

Gasping for Air: The Health Impact of Poor Air Quality in Pakistan



Pakistan's Health Burden: A grim situation

Pakistan's health burden today is a complex mixture of communicable diseases and non-communicable diseases (NCDs). In the last 10 years, Pakistan has witnessed a significant increase in NCDs such as ischemic heart disease and strokes. These NCDs form 60% of our health burden today. We cannot cure NCDs; we can either prevent them or manage them throughout a lifetime, resulting in higher health costs and a reduced lifespan.

Greenhouse Gases and Air Pollution



Greenhouse gasses (GHG) and air pollution go hand-in-hand; GHG emissions such as black carbon or methane, accumulate in the atmosphere and warm the planet.

Limiting fossil fuel and solid fuel burning or improving their efficiency reduces not only air pollutants (particulate matter, sulfur dioxide) but also GHGs (carbon dioxide, methane).

Policy Recommendations

Devise and Implement a household energy strategy

Solid fuels—mostly used by low-income households—are the main source of indoor air pollution, which significantly increases the risk of child mortality and stunting. The government must devise a strategy that increases awareness of vulnerable households of this health impact and offer a series of options that help them shift towards cleaner alternatives.

Create constituencies to advocate for cleaner air

Most citizens do not understand air pollution's health impacts. The government must work with the health sector to ensure that the new health curriculum on NCDs includes environmental risk factors, creating a constituency for change in the health community.

Link standards to health outcomes and disseminate source-specific emissions data

Emission standards lose their salience when delinked from health outcomes. Citizens can realize better health outcomes if the provincial environment departments revised their air quality standards based on health needs in specific cities.

Tackle air quality in select major urban areas first

Focusing on major cities—such as Lahore, Karachi, Peshawar—initially will yield important lessons that other cities could draw on and local information to help coordinate across different sectors and stakeholders.

Address transport-related air pollution

Existing studies identify transport as the largest source of local pollutants. Interventions include: a) scaling-up existing public transportation projects; b) implementing the national EV policy with a particular focus on two-wheelers and commercial vehicles; c) setting stringent vehicular emission standards, at least until EV adoption picks up; and d) enforcing congestion taxes within cities.

Develop fiscal instruments for abating air pollution

Working with the Ministry of Finance, the government should establish a unit dedicated to developing fiscal responses to improve air quality. Tools such as direct emission taxes, beneficial property taxes, tax credits for adopting renewables and EVs could incentivize better environmental quality and health outcomes as well as generate revenues.

Deteriorating Air Quality: A Recipe for Disaster



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Air quality in several Pakistani cities has deteriorated considerably over the years. Cities such as Lahore—Pakistan's second largest city with over 10 million residents—ranks as the most polluted cities in the world, while Pakistan itself ranked second in the list of the most polluted countries in 2024.



PM2.5 constitutes the most egregious pollutant, comprising tiny particles—smaller than a tenth the diameter of a hair strand—which easily enter the bloodstream when inhaled. The annual average PM2.5 levels in all Pakistani cities that formally measure air quality exceeded the WHO standard—which accounts for health impacts—by a considerable margin. Improving the existing air quality to the WHO standard can increase the average life expectancy of a Pakistani by 2.7 years and of a Lahori by 5.3 years.

Pakistan's Health Burden: A Grim Reality

Communicable & Non-communicable Diseases (NCDs)

NCDs now form 60% of Pakistan's health burden, with conditions like ischemic heart disease and strokes on the rise. Managing these lifelong diseases is costly and reduces lifespan.

Deteriorating Air Quality: A Crisis in the Making

1,000 Strokes Daily

Approximately 1,000 people in Pakistan suffer a stroke every day, with around 400 not surviving beyond 30 days. Reducing air pollution could prevent nearly 30% of strokes.

PM2.5 Particulate Matter

These tiny particles—smaller than a tenth of a hair strand—enter the bloodstream when inhaled, increasing health risks. PM2.5 levels in Pakistani cities exceed WHO standards significantly. Meeting WHO guidelines could add **2.7 years to the average Pakistani's life and 5.3 years for residents in Lahore.**

Lahore's Alarming Pollution

With over 10 million residents, Lahore ranks among the world's most polluted cities, contributing to Pakistan's ranking as the second most polluted country in 2024.

Greenhouse Gases (GHG) and Air Pollution: A Dual Threat

Devise and Implement a household energy strategy

Fossil fuel and solid fuel emissions contribute heavily to pollution. In lower-income households, solid fuels significantly increase indoor air pollution, raising the risk of child mortality and stunting.



Policy Recommendations

