

Air quality in Africa: a bibliometric review

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Air pollution is considered to be the world's largest environmental health threat and the fourth factor for premature death. Thus, it causes 6.67 million premature deaths, of which 1.1 million occur in African (WHO, 2019). According to the Organization for Economic Cooperation and Development (OECD), this will be the leading cause of environment-related deaths by 2050, surpassing those caused by unsafe water and poor sanitation. Despite this clear evidence, many African countries do not have air quality stations and therefore air pollutant concentrations are not available, making air pollution management difficult (Agbo et al., 2021).

In Africa, the high population growth rate (UN, 2017), the infrastructural deficit, the use of biomass fuel for cooking and the old inefficient vehicles for transportation have aggravated the air pollution problem and its associated impacts (Lall, 2017; Agbo et al., 2021).

It seems necessary to characterize the level of knowledge on air quality in Africa and its evolution in the last decades. This will allow us to identify the main areas lacking information on air pollution levels and, with it, establish priorities when developing this type of studies. The long-term objective must be that, one day, air pollution will be monitored, controlled and legislated throughout all the continent in order to establish the appropriate mitigating measures. In this way, a reduction of the number of deaths in its countries, as well as in the environmental impact to global level will be possible.

This work presents a bibliographical review on the publications focused on air quality in the 54 African countries. The search has been carried out by using two digital platforms: Science Direct and Web of Science. With the data obtained, a first analysis has been conducted in order to show the evolution of the number of publications until 2022 (Fig. 1). The results have been grouped considering several criteria according to the subject under discussion in the paper: impact and sources of pollutants, countries where the studies have been carried out and nationality of the authors. For this classification, we have considered the air quality studies published from 2000 to 2022.

From 2000, a significant increase in the number of publications was registered, reaching a maximum of 141 in 2022 (Fig. 1).

The countries with a higher number of publications are South Africa and Nigeria, reaching a total of 215 and 130, respectively, during the study period (Table 1).

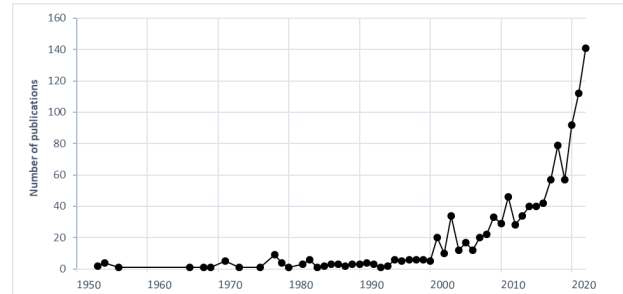


Figure 1. Evolution of the number of publications on air pollution in Africa from 1953 to 2022

Table 1. African countries with the highest number of articles published from 1953 to 2022.

Country	Number of articles
South Africa	215
Nigeria	130
Egypt	60
Kenya	59
Ghana	55

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