

Environmental Diplomacy for Shared Air and Cryosphere Risks in South Asia

In collaboration with GIZ Pakistan

Winter smog across the Indo-Gangetic Plain and Himalayan Foothills (IGP-HF) has become a recurring threat to public health. Its reach is visible in pollution episodes affecting Lahore and cities far beyond Pakistan. In November 2024, [ICIMOD](#) documented a plume of fine particulate matter stretching across the plain towards the Bay of Bengal, with daily PM_{2.5} concentrations reaching 300 µg/m³ in some hotspots. The scale of these episodes makes cooperation among neighbouring countries an essential part of any lasting response.

Local emissions remain a major responsibility for governments, but the air people breathe is also affected by activities outside their jurisdictions. The [World Bank](#) identifies six major airsheds across South Asia and shows that pollution can travel hundreds of kilometres. A province may enforce controls on its own industries while remaining exposed to emissions carried from elsewhere. Joint source assessments can help governments decide where action is needed and avoid shifting responsibility across borders. Coordinated measures across sectors and borders could cost [45%](#) less than approaches without such cooperation.

GIZ's AIRCARE project offers a practical example of how this regional agenda connects with work at the provincial level. AIRCARE, or Advancing Integrated Solutions for Clean Air Restoration and Engagement, supports air quality management under the wider [IGP-HF programme](#), including planning and stakeholder engagement. In Pakistan, its technical support focuses on selected pollution sectors in Lahore Division and complements the World Bank's Punjab Clean Air Project. This experience can inform discussion of how provincial authorities use evidence to implement controls, and which lessons could be exchanged with counterparts elsewhere in South Asia.

The consequences of polluted air also extend into the mountains. [Black carbon](#), released by incomplete combustion, is a component of fine particulate pollution. When it settles on snow or ice, it darkens the surface and increases the absorption of sunlight, which can accelerate melting. Its impact varies across the region. Reducing black carbon is vital to [glacier protection](#) as well as cleaner air, although sustained cuts in greenhouse gas emissions remain necessary to limit long-term cryosphere loss.

The recent Rasuwa-Gyirong flood on 26 August 2026 showed how quickly a mountain hazard can become a cross-border disaster. ICIMOD's September assessment reported preliminary evidence that a slope failure triggered an ice-rock avalanche, which turned into flooding through the Bhote Koshi-Trishuli river system. The precise causes of the slope failure are still under investigation, including the extent to which long-term warming contributed to the instability. The disaster demonstrates how a high mountain hazard can cascade across international borders, affecting communities in both Nepal and China. Although black carbon is known to accelerate snow and ice melt across the Himalayan region, there is currently no evidence attributing this specific disaster to black carbon. In its aftermath, the [Kathmandu 10 Action Points](#) called for faster cross-border information sharing and warnings that communities can act on.

For South Asia, these risks make environmental diplomacy a practical necessity. A government cannot control every source of pollution entering its airshed, and a downstream community may depend on observations collected across a border for warning of a flood. Cooperation needs agreed procedures for exchanging information, alongside named authorities responsible for acting on it. Scientific exchanges can build confidence in the evidence, while regular contact between officials can help that evidence reach the people making decisions.

The [2024 Thimphu Outcome](#) provides an existing basis for cooperation on shared airsheds. This session will examine how such arrangements can become more useful to provincial governments and how related cooperation can address cryosphere risks. The discussion will focus on what countries can implement together, with cleaner air as the principal agenda and black carbon as the connection to mountain change. The session aims to achieve the following objectives:

- Examine where domestic smog controls require cooperation across the Indo-Gangetic Plain and Himalayan Foothills.
- Discuss what the AIRCARE experience in Punjab can contribute to exchanges between provincial authorities on implementing clean air measures.
- Assess how black carbon reduction can support cryosphere protection and where joint research is still needed.
- Draw lessons from the Rasuwa Nepal disaster for cross-border warnings and the use of upstream observations by downstream authorities.
- Identify feasible diplomatic arrangements that allow technical cooperation to continue beyond individual projects and emergency responses.

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