

Kampala, Uganda

Health messaging to raise public support for clean air action

Case study developed in partnership with Kampala Capital City Authority



<p>5 million Kampala population size</p>	<p>7.8 times the WHO air quality guideline of 5 $\mu\text{g}/\text{m}^3$ (39 $\mu\text{g}/\text{m}^3$ annual average $\text{PM}_{2.5}$ concentrations)</p>	<p>\$3,220 National GDP per capita PPP</p>	<p>5.78 MtCO_{2e} National greenhouse gas emissions per capita</p>
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Sources of emissions



Transportation



Waste Burning



Household Cooking



Industrial Emissions

There is no clear leading emissions source in Kampala

Overview

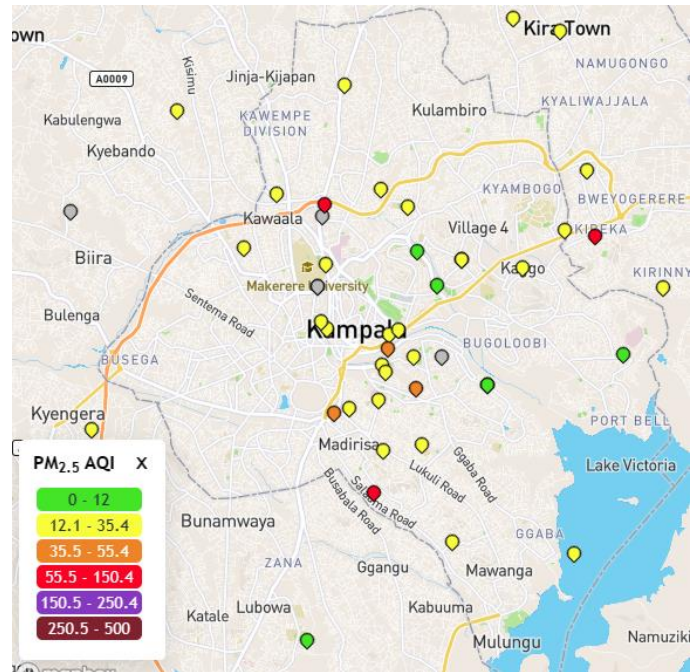
Kampala is the economic and political capital of Uganda, with a growing resident and transient population of over 5 million. The city and its metropolitan areas contribute to over 60% of Uganda's GDP and host the largest concentration of pollution-generating activities in Uganda. People in Kampala and the metropolitan area live and work near pollution sources. Urban planning shortfalls have also precipitated the growth of dense informal settlement clusters, often intertwined with formal settlements and pollution generating activities. Based on 2021 data, it was estimated that 2,000 deaths a year, or 20% of total deaths, were attributable to long-term exposure to air pollution in Kampala,

The Kampala Climate Change Action strategy (2020-2025) recognizes the value of integrating clean air targets. However, to create even more explicit clean air targets, the Kampala Capital City Authority (KCCA)

developed its Clean Air Action Plan in 2021/2022. The implementation of the three-year action plan began in 2023.

In 2018, prior to the development of the Clean Air Action Plan, the KCCA initiated air quality monitoring efforts, with actual measurements commencing in December 2019. Today, Kampala boasts a dense, integrated network of low-cost and reference-grade monitoring stations that provide real-time data access that is used to guide decision-making and monitor the effectiveness of mitigation measures. With over 65 air quality monitors installed and more in the pipeline, it is possible to tell when and where pollution is high and to communicate safety messages tailored to pollution levels both for the general public and strategic stakeholders. KCCA’s air quality management plan also includes an emissions inventory to understand the leading sources of emissions, and, with support from the European Union, a source apportionment study to identify the precise sources of pollution is currently underway.

The National Environment Management Authority has also recently developed standards for ambient air in Uganda, and the city authority is in the process of contextualizing these regulations to guide enforcement. Two key sources are expected to be the subject of regulations: household use of firewood/charcoal and solid waste management. Even though the most urban households are connected to electricity, most still rely heavily on charcoal and firewood for cooking (Figure 1), and the use of open fires and traditional stoves have a strong influence on both indoor and ambient air quality levels. In addition, management of solid waste within Kampala is still a major challenge: In total, up to about 1,400 metric tons per day are generated within Kampala’s political boundaries alone. Yet, there is limited capacity for KCCA and municipal authorities within greater Kampala to safely manage all the waste generated. As a result, most of the waste is openly burned.



A screenshot of the Kampala Air Quality Monitoring Network (November 2023) demonstrating how air quality can vary across the city. Each colored dot represents an air quality monitor.

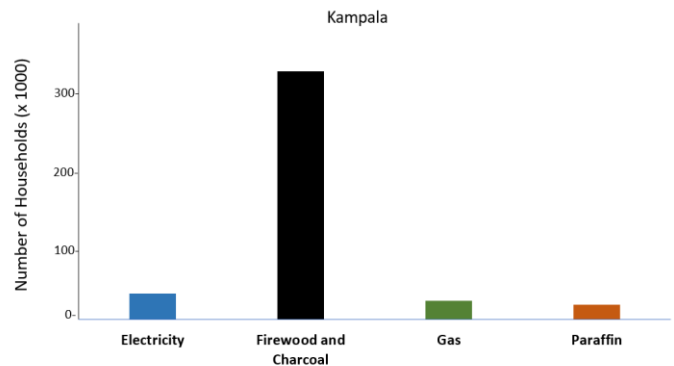


Figure 1: Proportion of Domestic Energy Profile for Greater Kampala (From UBOS, 2015)



Left Photo: Joint team from the Kampala Capital City Authority and National Environment Management Authority on spot inspection of industrial facilities in the city. In this photo, the team was assessing compliance to air pollution control standards at a steel manufacturing plant (Roofings Uganda Limited).

Right Photo: The KCCA Executive Director, Dorothy Kisaka (Right) flanked by Director Public Health and Environment, Dr Daniel Okello launching the research equipment for the source apportionment study. Expected to be completed at the end of 2023, it will present findings about the sources of air pollution in the city, and help authorities to target air pollution mitigation measures to sectors contributing most to the pollution.

“Air pollution is one of the greatest environmental health challenges to our generation that is directly related to population explosion in Kampala City. To address this, we developed the first-ever Clean Air Action Plan in 2022. Many actions are currently ongoing to manage waste, monitor air pollution levels, control pollution at the source, reduce greenhouse gas (GHG) emissions and increase awareness about the health effects of air pollution among the population.”



Dorothy Kisaka
Executive Director, KCCA

Impact

One of the first priorities of the Kampala Clean Air Action Plan is improving people’s knowledge about the importance of clean air. The KCCA has developed messaging based on literature reviews and published evidence on the health effects and costs of air pollution, weaving in information about multiple community benefits of reducing air pollution. To get these messages to the community, the KCCA has held press and media events alongside the National Environment Management Authority, Makerere University Lung Institute, and the Ministry of Health. In March 2023, Kampala also held its first “car free day,” which involved closing some roads to vehicles, making them for walking or cycling only. This event, which is expected to be held regularly, demonstrates and promotes the use of car-free mobility. The event included a community health campaign, so participants were able to screen for various illnesses, donate blood, and participate in physical activities. The initiative attracted senior government officials, including the state minister for Kampala, who spoke to the media about air pollution mitigation measures.



Photos Above: In March 2023, Kampala organised its first ever car free day. The event included community health screening, physical activities, and the promotion of active mobility. It demonstrated that roads aren’t for cars alone, a message to promote active transport in the city and to remind motorists to protect pedestrians.

KCCA is also working with health experts to design and produce research outputs and technical reports on air quality. As part of the Partnership for Healthy Cities, KCCA is working with the Makerere University Lung Institute, Vital Strategies and Eastern Africa GEOHealth Hub to conduct health-related studies on the air quality in Kampala, with a plan to translate these research outputs into specific policy initiatives.

In addition, Kampala has found it useful to leverage the health sector’s network and experience in risk communication. The house-to-house approach that was reinforced during the COVID-19 pandemic and more recently the Ebola virus disease outbreak has enabled the communication campaign to reach the community. Because many sources of Kampala’s pollutants are locally generated, having the support of the population will be extremely critical in accelerating policy formulation and behavior change for specific air quality control measures in the city.

Health Highlights

- The Kampala city government relies on the expertise and credibility of their health community, including academia and the Ministry of Health, to emphasize the importance of clean air to various stakeholders, such as decision-makers, health workers and the general public. The health messaging is based on literature reviews and published evidence on the health effects and costs of air pollution.
- The city organized its first “car-free day” in March 2023, which involved closing some roads to vehicles, making them for walking or cycling only. The event included a community health campaign, where participants were able to screen for various illnesses, donate blood, and participate in physical activities.
- The city is currently working with working with the Makerere University Lung Institute, Vital Strategies and Eastern Africa GEOHealth Hub to conduct health-related studies on the air quality in Kampala, with a plan to translate these research outputs into specific policy initiatives.
- The city has also leveraged the health sector’s network and experience to disseminate information about air pollution risks and impacts. They adopted the house-to-house approach that was reinforced during the COVID-19 pandemic and the Ebola outbreak. Because many sources of Kampala’s pollutants are locally generated, having the support of the population will be extremely critical in accelerating policy formulation and behavior change for specific air quality control measures in the city.

“Deaths attributable to air pollution are more than HIV/AIDS deaths! This means that the simple act of breathing kills more people than HIV/AIDS. While I don’t intend to undermine the HIV/AIDS epidemic control efforts, I call upon everyone to give air pollution control as much attention as we give other health epidemics.”



Dr Daniel Ayen Okello

Director Public health and environment, KCCA

Lessons Learned

While one of the key concerns when implementing clean air action plans is maintaining the balance between livelihoods and air pollution mitigation, Kampala found that emphasizing the health benefits of clean air can be an effective way of getting communities to invest in interventions such as paying for their trash to be collected rather than burning it.

When the level of knowledge on the impacts of air pollution is low, focusing on its health effects resonates with stakeholders.

Lower-income communities often suffer disproportionately from air pollution emitted by more privileged communities and economic actors. The KCCA is developing an innovative policy to empower citizen enforcement and reporting of air pollution emissions offenders.

It is important to operate a multi-stakeholder system to achieve air quality goals. This includes health authorities, environmental authorities, transport, energy, manufacturing and enforcement.

Strategic Partners

The city would like to acknowledge the following partners in supporting its clean air and climate journey:

- European Union
- United Nations Environment Program (UNEP)
- Partnership for Healthy Cities
- World Health Organization
- Bloomberg Philanthropies
- Vital Strategies
- U.S. Embassy in Kampala
- Health Effects Institute
- Makerere University Kampala
- National Environment Management Authority
- Eastern Africa GEOHealth Hub
- Environment Compliance Institute
- Makerere University AirQo