



Air pollution is one of the world's largest environmental health risks. Air pollution can considerably affect children's health. Their developing lungs and brains.

Situation

Highly polluted ambient air

- Ten of the top 20 most polluted cities in the world (those with the highest annual levels of fine particulate matter (PM2.5) are in India. (WHO Global Urban Ambient Air Pollution Database - update 2016)
- The average concentration of PM2.5 in an Indian city is 150 $\mu\text{g}/\text{m}^3$ of air. The WHO prescribed limit is 25 $\mu\text{g}/\text{m}^3$ (WHO Survey 2010)
- In Delhi, the levels of PM10 and PM2.5 are 4 and 7 times higher than the national air quality standards (IIT Kanpur & Delhi Pollution Control Committee Study)

Highly polluted indoor air

- Principle sources of indoor air pollution in India are combustion, building materials and bioaerosols
- Inefficient cooking and heating practices using solid fuels (wood, coal, dung, crop wastes) on open fires or traditional stoves
- PM ranging from 500 to 2,000 mg/m^3 found during cooking in bio-mass-using households

Risk to Children

- India has a population of 1.28 billion people including 478 million children; of which around 29% are 0-5 years old
- Women and young children are more exposed to indoor pollution as they spend most of their time in the household
- Increased risk of both chronic and acute lower respiratory infections, pneumonia and associated mortality among young children
- Indoor air pollution is a major risk factor for cardiovascular disease, chronic obstructive pulmonary disease and lung cancer
- Children might experience breathlessness/ wheezing, a burning sensation in their eyes, headache/ nausea
- Chronic exposure to high levels of PM 2.5 is associated with higher rates of early foetal loss, preterm delivery and lower birth weight
- Access to good quality healthcare and prevention programmes for pneumonia and other respiratory conditions, can significantly reduce the chance a child falls sick or dies due to air pollution

Impact Statistics



0.92 M

premature deaths in 2013 due to indoor pollution



0.59 M

premature deaths in 2013 due to outdoor pollution



9%

national disease burden in India attributed to pollution

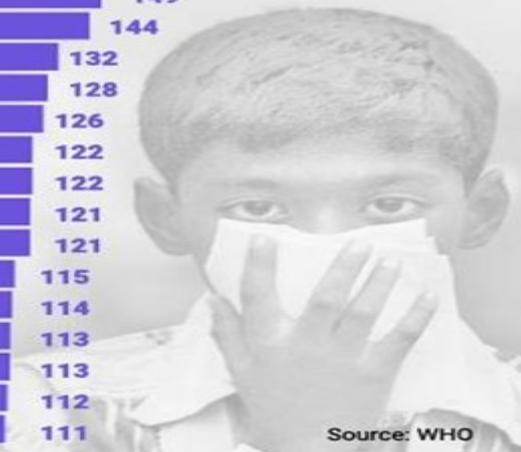
2nd rank

attained by air pollution as risk factor to Disability-Adjusted Life Years

Sources: WHO & IHME Databases

The high exposure of children in India and their vulnerability to air pollution, makes this a priority issue for UNICEF India to be addressed under risk informed health system support

Global pollution: Top 20 cities



Source: WHO

UNICEF supported initiatives

In partnership with the Government of India UNICEF is supporting and has implemented various initiatives to reduce the impact of air pollution on children and adolescents.

- Study to understand the perceptions of mothers, children and healthcare providers on the link between household air pollution and under-5 childhood pneumonia carried out in rural areas of Bihar, Meghalaya, Rajasthan and Telangana.

Outcome: This study should pave the way for development of a national communication strategic framework to reduce childhood pneumonia due to household air pollution.

- Baseline analysis of particulate matter in Aanganwadi Centres and promotion of LPG-based clean cook-stoves with support from the Centre for Science and Environment; carried out in Dobhi Block, Gaya District, Bihar.

Outcome: This study and the pursuant provision of LPG-based cook stoves is leading to better indoor air quality at the Anganwadi Centres in the pilot area, which is expected to lead to reduced pneumonia cases.

- Pilot project on System of Air Quality and Weather Forecasting And Research (SAFAR) to develop a baseline for air quality through an on-site mobile van equipped with air quality monitoring equipment. Conducted by UNICEF in collaboration with Rajasthan State Pollution Control Board and Indian Institute of Tropical Meteorology, Pune. In addition, health advisories are provided to citizens through a mobile app 'RajVayu'. The project is implemented in Jaipur.

Outcome: Up-to-date air quality information through RajVayu that serves as an Early Warning System helps people to reduce their risk to air pollution.

- UNICEF has set-up solar panels at its office premises for clean energy generation to the tune of >50 kW. Besides this, indoor air quality monitoring (PM2.5, PM10, oxides of Nitrogen and Sulphur, ozone) is conducted twice a year.

- Air purifiers have been placed at work stations to ensure good air quality within its office premises in Delhi.

Outcome: Reduced Carbon footprint by UNICEF offices and a healthy environment for employees and visitors.

- UNICEF India has conducted several national and state level consultations to discuss the problem and the most feasible solutions to reduce air pollution—household and ambient. Steps are also being taken to understand and reduce children's exposure and vulnerability to air pollution.

Raising awareness and ensuring children's right to clean air are an important focus for UNICEF India's Country Programme 2018 – 2022 and part of UNICEF's Global Strategic Plan 2017- 2021

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