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Hydraulic Hegemony or Hydro Solidarity? Rethinking India's Water Diplomacy in the Himalayan Arc Beyond the Soft Power Paradigm

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Abstract

India's management of transboundary water relationships across the Himalayan river systems has been consistently framed in both official discourse and a substantial portion of the scholarly literature as an exercise in cooperative soft power diplomacy, rooted in shared riparian interests and institutionalised through a set of bilateral treaties including the Indus Waters Treaty with Pakistan, the Ganga Water Treaty with Bangladesh, and the Mahakali Treaty with Nepal. This paper challenges this cooperative framing through a systematic application of the hydro-hegemony theoretical framework, developed initially for the analysis of the Jordan and Nile river systems, to the Himalayan arc and its associated diplomatic relationships. The central argument is that India's dominant upstream riparian position, combined with its significantly greater technical and financial capacity to construct water infrastructure and its ability to impose costs on downstream states through unilateral hydraulic decisions, produces structural conditions in which the appearance of cooperative water governance conceals a fundamentally asymmetric power relationship that more closely resembles coercive hydraulic hegemony than the voluntary, attraction-based influence that soft power theory requires. Drawing on treaty texts, diplomatic correspondence, hydrological data, and secondary scholarship on South Asian water politics, the paper demonstrates that India's water relationships with Bangladesh, Nepal, Bhutan, and Pakistan

reflect not a common interest in equitable resource sharing but a set of managed dependency relationships in which downstream states accept terms shaped by Indian structural advantage rather than freely negotiated equitable principles. The paper further develops a triangular analysis involving China's own hydraulic management of the Brahmaputra and other rivers originating in the Tibetan Plateau, arguing that India's position as both downstream victim of Chinese hydraulic advantage and upstream architect of its own hydraulic dominance over South Asian neighbours reveals the structural logic of hydraulic hegemony with unusual analytical clarity. The paper concludes that a genuine soft power approach to Indian water diplomacy would require India to voluntarily constrain its upstream advantages through binding multilateral frameworks, a step that both the political economy of Indian water governance and the strategic calculations of the Ministry of External Affairs make extremely unlikely in the foreseeable future.

Keywords: Hegemony, Solidarity, Water Diplomacy, Soft Power and Himalayan arc.

1. Introduction

Water has occupied a peculiar analytical position in the study of Indian foreign policy. On one hand, transboundary water management has been recognised as one of the most technically and politically complex dimensions of India's relationships with its South Asian neighbours, generating protracted negotiations, periodic crises, and in the case of India's relationship with Pakistan, the single most durable and institutionally sophisticated bilateral agreement in the subcontinent's post-partition history. On the other hand, the analytical frameworks through which Indian water diplomacy has been primarily interpreted have tended towards the cooperative end of the theoretical spectrum, emphasising the potential for shared water management to generate the kind of functional interdependence that could contribute to broader regional integration and to the soft power accumulation that India's official foreign policy discourse consistently identifies as a strategic priority. The Non-Alignment 2.0 strategic document, the Ministry of External Affairs' neighbourhood first policy, and the successive iterations of India's regional connectivity agenda all treat water cooperation as a potential instrument of positive-sum regional engagement.

This paper argues that this cooperative framing is analytically misleading and that understanding India's water diplomacy requires a fundamentally different theoretical lens, specifically the hydro-hegemony framework developed by Mark Zeitoun and Jeroen Warner in their analysis of the

Jordan and Nile river systems and subsequently elaborated by scholars including Naho Mirumachi, Ana Elisa Cascao, and Filippo Menga. The hydro-hegemony framework argues that in asymmetric riparian relationships, the dominant riparian power, typically but not exclusively the upstream state with greater technical and financial capacity, exercises hegemony over shared water resources through a combination of material resource control, the construction of institutional arrangements that favour its interests, and the deployment of ideational frameworks that present its hegemonic position as natural, inevitable, or mutually beneficial. The framework explicitly challenges cooperative water governance narratives as potential instruments of hydro-hegemonic legitimation, arguing that the emphasis on shared interests and technical cooperation frequently serves to obscure rather than resolve the fundamental power asymmetries that shape transboundary water relationships.

Applied to the South Asian context, the hydro-hegemony framework generates a set of analytically challenging propositions about the character of India's water relationships with its neighbours. India is simultaneously the upstream dominant power in its relationships with Bangladesh and, in significant respects, with Nepal and Bhutan, and a downstream vulnerable state in its relationship with China over the Brahmaputra, Sutlej, and other rivers originating in the Tibetan Plateau. This double position as both practitioner and victim of hydraulic leverage gives the South Asian case a distinctive analytical richness that the existing comparative literature has not adequately exploited. By examining how India exercises the same upstream leverage over its southern and eastern neighbours that China exercises over India from the north, the paper reveals the structural logic of hydraulic hegemony as a generalised feature of asymmetric riparian relationships rather than a peculiarity of any particular bilateral relationship.

The paper proceeds through five analytical stages. Section 2 develops the theoretical framework in detail, situating the hydro-hegemony concept within the broader literature on water politics and soft power theory and specifying its analytical implications for the South Asian case. Section 3 examines the specific water relationships between India and Bangladesh, Nepal, Bhutan, and Pakistan, applying the hydro-hegemony framework to each bilateral relationship and demonstrating the structural asymmetries that the cooperative framing conceals. Section 4 develops the China-India-downstream states triangular analysis, using the analytical parallel between China's hydraulic leverage over India and India's leverage over its own downstream

neighbours to illuminate the structural logic of the system as a whole. Section 5 examines the implications of the analysis for both the theoretical understanding of water soft power and the practical design of more equitable regional water governance frameworks. Section 6 concludes with reflections on what a genuine hydro-solidarity approach to Indian water diplomacy would require and why the structural conditions that would enable it are currently absent.

2. Theoretical Framework: Hydro-Hegemony and the Limits of Soft Power in Riparian Politics

The concept of soft power, developed by Joseph Nye in his analysis of American international influence, defines power as the ability to shape the preferences of others through attraction rather than coercion, typically through the appeal of culture, values, and policies that others voluntarily wish to emulate or associate with. Nye's framework has been extensively applied to the analysis of Indian foreign policy, with scholars identifying Bollywood, yoga, the Indian democratic model, and technical development cooperation as primary instruments of Indian soft power across diverse regional contexts. The application of the soft power framework to water diplomacy treats water cooperation treaties, joint management commissions, and technical water assistance as instruments through which India generates diplomatic goodwill and builds positive bilateral relationships based on shared functional interests.

The hydro-hegemony framework challenges this application by pointing to the structural conditions under which water relationships are formed and maintained. Zeitoun and Warner identify three pillars of hydro-hegemony: resource capture, through which the dominant riparian state unilaterally develops and exploits shared water resources before any governance framework is established; institutional control, through which the dominant state shapes the institutional frameworks governing shared water resources to reflect its interests; and ideational control, through which the dominant state promotes conceptual frameworks, including the cooperative water governance narrative, that present its hegemonic position as natural or mutually beneficial. Each of these pillars is analytically relevant to India's water relationships in South Asia.

Resource capture has characterised India's approach to virtually all of its major transboundary river systems. The Farakka Barrage on the Ganga, constructed by India between 1962 and 1975 without comprehensive consultation with Bangladesh and without an agreed framework for the

downstream sharing of diverted flows, is the paradigmatic case of resource capture preceding institutional arrangement. The barrage was designed primarily to flush sediment from the Hooghly river to maintain the navigability of Calcutta port, a developmental objective that reflected Indian priorities and that imposed significant costs on Bangladesh's agricultural and ecological systems through reduced dry-season flows, increased salinity intrusion, and altered sedimentation patterns in the Bengal delta. The Ganga Water Treaty of 1996, which established a formula for sharing Ganga flows at Farakka during the lean season, represented a partial institutionalisation of the post-capture status quo rather than a renegotiation of the fundamental terms of the relationship, since it accepted the physical reality of the barrage as a given rather than subjecting it to review on grounds of equitable utilisation.

Institutional control in India's water diplomacy is expressed through the bilateral rather than multilateral framework that India consistently prefers for transboundary water governance. India has resisted all proposals for multilateral river basin governance frameworks in South Asia, including proposals for a comprehensive Ganges-Brahmaputra-Meghna basin framework that would bring together Bangladesh, Nepal, Bhutan, India, and potentially China within a single governance architecture. The bilateral preference is analytically explicable through the hydro-hegemony framework: bilateral negotiations between India and each of its neighbours separately preserve India's structural advantage by preventing the formation of a downstream coalition that could collectively bargain for terms more favourable than any individual state can achieve bilaterally. The SAARC framework has repeatedly attempted to create a regional water dialogue, and India has consistently deflected these attempts in favour of bilateral engagement, a pattern that is systematically consistent with the hydro-hegemony hypothesis.

3. Bilateral Water Relationships: Bangladesh, Nepal, Bhutan, and Pakistan

India's water relationship with Bangladesh is analytically the most significant in the region because it involves the largest population most directly affected by transboundary water management decisions and because it has been the most politically contentious. Bangladesh's geography makes it uniquely vulnerable to decisions made by India about water infrastructure on the Ganga, Brahmaputra, and their tributaries: approximately ninety percent of Bangladesh's surface water originates outside its borders, primarily from rivers flowing through Indian territory, and the

country's agricultural system, freshwater ecology, and coastal geography are all acutely sensitive to changes in flow volumes, timing, and sediment loads. This structural dependency creates the condition that hydro-hegemony theory identifies as foundational to asymmetric riparian relationships: the downstream state's essential interests are hostage to the upstream state's decisions in ways that fundamentally limit the downstream state's negotiating leverage.

The history of the Farakka Barrage dispute between India and Bangladesh illustrates the institutional control dimension of India's hydro-hegemony. Bangladesh has consistently argued that the Farakka diversion has caused irreversible ecological and agricultural damage to its western delta region, reducing fish populations, increasing soil salinity, disrupting the livelihoods of millions of farming and fishing families, and contributing to the desertification of the Ganges-dependent wetland systems. India has acknowledged these concerns in diplomatic forums while maintaining the barrage in operation, offering successive temporary water-sharing arrangements rather than a comprehensive renegotiation of the terms on which the diversion operates. The 1996 Treaty, while representing a genuine improvement over the absence of any formal sharing agreement, was negotiated on terms that reflected Indian infrastructure realities rather than Bangladeshi ecosystem needs, institutionalising the post-capture status quo in ways that Bangladesh has privately resisted but been unable to alter given the power asymmetry of the relationship.

Nepal's water relationship with India presents a different configuration of hydraulic hegemony that involves not only downstream India's control over water flowing out of Nepal but, paradoxically, upstream Nepal's structural dependence on India for the development of its own water resources. Nepal possesses one of the world's largest unexploited hydropower potentials, estimated at over eighty thousand megawatts of technically feasible capacity, and has been attempting to develop this resource as a basis for economic development and electricity export since the 1980s. However, the development of major Nepali hydropower projects requires access to Indian markets for electricity export, Indian technical and financial cooperation for construction, and Indian approval for the infrastructure necessary to connect Nepali generating capacity to regional grids. This configuration means that Nepal's ability to benefit from its own water resources is structurally dependent on Indian cooperation in ways that give India enormous leverage over the terms on

which Nepali hydropower development proceeds, leverage that India has not been reluctant to exercise.

Pakistan's water relationship with India through the Indus Waters Treaty represents the most institutionalised and arguably the most equitable of India's bilateral water arrangements, a fact that is itself analytically revealing. The Indus Waters Treaty, brokered by the World Bank and signed in 1960 after nearly a decade of negotiations, allocated the three eastern rivers of the Indus system, the Ravi, Beas, and Sutlej, exclusively to India and the three western rivers, the Indus, Jhelum, and Chenab, primarily to Pakistan. The treaty has survived three wars between India and Pakistan and is widely regarded as a remarkable example of functional cooperation in a deeply adversarial bilateral relationship. The hydro-hegemony framework provides an analytically nuanced reading of the treaty's durability: it has survived primarily because the clear division of river systems, rather than a sharing formula that would require ongoing joint management, removes the need for the kind of continuous cooperation that asymmetric power relationships make structurally difficult.

4. The Triangular Analysis: China, India, and the Logic of Hydraulic Position

The analytical power of the hydro-hegemony framework is most clearly demonstrated by examining India's double riparian position as both an upstream hegemon over its southern and eastern neighbours and a downstream vulnerable state in relation to China's management of the rivers originating in the Tibetan Plateau. China's dam construction programme on the upper Brahmaputra, known in Chinese as the Yarlung Tsangpo, has generated significant concern in India about China's potential capacity to alter flow volumes and timing in ways that could affect the water security of Assam and other downstream Indian states. These concerns are analytically parallel to the concerns that Bangladesh expresses about India's management of the Ganga, and the structural logic that generates them is identical: an upstream state with superior technical and financial capacity constructs hydraulic infrastructure that creates leverage over downstream states regardless of any cooperative intent.

India's concerns about Chinese hydraulic leverage illuminate, with uncomfortable analytical clarity, the structural logic of the same leverage that India exercises over Bangladesh and Nepal. India has argued, both bilaterally with China and in multilateral forums, for greater transparency in Chinese dam operations on the Brahmaputra, for data-sharing agreements on flow volumes and

reservoir operations, and for the eventual development of a bilateral water governance framework that would provide India with some assurance about the reliability of upstream flows. These are precisely the arguments that Bangladesh has made to India about the Ganga, that Nepal has made about the Karnali and other rivers, and that India has consistently declined to address through any binding multilateral framework. The structural parallel is so direct that Indian scholars and officials are sometimes visibly uncomfortable when it is pointed out, reflecting the analytical tension between India's downstream interests vis-a-vis China and its upstream interests vis-a-vis Bangladesh and Nepal.

The triangular analysis has important implications for the soft power interpretation of Indian water diplomacy. If India's resistance to binding multilateral water governance frameworks is driven, at least in part, by the desire to preserve its upstream hydraulic leverage over South Asian neighbours, then the same resistance simultaneously limits India's ability to make credible demands for binding governance frameworks from China. A state that declines to accept the multilateral governance constraints it advocates for others lacks the normative credibility to advance those constraints as general principles of international water law, a credibility deficit that China has not been slow to exploit in its own diplomatic responses to Indian hydraulic concerns.

5. Implications for Water Soft Power Theory

The analysis developed in this paper has significant theoretical implications for the application of soft power theory to water diplomacy. The core theoretical finding is that soft power, as Nye theorised it, requires that the influence exerted be genuinely voluntary, rooted in the attraction of the influencing party's values, culture, or policies rather than in structural coercion or material dependency. Applied to transboundary water relationships in South Asia, this requirement cannot be satisfied where the fundamental terms of bilateral water arrangements are shaped by the upstream dominant party's structural advantages rather than by freely negotiated equitable principles. The water sharing arrangements between India and Bangladesh, India and Nepal, and India and Bhutan are not evidence of Indian soft power because the terms of these arrangements reflect Indian structural leverage rather than Bangladeshi, Nepali, or Bhutanese attraction to Indian values or policies.

A more analytically adequate framework for understanding India's water diplomacy would distinguish between hydraulic power, the capacity to shape transboundary water outcomes through structural riparian advantages, institutional power, the capacity to determine the governance frameworks within which water relationships are managed, and genuine soft power in the water domain, the capacity to generate positive diplomatic relationships based on the voluntary perception that Indian water governance represents a model worthy of emulation or partnership. The existing literature on Indian water diplomacy has conflated these three distinct forms of influence, treating hydraulic and institutional power as instances of soft power and thereby mischaracterising both the character of India's water relationships and the conditions under which more genuinely cooperative approaches would be possible.

For India to develop a genuine water soft power strategy rather than the hydraulic hegemony that its current approach constitutes, it would need to make a set of structural commitments that are currently absent from its water diplomacy: a willingness to accept binding multilateral governance frameworks for major river basins that constrain its own upstream infrastructure decisions; a commitment to equitable utilisation principles that go beyond the minimum flow guarantees of existing bilateral treaties; and a genuine investment in regional water institutions with independent monitoring and dispute resolution capacities. These commitments would require India to voluntarily constrain its hydraulic advantages, a step that neither the domestic political economy of water development nor the strategic calculus of the Ministry of External Affairs currently supports.

6. Conclusion

India's water diplomacy in the Himalayan arc is best analytically described as hydraulic hegemony with cooperative framing rather than as soft power in any theoretically rigorous sense. The bilateral water treaties through which India manages its transboundary water relationships institutionalise rather than resolve the structural asymmetries of asymmetric riparian relationships, providing downstream states with limited but tangible protections while preserving Indian hydraulic leverage over the fundamental terms of water sharing. The triangular analysis involving China's upstream leverage over India demonstrates the structural generality of this dynamic and illuminates the

normative inconsistency of a state that resists binding multilateral governance when it is the upstream hegemon while advocating for it when it is the downstream vulnerable party.

The implications for India's soft power strategy are clear. The current approach generates short-term diplomatic management of water tensions but does not produce the kind of voluntary alignment and positive regard that genuine soft power would require. A state that its neighbours experience as the architect of their hydraulic dependency is not generating soft power through its water relationships regardless of the cooperative framing of its official diplomacy. The development of genuine water soft power would require structural commitments that the current political economy of Indian water governance makes unlikely, but that the long-term imperatives of regional stability, climate change adaptation, and the genuine soft power goals of Indian foreign policy ultimately demand.

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