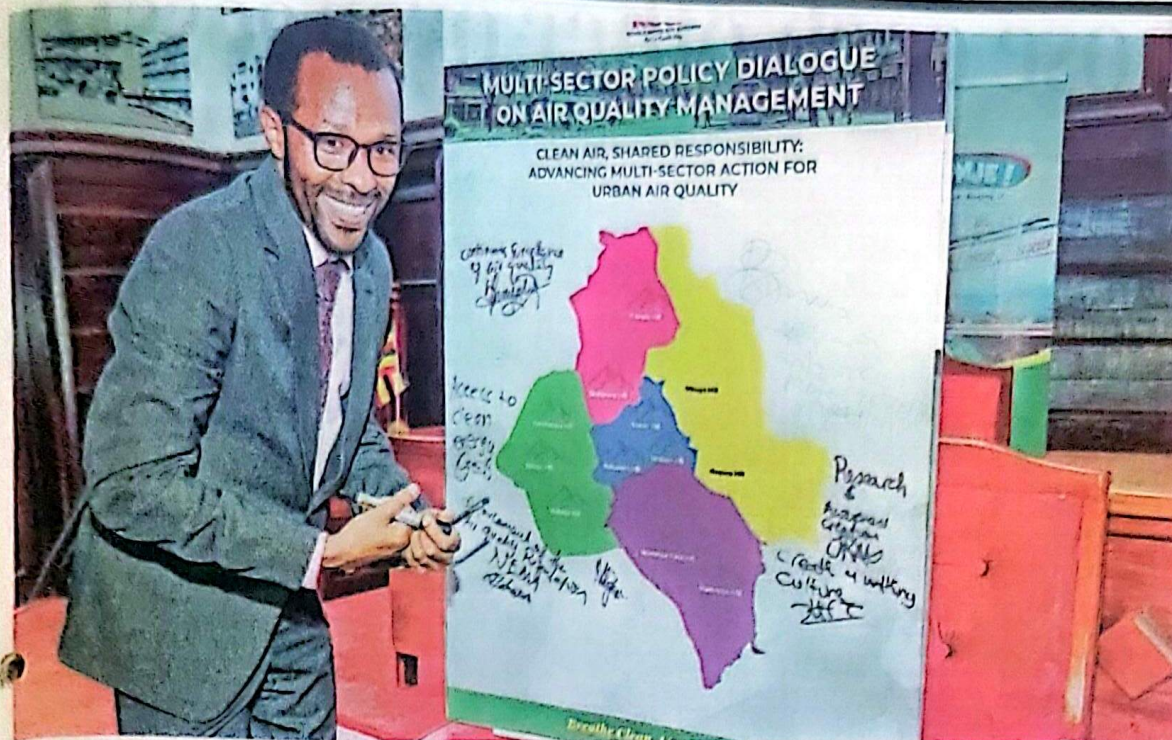




Dr Alex Ndyabakira is at the centre of Kampala's efforts to understand and reduce air pollution through data, community action, and public health systems.
PHOTO/GEOFFREY OYET OKWERA

Meet the doctor fighting to clear Kampala's toxic air

Dr Alex Ndyabakira is at the centre of Kampala's efforts to understand and reduce air pollution through data, community action, and public health systems.

BY GEOFFREY OYET OKWERA

On some days in Kampala, the air feels like it carries more than just dust. It carries exhaust from traffic jams that refuse to clear, smoke from burning waste, and the quiet acceptance of a city growing faster than it can breathe.

For Dr Alex Ndyabakira, that invisible weight in the air is not just an environmental concern. It is a public health emergency.

As the Division Medical Officer at the Kampala Capital City Authority (KCCA) and head of air quality management for the city, he has become one of the key figures behind Kampala's Clean Air Action Plan. It is a role that sits at the intersection of science, policy, and

an urgent question: Can a rapidly expanding African city learn to breathe better?

Yet when he speaks about it, there is no drama. Just calm conviction.

"Without addressing air pollution, it is impossible to achieve good health outcomes," he says.

A dream takes shape

Dr Ndyabakira's journey begins far from the congested streets of Kampala, in rural Sheema District in southwestern Uganda.

He attended Kibutamo Primary School before completing his primary education at Mushanga Primary School and later joined Sacred Heart Secondary School, Mushanga. It was here that his ambition to become a doctor began to take root, inspired by a village neighbour, an orthopaedic surgeon who worked at Mulago National Referral Hospital.

That early inspiration stayed with him. After scoring 24 points at A-Level from Valley College, he earned a government scholarship to study Medicine and Surgery at Makerere University.

He knew early what he wanted to do. But he did not yet know how wide the path would become.

Returning home

After his internship at Mulago hospital, Dr Ndyabakira returned to his community in Sheema, working at Kabwohe Clinical Research Centre. It was a deliberate choice, a return to the people and places that shaped him.

For two years, he worked among neighbours, teachers, and relatives, delivering care in a setting where medicine was deeply personal.

But as he later moved into broader public health work with the Infectious Diseases Research Collaboration, he began to notice something else: patterns.

Disease was not random. It was shaped by environment, systems, and exposures that went beyond the clinic.

"I could see the trends at the community level, but I felt limited in how much I could address them," he recalls. That gap pushed him toward epidemiology and ultimately toward a career that would place him at the

LONG ROAD AHEAD

Despite the challenges, Dr Ndyabakira remains optimistic about what has been built so far, particularly the growing collaboration between KCCA, universities, research institutions, and government ministries.

But he is clear that progress will depend on more than policy documents. It will require discipline, behavioural change, and sustained public engagement. For him, air quality is no longer a side issue in public health. It is central to it.

centre of Uganda's outbreak response systems.

A city under pressure

In 2020, as Covid-19 spread across Uganda, Dr Ndyabakira was undergoing advanced Field Epidemiology Training at the Uganda National Institute of Public Health. His timing was accidental, but critical.

He was absorbed into Kampala's response system at a moment of intense pressure.

Workloads were heavy, uncertainty was constant, and the health system was stretched. He was part of teams tracking outbreaks, analysing data, and supporting containment measures in the capital.

Two years later, during the 2022 Ebola outbreak, he was appointed Incident Commander for Kampala's response. The outbreak was contained in 69 days, a milestone that reflected coordinated surveillance and rapid intervention.

But in the middle of these high-stakes emergencies, another public health issue kept resurfacing quietly: air quality.

When air became the patient

During his fellowship, Dr Ndyabakira

joined KCCA as his host institution. Around the same time, a European Union-funded air quality project was winding down, and responsibility for it needed to be transferred.

No one volunteered immediately.

The team was exhausted from pandemic response work. The project had no funding. But the data was already telling a story: Kampala's pollution levels were high and rising.

He took it on.

"I knew that without addressing air pollution, we would continue treating the same diseases without solving their cause," he says.

Then came an unexpected window: the Covid-19 lockdowns.

With traffic reduced and activity slowed, air quality data revealed a rare natural experiment, a glimpse of how the city's air responded when human pressure eased.

For Dr Ndyabakira, it was a turning point. Not just in data, but in conviction.

A new kind of public health system

From that moment, his work expanded beyond surveillance into innovation.

One of the most significant initiatives has been the development of community-based air quality reporting systems. Known as "air quality champions," these trained community members receive real-time pollution data and use mobile phones to interpret and report local conditions through messages, photos, and videos.

The system is supported through WhatsApp networks linking communities, journalists, and technical teams. The goal is simple: make air visible.

He has also worked to train journalists and expand awareness among media practitioners, ensuring that air quality reporting becomes part of public discourse rather than a technical silence.

At KCCA, broader reforms are also underway, from installing more than 100 air quality monitors to promoting non-motorised transport, improving traffic flow, and restricting high-emission vehicles in sensitive zones.

But Dr Ndyabakira is quick to note that infrastructure alone is not enough.

A city breathing unequally

Kampala's air quality, he explains, may sometimes meet national standards set by the National Environment Management Authority (Nema), but it still exceeds World Health Organisation (WHO) guidelines by five to seven times. The sources are familiar: traffic emissions, open waste burning, dust from unpaved roads, biomass fuel use, and industrial activity.

Yet the biggest challenge, he says, is not technical; it is behavioural.

"Awareness is still low. Many people still see air pollution as a government problem, even when indoor pollution from charcoal and firewood is significant," he notes.

Electric mobility, cleaner fuels, and sustainable transport systems remain limited by cost and infrastructure gaps.

From a village in Sheema to global conferences in London, Paris, and Washington, his journey has been shaped by one evolving question: how do you protect health in a city whose growth is outpacing its systems?

His answer, still unfolding, is being written in data points, community networks, and a steady effort to make the invisible visible.

And in Kampala, that may be the first step toward cleaner air and healthier lives.