

Air pollution contributes to an estimated 7 million deaths worldwide every year, according to the World Health Organization.

Now scientists in sub-Saharan Africa - where many of those deaths happen - have developed a low-cost pollution sensor that allows citizens to monitor the air quality in their area. With new funding, the manufacturer plans to install over 3,000 of them across the continent.

Solomon Serwanja reports from Nairobi.

Tina and her one-year-old daughter Clarissa live next to a steel mill in Mukuru, a pollution hot spot on the edge of Nairobi.

The white powdery ash from the mill has to be washed away every day.

The particles and some other black smoke that normally comes out, that is the worst thing.

When you breathe those particles, it's so painful.

At this local clinic, the number of cases of pneumonia, asthma and chest infections has doubled in the last 12 months.

The World Health Organization recognises air pollution as one of the causes.

Cecilia can hardly breathe...

And...

This woman's lung capacity is not what it should be.

There are nearly three quarters of a million people living in this community and many of them are struggling to breathe because of the air quality.

There is a team of African scientists who have come up with ways of measuring the air quality here, and they think that it is a step forward in finding a solution to this problem.

These low-cost air pollution sensors are easy to install.

They detect and record the amount of dangerous small particles in the air.

That data is then transmitted to a website where it can be accessed by anyone for free.

Our data is accurate, which means anyone in any city across any African country will be able to use it, deploy it, and get real-time local data for their neighbourhoods, that they can use to petition governments to solve problems that they face around air pollution.

That is what the community living next to this asphalt factory did after they started having breathing problems.

They installed sensors in their homes.

Our campaign got the attention of the media and the government agencies that were ignoring us before.

The director of the Environment Agency came over and instructed the factory to shutdown and only open after they had complied with their laws.

The hope is that this technology will empower communities like Tina and Clarissa's to fight for their right to clean air.

CLARISSA COUGHS.

Solomon Serwanja, BBC News, Nairobi.