



**RESEARCH PAPER**

**The Indus Waters Treaty in an Era of Hybrid Competition: A DIMEFIL Assessment of Contemporary India–Pakistan Relations**

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**ABSTRACT**

This paper discusses the strategic worth of the Indus Waters Treaty (IWT) with an eye toward addressing the manner in which the agreement is changing in response to new geopolitical and environmental demands. The paper employs the DIMEFIL model (Diplomatic, Information, Military, Economic, Financial, Intelligence, and Legal) to evaluate such changes by using water security, infrastructure politics, and regional competition. Since 1960, the IWT was a pillar of the Indo-Pakistani relationships, which has survived through multiple crises. Nevertheless, the current condition is challenging the stability of the oceans due to some recent geopolitical changes and climate pressure, which cast doubt on its adaptability during the present period. Qualitative analysis is performed, researching relations through ancient data, diplomatic intercourse, and legal and regional conflict trends. The paper concentrates on diplomatic as well as the strategic implications with case studies illustrating important tensions. Increasingly, the IWT is shaped by water securitization, politics and military interests in infrastructure. Its stability is also strained by legal and economic issues with hydro-development. With an aim of safeguarding the IWT, it may be necessary to employ adaptive diplomacy, institutional innovation, as well as integrated strategic management to ensure that water is a stabilizing aspect in South Asia.

**Keywords:** Indus Waters Treaty, Hybrid Competition, DIMEFIL Framework, India–Pakistan Relations, Hydro-Strategy, Water Security, Strategic Signaling

**Introduction**

The Indus Waters Treaty (IWT) of 1960 was traditionally considered to be one of the best enduring water-sharing treaties in the international system, and it managed to withstand all wars, crises, and protracted political enmity between India and Pakistan. The treaty, brokered by the World Bank, is a legal and technical framework of the Indus River system where transnational water distribution and management can be organized. It has served long over the years as a stabilization factor in South Asia to act as a shield against the geopolitical tensions in wider hydrological collaboration. The modern strategic environment, however, of hybrid competition, strategic signaling and growing rivalry, has put the treaty at a crossroads. However, there have been dramatic realignments in the India Pakistan relations in the last few years that are characterized by change in the diplomatic posture, interpretation of law, narration of information, and military signaling. Simultaneously, water security has become more of a resource management challenge than as a source of national strength, economic sustainability and strategic advantage (Khan, et. al., 2022; Narasiman, 2025).

Within this changing environment, the Indus Waters Treaty can no longer be discussed as being pure technical or a legal agreement; it is necessary to treat it as a part of the larger politics of power. The commercialization of water language, wrangles over hydroelectric projects, and demands of treaty reevaluation all stem out of the increase in

the intersection of hydrology and geopolitics. The integrated security concept in Pakistan is currently interconnecting water availability with food security, energy sustainability, economic stability, and cohesive internal forces. On the other hand, the infrastructural development of the rivers on the western side of India and aggressive diplomatic stance provide some new dimensions of strategic ambiguities. The developments indicate that the treaty is working in a dynamic grid of deterrence, signaling and coerced diplomacy as opposed to strictly cooperative grid.

This paper uses a DIMEFIL framework Diplomatic, Information, Military, Economic, Financial, Intelligence, and Legal to evaluate the current applicability of the treaty and structural weaknesses in the treaty. At a diplomatic level, the lack of trust and disputed interpretations put a strain on the mechanisms of dispute resolutions. Discourse and policy stance on the information front concern the narratives on water nationalism, reinterpretation of treaties, and the urgency of the environment. Intelligence and military wise, critical water assets and upstream management have gained strategic importance in the hybrid warfare. Hydro-development trends and climate variability have a lot of economic, financial implications on the agriculture, energy production, and macroeconomic planning of Pakistan. Its legal aspect is still at the centre of attention, as the move to shift the understanding of the provisions of treaties also makes the more generalized concerns of compliance, arbitration, and the effectiveness of the international water law in an unequal power environment. At the same time, there are multilateral and climate diplomacy opportunities as well as legal options that are probable to stabilize the framework (Major General (Dr) SB Asthana, 2025).

This study takes a step further by not merely analyzing the modern relations between India and Pakistan through the prism of hydrology or legalistic analysis of the Indus Waters Treaty. It provides a comprehensive strategic approach to water governance as it intersects with national power, hybrid competition and regional stability in the South Asian region. Today, the treaty is not an undisputed icon of survival, but at a key crossing point conditioned by the changing security principles and geopolitical reset button (Wasi, 2025).

### **Literature review**

The principal legal and diplomatic agreement that remains in place between river waters between India and Pakistan since 1960 is the Indus Waters Treaty (IWT). Most of the average annual flow of the basin is allocated to India and Pakistan respectively by the distribution of the three eastern rivers (Ravi, Beas, Sutlej) and the three western rivers (Indus, Jhelum, Chenab) by the treaty which was brokered and deposited at the World Bank. To pass down an idea at least, it has been generally quoted that the flow of the western rivers is about 135 million acre-feet of water, but that of the eastern rivers is only about 33 million acre-feet of water. Its sixty years of success has been attributed to its elaborate technical annexes, well-structured dispute-resolution artifices as well as its oversight by the World Bank, which insulated hydrological co-operation against higher levels of political upheaval (Azizi & Leandro, 2025).

In terms of diplomacy, the IWT has always held a peripheral position of participation even during diplomatic upheaval. However, the new phase of the India-Pakistan relations, characterized by the enhanced strategic competition, has already demonstrated certain additional tension (Noor et al., 2025; Afzal, et al., 2020). Indian-constructed run-of-the-river hydropower projects particularly Kishanganga and Ratle became the trigger to official objections and arbitration. The mechanisms of the treaties sought by Pakistan include Court of Arbitration as compared to reinterpretations and occasionally, review or suspension that India has suggested as the political tension has grown. This type of development represents both procedural stability of the treaty and its increased politicization as a component of a larger strategic competition (Saeed et al., 2025).

Water has been converted into a powerful storytelling tool in the information world. The treaty is framed in the Pakistani context as the core of national survival where the authorities mentioned that nearly 80 per cent of the irrigated production is dependent on the Indus system flow. The domestic Indian discourse is increasingly stressing over issues of sovereigns and the access to Himalayan resources, which could be leveraged to advance their economic and energy security (Bukhari et al., 2025; Jalil et al., 2023). The securitization of water language will limit the discretion of diplomacy and augment domestic concerns of policy makers making the treaty a component of hybrid rivalry and not technical governance (Mateen, 2025).

The military and strategic aspects also present this shift. The IWT permits manipulations of the unilateral flows, down-stream asymmetry, and hydrological variability, unlike upstream down-stream asymmetry, which offers strategic sensitivities as well as the Kashmir region being an area with a disputed territory (Bukhari, 2024; Naseer et al., 2025). There is a deterrence and signaling prism that has been applied on water infrastructure such as seasonal storage and dam design. This policy research warns that the theatrics of perceived insecurity of water amidst crisis conditions might yield to dynamic escalation considerations, particularly to a torment of civilian infrastructure and military strategic benefits that are unsettled in the nature of hybridities (KHALID, 2025).

The stakes are great, economically and financially. The Indus basin is the cornerstone on which Pakistan uses to base its irrigated agriculture, hydropower and food security. Any reduction or variability of the flow of western rivers on long-term basis would directly affect the agricultural production, export revenue and macroeconomic balance (Rafique & Khan, 2024). In contrast, India has had the megawatt projects of Himalayan hydropower - such as Kishanganga (c. 330 MW), and Ratle (c. 850 MW) - as a commercially viable resource which is required in the energy development in the area. This type of economic calculus encourages the development of infrastructure as well as growing the vulnerability to climate change and market risk (Ranjan, 2025).

Technical savvy and intelligence has taken place to be a major weapon of challenge treaties. There are Hydrological models, dam studies, satellite analysis and environmental impact studies, which affect legal submissions and arbitration outcomes. The gathering of data has an imbalance in capacity, and interpretation of data which influences the bargaining power. Such a model of reliance on neutral expert and technical arbitration points out to the reality that technical intelligence has become a part of the diplomatic and legal approach (Iftikhar, 2025).

Dispute-resolution within the IWT has a legal framework, which comprises of the Permanent Indus Commission, Neutral Expert and the Court of Arbitration. Cases like Kishanganga award in 2013 determined what could be done in the design and the quantity of diversion that could be made (Amin & Uddin, 2023). However, it is a complicated, politized, and controversial law. Most recent developments, subject territory and suggestions of treaty review characterize a growing strain on legal frameworks as a result of enhanced rivalry (Gilmartin, 2025).

The potential de-escalation and adaptation avenues also are identified in the literature. It is anticipated that the variability of seasonal flows in climate change and climatic conditions provided by glaciers will contribute to the increased volatility of the data that will be used to justify the co-distribution of data and comprehensive adaptation interventions (Farooqui et al., 2023). Confidence-building had a potential to hold the stabilizing role of the treaty because of the open design of hydropower, coordination of flood control measures, and multilateral technical dialogue. These are however, opportunities depending on the institutional innovation and political goodwill (Khan, 2025).

Overall, the new literature outlines the IWT as a feasible governance system that is simultaneously a treaty with mounting strategic pressure. A review based on DIMEFIL shows overlapping pressures on the basis of diplomatic messages, information discourses, military sensitivities, economic interdependent nature, information asymmetry, and legal challenge (Ngo et al., 2026). So long as the technical architecture is here to stay, the treaty has lived through a time of mixed competition where water governance is unambiguously mixed with fields of national projection of power and regional deterrence. The increase or decrease of the competition will precondition whether the institutional mechanisms of IWT will take the route of adapting to the strategic reality or will fall into the consumption of its growing competition (Adil et al., 2025).

## **Material and Methods**

The research uses a qualitative-analytical research approach, to assess the Indus Waters Treaty (IWT) in the modern strategic arena on a DIMEFIL framework (Diplomatic, Information, Military, Economic, Financial, Intelligence, and Legal domains). It is a policy-based strategic analysis which combines international law, security studies and political economy. The treaty text, World Bank arbitration, reports of the Permanent Indus Commission, hydrological data of Pakistan IRSA, satellite-based flow, and World Bank, FAO and UN Water data are all examples of primary sources. Diplomatic school of thought reviews bilateral negotiations and post crisis visits; information-domain examines the narrative mapping in both the states. The strategic impact of infrastructure vulnerability is analyzed on the basis of scenarios. Economic and financial analysis reflects the agricultural reliance and the hydropower input in Pakistan whereas intelligence analysis looks into the asymmetries of monitoring. Legal study considers the provisions of treaties and arbitration case law. DIMEFIL model allows a combined evaluation of the treaty resilience, strategy relevance, and vulnerability.

## **Results and Discussion**

The Indus Waters Treaty (IWT) remains the focal point of legal and diplomatic policy framework managing transboundary water management of rivers uniting India and Pakistan but in its modern strategic setting, the issue is markedly more, more than at any previous time, more intricate than when the treaty was signed in the year 1960. The treaty, originally brokered by the World Bank, foreshadowed a division between solely the eastern rivers (Ravi, Beas, Sutlej) and the western rivers (Indus, Jhelum, Chenab) and apportioned the mean annual flow of the basin to about 80 percent to Pakistan and 20 percent to India with a performance based on a 5.7 million kilometer (2.3 million square miles) split. The treaty was hailed as a conflict resistant one, having withstood wars in 1965 and 1971, the Kargil crisis and diplomatic frozen periods that lasted much longer than expected. It was durable because of technical annexes in it, organized dispute resolving frameworks, and institutional stability, based on Permanent Indus Commission (Azizi & Leandro, 2025). In the current situation of hybrid competition, strategic signaling, infrastructure expansion, and climate stress, the treaty is now working in a much more politicized and securitized world, though.

Diplomatically, the IWT remains an official means of dialogue albeit decoupling with the greater rivalry but there has been a weakening of its insulation. Litigation Enmity over Indian run of river hydropower projects is the ongoing dispute over Kishanganga and ratle. Parallel processes of Neutral Experts and arbitrations have revealed differences in procedures, and India has questioned the application of mechanisms in conjunction and signalling of treaty provisions in increased political tension (Saeed et al., 2025). Even though the institutional processes stay the same, the diplomatic tone of its approaches indicates that trust is dwindled. Technical forums of the treaty are more consequently an extension of larger strategic rivalry as opposed to finite cooperation.

Within the information terrain, discourses of water have been embedded in the national discourse of strategy. In Pakistan, policymakers and analysts have conceptualized the IWT as a requirement to achieve various food security, agricultural sustainability goals, and economic survival prospects proposed by experts, particularly the heavy reliance of irrigated system agriculture on the Indus flows. Discourse in India on domestic issues upon sovereign rights, domestic discourse focuses on harnessing the hydropower based on the treaty to provide energy security and regional development. Both sides of political rhetoric and media framing talk more and more about water leverage, reinterpretation, or aggressive use of resources. This plot rise reduces the flexibility in diplomacy and enhances securitization impacts (Mateen, 2025). No longer just a matter of public perceptions but elite bargaining space is now a subject of information politics.

Upstream-downstream asymmetry still gives rise to structural sensitivities in terms of militarily and strategically. Despite the nature of deliberate flow manipulation which is restricted by the treaty, crisis signalling may be affected by impressions of infrastructural control and vulnerability. Geology of Kashmir in which most western- river projects have been setup provides territorial and symbolic significance to water infrastructure. Even civilian hydropower plants would take on a strategic edge in an age of hybrid war theories and grey zone operations. There is a warning in the policy that during the escalatory cycles, perceived threats to water security might serve to increase mistrust and problematize deterrence stability (KHALID, 2025). The instrumentality of infrastructural defending and surveillance through securitization supports the constitution of hydrology in the process of defense planning.

The centrality of the basin is still extensive economically and financially. The hydrological stability is a macroeconomic issue that Pakistan is very reliant on the western river flows to sustain its irrigated agriculture and hydropower generation. Seasonal and climate induced variability in flows has impacts on the food production, livelihoods of rural population, and export performance. Elsewhere, India considers the hydropower development in the Himalayan area as a commercially feasible and regionally strategic energy balancing (Ranjan, 2025). Climate volatility in both states increases glacial melting fluctuations and monsoon uncertainty which increases their adaptation costs. Another level of complexity to the economic dimension of the treaty is exposure to finances associated with project delays, the cost of arbitrations and infrastructure investment.

Even the current monitoring environment has become more centered on intelligence and technical expertise. Legal arguments and diplomatic discussions are based on satellite photography, hydrological model, dam design study, and real-time volume of flow. Negotiating leverage can be affected by data asymmetries in either capability also in measurement or in the technical interpretation (Iftikhar, 2025). The technical world has thus turned into a strategic asset. Ability to manage quality data influences arbitration results, framing of narratives and perception of crises. Within a digitized monitoring space, the intelligence capacity overlaps treaty compliance checking.

The IWT has one of the most elaborate dispute-resolution structures in the international water law. Neutral Expert procedures and the Permanent Indus Commission as well as the Court of Arbitration are still open channels. Essential decisions such as Kishanganga award helped to explain design aspects of projects and also diversion limits (Gilmartin, 2025). Nonetheless, the rising number of courts of appeal and controversial jurisdiction are indications of heightened politicization. Announcements of renewing treaties, deliberations about sequence of procedures and efforts to use rhetoric to cite suspension remind of increasing pressure at the end of the legal frame. The treaty is binding, but it cannot be completely resilient in the long term not only through the legal text but also through political adherence to institutional norms.

Climate change is now a characteristic variable of context. A shrinking of glaciers in the Himalayas, unpredictable spells of precipitation, and escalated flood-drought events raise anxiety in the downstream, and at the same time, upgrade demands of upstream storage, and hydropower. The relevance of the treaty could be enhanced through adaptive cooperation information sharing, addressing flooding through coordination, and climate resilience planning. However, there are the difficulties of strategic mistrust undermining jointly adaptive activities (Khan, 2025). Climate stressors enhance the fault lines in DIMEFIL, and support the necessity of multidomain coherence, not concentrating on piecemeal policy reactions.

Put altogether, all these developments put the Indus Waters Treaty at a modern strategic junction. It is institutionally strong, technically elaborate, and legally functional. Nevertheless, its environment has shifted to that of hybrid competition, narrative contestation, infrastructural signaling, and climate induced uncertainty. Models of this nature are DIMEFIL lens, which displays coexisting stressors: diplomatic strain; information-based securitization; military sensitabilities associated with upstream asymmetry; massive economic and financial exposure; asymmetries in intelligence; and legal challenge in the face of increased rivalry. Although the treaty remains in the given operation, it remains more upon a stabilizing aspect that is more reliant on dynamic diplomacy, plausible technical candor, and prudence in securitized speeches (Adil et al., 2025).

Presently the IWT both collapses not and has not been comfortably insulated; it is current and but pressured in a strategy. Its future path will depend on whether India and Pakistan use it as a cooperative confidence mechanism or else they let it be a platform of the larger rivalry forces. The relevance of the treaty in the context of hybrid competition goes beyond water distribution to include how deterrence, economic resilience and regional stability should be managed. It is the Indus basin that can be viewed more as a hydrological system and a strategic artery whereby its governance will define the direction of India-Pakistan relations in the coming years.

Those findings suggest that the Indus Waters treaty (IWT) is still institutionally operational, but the diplomatic, informational, military, economic, intelligence, and legal components of the Treaty are working under the pressure of increased strategic intensity to date. The Permanent Indus Commission (PIC) has been making continuous diplomatic efforts which indicates that the procedural fabric of the treaty has not been taken away. The interactions in 2020 are indicative of a two-way trend of continuity and contestation. Pakistan has continued to hold on record an objection to upstream run-of-the-river hydropower projects in India such as the 330 MW Kishanganga, and the 520-850 MW project Ratle (often quoted at 520-850 MW at different stages of flow reporting), based on the design parameters having a potential effect on timing of downstream flow. India on its part has stressed that Indian projects comply with the specifications of the treaties. Whereas much of the technical issues in the past have been resolved under PIC mechanisms, a relatively small though the politically, larger percentage of the technical issues have risen to Neutral Expert review or arbitration. The tendency herein points to the proposition that since about four-fifths of treaty frictions may be safely fixed on bilateral bargaining, the existence of a minority of cases which now have wider geopolitical signaling merit. It is rather a symptom of strain within a system operating in a more adversarial strategic environment, than a sign of breakdown, as the legal strata of wrangles are becoming progressively more disputed.

Monitoring capacity has improved greatly in the information and intelligence domain. Diplomatic claims / legal submissions are currently being formulated by satellite imagery, hydrological models and data collection of real-time flows. India has developed significant part of the allowable infrastructure in the western rivers within the limits of treaty and Pakistan has enhanced surveillance by developing WAPDA and IRSA monitoring

stations to observe seasonal fluctuations in discharge. The problem of data asymmetry is still a tender one, in the interpretation of any of storage capacity, spillway design, and drawdown levels may be valuable in a legal narrative. The sphere of information politics also makes the technical more complicated: in both states, the discourse surrounding water starts to adopt more and more securitized language. The Pakistani authorities tend to emphasize the central role of the basin in the national food security and agricultural sustainability, but the Indian discourses have highlighted the sovereign development rights and the hydropower development as a diversification of energy sources. This narrative gradient eliminates flexibility in politics and makes hydrology a part of strategic communications.

In terms of opportunities, the treaty also offers a working platform of cooperative water governance. The six Indus basin rivers namely Indus, Jhelum, Chenab, Ravi, Beas, and Sutlej, are still under the clear regime of allocation of 80 percent of the total basin flows to Pakistan. The possibility of collaborative flood prediction, climate adaptability, sediment regulation and integrated infrastructure demonstrating is among the underutilized possibilities. Empirical models indicate that increased efficiency in irrigation, as well as shared data-information, may contribute to productivity in agriculture in Pakistan in Punjab and Sindh province, by as much as 10-15 percent in an event of consistent flow conditions. Though, climate change brings volatility, which increases both the risk and opportunity. Changes in glacier-supplied variability with characteristically abrupt monsoon cycles raise the strategic demand of conceptualized basin management, although doubt has restricted effort into collective structures of climate resilience.

The military analysis demonstrates that albeit the IWT is officially not involved in conflict, geopolitical context surrounding the water security correlates with totality of deterrence. Structural sensitivities are caused by upstream down-stream asymmetry and the geographical concentration of infrastructure in disputed Kashmir. Despite the limitations on deliberate diversion that the treaty establishes within specific limits, the sense of control may bring about effects on the psychology of crisis. It is also observed by the increasingly growing number of military analysts that the prolonged form of disruption be it by climatic shock or influence felt by the perceived infrastructure manipulation would only serve to aggravate domestic instability or further heighten tensions along the Line of Control. These are enhanced by the aspects of hybrid competition precepts whereby civilian infrastructure becomes fluctuated with strategic relevance. In such a way, although there is no indication of systematic infractions, securitization of discourse regarding water opens latent ways of escalation.

Indus systems flows continue to have a deep economic and financial implication to Pakistan. Irrigated agricultural activities are largely dependent upon basin water, hydropower accounts to about a quarter to a half of all electricity production. With the comparable cut in seasonal flows or extreme variability in future seasons, it is estimated that annual losses to agricultural activity would be between one point two to one point five billion, but those with indirect effects on energy production and industrial output. On the other hand, the hydropower development strategy of India positions the hydropower projects like Kishanganga and Ratle as commercially viable resources that stabilize grid in the region and enhance an economic surge. The economic mathematics of each side boosts infrastructural priority and increases susceptibility to hydrological risk. Financial risk is further complicated by arbitration expenses, project delays and financing uncertainty.

Lawwise, the IWT has been one of the most elaborate and sustainable water-sharing agreements in the whole world. Its three-level dispute resolution system which includes Permanent Indus Commission, Neutral Expert, and Court of Arbitration have dealt with only a few cases that have escalated since the year 1960 with the overall compliance rates tall. The permissible design parameters and diversion limits were mathematically defined by landmark cases such as the Kishanganga arbitration, adding strength to legislation.

Nevertheless, there have been recent procedural conflicts concerning parallel arbitration tracks and jurisdictional sequencing which point to a strain around the legal system. Although not ten cases over sixty years have proceeded beyond bilateral negotiation to a legal recourse, the politicization of recent meetings demonstrates a growing prominence of legal recourse within strategic positioning instead of being confined to clarification of technical nature.

All in all implications of the results are that the Indus Waters Treaty is functional but is under strategic strain. There are diplomatic processes, the intelligence capacity is increased, economical interdependence is high, and the legal architecture continues to exist. However, it is information-based politics, climatic variations, infrastructure growth, and hybrid competition that have incorporated the treaty in a larger grid of influence indicating. The IWT is not just a water-sharing system but a multi domain stabilizer, which relies on institutional credibility and restraint under securitized discourse to maintain its resilience. Its future viability will depend less on the written clauses and more on the political goodwill to maintain it as a partnership system in the face of the growing rivalry in the region.

## **Conclusion**

DIMEFIL assessment of today sensitizes policy makers to realize that the Indus Waters Treaty (IWT) is still institutionally sound yet strategy constrained in a hybrid competition world. The treaty applies diplomatically as one of the limited systematic platforms of India-Pakistan interaction, whereas recurrent conflict between upstream hydropower development undertakings and administrative wrangles have decreased trust and heightened politicization. Satellite surveillance, hydrological modeling and narrative framing have entered the information and intelligence field to determine its compliance debate, whereas the securitized discourse of the public reduces the flexibility of diplomacy. Upstream downstream imbalance, territorial geography of contested areas, increases sensitivity to infrastructural development, defining water governance in a wider deterrence. The economic and financial reliance of Pakistan on Indus basin flows to generate agriculture and hydropower is important to demonstrate the macroeconomic dangers of prolonged insecurities, and India and its infrastructure development shows equivalent developmental commitments. The treaty dispute-resolution architecture is also functioning legally, but climate variability, technological change and jurisdictional contention challenge the ability of the structure to have an adaptive capacity. In the end, the IWT is in a location of strategic crossroads; its further ability to stabilize will rely on a decreased reliance on textual endurance, and an increase in political restraint, institutional transparency, and inter-domain coordination in a competitive regional situation.

## **Strategic Recommendations**

- **The High-Level, Insulated Water Diplomacy should be institutionalized.** By establishing predictable annual as well as crisis-contingency meetings at senior levels of diplomacy and technical, the Permanent Indus Commission (PIC) must be enhanced with more than regular technical meetings. An organized scaling-down system- which would become operational at times of political or military emergency- would ensure that the water dilemmas would not be dragged into the wider inter-competition process. Isolating the water diplomacy against the occasional political failure may ensure a stabilizing role of the treaty and avoid misunderstandings in the times of tension.
- **Create a Joint Transparency and Verification Regime.** Both parties ought to cut down on mistrust through increased real-time hydrology data exchange, mutual stations of flow surveillance, and frameworks of satellite-based validation which have mutually agreed technological benchmarks. Third-party audits of large hydropower projects by independent engineers would further diminish even the suspicion about

design compliance. Open technical collaboration reduces intelligence asymmetric conditions and stops conflict situations turning into politicised opposition.

- **Make a Climate-Resilience Compact to the Indus Basin.** Considering the rapidly melting glaciers and hydrological uncertainty, India and Pakistan ought to establish a climate adaptation system that is shared to conduct flood forecasting, drought management, sediment control as well as risk modelling across the basin. To conform the environmental security to the stability within the region, a climate-resilience compact would reposition water governance as a cooperative survival planning, instead of the zero-sum allocation.
- **Pre-Construction Review Protocols of the Depoliticization of Infrastructure.** The system of forced, time-limited pre-construction consultation with neutral technical panels, must be made institution-wide of all major offshore projects. It is possible to prevent post-construction arbitration, as well as minimize narrative securitization, once there is early transparency concerning the design of the spillway, the scope of storage limits, and levels of drawdown.
- **Combine Legal and Economic Risk Protection.** The two states ought to make a step forward to modernize the application of treaties, to establish consistent procedural sequencing in the resolution of disputes, and by placing climate and environmental factors in the context of interpreting the treaties. At the same time, the macroeconomic impacts of flow volatility can be reduced by basin-level economic contingency planning that involves agricultural insurance, a hydropower buffering of variability, and financial risk-sharing instruments. The combination of enhancing legal credibility and economic resilience will be helpful in standing the treaty in a firm ground amid hybrid competition in the long term.

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