Air Quality Data: Sub-Saharan Africa

A regional snapshot derived from the OpenAQ report, Open Air Quality Data: The Global Landscape 2024

The Importance of Air Quality Monitoring & Data Transparency

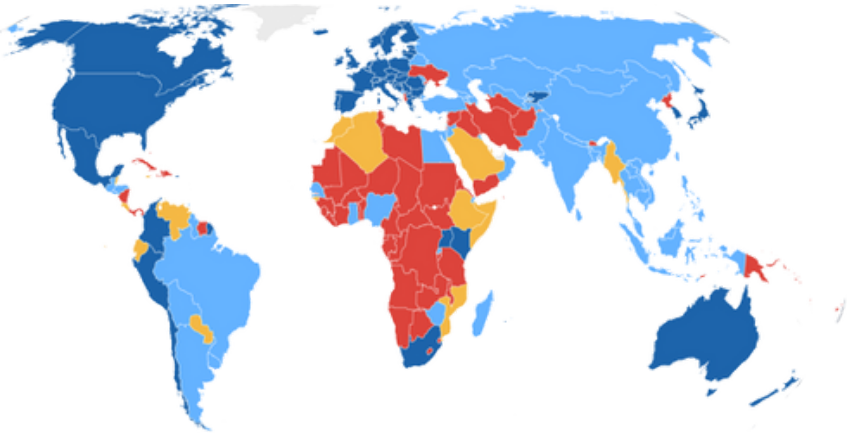
Air pollution is the #2 leading risk factor for death and disability-adjusted life years (DALY) in Sub-Saharan Africa (State of Global Air, 2024*).

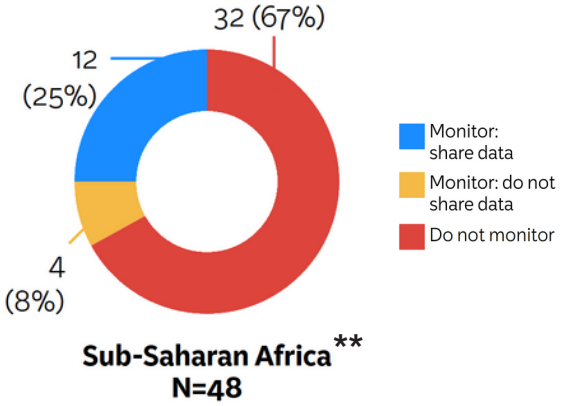
Measuring and tracking air pollution levels is critical to understanding and developing solutions to poor air quality. Governments that make air quality data open, easily accessible and freely available can leverage public, private and civil society expertise to build effective and durable approaches to solving the air pollution crisis.

OpenAQ Examined:

1. Which countries are (and are not) actively monitoring air quality on a continuous basis?

2. To what extent are countries that are monitoring sharing the data they generate with the public?





***Regional classification for countries according to the World Bank*

Monitoring & Data Sharing Status

We found evidence that only 33% [N=16] of the 48 countries in this region are generating air quality data on a regular basis, and 67% [N=32] are not. Those countries without national-level air quality monitoring represent a combined population of 558 million.

25% [N=12] are publicly sharing the data they generate, and 67% [N=32] are not.

8% [N=4] are sharing their data in a fully open, transparent manner.

Criteria for Fully Open Data

- in physical units (an AQI alone does not
- suffice) with station-specific geographic
- coordinates at a daily or sub-daily frequency
- in a format that is machine-readable.

Changes to Monitoring & Data Sharing Since 2022

Guinea-Bissau and Mozambique began monitoring their air quality. Seychelles, Cabo Verde and Zimbabwe began monitoring and sharing their air quality data. Ghana began sharing their air quality data, although not in a fully open manner. Cabo Verde, South Africa, and Uganda started sharing their data in a fully open, transparent manner.

** Based on 2021 data. "Air pollution" includes ambient $PM_{2.5}$, ambient ozone and household air pollution.*

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Barriers

The most significant barrier to establishing a regular air quality monitoring program is resource constraints, such as a lack of financial resources and/or technical expertise. For example, the lack of technical support or funding for continued operation and maintenance has caused interruptions in Ethiopia. Governments must procure, operate and maintain the monitoring equipment; centralize and manage the data they produce (either building their own custom data management system or relying on private air sensor manufacturer platforms; analyze and use the data to inform actions; share the data; and communicate effectively.

Governments may not recognize the benefits of full data transparency: Open data increases public trust and cross-sectoral collaboration, leading to more innovative and evidence-based clean air solutions.

Opportunities

- Leveraging international expertise and partnerships can help overcome resource constraints.
- A global, stakeholder-led project is underway to develop an open-source data management system that governments can tailor to their needs.
- Social media offers a way to share air quality data. For example, Senegal provides regular AQI updates across the country using Facebook, and Ghana provides daily AQI updates in the Legon region using X.

Bright Spots

Inter-country and local government monitoring efforts, as well as monitoring projects by non-governmental organizations (academic institutions, community-based organizations, civic groups and citizen scientists), are increasing. Some national and subnational-level governments use air sensors to monitor air quality. For example, Kisumu City, Kenya and Kampala, Uganda show an air quality monitoring map with data from air sensors on their respective websites.

Recommendations

- All countries should measure air quality and share the data they generate in a fully transparent and accessible manner.
- Funders, such as development banks and philanthropies, should support less-resourced governments in their monitoring and data sharing efforts.

About OpenAQ

OpenAQ is the world's first and largest open-source, open-access database of outdoor air quality measurements, built to ensure everyone has unfettered access to the data they need to analyze, communicate and advocate for clean air.

Read the full report here:
link.openaq.org/2024GlobalLandscape

Access the full tally of countries here: link.openaq.org/2024-ReportWorksheet

explore.openaq.org inkedin.com/company/openaq info@openaq.org