



PAKISTAN'S DEADLY SMOG CRISES

A GROWING NATIONAL EMERGENCY

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In the cold winter mornings across Pakistan, cities don't wake up, they are swallowed. A thick, gray haze settles over streets and homes. Children cough on their way to school. Commuters wrap scarves around their faces. Hospital beds fill with people fighting for air. The sun, hidden behind the smog, turns day into a dull, pale shadow.

This is Pakistan's smog crisis, what used to be a seasonal problem is now a full-blown health emergency. In cities like Lahore, Gujranwala, and Faisalabad, the air is toxic. PM2.5 levels are many times higher than what is considered safe. The causes are no secret: factory smoke, old cars, burning crops, and brick kilns all pour poison into the air. Weak laws and poor enforcement let it continue.

This is not just bad weather. It is a national failure. The smog choking our skies is also choking our future, harming health, slowing the economy, and blocking the path to sustainable development.

As the world prepares for COP30, Pakistan faces a choice. We can keep breathing this toxic air, or we can choose to fight for change. The solutions exist: cleaner energy, stronger laws, better public transport, and smarter farming. Clean air should not be a luxury, it must be a right for every Pakistani. The time to act is now. Our health, our economy, and our children's future depend on it.

How Dangerous Has Smog Become in Pakistan?

By 2025, smog has tightened its grip on Pakistan, transforming a chronic issue into a daily threat. In a nation of over 255 million, the air itself has become a leading cause of illness. The numbers tell a stark story: in 2024, the average level of deadly PM2.5 particles in Pakistan's air was nearly fifteen times higher than what the World Health Organization deems safe. Cities like Lahore, Islamabad, and Faisalabad no longer merely have bad air days; they endure prolonged seasons where the air is quite literally toxic. On countless days, a veil of pollution settles over urban centers, placing millions of citizens in an invisible chamber of health hazards.

The true crisis lies in what this pollution does to us. These PM2.5 particles are so fine they bypass our body's defenses, sinking deep into our lungs & even entering our blood.



The consequences are a rising tide of asthma attacks, lung infections, heart disease, & debilitating respiratory illnesses. Winter acts as a cruel amplifier, as meteorological conditions trap this poisoned air close to the ground, turning cities into gas chambers for weeks.

The sources are woven into the fabric of our economy & daily life, from the exhaust of millions of vehicles & the smoke of unchecked industry to the seasonal blaze of crop stubble. While natural events like recent floods may disrupt one contributor temporarily, they do nothing to cure the deeper sickness. Our cities keep expanding, our regulations remain weak, & the structural engines of pollution continue to run, making clean air a forgotten dream for the average Pakistani. This isn't just an environmental issue; it's a pervasive attack on our national health.

Where The Smog Poison Comes From?

Pakistan's smog is not a natural disaster. It is the predictable outcome of policy decisions, weak regulation, and development choices that favor short-term convenience over public health. The sources of pollution are well known, extensively documented, and largely preventable. What is missing is consistent action. Along with these structural weaknesses other root causes include:

- **Vehicular Emissions**

Our roads are saturated with the wrong kind of traffic. Vehicles burn the dirtiest fuel, following a Euro II standard the rest of the world abandoned decades ago. The result is a constant cloud of exhaust from millions of cars, trucks, and the motorcycles that families rely on because public transport has failed them. Emission tests exist in name, but they don't touch the heart of the problem: we've built cities where breathing clean air is a physical impossibility for anyone who has to commute. The United Nations Environmental Protection Agency (UNEP) confirms that transport is a leading source of urban smog in South Asia, with Pakistan's outdated standards locking in toxic emissions for years to come.

- **Industrial Pollution**

Industry in Pakistan operates with a license to pollute. Tens of thousands of brick kilns burn coal, tires, & waste pumping toxins directly into nearby communities. The technology to fix this, like zig-zag kilns, is proven and available, but adoption is slow.



The story repeats in factories & plants across sectors: environmental rules are an afterthought, & fines are just a cost of doing business. We are choosing smoke over solutions, every single day. The Punjab EPA's own 2023 reports show widespread non-compliance with emission regulations, turning industrial zones into permanent health hazards.

- **Poor Urban Planning**

Our cities are permanently under construction, but without a plan. Every broken road and unregulated building site throws dust into the air. Green spaces vanish, replaced by concrete that traps heat and pollution. Urban sprawl isn't just ugly, it's toxic. It means longer commutes, more cars, and fewer trees to clean the air. We are literally building our way into a dust-choked future. This is the direct result of urban population growth outpacing infrastructure development, a trend the World Bank directly links to rising pollution.

- **Agricultural Burning as a Seasonal Trigger**

Every winter, our farmland goes up in smoke. Farmers burn crop residue because it's the fastest, cheapest way to clear a field. But that fire doesn't stay in the field. It travels into our cities, filling the air with a haze of fine particles that gets trapped by the cold air. While we sometimes point across the border, the truth is that this is a homegrown crisis. We sacrifice our collective health for the sake of agricultural habit. UNEP ranks domestic biomass burning as a significant driver of smog, a fact we can no longer ignore while blaming neighbors.

- **The Core Issue Is Governance, Not Ignorance**

We know what causes smog. We know how to fix it. What's missing is the will. Regulations gather dust while people breathe poison. Smog is treated as a seasonal headline, not the national emergency it truly is. Until clean air becomes a non-negotiable right, backed by real enforcement, real investment, and real political courage, this crisis will only deepen. The problem isn't in our skies; it's in our priorities.

- **Health at Risk**

Smog attacks the body quietly but relentlessly. Hospitals report rising cases of asthma, allergies, bronchitis, and chronic lung diseases every winter. Long-term exposure to polluted air increases the risk of lung cancer, heart disease, strokes, and early death, a reality repeatedly highlighted by global health authorities.



The Real Cost of Breathing Dirty Air

Children, the elderly, and outdoor workers suffer the most, turning polluted air into a daily public health threat rather than a temporary illness.

- **Economic Drain**

Dirty air is expensive. Pakistan loses billions every year due to air pollution through rising healthcare costs, lost workdays, lower labor productivity, and damage to crops. Smog reduces visibility, disrupts transport, and slows economic activity, especially in industrial and agricultural hubs. In simple terms, polluted air is silently taxing the national economy while delivering nothing in return.

- **Environmental Stress**

Smog weakens the environment that sustains us. Persistent haze reduces sunlight, lowers crop yields, damages soil through acid deposition, and disrupts natural ecosystems. Over time, this environmental stress threatens food security and deepens climate vulnerability, especially in already fragile regions.

Pakistan's Mistakes and Missed Opportunities

- **Weak Environmental Governance**

The Government of Pakistan (2022) acknowledges that environmental institutions lack adequate funding, technical capacity, & enforcement power. This weakness has a direct impact on the effectiveness of air quality policies. Without strong regulatory oversight, industries & urban actors continue to violate emissions standards with minimal consequences. In practice, this creates a culture where compliance is optional & pollution becomes a low-cost externality. Strengthening institutions is not just bureaucratic—it is a public health imperative.

- **Absence of Long-Term Planning**

Smog is addressed re-actively, through school closures or lock-downs, rather than through persistent structural reforms. Short-term interventions fail to tackle the systemic drivers of pollution, such as inefficient transport networks, reliance on outdated fuels, & poorly managed urban expansion.



This reactive approach signals a lack of vision and undermines citizen confidence in government action. Effective long-term planning would integrate urban development, industrial modernization, and climate adaptation into a cohesive strategy.

- **Outdated Technology**

Many industries still use obsolete, energy-inefficient methods. Though improvements like zig-zag brick kiln technology exist, progress has been slow (Punjab EPA, 2023). The slow adoption reflects weak incentives, limited financing, and inconsistent enforcement, leaving major emission sources largely unchanged. Modernizing technology is not a luxury; it is a measurable step toward reducing public health risks and improving Pakistan's climate credibility, especially ahead of international forums like COP30.

- **Lack of Public Awareness**

Garbage burning, poor vehicle maintenance, and low civic participation worsen the crisis. However, these behaviors are often a response to systemic gaps rather than individual negligence. Citizens cannot make cleaner choices without accessible alternatives like waste collection services, reliable public transport, and affordable clean fuels. Awareness campaigns alone are insufficient; they must be paired with structural reforms to translate knowledge into action. Public engagement is most effective when supported by enabling policies and consistent enforcement.

Pakistan's Stance at COP Conferences & Role at COP30

Pakistan has consistently presented itself as one of the countries most vulnerable to climate change, despite its minimal contribution to global emissions. At recent UN climate conferences from COP26 to COP28, Pakistan has emphasized the principle of climate justice, arguing that nations least responsible for emissions bear the heaviest climate burdens. According to the Government of Pakistan (2022), the country contributes less than 1% to global greenhouse gas emissions, yet it faces severe and recurring climate impacts, reinforcing its case for greater international support for adaptation and resilience efforts.

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At **COP30, Pakistan** aims to:

- Advocate for climate adaptation financing.
- Strengthen global partnerships for renewable energy.
- Push for loss and damage funding.
- The World Bank (2023) urges Pakistan to integrate its smog mitigation strategies with global climate commitments.

Provincial Efforts Against Smog

- **Punjab**

Punjab, being the hardest hit province, has taken the lead in fighting smog. The province has converted thousands of brick kilns to zig-zag technology, launched anti-smog squads against polluting industries, and expanded air-quality monitoring through fixed and mobile units. According to Punjab EPA (2023), these steps have improved emissions, but weak enforcement still limits long-term impact.

- **Sindh**

Sindh has focused its efforts mainly on Karachi, introducing vehicle emission checks and banning open waste burning. While these policies exist on paper, enforcement remains uneven and slow. As noted by UNEP (2020), without consistent monitoring, progress risks remaining symbolic rather than transformative.

- **Khyber Pakhtunkhwa (KP)**

Khyber Pakhtunkhwa Billion Tree Tsunami has earned global recognition for improving green cover and climate resilience. The province is now moving toward cleaner transport, including electric bus projects and sustainable mobility plans. These initiatives signal intent, but air pollution control still needs stronger urban focus (Government of Pakistan, 2022).

- **Baluchistan**

Baluchistan faces serious financial and infrastructural constraints, slowing large-scale action against smog. Even so, small but meaningful steps like solar energy projects & public awareness campaigns are emerging.



With stronger federal support, these early efforts could grow into lasting solutions (Government of Pakistan, 2022).

Promoting Sustainable Development in Line with COP30

Transition To Clean Energy

Reducing smog and meeting climate goals both require a decisive move away from fossil fuels. The World Bank (2023) recommends large-scale investment in solar and wind energy, where Pakistan has strong natural potential. Expanding renewables would cut emissions, lower energy costs over time, and reduce reliance on imported fuels.

Smarter Transport Systems

Transport reform is central to cleaner air. International best practices highlight electric vehicles, stricter fuel standards, and reliable public transit as effective tools for pollution control (UNEP, 2020). Without modern transport networks, smog will continue to grow alongside urban populations.

Industrial Upgradation

Industrial modernization offers one of the fastest paths to emission reduction. Government of Pakistan (2022) reports show that enforcement combined with financial incentives can accelerate the shift to cleaner technologies. Upgrading industry is not only an environmental necessity but also a competitiveness strategy.

Stronger Institutions

Environmental policy fails without capable institutions. Investing in Environmental Protection Agency capacity, emissions monitoring, and transparent enforcement is essential to sustain progress. Strong governance turns climate commitments into measurable results.

Greener Cities

Urban greenery acts as a natural air filter. UNEP (2020) notes that urban forests & green belts improve air quality & reduce heat stress. Expanding green spaces should be treated as core infrastructure, not optional beautification.



Climate Finance And International Cooperation

COP30 presents a critical opportunity to mobilize international climate finance. By aligning smog control with climate commitments, Pakistan can attract funding for renewable energy, clean transport, & resilient urban development, turning global negotiations into local impact.

Lessons from China & the United Kingdom

China's Green Transformation

China once faced air pollution crises similar to Pakistan, especially in Beijing. However, through strict industrial regulations, widespread electric transport, & massive investments in renewable energy, China reduced PM2.5 levels by more than 35% in a decade (Ministry of Ecology & Environment of China, 2020). China's global Belt and Road Initiative now promotes green infrastructure, helping it portray itself as a responsible environmental role model.

United Kingdom's Effective Environmental Policy

The UK overcame the lethal Great London Smog of 1952 through a series of Clean Air Acts (DEFRA, 2019), which restricted coal burning, modernized industries, & expanded regulatory oversight. The UK remains one of the cleanest industrialized countries in Europe due to sustained policy commitment.

The smog crisis in Pakistan is not an unavoidable destiny—it is a reversible environmental challenge. With coordinated policy action, technological upgrades, strong governance, & public participation, Pakistan can control smog just as China & the UK did.

As the nation approaches COP30, it must demonstrate seriousness in achieving sustainability, securing climate finance, & committing to clean energy transitions. Pakistan has the potential to transform its environmental profile, protect its citizens, & present itself as a responsible climate-forward nation on the global stage.