



# **ENGAGING WITH MEDIA ON AIR POLLUTION AND HEALTH: WHAT MUST SCIENTISTS KNOW**

**PRESENTER : JACKIE LIDUBWI**



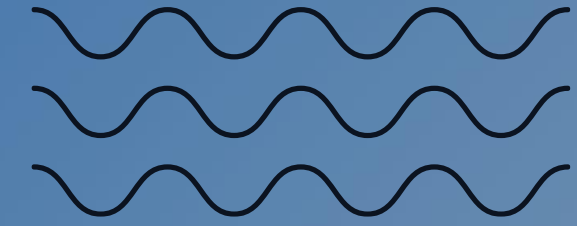
# ROLE OF MEDIA IN AIR POLLUTION AWARENESS

- Media can shape perceptions, inform, and influence policy on air pollution.
- Media business models often prioritize stories with commercial appeal.
- Air quality complexities pose challenges for environmental journalists.



# MEDIA SCAN & FINDINGS

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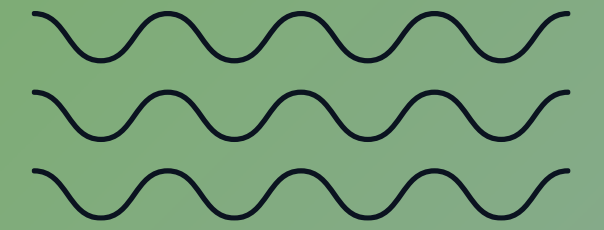
## *Insights into Current Air Pollution Reporting*

- Few in-depth media stories on air pollution.
- Journalists face challenges: Knowledge gaps, resource constraints.



# BARRIERS TO EFFECTIVE AIR POLLUTION REPORTING

- Difficulties accessing air pollution information.
- Safety concerns: Threats from cartels and potential government retaliation.
- Restricted access to pollution hotspots like Dandora.
- Denial of crucial air quality data by organizations.
- Limited media budgets for air pollution stories.



The Silent Killer : Air pollution now the biggest environmental risk



# TRAINING JOURNALISTS IN NAIROBI

## *Workshop Breakdown*

- Strengthen knowledge and skills on air pollution.
- Empower journalists with tools for gender-sensitive reporting.
- Activities included expert sessions, discussions, and field trips.



# REAL-WORLD OBSERVATIONS: FIELD TRIPS

- Observations from Cabanas: Motor emissions combined with smoke from cookstoves.
- University of Nairobi: Introduction to air quality sensors and monitoring



Kass FM DIGITAL

Home » NEWS » Health » Nairobi Workshop Unites Experts to Combat Air Pollution and Protect Public Health



ENVIRONMENT Health Technology

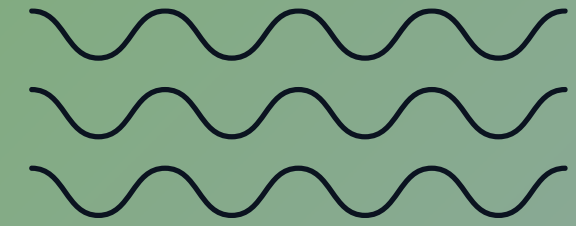
## Nairobi Workshop Unites Experts to Combat Air Pollution and Protect Public Health

By Chemtai Kirui | May 24, 2023 | 7 minutes, 35 seconds Read

The road transportation network in Nairobi County stands as the primary culprit for air pollution, releasing nitrogen oxides (NOx), particulate matter (PM), and volatile organic compounds (VOCs).

# JOURNALISTS REFLECT ON THEIR LEARNINGS

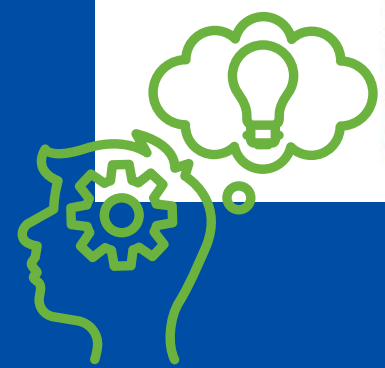
- Emily Chebet realized the variety of pollutants beyond just CO2.
- Bosco Christopher's perception shift on seeing Cabanas' air pollution.
- The workshop guided journalists in developing impactful story ideas.
- Robi Chacha: The workshop broadened his perspective on air pollution reporting.



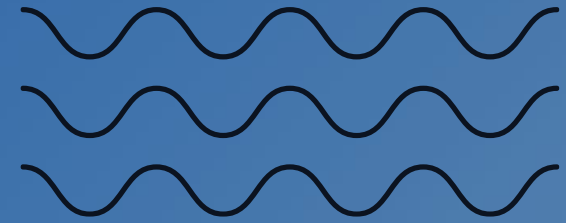
Stella Paul Retweeted

 **Yusuf Farah** @FarahJr002 · 6d

Three days and lots of lessons and a field trip later ... I leave the @InternewsKE workshop on #airpollution in #Nairobi a more informed person .Brace 4 more informative stories in the days 2 come Asanteni sana @earthjournalism @jackielidubwi @stellasglobe #CACAirPollution 1/2



# STORIES PRODUCED



18 | PEOPLE DAILY / Wednesday, August 23, 2023

## Eureka ▶ Design, innovate, engineer

# Deploying tech to fight air pollution

Modern problems call for modern solutions, and this is the reason behind an innovation geared towards a cleaner atmosphere in African cities

by William Murigi  
@williammur1

**A**ir pollution is a major problem not only in Kenya, but also globally. Particulate Matter (PM) 2.5 (particles less than 2.5 micrometres in diameter) is the major air pollutant. The World Health Organisation says the problem is so bad that nine out of 10 people around the world breathe highly polluted air. It is because of air pollution that there is an increase in diseases and early deaths.

The latest report by the Lancet also shows that an increase in PM2.5 has also led to increased antibiotic resistance. If nothing is done to fix this problem, a 10 per cent increase in PM2.5 pollution could lead to a one per cent increase in antimicrobial resistance.

"Air pollution affects everyone and we cannot avoid breathing polluted air. That is why there is a need to prioritise clean air action for health to identify and address leading air pollution sources," says Vital Strategies' Sammy Simiyu.

**Air quality monitoring**

However, despite this, only few countries are monitoring their air quality. The reason is the huge cost of setting up air quality monitoring stations. Currently, available monitors in the market are quite expensive costing around Sh4.3 million (US\$30,000).

Air quality monitoring is the process of measuring various pollutants present in the air. Monitoring helps to identify areas with poor air quality and the pollutants responsible for it. Collected data on air quality is a unique source of inspiration for research and development of new pollution control technologies that have the potential to reduce emissions from different sources.

"To effectively tackle air pollution, access to data and contextual evidence is important to show the scale and magnitude of air pollution. But most countries don't have this data. That is why little to nothing is being done to fix this problem," adds Simiyu.

It is against this background that a group of innovators from Makerere University have developed a low-cost air quality monitor known as Binus Monitor. It efficiently collects information about air pollution levels and types of air pollutants. They provide accurate, hyper-local, and timely data providing evidence of the magnitude and scale of air pollution across the continent.

"We realised that the readily available accurate and real-time air quality monitors are quite expensive. That is why we decided to come up with this low-cost air quality monitor, which is still accurate and real-time," says AirQo international operations embedded systems and network support engineer Gideon Lubisia. The monitors are designed to suit the African infrastructure, providing locally-tailored solutions to African air pollution challenges. The monitors are optimised with capabilities to cope with challenges such as extreme weather conditions including high levels of dust and heat. Powered by either electricity or solar, the device is optimised to work in settings characterised by unreliable power and intermittent internet connectivity. It runs on a 2G GSM network configuration for IoT sim cards.

Adds Lubisia, "We came up with this solution to close the gaps in air quality monitoring across Africa. We are solving large, complex air quality monitoring challenges across Africa. We are providing much-needed air quality data to governments and individuals in the continent to facilitate policy changes that combat air pollution."

**With the availability of periodic data collected by the monitors, now the county can establish the extent of pollution in particular areas**

Sammy Simiyu

Gideon Lubisia

NJOGU

One of the Air Qo reference monitors installed in Nakawa Division, Kampala. COURTESY

These monitors/sensors collect air samples, which are then analysed through a light scattering technology that quantifies the particulate matter's concentration. The information is then relayed to a cloud-based network that determines the pollution levels in a specific area.

They measure the air particulate matter PM2.5 and PM10—a mixture of solid particles in the air and the most common pollutants in African cities. They also measure ambient meteorological conditions such as humidity and atmospheric pressure.

"The monitors are easy to install and can be placed on static buildings or bodabodas to improve spatial coverage and resolution. We have also come up with a mobile app which is easy to use and free to download allowing you to stay up-to-date on the quality of the air you are breathing," he says.

Lubisia says to commercialise this innovation, the team has registered AirQo that is now manufacturing the monitors. So far, about more than 250 monitors have been produced. In Uganda, they have deployed over 187 air quality monitors in 80 locations in Kampala, Gulu, Jinja, and Fort Portal.

In Kenya, about 30 monitors are in use in Nairobi and Kisumu cities. For Nairobi, they have worked with Nairobi City County Government and the Nairobi air quality committee to develop two air quality collocation installations using their low-cost monitors and infrastructure reference grade monitors.

Through these collocations, a city-specific calibration model and sensor inter-comparison has been developed. The collocations will act as one-stop centres to support research communities using low-cost sensor platforms for sensor comparison and more generally data quality assurance.

**Digital quality platforms**

In Kisumu, they have supported the city to develop an air quality management system that leverages locally generated air quality data from the hyper local air quality-monitoring network. The hyper local air quality infrastructure in Kisumu consists of air quality monitors and digital air quality platforms that support air quality awareness initiatives and research informed by data for effective air quality policy interventions.

"With accurate and real-time access to air quality data, residents, policymakers, and people visiting the two cities are now empowered to take action and inform policies to address air quality and air pollution management in the cities," notes Lubisia.

Nairobi Air Research and Data Committee's chairperson Paul Njogu says the technology is helping the city make notable progress in managing Kenya's ambient/outdoor air pollution. "With the availability of periodic data collected by the monitors, now the county can establish the extent of pollution in particular areas, and the causes and develop necessary actions," he says in ending.

Home / Opinion

## Black Gold: How sale of catalytic converters puts lives in danger

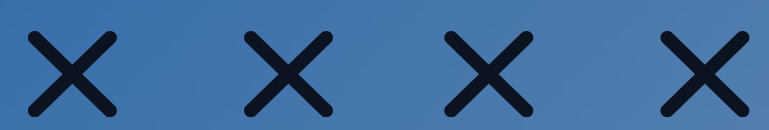
By Dominic Kirui | 1mo ago

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Close up of an old catalytic converter in hand Car service being removed from engine gasoline car dust clogged condition on filter. [Getty Images]

On a hot Friday midmorning Mary Muthoni pulls in at a Roysambu roadside garage in Nairobi's Kasarani in a red Nissan Juke. She wants the vehicle's catalytic converter removed.

The middle-aged woman says that she has noticed that her car loses power whenever she is overtaking on the highway and she thinks it's risky for her. Her friend has advised her to have her muffler (catalytic





# Kenya

## The green city in a fatal fog

**Air pollution kills 8,000 people in Nairobi each year. Now the city's leaders are finally paying attention to the problem.**

**Dominic Kirui in Nairobi**

Joseph Kang'ethe, a bus driver on Thika highway, has a theory: Nairobi commercial drivers don't stay in business long because the city's air would kill them. He reckons staying on the job long is "like you are trying to kill yourself".

He shares this theory with *The Continent* during the same week Nairobi is hosting the first-ever Africa Climate Summit. Billboards dotting traffic junctions tout the city as "the global environmental capital". A claim not without merit: Kenya's capital is home to the UN's global environment programme.

Kang'ethe, however, is not sold. "The guy I replaced today is in hospital with asthma. Even though he is also a smoker, I think the air he breathes here also is dirty," Kang'ethe says as he parks the bus in the CBD for passengers to alight.

His claim is also not without merit: it's

backed up by experts and data.

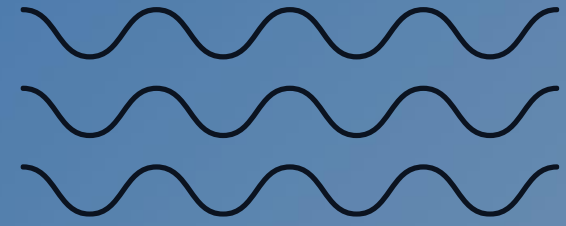
Air pollution kills 8,000 people in Nairobi alone every year, according to Wanjira Maathai of the World Resources Institute. That air was graded as "unhealthy" or "unhealthy for sensitive groups" 10% of the times it was gauged this year by AirNow, a monitoring group. And the city's air pollution is more than triple the level recommended as healthy by the World Health Organisation.

The poor quality frustrates Maathai on at least two personal levels. She is the daughter of Nobel prize-winning environmentalist Wangari Maathai, who fought to preserve Nairobi's green cover – and one of her daughters has asthma, which she attributes to air pollution.

"Most people have somebody around them who is asthmatic in this city." She



**Daily breath: A delivery man pulls a cart through Nairobi's early morning smog.**  
Photo: Tobin Jones/AFP via Getty Images





# **COMMUNICATING WITH THE COMMUNICATORS**

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**A GUIDE TO SUCCESSFUL MEDIA ENGAGEMENT**

# FIRST, SOME NUMBERS

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What percentage of scientists are good communicators?

47%

- A 2019 survey by the Pew Research Center, US, only 47% people with high science knowledge believe that research scientists are good communicators

62%

- Same survey reveals that 62% of people believe scientists are good communicators. However, these are people who have very low knowledge of science



# UNDERSTAND YOUR AUDIENCE

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Identify the target audience of the media outlet and tailor your message accordingly. Consider using language that is accessible to a general audience

# KNOW YOUR KEY MESSAGES

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Crunch your research findings into a few key messages. Clearly articulate the main points you want to convey during the interview



# AVOID JARGON

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Minimize the use of technical jargon. If you must use specialized terms, be sure to explain them in simple and understandable language.

# USE ANALOGIES



Interviewing UN CBD Executive Secretary

Analogies can help simplify complex concepts. Relate your research to everyday experiences or phenomena to make it more accessible

# STAY CALM AND COLLECTED

If faced with a challenging question or situation, stay calm and composed. It's okay to take a moment to gather your thoughts before responding





# ANTICIPATE QUESTIONS

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Think about the potential questions you might be asked and prepare thoughtful and concise responses. Consider both positive and challenging questions



**Internews in Kenya** @Interne... · 08 May  
 Head of Air Quality, @WRIafrica Dr. George Mwaniki introducing the @CleanAirCAC project to journalists attending the air pollution in #Nairobi sources and impacts media training workshop.

#CACAirPollution @earthjournalism



Stella Paul and 2 others

1 14 27



**Internews in Kenya** @InternewsKE · 6d  
 This morning, at the air pollution media training workshop, we are starting with @JudyNguta - who is telling our journalists how to use data, fact-checking and social media for air pollution reporting.

#CACAirPollution @WRIafrica @USAIDKenya



Earth Journalism Network and 5 others

12 37



**Clean Air Catalyst** @CleanAirCAC · 4d  
 Earlier this week we closed the #Nairobi media workshop, which gave journalists the tools to report on #airpollution and its effect on health. We're looking forward to reading their stories & see how they help people protect themselves from air pollution.  
 Photos: @InternewsKE



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# Q&A SESSION

Engage & Discuss



The Silent Killer : Air pollution now the biggest environmental risk



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