

CLEAN-Air African Network Project

INAUGURAL WORKSHOP FOR ADVANCING PARTICIPATORY AIR QUALITY ADVOCACY AND MANAGEMENT USING LOW-COST SENSORS FOR THE PROMOTION OF URBAN HEALTH.

19th March 2024. Yaoundé, Cameroon

WORKSHOP REPORT

HoPiT Research Group.
The University of Yaoundé



This is a promotional banner for the AirQo app. On the left is the 'airqo Breathe Clean' logo. Next to it is the Makerere University crest. In the center, a hand holds a smartphone displaying the app's interface. To the right of the phone, text reads: 'Know the quality of the air you are breathing', '9 out of 10 people around the world breathe highly polluted air. Knowing the quality of air around you is a first step toward reducing your exposure to high air pollution levels!', and 'Download the AirQo App, Know Your Air and take action to protect yourself'. Below this text are the 'Download on the App Store' and 'GET IT ON Google play' logos. On the far right is a QR code with a 'SCAN ME' button below it.

REPORT OF THE INAUGURAL WORKSHOP FOR ADVANCING PARTICIPATORY
AIR QUALITY ADVOCACY AND MANAGEMENT USING LOW-COST SENSORS
FOR THE PROMOTION OF URBAN HEALTH.

(Held on March 19, 2024, at Djeuga Palace Hotel Yaounde from 9:00 am to 2:00 pm)

1-Introduction

1-1- Context and justification of the workshop

Air pollution levels worldwide, particularly in Africa, are reaching worrying records. According to environmentalists, at least nine out of ten people breathe polluted air on the continent. The consequences range from an increased burden of chronic heart and lung diseases and cancers to premature mortality. Access to current and accurate data plays a crucial role in tackling urban air pollution, but establishing a continuous monitoring infrastructure poses significant challenges for many African cities. Budgetary limitations remain a significant barrier to establishing a robust and reliable data collection infrastructure, essential for creating and delivering targeted air pollution interventions.

The Clean Air African Network project is an ongoing multinational project in East Africa (Uganda, Rwanda, Kenya) and West Africa (Cameroon, Ghana, and Nigeria) sponsored by the U.S. Department of State. In this project, low-cost sensors made by engineers at Makerere University in Uganda are deployed in African cities to collect real-time data on air pollution from fine particulate matter (PM1, PM2.5, and PM10) and make them accessible to the public via a mobile application and a web platform. The objective is to raise citizens' awareness of air pollution risks and to encourage authorities to act. As part of this project, through the HoPiT research group, ten (10) low-cost sensors will be deployed in the city of Yaoundé.

This one-day workshop will attempt to bring together various stakeholders working on air quality in Yaoundé. The workshop aimed to consolidate the stakeholder landscape in Yaoundé and provide a platform to promote advocacy and participatory and inclusive management of air quality in the city of Yaoundé through the understanding and use of a low-cost sensor network and digital solutions for data management to drive the adoption of contextual air quality data for decision-making.

1-2-Main objective

This workshop aimed at consolidating the stakeholder landscape in Yaoundé and sharing preliminary data/results of the AirQo project in Yaounde with participants from various disciplines and administrative spheres. The aim of the presentation of the project and the results is to share the experiences of the researchers involved in the project and to have the appraisal and recommendations of the participants in order to provide new directions and perspectives.

1-3- Specific objectives

More specifically, the specific objectives are as follows:

- Consolidate the stakeholder landscape in Yaoundé
- Explore overlapping/synergistic activities on air quality/urban health in Yaoundé
- Present the integration and co-design of the implementation strategy of the CLEAN-Air project for Yaoundé
- Identify opportunities and avenues for further engagement and collaboration
- Share preliminary results from low-cost AirQo sensors

1-4- Expected results

- Strengthen the consolidation of the stakeholder landscape in Yaoundé
- Know the overlapping/synergistic activities on air quality/urban health in Yaoundé.

- Obtain integration and co-design of the CLEAN-Air project implementation strategy
- Know the opportunities and avenues for further engagement and collaboration
- Raising awareness of air quality issues

2- progress of the workshop

The workshop began by setting up and welcoming participants. It was 10 am when Dr Félix Assah addressed his welcome to all the participants present and at the end of his remarks, he asked that a round of the table be taken so that each participant could introduce themselves and the organization they represent, the aim was to create an atmosphere of friendliness. In this spirit, the invitation to have breakfast was given by Dr. Félix Assah.

It is exactly 10:45 am when the actual presentations begin. The first presentation aimed to present AirQo Africa in general, and the CLEAN-AIR Yaoundé project in particular, the vision and some actions already carried out and in progress.



Figure 1 shows the theme of the workshop

A) Presentation 1: introduction to the project and objectives/expectations of this inaugural workshop
(Dr Assah)

Dr. Assah's presentation highlighted that the CLEAN-Air Yaounde project can be viewed as a continuation of the ALPHA project of the HoPiT Research Group. In the ALPHA project, a sensor was installed in Melen to measure the air quality in this area to determine the impact of this air on people's physical activities. Subsequently, an observation from June 2021 to May 2022 showed a risk linked to air pollution and physical activities. We can see that the risks are perceptible and exist.

Starting from this genesis, Dr. Assah presented the CLEAN-Air Yaounde project to the participants as a research opportunity which continues what HoPiT did with the ALPHA project. The particularity of the CLEAN-Air project is that it is organized as a network with other partners from other African cities. This is why we talk about CLEAN-Air Yaoundé, CLEAN-Air Kampala, CLEAN-Air Douala, CLEAN-Air Lagos, etc.

In the specific case of CLEAN-AIR Yaoundé, he provided the main objectives of the project:

1. Improve regional capacities in air quality monitoring and data access, modeling, and management by scaling up ongoing local initiatives in East, Central, and West Africa.
2. Develop understanding, awareness, and appreciation of air quality issues through evidence-based and participatory advocacy approaches.
3. Building solutions for clean air and decision-making bases in cities in East, Central, and West Africa.

He hoped that at the end of this workshop, a synergy would be created so that we could collaborate to carry out more in-depth studies to facilitate decision-making by legislators on air quality in the city. in Yaoundé in particular, and all cities in Africa.

He concluded by hoping that the actors present at this workshop could participate in designing cities differently and helping populations to live healthier and longer in urban areas.



Figure 2: Dr Assah during his presentation

B) Presentation 2: The CLEAN-Air network project for African cities (Mr Deo Okure)

At the start of his presentation, the Project Manager, Deo Okure, congratulated the presence of the different stakeholders participating in this workshop. He then gave the history of the AirQo project (the precursor to the CLEAN-Air for Africa). His presentation covered the vision of the project, its mission, and above all the Network which is the very essence of this project because he hoped that this project carried by Africans can be sustained and adopted by all.

The AirQo project was founded in 2015 at Makerere University to bridge the gap in air quality research in Uganda and surrounding sub-Saharan Africa through technological innovations from the current context. As a main vision, the project aims to participate in improving the air quality in African cities. To do this, the project through its network will collect, analyze, and disseminate

data on air quality according to international standards, especially by working with partners to reduce air pollution and raise awareness in African cities of the harmful effects of air pollution.

In his presentation, he also provided a brief overview of what has already been done. It can be noted that the network or collaboration includes several countries such as **Uganda, Nigeria, Kenya, Ghana, Burundi and Cameroon**

This air quality collaboration has facilitated the deployment of more than 65 sensors in Central (Douala and Yaoundé), West, and East Africa. Beyond that, the installation of sensors has made it possible to measure and disseminate data on air quality in several countries, such as Uganda. These actions have facilitated public awareness campaigns regarding the air quality in urban areas. This project has trained more than 400 people, who are now equipped with the concept of air quality in urban areas. Through awareness campaigns, we can say that more than 3,000 people are already aware of the importance of the project for urban populations.



Figure 3: Mr Deo Okure during his presentation

He concluded his remarks with an invitation to participants to join the CLEAN-Air For Africa collaboration so that together we participate in improving air quality in our cities, and for this, this project is an opportunity.

After this presentation, there was a break to allow the participants to get to know each other and to allow the presenters of the day to answer questions from the media present at the workshop.



Figure 4: Mr Okure and Dr Assah field questions from journalists during the press conference

C) Presentation 3: Consolidating the stakeholder landscape in Yaoundé (Dr Assah)

Dr Assah through the question: “Who does what in Yaoundé?” wanted to understand the different activities related to air quality in the city of Yaoundé. This question allowed us to capture the following:

- The Geological and Mining Institute has a research centre working on a project similar to AirQo, particularly in the Nkolbison area;

- The Ministry of Transport has a project that uses international data for a study on pollution in cities. Collaboration with HoPiT is possible for the exploitation of local data;

Dr. Mossus, through the Echo Santé Club, has already carried out activities in the direction of the AirQo project. These activities aimed to assess the impact of vehicle pollution on populations who live near intersections with a high rate of traffic.

After these presentations, exchanges between stakeholders and the different presenters followed each presentation and these exchanges lasted approximately 15 minutes.

To improve the next workshops, the moderator asked stakeholders to recommend people who could have been there and who were not there, to be able to invite them to the next workshop.

Dr Assah through the question: “Who is not in the room?” wanted to know the stakeholders who had been forgotten. This question allowed us to realize that the following stakeholders were forgotten:

- Parliamentarians

- The Ministry of Decentralization and Local Development

General summary of the first session

generally speaking, the various presentations aimed to situate the AirQo project, to define its mission, and its objectives in general and in particular. From these presentations, some comments from stakeholders captivated the AirQo Yaoundé team: the non-integration of the pollution source module in the study of air quality and the overly academic aspect of the AirQo project.

D) Presentation 4 : Stakeholder onboarding and co-design of the implementation strategy for the CLEAN-Air for Yaoundé project (Mr Feuyit /Mr Mvondo)

Mr. Feuyit during his presentation was keen to give the criteria for choosing the installation sites of AirQo sensors in the city of Yaoundé. He presented the collaboration that existed between the research team and the Yaoundé City Council in this activity. From his presentation, it was after several meetings that a committee was set up to choose the installation sites of the sensors. As for the criteria for choosing the installation sites of the sensors, these included:

- the safety of the sensor is essential, this is why the street lamps for public lighting were chosen and the sensors were fixed at more than 3 m,
- accessibility to sensors to facilitate sensor maintenance
- the density of the population (the density of the population allows us to have an idea of the absolute number of people who can be affected by poor air quality);
- The sensors should be installed where the data could ultimately be used to push municipalities into action to resolve a specific and known problem due to air quality in a given space.

The other articulation of his presentation was “Where are the AirQo sensors installed in Yaoundé? » To this question, he made a detailed presentation of each site using a geolocation map of the sites where the sensors are installed.

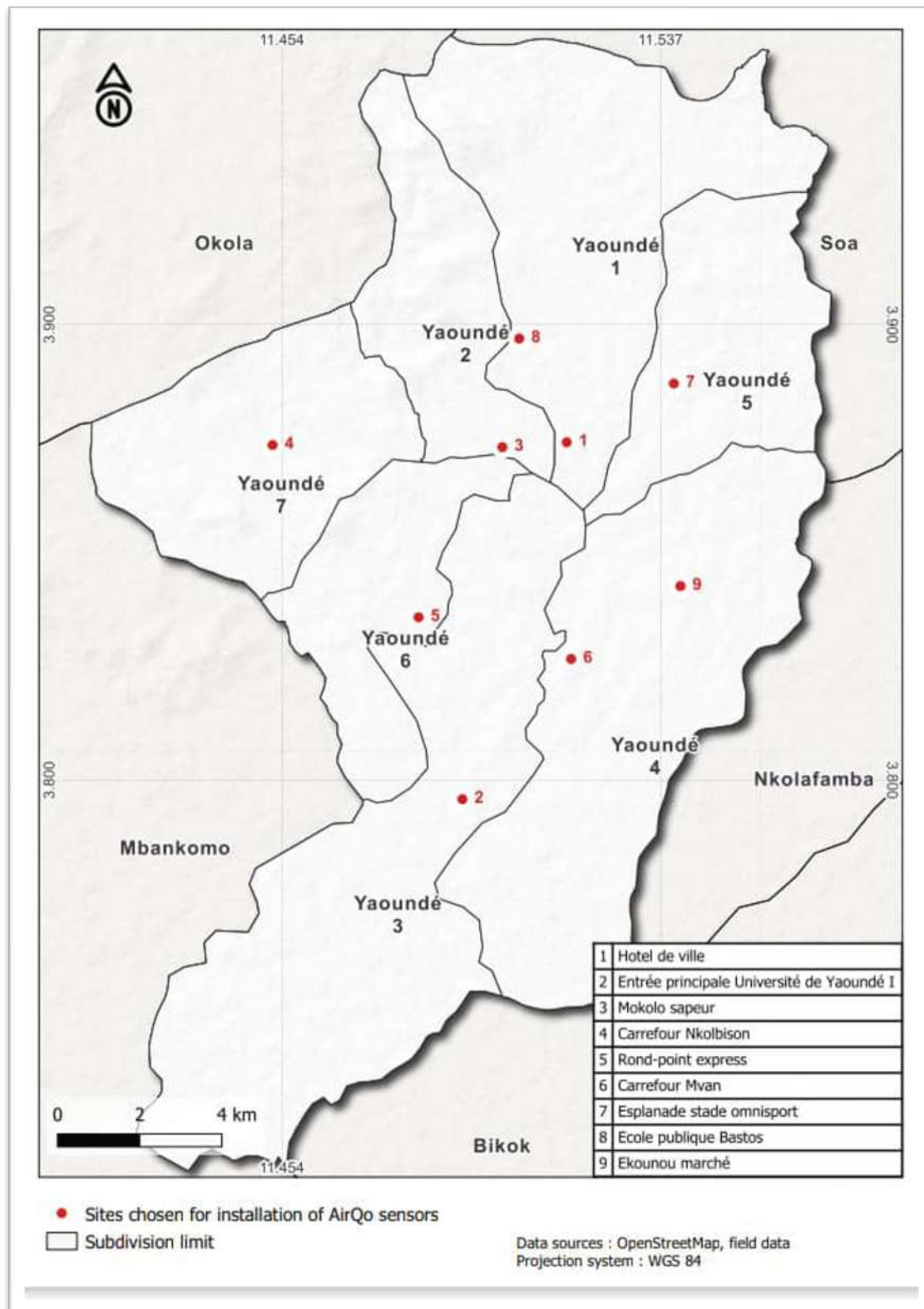


Figure 5: Site location of AirQo sensors in Yaounde

In Yaoundé, nine (09) AirQo sensors are installed in the seven (07) districts of the city and precisely in the following locations: Mokolo Sapeur, Entrée Principale de l'Université de Yaoundé I, Carrefour Mvan, Carrefour Nkolbisson, Ecole Publique Bastos, Marché Ekounou, Hôtel de Ville, Esplanade Stade Omnisport et Rondpoint Express.



Figure 6: Mr Feuyit during his presentation

Following on, Mr. Mvondo Ayissi from the Yaoundé City Council took the floor to present avenues for greater commitment and collaboration between the HoPiT research group and the stakeholders. Such collaboration will make it possible to extend the objectives which will facilitate the operability of the results of this project. To do this, he insisted that costs should be defined to allow stakeholders to finance the procurement of more low-cost sensors if they are interested in expanding the sensor network in their areas.



Figure 7: Mr Mvondo Ayissi during his presentation

E) Presentation 5: Demonstrating public access to data and use of the AirQo App (Mr Elouna)

Mr. Elouna gave a presentation on the AirQo application and the information that the application transmits to users. Through presentation and practical pedagogy, he ensured that the stakeholders immediately installed the application on their smartphones.

Starting from how to install the application, to the presentation of the application interface he tried to present some situations of air quality in certain sites of the city of Yaoundé at a given time in a period of the daytime. To have information in real-time and at a precise location, each time an AirQo sensor is installed, the geographic coordinates are recorded to facilitate the visualization and location of the sensors in the application.

The element that attracted more attention in this presentation was the legend of the application which is materialized by colors. This legend is essential to understanding the information that the application wants to transmit and constitutes an important element when it comes to interpreting information. It explains the meaning of the colours used in the application.

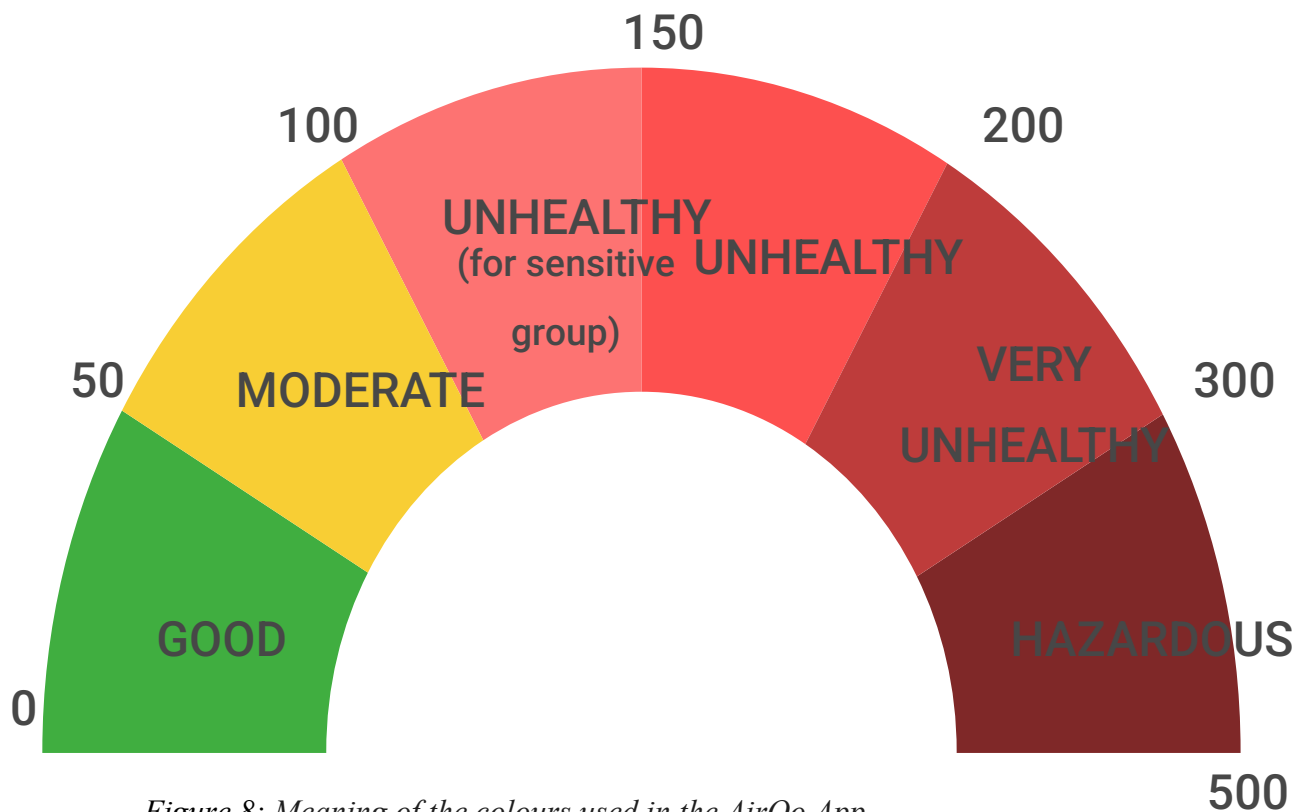


Figure 8: Meaning of the colours used in the AirQo App

AQI values equal to or less than 100 are generally considered satisfactory. When AQI values are above 100, air quality is unhealthy: first, for certain sensitive groups of people, and then for everyone as AQI values increase.



Figure 9: Mr Elouna during his presentation

F) PRESENTATION 6: State of air quality in Yaoundé: Analysis of the first results and its impacts on human health (Mr Feuyit)

Air quality in Yaounde: what does the data say?

At the beginning of his talk, the speaker reminded the participants of the particularity of the AirQo sensors; the sensors measure the concentration of fine particles and record them per hour and day. He used data from several days of measurement, and selected times to facilitate the observation and understanding of the participants on the state of the air quality at some demonstration sites.

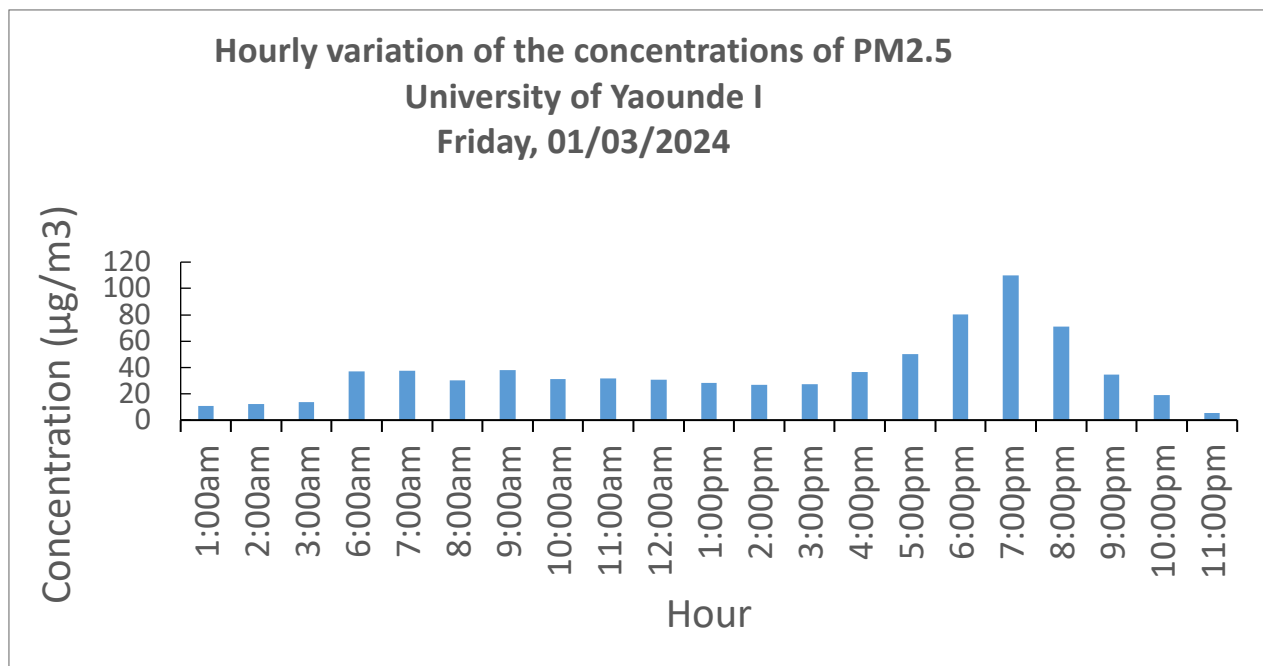


Figure 10: Hourly variation of the concentration of PM2.5 at the University of Yaounde I

From figure 10, the following can be noted:

- Low concentration of PM2.5 at night between 10:00 pm and 3:00 am
- Increase in PM2.5 concentration during the day between 6:00 a.m. and 8:00 pm
- Sudden variation of the concentration of PM2.5 between 5:00 pm and 8 pm with the peak at 7:00 pm

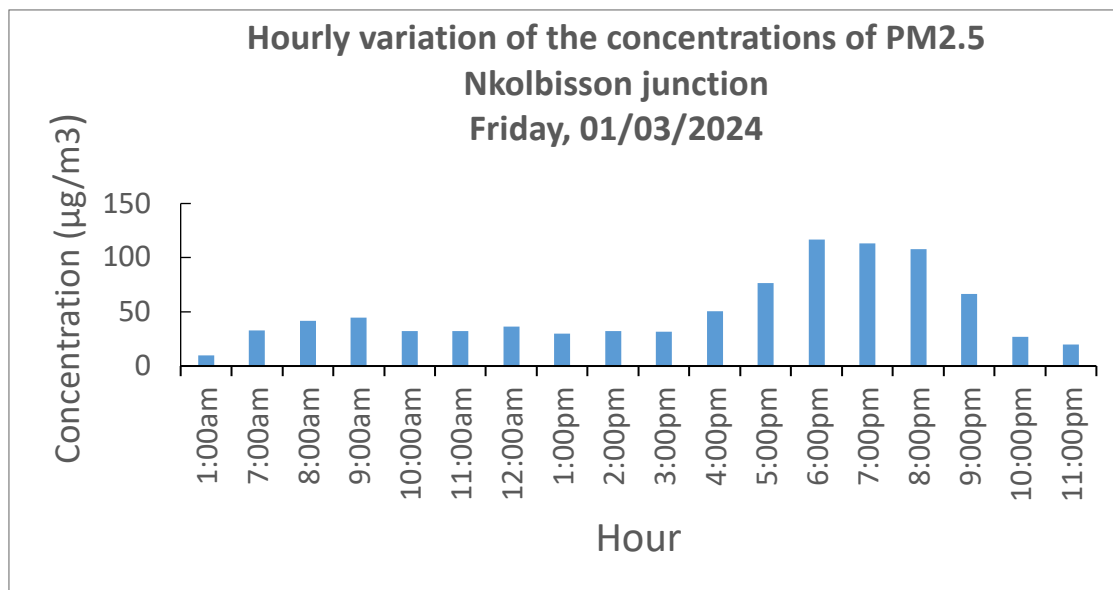


Figure 11: Hourly variation of the concentration of PM2.5 at Nkolbisson junction

From figure 11 above, the following can be noted:

- Low concentration of PM2.5 at night between 10:00 pm and 1:00 am
- Increase in PM2.5 concentration during the day between 7:00 am and 9:00 pm
- Sudden variation between 3:00 pm and 9:00 pm with the peak at 6:00 pm

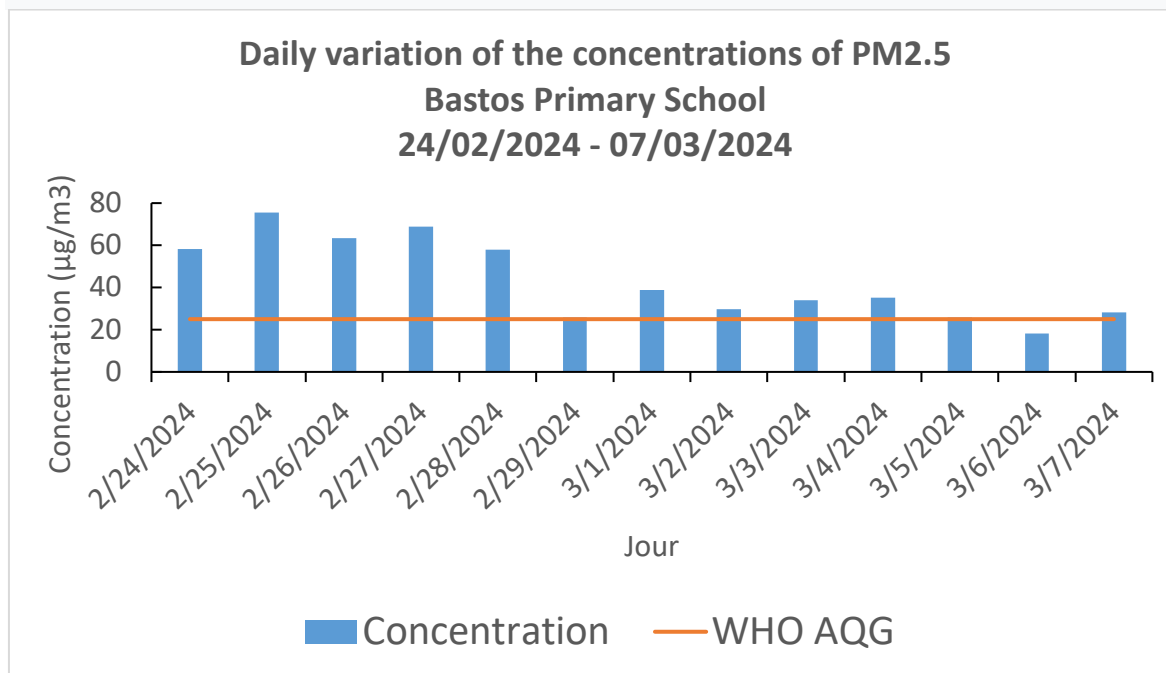


Figure 12: Daily variation of the concentrations of PM2.5 at Bastos Primary School

From Figure 12 above, the following can be noted:

- High concentration of PM2.5 between February 24 and 28 in the dry season
- Decrease in PM2.5 concentration from February 29, the date of the first rains
- All PM2.5 concentrations except for March 6 > 25 $\mu\text{g}/\text{m}^3$ which is the WHO maximum value for 24h

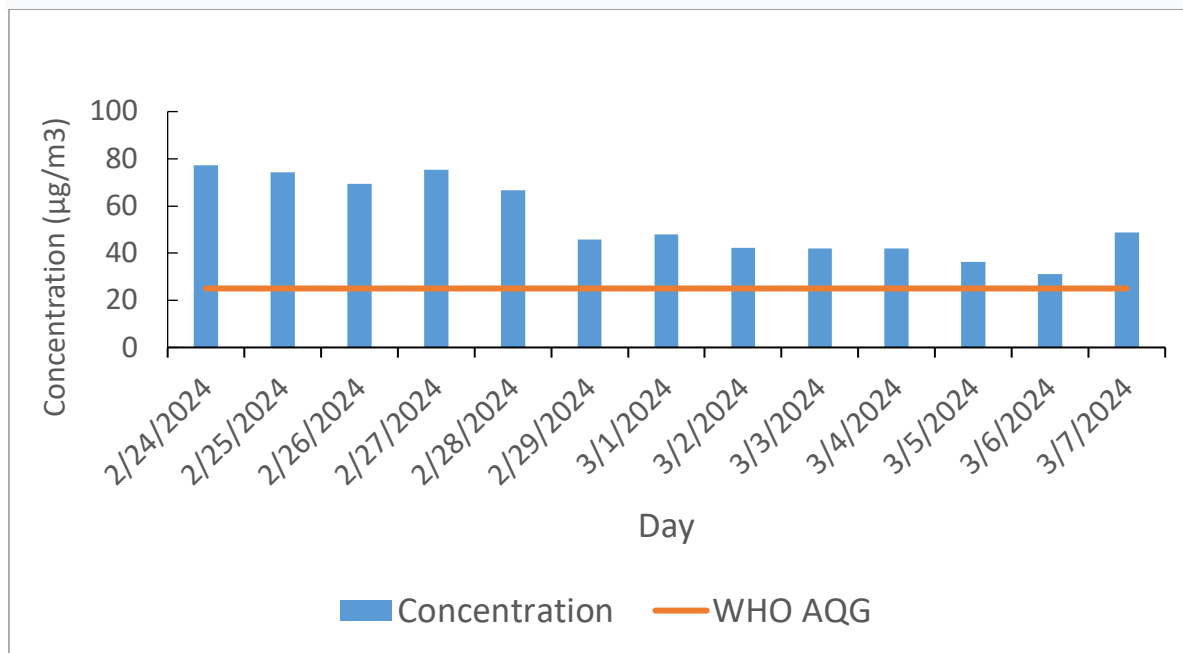


Figure 13: Daily variation of the concentrations of PM2.5 at Nkolbisson junction

From Figure 13 above, the following can be noted:

- High concentration of PM2.5 between February 24 and 28, dry season
- Decrease in PM2.5 concentration from February 29, the date of the first rains
- All PM2.5 concentrations > 25 $\mu\text{g}/\text{m}^3$ which is the WHO maximum value for 24h

We can conclude from this part that there is variation in the air quality data for each site. The data presented are those from the end of the dry season and the beginning of the rainy season. We see that the first rains played a regulatory role.

The daily variation of the concentrations of PM2.5, in the remaining seven sites, follows the same trend.

Conclusion:

- The air in areas of Yaoundé covered by AirQo sensors is polluted
- Actions must be taken to reduce air pollution in Yaoundé

What are the possible effects on health?

- To stay healthy and mitigate the negative health effects of air pollution, we can take steps to breathe clean by choosing the air we breathe through reducing our exposure in time and space to highly polluted environments.

G) Presentation 7: Collaboration avenues, Opportunities and Announcements (Dr Assah)

For this part, Dr. Assah hoped that the stakeholders present could formulate proposals that could make this project sustainable.

Some recommendations from the participants included:

- The research team should create an exchange platform for sharing ideas that could ensure the continuity of the project (Prof. TCHUIKOUA).
- To create a multi-form mechanism to broaden awareness methods and targets to raise awareness (Mr. DIFFO Leclerc).
- Develop activity reports which will be used to convince decision-makers (such as the National Observatory on Climate Change (NOCC)).
- The participant from MINDHU suggested that the project tries to create a lobbying or advocacy document that is compelling and capable of pushing decision-makers to action.
- Contact the Ministry of Basic Education to develop advocacy documents.
- Create a group with well-defined attributes to filter the information (Mr. LOKENG Charles).
- Means be given to actors who can influence actions so that synergistic solutions are found and external solutions which have already proven themselves elsewhere be simply contextualized, such as for waste management (Dr MOSSUS).
- It is recommended to improve communication so that everyone understands the AirQo project, and develop mechanisms for local solutions by involving everyone (Decentralized Local Authorities in particular).

The NCD recommends that collaboration can improve the continuity of this project because they already have similar projects which involve raising awareness in schools, among households, etc.

- The Ministry of Health suggested writing an advocacy document and using social networks to make it known that there is a project on air quality in the city of Yaoundé and to raise awareness.
- Mr. NDOMO from the Ministry of Environment wanted the AirQo team to present the added value of this project compared to other current projects in the same domain. This added value can be capitalised to carry out concrete actions.
- Several participants recommended moving from research to policies, that is, concrete actions by joining forces with other existing groups such as the Air Quality Management Committee of the Yaoundé Urban Council.

Following the workshop, strong recommendations on emission reduction measures were made to stakeholders, aimed at reducing air pollution and promoting urban health in Yaoundé.

- Opt for more ecological modes of transport such as cycling, walking, and public transport;
- Raise public awareness of air pollution issues
- Encourage innovation and the development of technological solutions to reduce polluting emissions
- Support local projects or community initiatives aimed at improving air quality.

After this round of discussion, a summary of the workshop was made by the rapporteur of the day, thus opening the floor to Dr. Assah Felix for closing remarks.

GENERAL CONCLUSION

In his closing remarks, Dr. ASSAH recalled that the AirQo project seeks synergy, a common collaboration with several actors to carry out reflections. For him, synergy has the advantage of sharing and analysing data which facilitates joint and global intervention, making it possible to very quickly propose strategies that adapt to current contexts and for future generations. Acting together is necessary to reduce the consequences linked to air quality. “Acting together is urgent for human health in the current context of humanity and for future generations.”

With these words, he ended the inaugural consultation workshop of the CLEAN-AIR Yaoundé project.



Figure 14: Family photo of the workshop

Appendix 1: Workshop Agenda

Clean-Air for Yaounde project

Inaugural workshop for advancing participatory air quality advocacy and management using low-cost sensors for the promotion of urban health.

Location: Djeuga Palace Hotel, Yaoundé

Date: Tuesday, 19 March 2024

Background and Rationale

Air pollution levels across the world, particularly in Africa, are reaching worrying records. According to environmentalists, at least nine out of ten people breathe polluted air on the continent. The consequences range from increased burden of chronic heart and lung diseases, cancers, to premature mortality. Access to timely and accurate data plays a crucial role in addressing urban air pollution, yet establishing continuous monitoring infrastructure poses significant challenges for many cities in Africa. Budgetary limitations continue to pose a significant barrier to establishing a robust and trustworthy data infrastructure essential for the creation and execution of targeted air pollution interventions.

The Clean Air African Network project is an ongoing multi-national project in East Africa (Uganda, Rwanda, Kenya) and West Africa (Cameroon, Ghana and Nigeria) sponsored by the US State Department. In this project, low-cost sensors manufactured by engineers at Makerere University in Uganda are deployed in African cities to collect real-time data on air pollution due to particulate matters (PM₁, PM_{2.5} and PM₁₀) and make them accessible to the public via a mobile application and a web platform. The objective is to raise citizens' awareness of the risks of air pollution and to encourage the authorities to take action. As part of this project, through HoPiT research group, ten (10) low-cost sensors will be deployed in the city of Yaoundé.

This one-day workshop will attempt to bring together the Yaoundé air quality community of practice comprising diverse stakeholders. The workshop aims to provide a platform for promoting inclusive participatory air quality advocacy and management in the city of Yaoundé via the

understanding and use of low-cost sensors network and digital solutions for data management in view of stimulating the uptake of contextual air quality data for action.

Objectives

- Consolidate the stakeholder landscape in Yaoundé
- Explore the overlapping/synergistic activities on air quality/urban health in Yaoundé
- Present onboarding and co-design of the implementation strategy for the CLEAN-Air for Yaoundé project
- Identify opportunities and avenues for further engagement and collaboration
- Share the preliminary results from AirQo low-cost sensors

Expected outcomes

- Strengthen the consolidation of the stakeholder landscape in Yaoundé
- Know the overlapping/synergistic activities on air quality/urban health in Yaoundé
- Get the integration and co-design of the implementation strategy of the CLEAN-Air project
- know the opportunities and avenues for further engagement and collaboration
- Raised awareness on air quality issues

Programme overview

Location: Djeuga Palace Hotel, Yaoundé

Date: Tuesday, 19 March 2024

Time	Activity	Facilitator(s)*
09:00 am -10:00 am	Registration & Breakfast	Ms Nfondoh / Mr Elouna
10:00 am -10:10 am	Welcome Note <ul style="list-style-type: none"> Greetings and word of welcome Housekeeping rules 	Pr Mbanya
10:15 am -10:45 am	Setting the scene <ul style="list-style-type: none"> Brief overview of the Clean-Air 4 Yaoundé project Objectives and expectations of this inaugural workshop 	Dr Assah
Session 1: Learning from the past/others		
10:45 am - 11:05 am	Presentation of the Clean-Air for African Cities Network Project <ul style="list-style-type: none"> History of AirQo® group and its low-cost sensors Other network partners and perspectives 	Mr Okure
11:05 am - 11:35 am	Consolidate the stakeholder landscape in Yaounde <ul style="list-style-type: none"> Who is in the room? Who is not? Overlapping/synergistic activities on air quality/urban health in Yaounde <ul style="list-style-type: none"> Who is doing what in/around Yaoundé? 	Dr Assah
Session 2: Understanding/co-creating the present for the future		
11:35 am - 12:15 pm	Stakeholder onboarding and co-design of the implementation strategy for the CLEAN-Air for Yaoundé project <ul style="list-style-type: none"> How the installation sites were chosen? Where are the AirQo sensors installed? Existing monitoring landscape Avenues for further engagement and collaboration? 	Mr Feuyit / Mr Mvondo

12:15 pm - 12:30 pm	Demonstration of public access and use of AirQo app and web platform	Mr Elouna
12:30 pm -12:45 pm	Group photo and bio-break	Mr Ngwa
12:45pm - 1:15pm	State of air quality in Yaoundé: preliminary analysis of the initial data <ul style="list-style-type: none"> • Air quality in Yaounde: what the data says? • What are the possible health impacts? 	Mr Feuyit
Session 3: Shaping the future		
1:15 pm - 1:35 pm	Collaboration avenues, Opportunities and Announcements <ul style="list-style-type: none"> • With the community of practice • With the external stakeholders or partners 	Dr Assah / Mr Okure
1:35 pm - 1:55 pm	Closing remarks <ul style="list-style-type: none"> • Summary of the workshop • Action points and way forward • Vote of thanks 	Mr Elouna / Dr Assah
2:00 pm -	Lunch + informal discussions/networking	

**Facilitator(s) should ensure that all sessions are as fully interactive as possible*

Mr Elouna and Mr Ngwa would be rapporteurs for the workshop

Appendix 2: Workshop Attendance List

HoPiT RESEARCH GROUP

Health of Population in Transition, Cameroon

Attendance List

19 March 2024

AIRQO FIRST STAKEHOLDER WORKSHOP

SN	Name	Tel	Email	Institution	Sign
1	ASHU NGANO Stephanie Vanessa	677924548	ashu Vanessa@gmail.com	Ministere des Transports Direction de la Meteorologie Nationale	
2	MARTIAL TSE	679442275	tehuigo78@gmail.com	SENIMA Company	
03	NJIKI RICKMOND	676-57-35-86	rickmondniji.ki@icloud.com	CAT III	
4	ABUBAKAR UNUSA	695 667276	abubakar.unusa@gmail.com	ONACC	
5	DIKAMBA Tlarc Anselme	675259022	infamga@cedcameroun.org	CED	
6	Dr NISSIE Rosette	699268794	rossettendjib@gmail.com	IMPM / MINRESI	
7	Mlle ISSAH KAYLE	695 161755	issahkayle22@gmail.com	EPRC - Université de Douala	
8	Dr NDUCOL Nasser	696670669	nassernducol@gmail.com	IRGM / MINRESI	
9	Mme TEHEM Flowie	677756538	flowie.tehem@yahoo.fr	MIN SANTE	
10	MADRIDO AYOSSI Stanislas Joel	696761863	mamadridoyissi@tanislasjoel.org.fr	CUY	



CleanAir4Yaounde

HoPIT RESEARCH GROUP

Health of Population in Transition, Cameroon

11	EZEMBE B.R	657614661	ezembereb@cam.ac	SIEDD / CUY	
12	NKOUNDU Jeanne	695834338		SIEDD / CUY	
13	Dr Ndi Roland	67580460	ndirroland@cam.ac	com / MINIST 1	
14	Judith AHERHO	699071939	aherhojudith@cam.ac	CACSNA	
15	Lankou Charles	657470149	charleslankou@cam.ac	GVC	
16	Des Dkure		dkuredes@cam.ac		
17	Dr JE HUEKOUA HOUA ENVIRO PROTECT	670333145	thunkoua@cam.ac	ON GENVIRO PROTECT	
18	Hopp Pi-ter Emmanuel	67128778	hoppieter@cam.ac	DPC / MINIST	
19	Mairie YAE IV	69840801		S/C ATIBA NIKANGA	
20	DITTO leclerc	695883515	horizvel@cam.ac	Green Horizon	
21	Dr ATIBA Josselin	656345333	atibajosselin@cam.ac	MINESUB	
22	Dr MOSSUS Takang	677330521	tahiana.mossus@cam.ac	VI - FM8B	
23	Dr MINHOUNOU NIKALIA FLORENCE	699272064	florence.minhounou@cam.ac	CAY 6	
24	Belongo Bernard	69937579	belongob@cam.ac	PH-NGH	



CleanAir4Yaounde

Health of Population in Transition, Cameroon

HoPiT
Heart of Population in Transition
CAMEROON

CleanAir4Yaonde

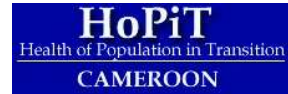
Appendix 2: Workshop Press release



THE UNIVERSITY OF YAOUNDE I

Faculty of Medicine and Biomedical Sciences

Health of Population in Transition Research Group



Press release

FOR IMMEDIATE RELEASE

Yaoundé Takes Initiative to Advance Participatory Air Quality Monitoring for a Healthier City

Yaoundé, Cameroon - 19 March 2024 - Health of Population in Transition (HoPiT), a Research Group of the University of Yaoundé, hosted an inaugural workshop aimed at advancing advocacy and participatory management of air quality using low-cost sensors.

The workshop held at the Djeuga Palace Hotel brought together stakeholders from public administrations and the private sector, fostering collaboration and designing effective air quality management strategies. By consolidating the stakeholder landscape in Yaoundé, the workshop sought to promote advocacy and participatory management of air quality in the city, ultimately aiming to improve urban health.

The workshop marks a milestone in the Clean Air African Network project, a multinational initiative spearheaded by the AirQo group at Makerere University in Uganda and sponsored by the American Department of State. With projects spanning East Africa (Uganda, Burundi, Rwanda, Kenya), Central Africa (Cameroon, Nigeria), and West Africa (Ghana), the endeavour aims to raise awareness among citizens about the perils of air pollution and catalyse action from authorities.

The project has so far installed nine low-cost sensors (Mokolo Sapeur, Entrée Principale de l'Université de Yaoundé I, Carrefour Mvan, Carrefour Nkolbisson, Ecole Publique Bastos, Marché Ekounou, Hôtel de Ville, Esplanade Stade Omnisport et Rond point Express) crafted by engineers from Makerere University's Department of Computer Science and implemented in Yaoundé by the HoPiT research group. These sensors have been instrumental in collecting preliminary data on air quality in Yaoundé.

According to preliminary data collected from February to March 2024, the areas of Yaoundé covered by our sensors are polluted by particulate matter (PM). This information is important because high concentrations of particulate matter may lead to lung diseases.

Dr Felix K. Assah, Deputy Director of the HoPiT Research Group and Senior Lecturer at the Faculty of Medicine and Biomedical Sciences, University of Yaoundé I, noted the importance of the meeting stating "This workshop represents a critical step towards enhancing air quality awareness and fostering collaborative efforts to address air pollution in Yaoundé."

Dr Nasser Nducol from the Nuclear Science and Technology Research Center in Yaoundé stated "we were invited to this workshop as participant and we are very satisfied."

Following the workshop, strong recommendations on emission reduction measures were made to stakeholders, aimed at curbing air pollution and promoting urban health in Yaoundé.

- Opt for more ecological modes of transport such as cycling, walking and public transport;
- Raise awareness among the population about the issues of air pollution
- Encourage innovation and the development of technological solutions to reduce polluting emissions;
- Support local projects or community initiatives aimed at improving air quality.

For media enquiries or further information, please contact

Dr. Felix K. Assah
Deputy Director, HoPiT Research Group
Senior Lecturer
Faculty of Medicine and Biomedical Sciences
University of Yaoundé I
PO Box 8046 Yaoundé
Cameroon
T: +237 674486342
E: kembeassah@yahoo.com