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Introduction

Climate change has evolved from an ecological issue to a critical strategic variable of stability in South Asia. The region's geographical location, shaped by its diverse landforms, including transboundary rivers, seasonal rainfall, and the complex mountain ecosystem of the Himalayas, places it among one of the world's foremost climate-sensitive regions. Rivers, including the Indus, Ganges, and Brahmaputra, in the Hindu Kush Himalaya (HKH) shape the central hydro-network of South Asian communities, supporting over one billion population throughout the countries of India, Bangladesh, Nepal, Bhutan, and Pakistan.¹ Although climate-related issues, including melting glaciers, unpredictable monsoon periods, and increased levels of floods, are reshaping environmental and political borders of South Asia,² introducing additional challenges to transboundary water treaties,³ food-security,⁴ and human mobility dynamics.⁵ According to World Bank reports, shifting climate patterns could significantly reduce the standards of living for up to 800 million people in South Asia, which hosts some of the world's lowest-income populations. ⁶ However, despite

common environmental threats, the region lacks an integrated approach to collaborative climate strategies.

For New Delhi, the crucial concern of regional climate governance lies in maintaining equilibrium between its two separate identities: as both a significant regional player and an upper riparian state. Although it has socioeconomic and institutional strength, orienting it to take the initiative in adaptability and resilience-building, its geostrategic leverage over transboundary river systems also causes its regional neighbours to be cautious of uneven influence and dominance.⁷ India's current agreements on transboundary water systems, including the Mahakali Treaty (1960) with Nepal, the Ganges Water Sharing Treaty (1996) with Bangladesh and the Indus Waters Treaty (1960) with Pakistan, were mainly mediated under resource allocation and to resolve historical conflicts on water-sharing⁸ instead of climate anticipation. In the present era, these agreements are becoming insufficient in addressing the interrelated characteristics of climatic challenges, such as floods in Assam originating from the Brahmaputra River basin, which have direct impacts for the downstream nation, Bangladesh's deltaic plains, located in the Ganges-Brahmaputra-Meghna (GBM) river basin⁹ or glacier retreat in the Himalayas impacting downstream flow dynamics in Bhutan and Nepal.¹⁰ The outcome is an incoherent response to an intrinsically transboundary issue, where national interests frequently overrule collective adaptive capacity. Therefore, the paper argues that India, given its capacities and pivotal position in South Asia, has a dual responsibility and the ability to take the lead in forming transboundary and regional climate frameworks, linking political, technological, and organisational shortcomings to promote South Asia's synergised climate-security initiatives.

Why South Asia Lacks Effective Climate Cooperation

Despite common environmental challenges, the region of South Asia still lacks integrated regional climate action due to a combination of multiple factors. Lack of political confidence continues to be the most substantial obstacle.¹¹ Long-standing tensions, territorial conflicts, and water allocation issues influence diplomatic relations between the nations.¹² India-Pakistan disputes restrict mediation and negotiations on the Indus River,¹³ meanwhile, Bangladesh is vigilant about upstream measures in the

Teesta, Ganges and Brahmaputra River systems.¹⁴ Likewise, Nepal-India river disputes mainly result from upstream-downstream challenges, water distribution and hydropower projects with significant rivers like the Mahakali and Koshi being controversial,¹⁵ restricting multilateral climate collaboration programs. A lack of credibility and confidence erodes attempts to address transboundary climate challenges jointly, even when environmental interconnections are significant.

Institutional limitations possibly exacerbate the concern of climate change even more. Regional institutions, such as SAARC, have remained mainly non-functional, with limited capabilities to regulate ecological and climate governance measures.¹⁶ Although initiatives like the SAARC Action Plan on Climate Change (2008), the SAARC Disaster Management Centre (SDMC) (2007), and the SAARC Meteorology Research Centre (SMRC) have been adopted by SAARC member-states,¹⁷ these institutions have been affected by geopolitical conflicts; limited funds and institutional capacity among member-states which have constrained these programs and institutions from working effectively.¹⁸ BIMSTEC, on the other hand, while more adaptable, has conventionally enhanced regional trade and connectivity. It established the BIMSTEC Centre for Weather and Climate (BCWC) in 2014, but it currently lacks effective and sustained action and remains in the process of evolving and becoming less institutionalised.¹⁹ Leaving the region without a formal framework to resolve common climate issues. Thus, the immense possibilities for cooperative strategies remain unexplored, and most resilience actions are executed separately at the national level.²⁰

Technological and data imbalances also limit collaboration. Hydrological and climate data are often isolated, and disaster response capabilities differ significantly among regions. For an example, while India has made investments in over 1600 hydrometeorological sites all over the nation, encompassing 20 river basins, which are primarily operating moderately well as flood monitoring stations, preparing flood forecasts and developing cyclone detection systems through initiatives like the National Cyclone Risk Mitigation Project,²¹ compared to other nations in South Asia, such as Afghanistan, Pakistan, and Bangladesh, which still rely on weakly integrated monitoring systems.²² This reduces the efficacy of regional collaboration during severe conditions. However, examples like bilateral hydropower cooperation between India and Bhutan since the 1960s²³ and development of advanced early warning preparedness, which facilitated the relocation of over three million people in

Bangladesh and India, followed by post-cyclone relief efforts in the deadliest Cyclone Amphan (2020), highlights that efficient cooperation is feasible. ²⁴These accomplishments reflect the capacities of bilateral efforts to transform into comprehensive multilateral warning systems and crisis management frameworks, providing a model for systematic transboundary climate governance in South Asia.

India's Strategic Imperative in Regional Climate Cooperation

New Delhi's strategic leverage in South Asia extends beyond geographic frontiers to its developmental and tech-driven capabilities, which make it a major facilitator of cross-border climate resilience. For example, India's renewable energy capacity is estimated at around 217.62 GW (January 2025), ²⁵ which is likely to dominate the South Asian market. New Delhi has met its objective of "40% of its installed electricity capacity from non-fossil energy sources by 2030",²⁶ as part of the NDC initiative taken in COP 21, Paris Agreement. ²⁷These capacities enable New Delhi to promote transboundary climate adaptation frameworks that smaller neighbouring nations, with limited capacities, could not implement without external assistance. Although transforming these opportunities for regional collaboration demands balancing New Delhi's operational capability with the state sovereignty and interests of lower-riparian countries.

Additionally, New Delhi's growing soft power in global climate governance enhances its recognition as a regional leader. Through projects like International Solar Alliance (ISA), initiated by India and France in 2015, the ISA has aimed to accomplish "US\$1 trillion in solar investments by 2030" ²⁸and Coalition for Disaster Resilient Infrastructure (CDRI), launched by India in 2019 to advance the adaptive capacity of new and pre-existing infrastructure to climate and disaster risks, ²⁹New Delhi has highlighted its capability to leverage global climate standards. Advancing these efforts in regional forums like BIMSTEC and IORA allows India to set up global standard of practices into region-specific climate resilience measures, therefore forming cohesion between international recognition and regional ascendancy.

Opportunities for India

India's pivotal position in South Asia's climate and geopolitical setting offers an exclusive possibility to address ecological challenge into regional cooperation. By enhancing its capabilities in addressing climate threats, New Delhi can foster climate partnerships and present solutions that strengthen both resilience and interconnectedness of South Asia.

- **Strengthening Regional Integration**

Climate partnership provides India with a unique chance to advance functional regionalism, especially in a context where conventional diplomacy commonly experiences socio-political impediments. For instance, bilateral collaboration between India and Bangladesh during Cyclone Amphan (2020), as discussed in the above paragraph, demonstrated how cooperation on disaster management and early-response frameworks has evidently minimised disaster damages. Extending these approaches across the Ganga-Brahmaputra-Meghna basin, which maintains the livelihoods of more than 630 million population, ³⁰ could enhance regional disaster preparedness for cyclones, floods and adverse climatic issues.

- **Economic Diplomacy through Shared Adaptation**

Regional climate initiatives in the South Asia can also serve as an instrument of economic diplomacy, enabling New Delhi to link sustainable growth with geopolitical influence. Integrated river governance and management, renewable energy corridors, and sustainable climate-resilient farming could result in mutual opportunities and benefits while fostering New Delhi's green energy aspirations. India has generated 1,08,494 GWh of solar power energy, exceeding Japan to rank as the world's third-largest solar energy producer (reported 2025), ³¹with a "plan to invest Rs. 67,42,400 crore (US\$800 billion) in green hydrogen, clean energy, semiconductors, and EVs by 2034", ³²has drawn international investors in India. Along with growing expertise in solar energy,

clean energy green financing, and climate technologies, New Delhi can export climate solutions to its neighbouring nations through technological transfers, co-limiting regional challenges, and enhancing India's position as a development supporter and non-coercive partner.

- **Stabilising Border Ecologies**

The convergence of climate change and security is especially noticeable around India's strategic northeastern frontiers, where sensitive ecosystems and social conflicts intersect. The Ganges-Brahmaputra Delta frequently experiences flooding, soil erosion and sedimentation, all of which stimulate internal migration and transnational migration.³³ Cooperative measures in flood embankment, sediment control, and ecological rehabilitation could help mitigate these challenges. Combining ecological governance with preventive diplomacy mechanisms transforms climate diplomacy into a comprehensive instrument for maintaining balance and stability.

Challenges and Constraints

Even as New Delhi aims to stimulate regional climate partnerships, many practical and long-term issues could minimise its efficacy. Notions of supremacy and dominance pose a substantial challenge: neighbouring states often perceive India-led initiatives as an effort to establish supremacy rather than enhancing collaborative strength.³⁴ For instance, Pakistan has regularly raised questions on India's hydropower development on the western rivers, asserting that it goes against the Indus treaty and curtails downstream flow,³⁵ For Bangladesh, it primarily demands an "equitable" distribution of the Teesta River from India.³⁶ These types of suspicions and concerns limit collaborative initiatives, prevent agreements related to data-exchange, and postpone the development of regional governance arrangements.

Also, resource and capacity constraints raise challenges, not only for small neighbouring countries but also for New Delhi itself. While the Ministry of Earth Sciences, India, have established high-level early warning systems, an end-to-end GIS-based Decision Support System (DSS) and developed innovative cyclone-monitoring capabilities,³⁷ national gaps endure in flood mitigation planning, resilient

city infrastructure, and a lack of advanced technologies in climate modelling.³⁸ Expanding adaptation measures regionally requires New Delhi to overcome its domestic shortcomings while mobilising technology, funding, and human resources across the region.

Also, climatic uncertainty and cross-border intricacy significantly hinder collaboration. Severe incidents in South Asia are growing more serious. In India, severe heatwaves during the summer season resulted in approximately 110 deaths due to heatstroke (2023 data). The extended heatwave in 2023 impacted South and Southeast Asia, from Bangladesh and eastern India to other regions of Asia.³⁹ The Ganges-Brahmaputra-Meghna (GBM) delta records over millions of people impacted by floods yearly,⁴⁰ and the Bay of Bengal region generally experiences 5-6 cyclones annually,⁴¹ numerous crossings the multiple sovereign jurisdictions.

Policy Recommendations / Way Forward

- **Establish Multilateral Early-Warning Systems**

Leveraging successful bilateral efforts, such as India-Bhutan hydro relations, New Delhi can guide the development initiative of a 'South Asian Multi-Hazard Early Warning Network'. This program would combine riverine, coastal, and glacial retreat statistical information and inputs across the region. Routine cooperative sessions, capacity-building trainings, and active knowledge exchange would enhance disaster preparedness and advance cooperation among regional actors.

- **Enhance India's Internal Climate Infrastructure**

Overcoming internal limitations and challenges in flood regulation framework and advanced climate forecasting is significant. A strong national climate adaption system can prove that India's oversight and direction is reputable and reliable, technologically advanced, consensus-based and politically viable, establishing a strong foundation for directing regional resilience measures.

- **Improve Regional Climate Finance and Technology Transfer**

Developing a 'South Asian Climate Technology Fund', supported by global financial organisations, to assist in disaster resilience funding and carbon footprint mitigation initiatives can be a significant step towards regional cooperation for a mutual benefit of all. Facilitating technology transfer in domains such as technology-driven farming, flood early warning, and renewable power storage is crucial to adapt to climate challenges. By developing financial mechanism that are reachable and inclusive, nations of the region can address resource deficits, assuring that regional partnership transforms into functional local capacity.

Reimagining Climate Multilateralism

New Delhi's policies towards climate challenge have long been executed through the prism of developmental need, instead of viewing them through vision of climate-security nexus, and giving more significance to developmental goals like sustainable growth, overall well-being, and economic advancement.⁴² Thus, India can showcase a unique pathway to reshape regional climate cooperation by putting regional growth and prosperity in the forefront of the regional dialogue and diplomacy i.e. choosing multilateralism over conflict-driven discourses.

Aligning Climate and Foreign Policy

India should advance its climate adaptive measures aligning with its foreign policies such as SAARC, BIMSTEC, Neighbourhood First, Act East, and broader Indo-Pacific policies, ensuring that eco-partnership strengthens development between South Asia and the other regions of the globe, where India can bridge the link between the regions. India with other countries like Bangladesh, Bhutan and Nepal can promote initiatives like BBIN to promote inter-regional connectivity; focus on sustainable trade relations, and people-to-people connectivity enhancing soft regionalism beyond regions. Climate vulnerable regions like Southeast Asia and Pacific islands can collaborate with South Asia through QUAD and ASEAN-based multilateral and minilateral platforms where they can collaborate on joint ventures in green energy corridors and collective

disaster preparedness strategies. Putting development first instead of securitising 'climatic risk' eases political tensions and fosters wider participation for a common cause without being apprehended of losing sovereignty. As Southeast Asia and the wider Indo-Pacific region pragmatically have more efficient climate resilience methods and techniques, collaborating with these regions at the global platforms can advance South Asia's climatic adaptation strategies.

Incorporating Climate with Maritime and Coastal Development

South Asia lacks a unified maritime climate approach, even after experiencing typical dangers from rise of sea levels, cyclones, and declining fishing stocks in the Bay of Bengal and Arabian Sea. Thus, all national climate policies of South Asia can be studied together by a designated climate research centre which can make policies according to the needs of the countries of the region, such as oil spills prevention and knowledge sharing mechanisms. Institutions, like IORA, and QUAD can assist in creating cooperative networks for coastal climate mitigation and risk management systems. Although platforms like the SAARC Agreement on Rapid Response to Natural Disasters (2016) exist, their performance have suffered from poor execution due to inadequate funding and political tensions. ⁴³To reduce these tensions, the governments of South Asia should come together to raise public awareness; set-up training centres in coastal zones to encourage a shift to nature-based solutions; protecting mangroves and involve local communities will be a comprehensive initiative integrating national meteorological departments, research centres, epistemic communities and disaster management bodies.

Showcasing India's Model Globally

At COP summits and other forums like G20, New Delhi can highlight its influential role bringing together all eight South Asian nations and representing whole South Asia as a climate vulnerable region encouraging climate cooperation among the Global South countries. They can emphasise on green investments and skill development projects particularly intended for developing countries. Through programs such as the International Solar Alliance, which now has over 124 member nations, and the Coalition for Disaster Resilient Infrastructure, New Delhi has facilitated resilient

infrastructure, supporting high-risk geographies and placing particular emphasis on enhancing infrastructure in the Global South to mitigate climate and disaster hazards.⁴⁴ By promoting such initiatives on international forums and voicing for developing regions like South Asia, India can leverage its identity as a norm-shaper and leader of climate-resilient solutions.

Conclusion

South Asia's climate future hinges on transforming common challenges into avenues for regional resilience-building. India, regarded as a significant stakeholder in the region, needs to incorporate a climate governance framework into its foreign policies with other nations and cooperative initiatives in its Blue Economy objectives to foster a development-driven regional identity. By utilising climate partnerships as an instrument for development and regional stability, instead of a power struggle, New Delhi can facilitate the formation of multilateral platforms for adaptation, technology transfer, and sustainable growth. This initiative will bolster New Delhi's legitimacy and direct the region of South Asia, leading to a future of collective well-being and long-term integration.

DISCLAIMER

The paper is author's individual scholastic articulation and does not necessarily reflect the views of CENJOWS. The author certifies that the article is original in content, unpublished and it has not been submitted for publication/ web upload elsewhere and that the facts and figures quoted are duly referenced, as needed and are believed to be correct.

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