

Episode 56LF November 8, 2023. Hudson Valley, New York, editorial, Fight local air pollution by limiting wood burning. Africa

RAWSEP View: Excerpt from the Hudson Valley editorial below: The United Nations Climate and Clean Air Coalition [lists wood burning](#) as an key source of both outdoor and indoor air pollution. And a National Resources Defense Council scientist [has warned](#), when considering wood as a renewable energy source, that “wood emits more carbon dioxide than coal for every unit of electricity produced.” One thing we can do to safeguard our health, as well as slow climate change, is to choose not to burn wood. If we take steps to limit or stop wood burning within city or town limits, close to where many other people live and breathe, we can help safeguard the health of our neighbors and communities.”

[Fight local air pollution by limiting wood burning in towns and cities - Times Union](#)

Local wood burning emits the same kind of fine particulate matter emitted by wildfires. Exposure to these particulates is cumulative; they tax the ... [OPINION](#) Fight local air pollution by limiting wood burning in towns and cities
Commentary: Our communities can't fight distant wildfires or climate change on their own, but we can help our neighbors breathe easier. [Excerpts edited by RAWSEP for brevity & clarity and relationship to Residents Against Wood Smoke Emission Particulates.](#) November 8, 2023. Over the past six months, we at the Hudson Valley Air Quality Coalition have heard stories of residents not being able to open their windows because the outdoor air quality is too poor. Older adults have been walking inside the near-empty mall in order to protect themselves from particulate matter, as have new moms with infants and toddlers, searching for a safe place to have playtime. Children's camps have had to think about whether kids can be outdoors (and find suitable indoor space if not), and workers have suffered from exposure to dangerous particulate matter while performing outdoor labor. Whether it's due to Canadian wildfires or other, local sources of pollution, smoke simply cannot be kept out. And these tiny particles cannot be coughed or sneezed out; they lodge in the lungs and can go directly into the cardiac system, which makes them very damaging to human health. People in their homes cannot simply “move out of the way” of smoke plumes generated by wildfires, leaf fires or home heating. And one of the main recommendations of authorities during the summer wildfires – to close windows and turn on air conditioners – does not work for households without air conditioning. It also puts residents who live with toxins such as *mold in their indoor air at higher risk of illness. What can we do to address these air quality issues in our communities?* While we have no immediate control over wildfires from afar, we do have some control over our local air quality – and even over worsening climate change. We can help to keep our Hudson Valley air cleaner by limiting wood burning within town or city limits. Local wood burning emits the same kind of fine particulate matter emitted by wildfires. Exposure to these particulates is cumulative; they tax the heart, brain, and respiratory [system](#). . Smoke does not need to be visible or dense, and skies do not need to be orange, for people's health to be at risk. If we can smell woodsmoke, our health is at risk. No one should be unable to protect themselves in their own homes. The editorial was written by the former chair of the Kingston Conservation Advisory Council Air Quality Subcommittee. And also written by an associate professor of biology and environmental studies at Bard College and the co-director of the Center for Environmental Sciences and Humanities. They both are founding members of the Hudson Valley Air Quality Coalition and Kingston Air Quality Initiative.

RAWSEP View: Excerpts from the Nature article about Africa, below: “Biomass burning induces high ozone concentrations over central Africa⁵ and is also an important source of air pollution across Africa more generally. Without access to clean energy, nearly 970 million people on the continent rely on biomass burning for cooking, heating and lighting, which results in severe indoor air pollution⁶ and contributes greatly to outdoor air pollution. The open burning of waste is also widespread in Africa and contributes to ambient air pollution across the continent. Vehicles are another pollution source across Africa. Numerous efforts have been made across African countries to tackle air pollution. For example, ten major African cities signed the C40 Clean Air Declaration¹⁰ to improve public health and mitigate climate change. Initiatives based on the emerging lower-capital-cost sensing approach are beginning to provide much-needed data for air pollution control¹¹ (Figure 2).”

[Spotlight on air pollution in Africa | Nature Geoscience](#)

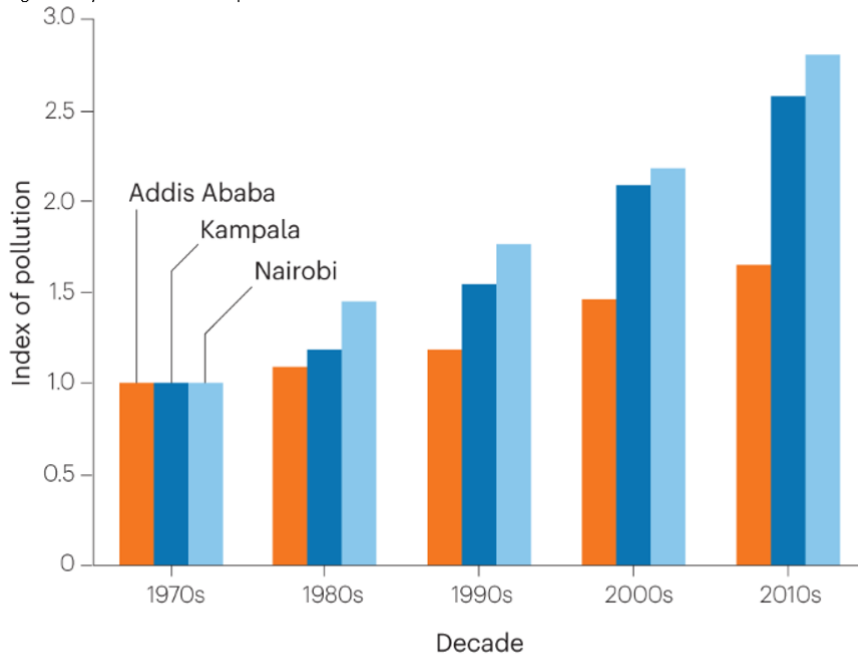
PM2.5 (particulate matter $\leq 2.5 \mu\text{m}$ in diameter) concentrations in many African cities are now 5 to 10 times greater than the level recommended by ... [Excerpts edited by RAWSEP for brevity & clarity and relationship to Residents Against Wood Smoke Emission Particulates.](#) Africa's worsening air pollution has received too little attention. We argue that actions are needed in energy transition management, transport emission regulation and waste management to protect Africa's air quality. Comment [Published: 07 November 2023](#) Spotlight on air pollution in Africa [Mohammed Iqbal Mead, Gabriel Okello, Aderiana Mutheu Mbandi & Francis David Pope](#) [Nature Geoscience](#) volume 16, pages 930–931 (2023)[Cite this article](#) 125 Altmetric [Metrics details](#) Africa's worsening air pollution has received too little attention. [We](#)

argue that actions are needed in energy transition management, transport emission regulation and waste management to protect Africa's air quality. Africa is experiencing some of the worst air pollution in the world and air quality has deteriorating rapidly over the past 50 years¹ (Fig. 1). PM_{2.5} (particulate matter $\leq 2.5 \mu\text{m}$ in diameter) concentrations in many African cities are now 5 to 10 times greater than the level recommended by the World Health Organization². With growing populations, rapid urbanization and industrialization, air pollution over the continent is likely to worsen with detrimental health implications. However, too little attention has been paid to Africa's air pollution: less than 0.01% of global air pollution funding is currently spent in Africa². Pollution sources and patterns show that air pollution in Africa is a global issue, and we argue that tackling the issue requires collective efforts from African countries, regionally tailored solutions, and equitable global collaborations. Fig. 1: Analysis of historical air pollution in East Africa. Using visibility as a proxy for particulate matter air pollution, Singh et al.¹ have shown rapid increases in air pollution in the capital cities of Nairobi, Kampala and Addis Ababa between the 1970s and 2010s. [Full size image](#) Patterns, sources and drivers of air pollution in Africa. Africa is a large continent — second in size only to Asia, and currently containing 54 countries and two disputed territories. Owing to distinctly different socioeconomic conditions among countries and cities, air pollution across Africa varies greatly and has distinct regional pollution patterns and sources. For example, crude oil exploitation in Nigeria induces black carbon emissions and particulate matter pollution³. Coal mining and power generation results in high emissions of greenhouse gases and nitrogen dioxide in South Africa⁴. Currently, urban transport systems are struggling to meet increasing demand. This has led to the rising imports of preowned, old and reconditioned vehicles with low emission standards from Europe, North America and Asia. These vehicles emit much larger amounts of pollutants than those meeting high standards and thus — unless restrictions are put in place to regulate these imported vehicles — increased emissions of pollutants are expected. Currently, very few measures have been implemented across Africa to address pollution from motorized transport⁷. Africa's population is projected to nearly double to 2.5 billion by 2050 (ref. ⁸) and with this will come increases in energy demand, waste generation and transport vehicles — all of which are sources of air pollution. Africa has also been experiencing rapid urbanization, industrialization and motorization. In fact, for some Africa regions, air quality has been declining rapidly since 1970 or earlier. Inadequate attention to Africa's air pollution may be an obstacle to achieving global climate targets. Combustion sources that emit large amounts of air pollutants also generate CO₂ and other climate pollutants simultaneously. Although Africa's current per capita CO₂ emissions are only approximately one fifth of the global average⁹, carbon emissions in Africa will probably increase markedly without controlling measures. Thus, worsening air pollution in Africa is not only an issue for Africa. Actions needed. Overall, there has been increasing political will and civil society engagement in addressing air pollution over the past decade. Figure. 2: Air pollution network of particulate matter using the AirQo low-cost sensor. Shown for Africa (left), Uganda (middle) and Kampala (right) within Uganda. The AirQo network¹⁵ exemplifies an African-led solution to the measurement data gap across Africa. The AirQo network started in Kampala, Uganda and is now deployed across eight African countries. [Full size image](#) However, current efforts are not enough. Not only air quality measurements, but also resources for data interpretation, are required. Additionally, regulation of air pollution emission standards remains inadequate and coordination between public agencies is poor. As many regions across the globe have made progress with air pollution control, Africa can leverage existing knowledge, technology and strategies for effective capacity building via international collaboration. However, in any collaboration, it is important to ensure Africa's leadership to make sure that local context is sufficiently considered. Regionally specific and multifaceted approaches are key to tackling different patterns of air pollution across Africa. We propose five target areas for actions. Continuous air monitoring. Wider installation of continuous air-quality monitoring networks is required to measure pollution levels and understand spatial and temporal variations of different pollutants. Such monitoring is useful for identifying pollution sources¹², evaluating their health effects and setting an important baseline for assessing effectiveness of air-pollution control policies. This will require more than investment in air monitoring infrastructure, but also enhancement of the capacity of local researchers to interpret and act upon the air quality data. Investment in clean energy. Africa's energy demand is expected to nearly double by 2040 (ref. ¹³). A rapid transition to clean energy (such as solar, hydropower and wind), while shifting away from dirtier energy sources, will be needed to improve air quality in Africa. It is important in such a transition to diversify renewable sources to make sure that Africa will not revert to fossil-fuel-based economies should any of the renewable sources does not work owing to unfavourable environmental conditions.

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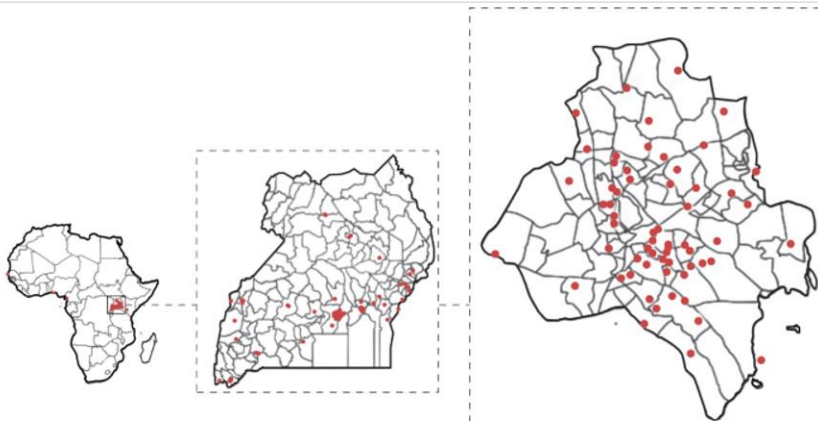
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Fig. 1: Analysis of historical air pollution in East Africa.



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Fig. 2: Air pollution network of particulate matter using the [AirQo](#) low-cost sensor.



Shown for Africa (left), Uganda (middle) and Kampala (right) within Uganda. The [AirQo](#) network¹⁵ exemplifies an African-led solution to the measurement data gap across Africa. The [AirQo](#) network started in Kampala, Uganda and is now deployed across eight African countries.