

BOOK REVIEW: AIR POLLUTION: AN INTRODUCTION TO ITS CAUSES, EFFECTS, AND SOLUTIONS

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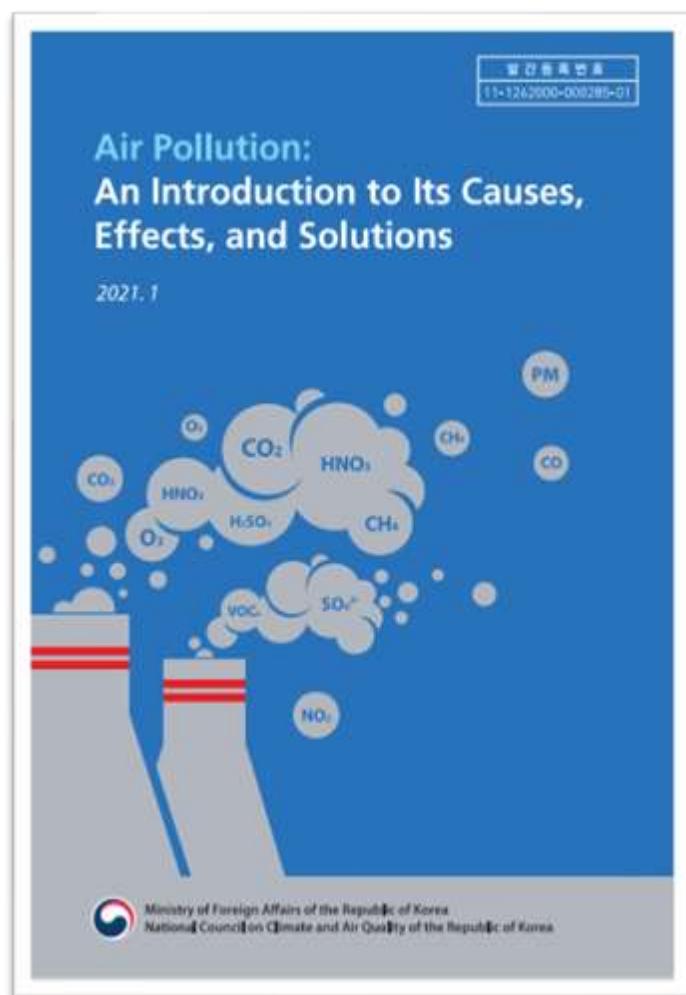
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## ABSTRACT

I have reviewed Air Pollution: An Introduction to Its Causes, Effects, and Solutions, a comprehensive 2021 publication by the Ministry of Foreign Affairs and NCCA of the Republic of Korea. This book provides an insightful overview of air pollution - from present status and pollutants to impacts and solutions - in support of the UN's International Day of Clean Air for blue skies. The book is richly informative, combining up-to-date statistics and case studies to illustrate how air pollution has become the world's leading environmental health risk. By covering both outdoor and indoor pollution and linking air quality to public health, climate, and sustainable development, it offers a valuable guide for diverse stakeholders. I found this volume to be a highly useful resource that not only deepened our understanding of air pollution's causes and consequences but also highlighted practical measures and cooperative efforts needed to combat this global challenge. Overall, the book serves as an excellent reference for students, researchers, and policymakers interested in environmental management and public health.

**Keywords:** Air pollution, Global health, Environment, Sustainable development, Public policy

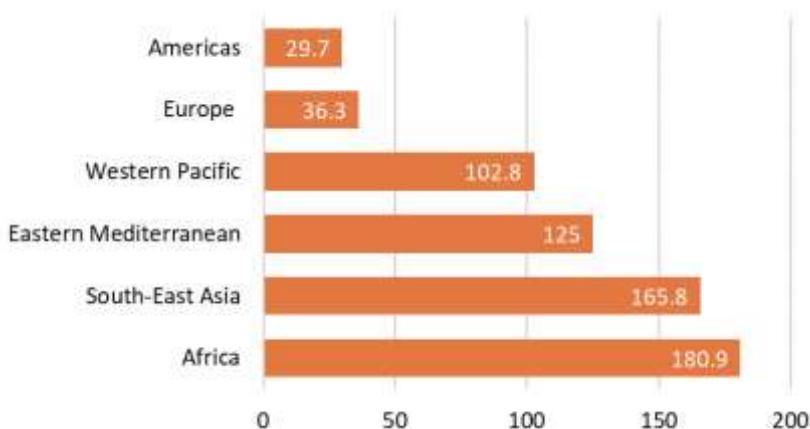
## INTRODUCTION

The book opens by underlining that air pollution is the single largest environmental threat to human health worldwide, accounting for an estimated 7 million premature deaths annually. This toll makes dirty air deadlier than malaria, tuberculosis, and HIV/AIDS combined. The introduction emphasizes how both ambient (outdoor) and household (indoor) air pollution contribute to this crisis, disproportionately affecting vulnerable groups such as women, children, and the elderly in developing countries.

About 4.2 million annual premature deaths are attributed to ambient air pollution (from heart and lung diseases and infections), while the remainder are linked to indoor pollution from cooking fuels. This framing underscores the dual nature of the problem and the urgent need for solutions on multiple fronts. Crucially, the authors situate the discussion in a global policy context. The United Nations General Assembly's 2019 Resolution 74/212 designated September 7 as the International Day of Clean Air for blue skies, a day of awareness and action advocated by the Republic of Korea.

The book was prepared as a key reference for the first observance of this Clean Air Day in 2020, themed "Clean Air for All," aiming to galvanize international solidarity for air pollution and climate action. The introduction highlights this backdrop, stressing the need for strengthened international cooperation, data-sharing, joint research, and best-practice exchange to tackle air pollution collectively. By linking to the UN initiative, the book immediately establishes the importance and timeliness of its content. Overall, the introduction effectively sets the stage, conveying the gravity of air pollution's health impacts and the high-level commitment to solutions – a theme that resonates throughout the subsequent chapters.





**Figure 1:** Age-standardized annual death rate (per 100,000 people) attributable to air pollution by WHO region (2016 data)

## BOOK STRUCTURE

*Air Pollution: An Introduction to Its Causes, Effects, and Solutions* is organized into nine chapters, each addressing a key question about air pollution. The structure follows a logical progression from understanding the problem to exploring solutions.

Chapter 1 examines global trends and patterns in air pollution-related deaths, with data showing regional disparities and changes over time. Chapter 2 introduces primary and secondary air pollutants such as particulate matter (PM2.5 and PM10), ozone, carbon monoxide, sulfur dioxide, nitrogen oxides, and volatile organic compounds. It explains their sources, behaviors, and health effects.

Chapter 3 categorizes pollution sources into natural, mobile, stationary, and area-based sources, offering examples such as forest fires, vehicle emissions, industrial processes, and household activities. Chapter 4 explores the consequences of air pollution, including its severe health impacts (e.g., respiratory diseases, cardiovascular issues), environmental effects (acid rain, climate change), economic costs, and its links to the UN Sustainable Development Goals (SDGs).

Chapter 5 focuses on indoor air pollution, identifying common pollutants, their sources, and interventions to reduce exposure, especially in developing countries. Chapter 6 outlines how air pollution is monitored and managed, introducing the Air Quality Index (AQI), surveillance systems, and WHO guidelines.

Chapter 7 details mitigation strategies and policy actions categorized by sector and stakeholder responsibility. Chapter 8 emphasizes the importance of regional and international cooperation in addressing transboundary pollution issues. Finally, Chapter 9 compiles resources, including policy documents, health reports, and useful websites, guiding readers toward deeper engagement with the topic.

This structured layout supports both comprehensive reading and targeted consultation, making the book a versatile reference for various audiences.

## REFLECTION

This book publication offers a comprehensive yet accessible overview of air pollution, making it a valuable resource for a broad audience including students, educators, policymakers, and environmental advocates. One of its strengths is the clear structure and use of up-to-date, evidence-based information from trusted sources like WHO and UNEP. The question-driven format makes complex topics more digestible, while the visual aids and real-life examples enhance reader engagement.

Despite being an introductory text, it covers a wide scope from pollutant chemistry to policy frameworks. However, readers seeking technical depth or critical policy analysis may find some sections simplified. The book avoids overly technical jargon, which increases its usability for non-specialists but may limit its utility for advanced researchers. Nevertheless, its strengths in clarity, organization, and global applicability outweigh these limitations. As an educational and policy-aligned reference, it successfully communicates the urgency and complexity of air pollution and encourages coordinated action at all levels.

## CONCLUSION

Air Pollution: An Introduction to Its Causes, Effects, and Solutions is a commendable and timely contribution in the field of environmental science and policy literature. It succeeds in its core mission to educate and inform: by providing a holistic overview of air pollution's causes, impacts, and remedies, the book fills an important niche for a single, go-to reference on this subject. The formal yet accessible style, coupled with a logical structure, makes it suitable for a wide readership – from environmental professionals and academics seeking a quick refresher or teaching tool, to policymakers and international agency personnel looking for a consolidated briefing, to students and concerned citizens aspiring to understand air quality issues. The publication's alignment with the UN's International Day of Clean Air demonstrates its real-world relevance and strategic framing as part of a global call to action. As the world grapples with the twin challenges of pollution and climate change, this book provides both knowledge and inspiration by affirming that solutions are known and within reach if stakeholders collaborate and act decisively. It stands as a valuable reference that not only charts the problem of air pollution with scientific rigor but also illuminates the path forward through evidence-based policy measures and cooperative efforts. In conclusion, the book is an authoritative introductory guide that will be useful for years to come as governments, educators, and communities worldwide work together to ensure cleaner air and healthier futures.

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**REFERENCE**

Yang, L. H., Kim, J., & Ahn, D. H. (2021). *Air pollution: An introduction to its causes, effects, and solutions*. Ministry of Foreign Affairs of the Republic of Korea & National Council on Climate and Air Quality of the Republic of Korea.

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