

## **National Institute of Advanced Studies (NIAS)**

**Think Piece**

**Dr. Sanjay Kumar Srivastava**

S Radhakrishnan Chair Professor

**National Institute of Advanced Studies (NIAS),**

Indian Institute of Science Campus,

Bengaluru – 560012. INDIA.

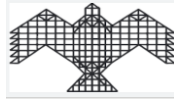
### **COP30: Adaptation Finally Takes Centre Stage — What It Means for India**

COP30 in Belém, Brazil, was both turbulent and transformative. Negotiators struggled through delays and frictions, and compromises were unavoidable. Yet, behind the slow diplomacy lay a decisive shift: the world has begun treating adaptation not as a secondary climate pillar but as the core of global climate politics. As climate impacts intensify faster than mitigation results can materialise, the urgency of protecting people, economies and development gains is now impossible to ignore.

The Belém summit delivered a mixed outcome, but one that moves global adaptation ambition forward. The most consequential announcement—a collective commitment to triple adaptation finance by 2035—signals that adaptation is finally being understood as a strategic investment. While it falls short of the quantified, equitable burden-sharing sought by many developing countries, the target provides political momentum at a time when climate impacts are deepening. The global adaptation financing gap is now at least twelve times the current flows; for every dollar not invested in preparedness, multiple dollars are lost in response and recovery. Tripling finance does not close the gap, but it shifts the trajectory.

Another breakthrough came through agreement on a package of 60 indicators for the Global Goal on Adaptation (GGA). After years of stalemate, countries now have a framework—imperfect, but workable—for monitoring progress on resilience, water and food security, risk reduction, early-warning coverage, adaptive capacity and nature-based solutions. Some indicators were softened during last-minute negotiations, yet the overall architecture provides clarity and direction. For countries such as India, which has already begun integrating climate resilience into national missions and state-level planning, the GGA offers a chance to align domestic metrics with global systems while retaining national priorities.

COP30 also launched the Global Implementation Accelerator to help countries operationalise climate plans through technical support, project preparation, and digital and analytical tools. This emphasis on delivery rather than planning is crucial. Many developing countries know what they need to do, but lack the institutional bandwidth required to design bankable adaptation projects or navigate the complex climate-finance machinery. The Accelerator promises to help bridge the gap between commitments on paper and action on the ground.



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Nature-based solutions received renewed emphasis as well, reflecting growing recognition that restoring ecosystems, strengthening natural buffers and supporting regenerative agriculture are cost-effective routes to resilience and development. In the Amazonian setting of Belém, the symbolic weight of NbS was particularly strong—though real progress will depend on finance, governance, and community participation.

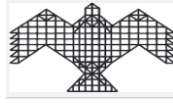
For India, COP30 marked a strategic moment. Delhi unambiguously framed the summit as the “COP of Adaptation,” arguing that adaptation must stand equal to mitigation in ambition, urgency and investment. India reiterated its longstanding position that adaptation is not an optional add-on but a foundational element of development, economic stability and national security. With extreme heat, erratic monsoons, droughts, glacial retreat, cyclones and urban flooding now affecting more than a billion people, the country’s climate exposure is unparalleled. Adaptation is therefore not a choice—it is an imperative.

India showcased its domestic commitments, noting that adaptation-relevant public expenditure as a share of GDP increased by more than 150 per cent between 2016–17 and 2022–23. This reflects sectoral investments in agriculture, water, health, disaster management, resilient infrastructure and ecosystem restoration. India also highlighted its improved readiness to access international climate finance through institutional capacity-building, accreditation support and enhanced national designated authority functions, though the global system remains cumbersome and underfunded.

Equally important was India's principled articulation of adaptation as country-driven, gender-responsive, inclusive and rooted in science as well as traditional knowledge. This framing reinforces India's broader climate diplomacy, which emphasises equity, domestic vulnerability and the developmental centrality of resilience.

However, the question now is what India must do next. COP30 has set a direction, but domestic implementation will determine outcomes. India’s climate governance architecture must shift from sector-bound responses to integrated, risk-informed action. Climate change affects water, agriculture, health, energy, housing and infrastructure simultaneously; therefore, ministries cannot work in isolation. Inter-ministerial coordination must become permanent and purpose-driven, with the Ministry of Earth Sciences (MoES), Ministry of Environment, Forest and Climate Change (MoEFCC), Ministry of Agriculture and Farmers’ Welfare, Ministry of Jal Shakti, MeitY, Health, Power and others working through shared data ecosystems, joint risk assessments and unified early-warning protocols. India’s federal system means this coordination must extend to state departments and district administrations, where climate impacts are felt first.

A central priority is building national climate-data networks capable of powering digital twins for key sectors. India already has strong earth observation and modelling capabilities, but the systems need deeper integration with vulnerability data, economic



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datasets, exposure maps, health surveillance systems and agriculture intelligence. MoES can lead the integration of satellite data, high-resolution projections, AI-enabled downscaling, hydrological and crop models, and real-time hazard monitoring to support predictive decision-making. Digital twins of river basins, cities, transport networks and food systems would allow governments to simulate extreme events and test interventions before crises occur.

At the same time, India must structure its adaptation drive around sectoral verticals that can deliver measurable outcomes. Water security must integrate flood management, groundwater recharge, and drought preparedness. Agriculture adaptation should combine regenerative agriculture, weather-indexed insurance, climate-smart cropping and nature-based soil conservation. Health resilience must be centred on heat-health early warnings and disease surveillance. Energy and infrastructure sectors need risk-based planning and resilient design standards. Urban areas must adopt cooling strategies, sponge-city designs and natural drainage restoration. These pillars must be supported by early-warning systems operating from daily to seasonal and decadal timescales.

Nature-based solutions must move from pilots to national scale. India's successes in mangrove restoration, watershed development, community forestry and agroecology need sustained financing and institutional embedding. Aligning MGNREGS with ecosystem restoration, strengthening coastal buffers and integrating NbS into Smart Cities 2.0 will deliver multiple co-benefits across resilience, livelihoods and mitigation.

Above all, adaptation must be framed as an economic strategy, not an environmental accessory. Resilience protects growth, reduces fiscal burden, prevents losses and averts poverty traps. As UNEP and WRI analyses consistently show, the returns on adaptation investment are among the highest in the climate space.

COP30 did not resolve every tension, but it made one thing clear: adaptation has finally claimed its rightful place at the heart of global climate action. For India, this is both an opportunity and a necessity. The country can lead by demonstrating how data-driven governance, inclusive institutions, digital public infrastructure and nature-based solutions can build a safer, more prosperous future in a warming world. The next decade will test whether the world can turn commitments into action—and India's choices will shape the outcome.