¹ At the international level, India deals with Nepal, Bhutan and Bangladesh in an exclusively bilateral way.⁴² Indeed, this approach is enshrined in India's most recent National Water Policy, published in 2012.⁴³

The fourth parallel is that hydrological data are not readily shared between Indian states, nor between co-riparians in the Ganges-Brahmaputra-Meghna basin. As Mohan notes, inter-state water sharing and conflict resolution is constrained by inadequate availability of information, as well as “hardened regional identities and loyalties” which stand in the way of sharing available data.⁴⁴ At the transboundary level, there is no basin-wide knowledge base and “data are surprisingly scarce and difficult to obtain”.⁴⁵ Moreover, a culture of secrecy and suspicion prevails across all governments in South Asia, thus stifling any inclination to declassify or share data.⁴⁶ Many transboundary hydropower projects, for example, are not known through government-to-government communication, but through reports in the mass media.⁴⁷ India's 2012 National Water Policy suggests that some water-related information may be declassified⁴⁸ (currently, all hydrological data relating to international borders is classified on the grounds of national security.)⁴⁹

The fifth parallel is that a zero-sum attitude to water sharing prevails. As Paranjpye shows, at inter-state levels there is a “lack of integrative thinking among all parties concerned”.⁵⁰ This is also a feature of transboundary water interactions in the Ganges-Brahmaputra-Meghna basin. As Wirsing et. al. point out, “A zero-sum water resource atmosphere is clearly building up in Himalayan Asia”.⁵¹

The sixth parallel is that water governance at all scales has been dominated by supply-side

concerns, and by the various disciplines of engineering.⁵² The Inter-Linking Rivers Project is one prominent example of this within India.⁵³ In terms of transboundary water governance, it too has, according to Prasai and Surie, “long been dominated by technical perspectives from civil engineering, economics, and international law”.⁵⁴

Moreover, state and non-state actors at both international and sub-national levels subscribe to and propagate a global discourse around hydropower as the 'green' and sustainable source of energy. This discourse, in turn, is used to strengthen the argument for the construction of more and larger dams in India's mountainous north-eastern states, as well as in Nepal and Bhutan. Huber and Joshi show that in Sikkim a 'there is no alternative' narrative is being constructed by state and commercial non-state actors (but not civil society) about the inevitability and inherent worth of big hydropower dams. At the same time, these dam narratives are used to reinforce the image of Sikkim as a 'green state'. The confluence of these narratives results in “colored representations of the cost–benefit equation of hydropower development, which tend to overestimate pay-offs (e.g., low variable costs of generation, employment, electrification, rural infrastructure, plentiful revenues) and underreport on potential negative consequences”.⁵⁵ This is not unique to Sikkim but also can be said to be true at the transboundary level. Both Nepal and Bhutan are cultivating a 'green' image while at the same time keen to exploit their hydropower potential for economic gain and other benefits.

CONCLUSION

Understanding the way in which water resources are governed in India, and how inter-state water disputes are negotiated, illuminates transboundary water governance in the Ganges-Brahmaputra-Meghna basin. India's domestic water governance is fragmented and decentralised which, among other problems,

creates ambiguity over water ownership and thus leads to inter-state disputes. These disputes could, under law, be arbitrated in special tribunals established specifically for resolving water issues between India's states. But the tribunals are largely ineffective. Transboundary water issues, too, cannot be resolved by a higher authority such as a River Basin Organisation. Both transboundary water disputes and India's inter-state ones are subject to intense politicking. Within the Indian polity, however, domestic water issues divert political attention away from transboundary ones. Indian states also have significant influence over transboundary water governance, and at times this is at odds with India's central government.

There are various parallels between how water resources are managed in India and how they are managed within the broader Ganges-Brahmaputra-Meghna basin. They are both driven by growing demand for water which leads to supply-side solutions. They are both constrained by power asymmetries between stakeholders, and are subject to complex political dynamics which must be taken into consideration in any water-sharing negotiation. There is a strong preference for bilateral, rather than multilateral, arrangements at both the inter-state level and the transboundary. Both are also hampered by the lack of adequate hydrological data, and the reluctant sharing of what is available. Zero-sum attitudes toward water sharing prevail both within India and the Ganges-Brahmaputra-Meghna basin as a whole. Supply-side solutions and the global discourse about 'green' hydropower dominate and drive dam construction. These parallels between water governance at the state scale and the transboundary scale can be leveraged to refine policy approaches at both levels.

The primary conclusion of this analysis is that the influence of Indian states in transboundary water negotiations cannot be ignored. Secondly, Nepal, Bhutan, and Bangladesh must all deal with Indian states in addition to the central government. This adds an extra layer of

complexity and difficulty that may stall or prolong discussions.

Domestic water disputes within India take precedence over transboundary ones, and this affects the political will invested in transboundary water policy. Similarly, the Indian states are, on the whole, opposed to the creation of a River Basin Organisation in the Ganges-Brahmaputra-

Meghna basin, and this is a further hurdle for policy-makers interested in this institutional approach to transboundary water governance. Lastly, zero-sum attitudes are deeply ingrained at both the transboundary and state scales, and policy-makers should focus on enabling positive-sum negotiations in addition to taking a water justice approach.

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ENDNOTES:

1. Iyer, Ramaswamy R. *Towards Water Wisdom: Limits, Justice, Harmony*. New Delhi: Sage, 2007, pp. 113-114
2. Lahiri-Dutt, Kuntala. 'Introduction' in Lahiri-Dutt, Kuntala and Wasson, Robert J. (eds.) *Water First: Issues and Challenges for Nations and Communities in South Asia*. New Delhi: Sage, 2008, p. xxvii
3. Cullet, Philippe. 'Water Law in India: Overview of Existing Framework and Proposed Reforms' Working Paper 2007-01. Geneva: International Environmental Law Research Centre, 2007, p. 4
4. Hill, Douglas. 'The Regional Politics of Water Sharing: Contemporary Issues in South Asia' in Lahiri-Dutt, Kuntala, and Wasson, Robert J. (eds.) *Water First: Issues and Challenges for Nations and Communities in South Asia*. New Delhi: Sage, 2008, p. 62
5. Lahiri-Dutt, Kuntala. 'Introduction' in Lahiri-Dutt, Kuntala and Wasson, Robert J. (eds.) *Water First: Issues and Challenges for Nations and Communities in South Asia*. New Delhi: Sage, 2008, p. xxvii
6. Wood, John R. *The Politics of Water Resource Development in India: The Narmada Dams Controversy*. New Delhi: Sage, 2007, p. 40
7. Mohan, N. Shantha, Routray, S., and Sashikumar, N. (eds.) *River Water Sharing: Transboundary Conflict and Cooperation in India*. New Delhi: Routledge, 2010, p. ix
8. Iyer, Ramaswamy R. *Towards Water Wisdom: Limits, Justice, Harmony*. New Delhi: Sage, 2007, p. 25
9. Dash, Kishore C. *Regionalism in South Asia: Negotiating cooperation, institutional structures*, New York: Routledge, 2008, p. 40
10. Dinar, Shlomi. 'Water, Security, Conflict and Cooperation' *SAIS Review* 22:2 (2002), pp. 246-247
11. Prasai, Sagar, and Surie, Mandakini. Personal communication with author. New Delhi, 7 July 2014
12. Dinar, Ariel, S. Dinar, S. McCaffrey, and D. McKinney. *Bridges Over Water: Understanding Transboundary Water Conflict, Negotiation and Cooperation*. World Scientific Series on Energy and Resource Economics - Vol. 3. Singapore: World Scientific Publishing Co., 2007, p. 255
13. Bhaduri, Amita, and Kaushal, Sabita. Personal communication with author. New Delhi, 25 July 2014
14. Iyer, Ramaswamy R. *Towards Water Wisdom: Limits, Justice, Harmony*. New Delhi: Sage, 2007, pp. 113-114
15. Chokkakula, Srinivas. *Disputes, (de)Politicization and Democracy: Interstate Water Disputes in India*, Working Paper No. 108, RULNR Working Paper No. 13, January 2012, Hyderabad: Centre For Economic And Social Studies, Research Unit For Livelihoods And Natural Resources, 2012, p. 12
16. Iyer, Ramaswamy R., 'Resolving River Water Disputes in India: Reflections' in Mohan, N. Shantha, Routray, S., and Sashikumar, N. (eds.) *River Water Sharing: Transboundary Conflict and Cooperation in India*. New Delhi: Routledge, 2010, p. 76
17. Zeitoun, Mark, Warner, J., Mirumachi, N., Matthews, N., McLaughlin, K., Woodhouse, M., Cascão, A., and Allan, J.A. 'Transboundary water justice: a combined reading of literature on critical transboundary water interaction and 'justice', for analysis and diplomacy', *Water Policy* 16 (2014), p. 175

18. Mohan, N. Shantha. 'Locating Transboundary Water Sharing in India' in Mohan, N. Shantha, Routray, S., and Sashikumar, N. (eds.) *River Water Sharing: Transboundary Conflict and Cooperation in India*. New Delhi: Routledge, 2010, p.10
19. Prasai, Sagar, and Surie, Mandakini. *Political Economy Analysis of the Teesta River Basin*. New Delhi: The Asia Foundation, 2013, p. 1
20. Keohane, Robert O. and Nye, Joseph. *Power and Interdependence 3rd edition*. New York: Longman, 2001, p. 9
21. Mohan, N. Shantha, and Routray, Sailen. 'Interstate Transboundary Water Sharing in India; Conflict and Cooperation' in Powell, Lydia, and Mittra, Sonali (eds.) *Perspectives on Water: Constructing Alternative Narratives*. New Delhi: Academic Foundation, 2012, p. 207
22. Young, William. Personal communication with author. New Delhi, 20 May 2014
23. Chokkakula, Srinivas. *Disputes, (de)Politicization and Democracy: Interstate Water Disputes in India*, Working Paper No. 108, RULNR Working Paper No. 13, January 2012, Hyderabad: Centre For Economic And Social Studies, Research Unit For Livelihoods And Natural Resources, 2012, pp. 7-8
24. Siddiqui, Shawahiq. Personal communication with author. New Delhi, 20 June 2014
25. Siddiqui, Shawahiq. Personal communication with author. New Delhi, 19 January 2015
26. Prakash, Anjal. Personal communication with author. Kathmandu, 18 August 2014
27. Iyer, Ramaswamy R. 'World Commission on Dams and India: Analysis of a Relationship', *Economic and Political Weekly*, 36:25 (Jun. 23-29, 2001), p. 2275
28. Iyer, Ramaswamy R. Personal communication with author. New Delhi, 31 May 2014
29. Dinar, Ariel, S. Dinar, S. McCaffrey, and D. McKinney. *Bridges Over Water: Understanding Transboundary Water Conflict, Negotiation and Cooperation*. World Scientific Series on Energy and Resource Economics - Vol. 3. Singapore: World Scientific Publishing Co., 2007, p. 255
30. Prasai, Sagar, and Surie, Mandakini. Personal communication with author. New Delhi, 7 July 2014
31. Bhonsale, Mihir. Personal communication with author. Kolkata, 20 October 2014
32. Prasai, Sagar, and Surie, Mandakini. *Political Economy Analysis of the Teesta River Basin*. New Delhi: The Asia Foundation, 2013, p. 13
33. Iyer, Ramaswamy R. Personal communication with author. New Delhi, 31 May 2014
34. Iyer, Ramaswamy R. Personal communication with author. New Delhi, 31 May 2014
35. Price, Gareth. Personal communication with author. London, 14 May 2014
36. Iyer, Ramaswamy R., 'Resolving River Water Disputes in India: Reflections' in Mohan, N. Shantha, Routray, S., and Sashikumar, N. (eds.) *River Water Sharing: Transboundary Conflict and Cooperation in India*. New Delhi: Routledge, 2010, pp. 79-80
37. Zeitoun, Mark, and Allan, J. Anthony (Tony). 'Applying hegemony and power theory to transboundary water analysis' *Water Policy* 10 Supplement 2 (2008), pp. 3-12
38. Bhonsale, Mihir. Personal communication with author. Kolkata, 20 October 2014
39. Hanasz, Paula. 'Power Flows: Hydro-hegemony and Water Conflicts in South Asia' *Security Challenges*, 10:3 (2014), pp. 95-112.
40. National Research Council of the National Academies. *Himalayan Glaciers: Climate Change, Water Resources, and Water Security*. Washington D.C.: The National Academies Press, 2012, p. 91
41. Bhonsale, Mihir. Personal communication with author. Kolkata, 20 October 2014
42. Hill, Douglas. 'The Regional Politics of Water Sharing: Contemporary Issues in South Asia' in Lahiri-Dutt, Kuntala, and Wasson, Robert J. (eds.) *Water First: Issues and Challenges for Nations and Communities in South Asia*. New Delhi: Sage, 2008, p. 75
43. Government of India, National Water Policy (2012), Ministry of Water Resources, New Delhi, 2012
44. Mohan, N. Shantha. 'Locating Transboundary Water Sharing in India' in Mohan, N. Shantha, Routray, S., and Sashikumar, N. (eds.) *River Water Sharing: Transboundary Conflict and Cooperation in India*. New Delhi: Routledge, 2010, p.10

45. The World Bank. *Ganges Strategic Basin Assessment; A Discussion of Regional Opportunities and Risks*. Report No. 67668-SAS. Washington D.C.: The World Bank, 2014, p. xiii
46. Behera, Navnita Chadha. 'Forging New Solidarities: Nonofficial Dialogues' in Mekenkamp, M, van Tongeren, P., van de Veen, H. (eds.), 2002, *Searching for peace in Central and South Asia: an overview of conflict prevention and peacebuilding activities*. Boulder: Lynne Rienner Publishers, 2002, p. 227
47. Singh, Richa. 'Trans-boundary Water Politics and Conflicts in South Asia: Towards Water for Peace' New Delhi: Centre for Democracy and Social Action, 2008, p. 16
48. Government of India, National Water Policy (2012), Ministry of Water Resources, New Delhi, 2012
49. Gyawali, Dipak. 'Bringing Hydro-Diplomacy into Nepal's Economic Diplomacy' in Madhavji Shrestha and Anjan Shakya (eds.), *Vision on Foreign Affairs*. Kathmandu: International Concern Center, October 2013, p. 1
50. Paranjpye, Vijay. 'Evolving a Negotiated Approach to Sharing of Transboundary Rivers' in Mohan, N. Shantha, Routray, S., and Sashikumar, N. (eds.) *River Water Sharing: Transboundary Conflict and Cooperation in India*. New Delhi: Routledge, 2010, p. 124
51. Wirsing, Robert, Jaspardo, C., and Stoll, D.C. *International Conflict Over Water Resources in Himalayan Asia*. New York: Palgrave Macmillan, 2013, p. 13
52. Routray, Sailen. 'The Water Sector in India: An Overview' in Mohan, N. Shantha, Routray, S., and Sashikumar, N. (eds.) *River Water Sharing: Transboundary Conflict and Cooperation in India*. New Delhi: Routledge, 2010, p. 34
53. Iyer, Ramaswamy R. *Towards Water Wisdom: Limits, Justice, Harmony*. New Delhi: Sage, 2007, pp. 46-57
54. Prasai, Sagar, and Surie, Mandakini. *Political Economy Analysis of the Teesta River Basin*. New Delhi: The Asia Foundation, 2013, p. 1
55. Huber, Amelie and Joshi, Deepa. 'Hydropower, Anti-Politics, and the Opening of New Political Spaces in the Eastern Himalayas' *World Development*, Vol. 76, 2015, p. 18

REFERENCES

- Behera, Navnita Chadha. 'Forging New Solidarities: Nonofficial Dialogues' in Mekenkamp, M, van Tongeren, P., van de Veen, H. (eds.), 2002, *Searching for peace in Central and South Asia: an overview of conflict prevention and peacebuilding activities*. Boulder: Lynne Rienner Publishers, 2002
- Bhaduri, Amita, and Kaushal, Sabita. Personal communication with author. New Delhi, 25 July 2014
- Bhonsale, Mihir. Personal communication with author. Kolkata, 20 October 2014
- Chokkakula, Srinivas. *Disputes, (de)Politicization and Democracy: Interstate Water Disputes in India*, Working Paper No. 108, RULNR Working Paper No. 13, January 2012, Hyderabad: Centre For Economic And Social Studies, Research Unit For Livelihoods And Natural Resources, 2012
- Cullet, Philippe. 'Water Law in India: Overview of Existing Framework and Proposed Reforms' Working Paper 2007-01. Geneva: International Environmental Law Research Centre, 2007
- Dash, Kishore C. *Regionalism in South Asia: Negotiating cooperation, institutional structures*, New York: Routledge, 2008
- Dinar, Ariel, S. Dinar, S. McCaffrey, and D. McKinney. *Bridges Over Water: Understanding Transboundary Water Conflict, Negotiation and Cooperation*. World Scientific Series on Energy and Resource Economics - Vol. 3. Singapore: World Scientific Publishing Co., 2007
- Dinar, Shlomi. 'Water, Security, Conflict and Cooperation' *SAIS Review* 22:2 (2002)
- Government of India, National Water Policy (2012), Ministry of Water Resources, New Delhi, 2012
- Gyawali, Dipak. 'Bringing Hydro-Diplomacy into Nepal's Economic Diplomacy' in Madhavji Shrestha and Anjan Shakya (eds.), *Vision on Foreign Affairs*. Kathmandu: International Concern Center, October 2013
- Hanasz, Paula. 'Power Flows: Hydro-hegemony and Water Conflicts in South Asia' *Security Challenges*, 10:3 (2014)

- Hill, Douglas. 'The Regional Politics of Water Sharing: Contemporary Issues in South Asia' in Lahiri-Dutt, Kuntala, and Wasson, Robert J. (eds.) *Water First: Issues and Challenges for Nations and Communities in South Asia*. New Delhi: Sage, 2008
- Huber, Amelie and Joshi, Deepa. 'Hydropower, Anti-Politics, and the Opening of New Political Spaces in the Eastern Himalayas' *World Development*, Vol. 76, 2015
- Iyer, Ramaswamy R. 'World Commission on Dams and India: Analysis of a Relationship', *Economic and Political Weekly*, 36:25 (Jun. 23-29, 2001)
- Iyer, Ramaswamy R. *Towards Water Wisdom: Limits, Justice, Harmony*. New Delhi: Sage, 2007
- Iyer, Ramaswamy R. 'Resolving River Water Disputes in India: Reflections' in Mohan, N. Shantha, Routray, S., and Sashikumar, N. (eds.) *River Water Sharing: Transboundary Conflict and Cooperation in India*. New Delhi: Routledge, 2010
- Iyer, Ramaswamy R. Personal communication with author. New Delhi, 31 May 2014
- Keohane, Robert O. and Nye, Joseph. *Power and Interdependence 3rd edition*. New York: Longman, 2001
- Lahiri-Dutt, Kuntala. 'Introduction' in Lahiri-Dutt, Kuntala and Wasson, Robert J. (eds.) *Water First: Issues and Challenges for Nations and Communities in South Asia*. New Delhi: Sage, 2008
- Mohan, N. Shantha, Routray, S., and Sashikumar, N. (eds.) *River Water Sharing: Transboundary Conflict and Cooperation in India*. New Delhi: Routledge, 2010
- Mohan, N. Shantha. 'Locating Transboundary Water Sharing in India' in Mohan, N. Shantha, Routray, S., and Sashikumar, N. (eds.) *River Water Sharing: Transboundary Conflict and Cooperation in India*. New Delhi: Routledge, 2010
- Mohan, N. Shantha, and Routray, Sailen. 'Interstate Transboundary Water Sharing in India; Conflict and Cooperation' in Powell, Lydia, and Mittra, Sonali (eds.) *Perspectives on Water: Constructing Alternative Narratives*. New Delhi: Academic Foundation, 2012
- National Research Council of the National Academies. *Himalayan Glaciers: Climate Change, Water Resources, and Water Security*. Washington D.C.: The National Academies Press, 2012
- Paranjpye, Vijay. 'Evolving a Negotiated Approach to Sharing of Transboundary Rivers' in Mohan, N. Shantha, Routray, S., and Sashikumar, N. (eds.) *River Water Sharing: Transboundary Conflict and Cooperation in India*. New Delhi: Routledge, 2010
- Prakash, Anjal. Personal communication with author. Kathmandu, 18 August 2014
- Prasai, Sagar, and Surie, Mandakini. *Political Economy Analysis of the Teesta River Basin*. New Delhi: The Asia Foundation, 2013
- Prasai, Sagar, and Surie, Mandakini. Personal communication with author. New Delhi, 7 July 2014
- Price, Gareth. Personal communication with author. London, 14 May 2014
- Routray, Sailen. 'The Water Sector in India: An Overview' in Mohan, N. Shantha, Routray, S., and Sashikumar, N. (eds.) *River Water Sharing: Transboundary Conflict and Cooperation in India*. New Delhi: Routledge, 2010
- Siddiqui, Shawahiq. Personal communication with author. New Delhi, 20 June 2014
- Siddiqui, Shawahiq. Personal communication with author. New Delhi, 19 January 2015
- Singh, Richa. 'Trans-boundary Water Politics and Conflicts in South Asia: Towards Water for Peace' New Delhi: Centre for Democracy and Social Action, 2008
- The World Bank. *Ganges Strategic Basin Assessment; A Discussion of Regional Opportunities and Risks*. Report No. 67668-SAS. Washington D.C.: The World Bank, 2014

Wirsing, Robert, Jasparro, C., and Stoll, D.C. *International Conflict Over Water Resources in Himalayan Asia*. New York: Palgrave Macmillan, 2013

Wood, John R. *The Politics of Water Resource Development in India: The Narmada Dams Controversy*. New Delhi: Sage, 2007

Young, William. Personal communication with author. New Delhi, 20 May 2014

Zeitoun, Mark, and Allan, J. Anthony (Tony). 'Applying hegemony and power theory to transboundary water analysis' *Water Policy* 10 Supplement 2 (2008)

Zeitoun, Mark, Warner, J., Mirumachi, N., Matthews, N., McLaughlin, K., Woodhouse, M., Cascão, A., and Allan, J.A. 'Transboundary water justice: a combined reading of literature on critical transboundary water interaction and 'justice', for analysis and diplomacy', *Water Policy* 16 (2014)



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