Recurring South Asian smog episodes: Call for regional cooperation and improved monitoring

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HIGHLIGHTS

• South Asia stands out globally for fine particle pollution.
• The precise nature, sources, and potential transboundary impacts of air pollutants have been understudied in South Asia.
• Imbalanced AQ monitoring capacity is an impediment to regional cooperation that is critical in addressing air pollution.
• Revitalization of the Malé Declaration would be one way to make progress.

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1. South Asia stands out globally for fine particle pollution

Air pollution has emerged as a major environmental challenge across South Asian states, affecting human health and causing severe socio-economic disruption. The region accounts for around 32% of global mortality associated with exposure to the exceedingly high levels of poor ambient air quality (Lelieveld et al., 2020). Moreover, the average life expectancy for the region has been estimated to have been reduced by approximately five years with four South Asian countries: Bangladesh, India, Nepal and Pakistan, accounting for 60% of loss of life-years globally (Greenstone and Fan, 2020). The economic toll associated with additional impacts to health, agricultural productivity, mobility, etc. can account for reductions of Gross-Domestic Product (GDP) of several percent for the regional economies (Cheewaphongphan et al., 2017).

Geographically, these four countries share the Indo-Gangetic Plain (IGP) where population, emissions, and circulation conspire to create a shared air pollution problem that calls for regional cooperation (Khokhar et al., 2021). The thick cloud of air pollution is most prominent during the months of October to February. This period of smog/smoke activity is referred to by some as the “fifth season” due to its occurrence on a regular basis and its associated ever-increasing health impacts.