

Fighting household pollution in Kampala

The fight against air pollution is not just a public policy issue, it begins in the home, with the choices we make about how we cook, how we ventilate our living spaces, and how we care for the air our children breathe.

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It is 5.45pm when Esther Nagujja lights her charcoal stove (*sizizi*) by the roadside in Kyebando, a bustling Kampala suburb. Thick grey smoke rises, curling through the evening air. Within minutes, the scent of roasting fish draws customers, boda boda riders, office workers heading home, nearby residents. Children play nearby. Some adults cough or rub their eyes. No one pays much attention to the smoke.

A few kilometres away in Bweyogerere, Moses Byaruhanga begins his evening the same way, lighting charcoal to roast goat meat. Customers gather around the grill, drawn by the aroma, barely noticing the haze that surrounds them.

These scenes play out daily across Ugandan towns and trading centres. Charcoal stoves, firewood, and open grills are part of everyday survival and family life. Yet the thick smoke that accompanies them carries hidden dangers that many households overlook.

A health crisis in the home

Dr Alex Ndyabakira, a Public Health Consultant with Kampala Capital City Authority (KCCA), describes air pollution as one of the leading global risk factors for death. In Kampala, he notes, domestic burning and charcoal use are major contributors alongside vehicle emissions and industrial activity.

Globally, 99 percent of the world's population lives in areas with worrying pollution levels. In Kampala, air pollution has been linked to more than 7,000 deaths in recent years. The World Health Organisation now ranks the burden of disease from air pollution alongside unhealthy diets and tobacco smoking.

For Ugandan families,

this crisis often begins in the kitchen. Dr Richard Kimuli explains that despite government efforts to promote cleaner energy, most households still rely on firewood and charcoal. Many urban families perceive cooking gas as expensive, yet charcoal smoke releases toxic carbon monoxide and increases the risk of respiratory illnesses, cardiovascular disease, and cancer.

A recent survey by Twaweza reveals the scale: 92 percent of rural households use firewood, while 46 percent of urban households do the same. In Kampala, charcoal is the main cooking fuel for 78 percent of households. Only one in 20 households owns a gas or electric stove.

Small changes, cleaner homes

To curb air pollution in Kampala and beyond, KCCA has partnered with Airqo from Makerere University to support the installation of air quality monitors across the city. The initiative aims to accurately identify pollution hotspots and enable faster, evidence-based solutions before the health of large populations is affected.

Raja Wabinyai from Airqo says the air monitors should be widely embraced because they help determine pollution levels and guide practical interventions. He commends KCCA for its commitment to the partnership, noting that it demonstrates a strong drive toward achieving cleaner air.

Air monitoring is essential because it helps improve air quality, protect public health, and ensure compliance with environmental regulations. By continuously measuring pollutants, authorities and researchers can identify major pollution sources, track trends



AIR MONITORS

Air monitors measure pollutants in our environment using sensor technology. Portable devices typically use laser-based light scattering to detect particulate matter like dust and smoke, while electrochemical and infrared sensors track gases such as carbon dioxide and volatile organic compounds. These tools provide real-time air quality readings, helping individuals make informed decisions about outdoor activities or indoor ventilation. However, accuracy varies widely between consumer-grade devices and professional equipment. Factors such as humidity and sensor aging can affect readings. While not a substitute for regulatory-grade instruments, air monitors offer valuable awareness, empowering users to take action when pollution levels rise.

Charcoal stoves, firewood, and open grills produce smoke that carries hidden dangers that many households overlook.

over time, and design targeted interventions to reduce exposure.

Experts recommend practical steps for households

Dr Sarah Zawedde, the Director of Public Health at KCCA, calls for urgent public action to combat rising air pollution through sustained sensitisation and community engagement. She warns that the continued burning of waste in public spaces, a common practice in many neighbourhoods, releases harmful smoke that poses serious risks to human health and worsens air quality.

But change, she emphasises, begins at home. Dr Zawedde encourages families to consider cleaner cooking alternatives, to ensure proper ventilation in kitchens, and to be mindful of activities that

generate smoke within and around the home.

Transition to cleaner cooking fuels:

Where possible, families are encouraged to shift from charcoal and firewood to gas, electric, or improved biomass stoves that significantly reduce smoke emissions.

Improve kitchen ventilation: Simple measures like cooking in well-ventilated areas, opening windows, or using extractor fans can dramatically reduce indoor air pollution.

Reduce waste burning: Families and communities should avoid burning waste near homes and instead use designated collection services.

Mind vehicle emissions: For families with vehicles, regular servicing and switching off engines during long waits can reduce personal contribution to air pollution.