Webinar Brief

Tackling Smog in Pakistan: Causes, Impacts, and Way Forward

Webinar Brief by Wajhullah Fahim & Muhammad Faisal Ali[1]

Smog has emerged as a critical environmental and public health issue in Pakistan, particularly in urban areas. The thick haze, a toxic mix of pollutants, severely affects air quality, public health, agriculture production, and overall socio-economic development. The problem is exacerbated by vehicular pollution, industrial emissions, crop residue burning, and inefficient urban planning. Climate change further aggravates the situation, as changing weather patterns increase the frequency and intensity of smog episodes.

The pressing need to address this crisis calls for a comprehensive understanding of its causes, impacts, and viable solutions. Therefore, the Agriculture and Climate Change Research Group, Pakistan Institute of Development Economics (PIDE) organized a webinar that aims to highlight the primary causes and impacts of smog in Pakistan, discuss policy and technical interventions to mitigate smog, and how to promote stakeholder collaboration for sustainable solutions. For this webinar, distinguished panelists from diverse professional backgrounds who have an important role in dealing with the smog issue and have a deeper

[1] Wajhullah Fahim & Muhammad Faisal Ali are Young Researcher Development Intern and Research Fellow at PIDE respectively.

understanding of the reasons behind smog and the challenges associated with mitigating smog were invited. The urban unit has already provided its research-based findings on smog crises in Lahore and Punjab therefore we requested Mr. Abid Hussainy from Urban Unit Punjab, who is currently the General Manager, Environment and Climate Change Division at Urban Unit. Pakistan Environmental Protection Agency (PEPA) is the federal institute primarily responsible for dealing with all the environmental issues and developing and implementing environmental standards in Pakistan, so we invited Dr. Zaigham Abbas, Director NEQS at PEPA. To gain a deeper understanding of how legal structure and regulations have evolved in Pakistan in the context of environmental law Mr. Fahad Malik was requested. He is an Environmental Lawyer and Adjunct Faculty at the Lahore University of Management Sciences (LUMS). This webinar was moderated by Dr. Shujaat Farooq, Director of Research at PIDE, and attended by very diverse experts, students, and researchers.

Key Takeaways

The key takeaways from this webinar are summarized below

First of all, Mr. Hussainy, highlighted that the transport sector is the real culprit behind this crisis. Although there are limitations regarding data collection on emissions, following IPCC tier 1 methods we have concluded that for major urban areas like Lahore and Peshawar, the transport sector is a major contributor to Smog. Mr. Hussainy shared statistics about sectoral share in smog formation in Punjab, Lahore, and Peshawar. The transport sector contributes 39% in Punjab, 83.5% in Lahore and 84.5% in Peshawar. The industrial sector contributions are 24%, 9%, and 8% for Punjab, Lahore, and Peshawar respectively. In Punjab and Lahore, the contribution of the agriculture sector is only 11% and 3.9% respectively. He also highlights that transboundary emissions are also impacting and aggravating the smog in Pakistan and transboundary emissions through different activities contribute almost 30% to smog in Pakistan. According to him, there are 7000 industries in the Lahore division of which 700 utilize boilers. Out of those 700, only 70 have facilities for the environmental control mechanism. Furthermore, 68% of industries are at the boundary lines of cities, 20% within 20 km, and only 10% at the designated industrial zones. In Pakistan, environmental audit reports for industries are not compulsory by law which also contribute to environmental degradation and smog in Pakistan and Punjab.

He emphasized that the closure of educational institutions and extra burdens on the health sector are among the primary impacts of smog. He pointed out a rise in respiratory, cardiovascular, eye, and throat Irritation-related illnesses. According to him, 500+ patients per day are admitted in Lahore due to smog, 15% of them are children. He also referenced studies from Chicago, indicating an average reduction in life span of 5-7 years in Lahore due to smog.

For the mitigation of smog, he emphasized three measures. First compulsory environmental audit report submission by industries and environmental management plan for all construction activities across Pakistan. Further, like the Indus Treaty, the air-quality treaty should be signed to promote regional cooperation between Pakistan and India.

Dr. Abbas started his discussion by highlighting the amendments in the EPA Act 1997 based on sector-specific and research-driven criteria. According to him, PM2.5 particulates are a major contributor to smog in federal territory, where their concentration ranges from 100-200 $\mu g/m^3$, compared to the international standard of 25-35 $\mu g/m^3$. He identified the various construction activities at Park View, F8 sector, Blue area, and Serena Hotel as major sources of PM2.5 emissions.

Dr. Abbas also highlighted various initiatives of the federal government to cope with smog. A study on vehicular emissions in Islamabad revealed that 38 out of 50 vehicles tested exceeded national standards. Following this, the EPA in collaboration with the Islamabad administration, mandated environmental fitness certificates for vehicles in the capital, and several testing laboratories have been established in the city. Regarding industrial emissions, he pointed out that all six steel industries in Islamabad have been upgraded with bag filter technology after the EPA intervention. He further highlighted that 27 out of 33 brick kilns have transitioned to zig-zag technology. He also underscored the ban on Single-Use Plastic in Islamabad as a significant step forward. To further mitigate smog and improve air quality in Pakistan, he recommended establishing robust collaboration and coordination mechanisms between provincial EPAs and the federal EPA and developing national emission standards for all export-oriented industries in Pakistan.

Mr. Fahad Malik shared his expert insights about environmental policies and acts in Pakistan and described them as highly comprehensive documents. However, he emphasized that due to the regulatory capture culture in Pakistan, provincial EPAs are not performing well. He also places a high spot on the lack of consistency in dealing with the crises at the administrative level for example he highlights that during the last few years, several Director Generals of Provincial EPA have been changed frequently. He quoted that 8 to 9 DGs of EPA Punjab changed in the last two to three years. He also pinpointed that the Ravi urban development project was declared as an unsustainable project for the ecosystem by the EPA, but it has been ignored. Regarding smog as a transboundary issue, he noted that the reliance on third-party data, rather than having an independent data collection mechanism, weakens Pakistan's position on the international stage.

Mr. Malik accentuated and advocated for the provision of advanced equipment and training skilled personnel to monitor emissions from vehicles and industries effectively. Additionally, he emphasized the importance of provincial EPAs conducting rigorous emission monitoring. He also urged the government to mandate all petroleum companies to adopt Euro-6 fuel standards, replacing the current Euro-2 standard.

Design by: *Afzal Balti*