Cityzens for Clean Air: Advancing Youth-Led Action in African Cities

The Cityzens for Clean Air initiative seeks to amplify youth voices to advance evidence-informed action on clean air and healthy public space across the African continent.

What's At Stake

Air-pollution is the second biggest cause of death in Africa, and is on the rise. The African continent is the most rapidly urbanising region in the world, with at least 65% of the population projected to be in cities by 2060. With urbanisation comes a rise in non-communicable diseases (NCDs) as well as greenhouse gas emissions. In 2019, air pollution caused 1.1 million deaths across Africa. However, policy responses to NCDs in the African region remain mostly fragmented, with little focus on multisectoral action for prevention. This results in increased disease burden on citizens and heavy economic burden on cities and nations. The cost of air pollution-related illness deaths in Lagos, for example, was at least $2.1 billion million annually. Strategies to prevent NCDs while simultaneously increasing urban climate resilience are urgently needed.

The economic future of African cities depends on a healthy populace; Yet Africa's young people are under-represented in urban health decision making. Sub-Saharan Africa has the largest cohort of young people in history with 60% of the population under the age of 25. Unleashing the transformative potential of young people to drive development requires a healthy population. However, the increasing exposure of young people to unhealthy urban environments (especially air quality) is threatening this potential with a rise in NCDs at earlier ages. At the same time, young people are increasingly disenfranchised, disillusioned, and disconnected from decision making, evidenced by the rise in youth-led social movements protesting poor governance.

Project Approach

Cityzens for Clean Air uses a participatory, youth-led approach to data about air quality and public space in cities. Using an open call for applications, young people aged 18-35 with enthusiasm for running applied to be citizen scientists and "Run Leaders" in three African cities: Accra, Lagos, and Cape Town.

Approximately ten young people were selected and trained in each city. In July-September 2022, Run Leaders in each city recruited 100+ other runners to join them and then took to the streets to collect air quality data on a specific 5-15km running route through their neighborhood. The routes were designed to capture the diverse socio-economic spectrum within each city. In total, nearly 400 citizens across the three cities joined the mobilization.

During the runs, the citizen scientists collected data on air quality using wearable sensors. Using a bespoke mobile application, they also captured multimedia (photo, audio, video, text) data about sources of polluted or clean air encountered during the run, as well as features of the built environment that supported or hindered healthy physical activity.

The integrated air quality and public space data from all three cities is openly and freely available via a custom-built, interactive web platform. The platform is viewable here: https://cityzens.urbanbetter.science/

After analysis and visualisation, the data were shared with the youth citizen scientists in order to inform their local clean air and climate advocacy efforts. At this shareback workshop, they also met with representatives from government and multilateral organisations working on clean air in their locale to learn about city priorities and opportunities to influence the local policy process. After these discussions and reviewing data they generated, the youth leaders then designed the advocacy goals presented here.

This briefing offers a summary of key results and makes recommendations for how policymakers can advance progress on air quality, youth engagement, and climate action.

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Key Results from Cape Town, Accra, and Lagos

- **Air quality varied greatly among and within the three cities, correlated primarily with population density and overall size.**

Lagos, the most densely populated city (6,871 residents per square kilometer) had the most frequently observed levels of unhealthy and hazardous air quality according to PM2.5 and NO2 across all neighbourhoods surveyed. Accra (1,300 people per square km) showed variability in air quality with some good and moderate air categorization, but also stark pockets of unhealthy and very unhealthy air in some neighbourhoods. Cape Town also displayed variability in air quality by neighbourhood, with lower-income, higher-density areas having more frequent instances of unhealthy air quality than higher- income areas.

- **Improving data access increases public engagement with the often "invisible" issue of air quality.**

After being engaged in air quality monitoring via wearable low-cost sensors and given access to the data via an open-source data platform, young people in all three cities who were previously mostly unaware of air quality issues became passionate advocates and champions for change. Recent evidence also reinforces the finding that open access to air quality data, combined with access to health and climate risk data, increases citizens' awareness, enfranchises the public, and motivates public engagement and support for clean air and climate policy agendas.

- **Young people are motivated and eager to support clean air action in their neighbourhoods, but do not have clear, accessible opportunities to do so.**

Over 200 people participated in the #CityzensforCleanAir running events organised by youth leaders between July and October, and hundreds more are expected to join future runs. The energy unleashed by the Cityzens for Clean Air initiative shows the untapped energy of young people to help improve their cities and neighbourhoods.

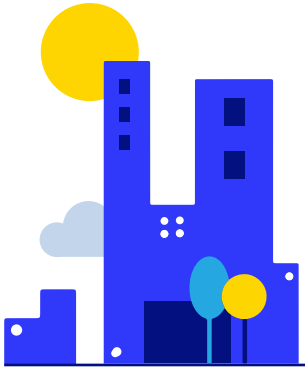
A Key Moment for Action

Clean air is good for the planet, and good for people

We have a critical window of opportunity to integrate non-communicable disease (NCD) prevention and climate action into urban governance in Africa. Both air pollution and climate change are mainly caused by burning fossil fuels, so many of the solutions are the same. And like climate change, dirty air disproportionately affects the most vulnerable, so addressing it will reduce growing health inequalities in cities. Siloed governance systems that position the health ministries as solely responsible for NCD prevention and environment ministries as solely responsible for climate action are ineffective. The parallels between the drivers of urban NCDs and the drivers of climate change offer an opportunity for integrated, cost-effective solutions.

The cost of inaction and "business as usual" is high

A recent report from the Clean Air Fund suggests that on their current path, some of Africa's fastest-growing cities will see the financial costs of air pollution increase more than sixfold by 2040[1]. But taking action on pollution pays back– Initiatives that clean the air will unlock significant economic benefits, because air pollution severely hampers workers' productivity, cognitive performance and wellbeing. There is also growing evidence that having publicly available air quality data can drive both awareness and action by businesses, cities, and citizens[2]. By investing in clean air, climate-friendly policies and infrastructure, African governments can unlock huge health gains and financial gains in their urban centers.



A recent study from Dalberg and the Clean Air Fund found that:

- In Lagos, implementation of such clean-air policies could create efficiencies of up to $12.5billion and save over 64,000 lives between 2023-2040.
- Cairo could prevent over 52,000 premature deaths associated with the effects of air pollution between 2023-2040, and significant greenhouse gas reductions (with a reduction of 12% in 2040 alone).
- In Accra, the cumulative impact of clean air measures on air pollution could raise $250m and save over 3,000 lives between 2023-2040.
- In Johannesburg, the action on air pollution could potentially generate the city around $1bn from 2023-2040.

1https://www.cleanairfund.org/clean-air-africas-cities/
2https://arstechnica.com/science/2022/10/us-embassies-may-have-accidentally-improved-air-quality/

How Policymakers Can Take Action for #CleanAir in Cities:

1

Citizens have real-time access to data about the air they breathe.

Recommendations:

- Create a network of low-cost, community-based air quality sensors distributed across city neighbourhoods, with open -source, real-time data access for the public.
- Make current air quality data open to the public and easily accessible, so residents check real-time data about the air they breathe at any time.

2

Young people have a say in the decisions that affect their air and future.

Recommendations:

- Establish a participatory decision making mechanism that includes young people from diverse areas of the city on where air quality sensors go, what interventions happen as a result of the data, and how the results are shared with the public in a timely manner.

3

Citizens live in a climate resilient city that helps – not harms – their health.

Recommendations:

- Measure the health impact of urban infrastructure and public space development projects, and make those data easily and freely available to the public.

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Next Steps for Cityzens for Clean Air – And How You Can Join In

Building on the success to date, we are seeking to scale up this participatory approach to evidence-informed clean air and climate advocacy in African cities and beyond. Our immediate next steps are to:

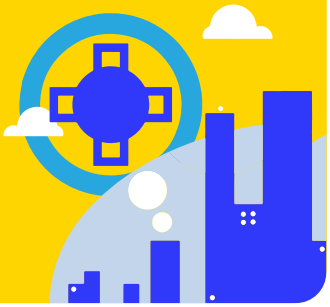
1. Build coalition of UrbanBetter organisations comprising city government, academic, youth-privileged civil society orgs, private sector, media partners in select cities. These UrbanBetter "studios" will aim to identify opportunities to leverage ongoing policies, initiatives and events such as marathons to advocate for clean air and cities supportive of physical activity.

2. Scale up and out the UrbanBetter Cityzens mobile app and the interactive platform. This data infrastructure platform is envisaged to support citizen scientists across Africa to generate robust data stories on air pollution and other planetary health risks to inform and augment urban design for healthy climate resilient public spaces through evidence-informed activism and policy.

3. Connect and equip a pan-African community of citizen scientists on the use of data to support the accountability of urban development investments and initiatives and to drive youth-led collaborative planetary health innovation and advocacy for healthier city futures.

We are actively seeking public, private, and community-based partnerships to scale up this initiative in Lagos, Accra, and Cape Town – and to grow into new cities.

Contact us: hello@urbanbetter.science



Learn more and access the full project findings:

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