

# State of Air in Africa

*Recent Trends in Air Quality and Health Impacts*

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Workshop on a Pilot Design for Air Quality in Africa | June 11, 2021

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# About the Health Effects Institute

## Independent Research Institute Providing Trusted Science

- Global experts

- Rigorous science

- Policy relevant, but does not take policy positions

## Targeted Research and Reanalysis

- Over 350 studies on a wide variety of air pollutants air pollutants and sources: PM, ozone, air toxics; coal, diesel, natural gas, others

## Scientific Review

- The Health Effects of Exposure to Traffic

- Health Effects of Air Pollution in Asia

## Global Health

- Targeted studies in 30+ countries

- The State of Global Air



Contribution of Household Air Pollution to Ambient Air Pollution in Ghana: Using Available Evidence to Prioritize Future Action

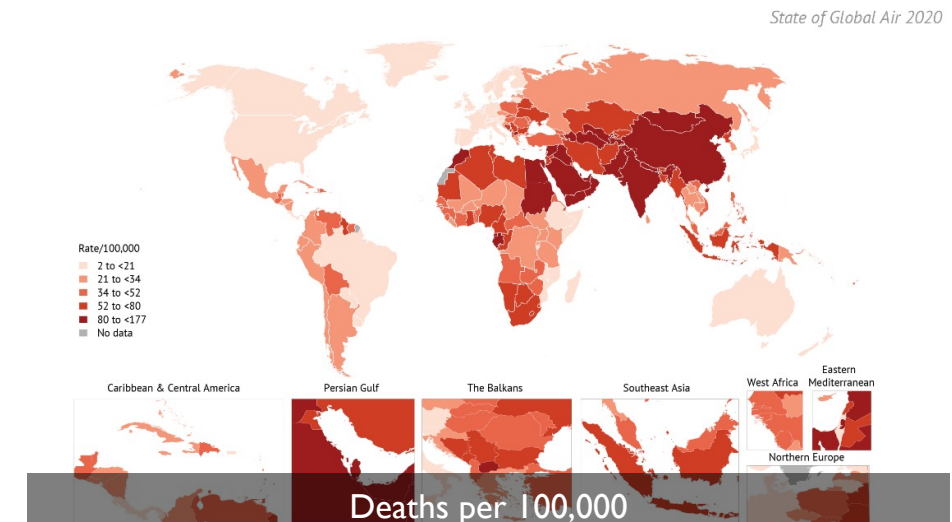
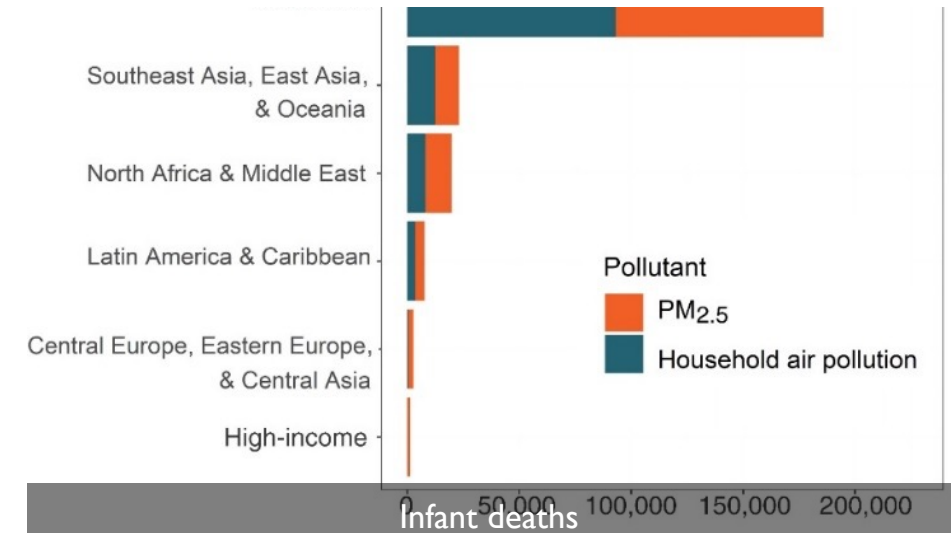
HEI Household Air Pollution–Ghana Working Group

# Significant health impacts due to air pollution in Africa

Air pollution is the **3rd largest risk factor** for disease and death in sub-Saharan Africa, surpassed only by malnutrition and unsafe water, sanitation and hygiene.

More than 900,000 deaths in sub-Saharan Africa; non-communicable lung and heart diseases account for 43% of the total burden

Children and older adults are particularly vulnerable

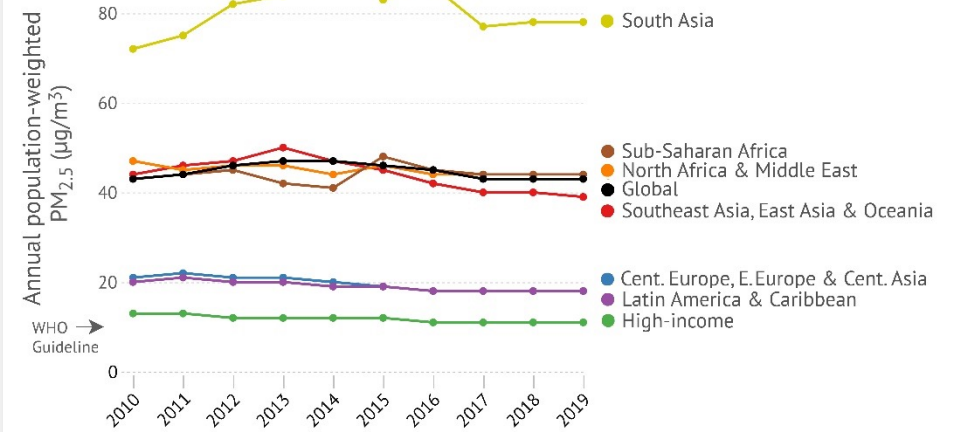


# Nevertheless, progress has been uneven

Progress on household air pollution, but ambient levels are increasing, especially in urban areas.

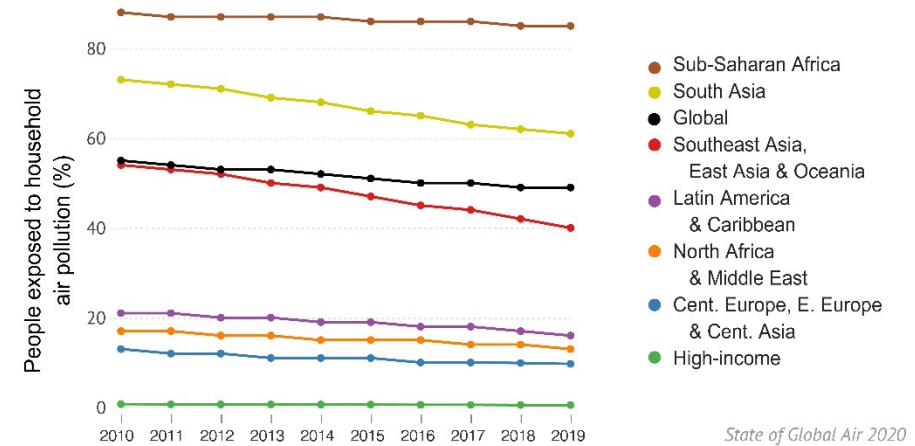
Countries in Africa experience some of the highest exposures to **PM<sub>2.5</sub>** in the world; since 2010, **exposures have increased** in some countries (e.g., Nigeria).

Air pollution and energy access are closely linked.



Trends in population-weighted annual average PM<sub>2.5</sub> concentrations globally and in the GBD Super Regions, 2010–2019.

Visit [stateofglobalair.org](http://stateofglobalair.org) to explore data for your country or region.



Trends in the proportion of each country's population cooking with solid fuels globally and in the GBD Super Regions, 2010–2019.

# How do we move forward?

Uncertainties in both exposure and health impact estimates

Evidence on health effects of air pollution; linkage with health policies

Information on sources of air pollution and their relative impacts of air pollution

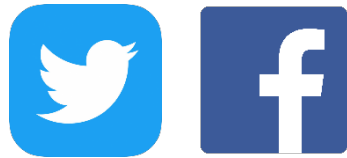
Generation of new evidence; synthesis of available evidence

Identification of key research, capacity building and policy priorities

Role for HEI – *scoping to begin soon*



[www.stateofglobalair.org](http://www.stateofglobalair.org)  
[www.healtheffects.org](http://www.healtheffects.org)




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For more information: <https://tinyurl.com/SoGA2020Africa>

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### Ethiopia

Air pollution was the 2nd leading risk factor for premature death in Ethiopia in 2019, accounting for nearly 14% of all deaths (more than 77,000). Considered separately, ambient particulate matter (PM<sub>2.5</sub>) ranked as the 15th leading risk factor, and household air pollution (HAP) ranked 1st. Ozone was not in the top 20 risk factors.

**Key Statistics at a Glance**

More than 77,000 deaths due to air pollution in 2019. 23% of infant deaths attributable to air pollution.	34 µg/m <sup>3</sup> population-weighted annual average PM <sub>2.5</sub> concentration.* Nearly 9,000 deaths attributable to exposure to outdoor PM <sub>2.5</sub> .	96% of the population use solid fuels for cooking. Nearly 68,000 deaths attributable to exposure to household air pollution.
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**Key Exposure Facts**  
100% of Ethiopia's population lives in areas where PM<sub>2.5</sub> levels are above the WHO guideline for healthy air (10 µg/m<sup>3</sup>). \*\*

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### Air Pollution's Impact on Health: A Global Snapshot

Air pollution was the 4th leading risk factor for premature death globally, accounting for nearly 12% of all deaths, with more than 6.67 million in 2019 alone. Considered separately, ambient particulate matter (PM<sub>2.5</sub>) ranked as the 6th leading risk factor, and household air pollution (HAP) ranked 9th. Ozone was not in the top 20 risk factors.

**Key Statistics at a Glance**

6.67 million deaths due to air pollution in 2019. Nearly 500,000 infant deaths in the first month of life attributable to air pollution.	43 µg/m <sup>3</sup> population-weighted annual average PM <sub>2.5</sub> concentration.* 4.14 million deaths attributable to outdoor PM <sub>2.5</sub> exposure.	49% of the population uses solid fuels for cooking. 2.31 million deaths attributable to exposure to household air pollution.
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**Key Exposure Facts**  
Over 90% of the world's population lives in areas where PM<sub>2.5</sub> levels are above the WHO guideline for healthy air (10 µg/m<sup>3</sup>). \*\*

\* Between 2010 and 2019, exposures to PM<sub>2.5</sub> remained the same, and exposure to household air pollution declined, but exposures to ozone increased.  
\* There are more than 10,000 stations reporting PM<sub>2.5</sub> concentrations and nearly 9,000 stations reporting ozone concentrations worldwide.

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### Nigeria

Air pollution was the 3rd leading risk factor for premature death in Nigeria in 2019, accounting for nearly 12% of all deaths (nearly 198,000). Considered separately, ambient particulate matter (PM<sub>2.5</sub>) ranked as the 9th leading risk factor, and household air pollution (HAP) ranked 5th. Ozone was not in the top 20 risk factors.

**Key Statistics at a Glance**

Nearly 198,000 deaths due to air pollution in 2019. Nearly 25% of infant deaths attributable to air pollution.	70 µg/m <sup>3</sup> population-weighted annual average PM <sub>2.5</sub> concentration.* 68,500 deaths attributable to exposure to outdoor PM <sub>2.5</sub> .	77% of the population used solid fuels for cooking. More than 128,000 deaths attributable to exposure to household air pollution.
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**Key Exposure Facts**  
100% of Nigeria's population lives in areas where PM<sub>2.5</sub> levels are above the WHO guideline for healthy air (10 µg/m<sup>3</sup>). \*\*