

Preface

The idea of composing this book stems from the need to understand the environmental behavior of persistent organic pollutants (POPs) on a global scale. In recent decades, with the rapid economic development in Asia, the effects of various persistent pollutants on human health and the ecosystem have caused increasing concerns among scientists and administrators in the region and beyond. However, for decades research on POPs in Asia has lagged behind those in Europe and North America. Data are limited and vary greatly in quality. In addition, information is scattered among numerous journals and documents, many of which are in native languages. It is our intention to compile the most current knowledge on the sources, distributions, transport and fates of selected POPs from the rapidly developing regions of Asia.

POPs covered by this book are those of greatest concern due to their adverse health effects, and those capable of long-range transport. These include polychlorinated biphenyls (PCBs), polychlorinated dibenzo-*p*-dioxins and furans (PCDD/Fs), polybrominated diphenyl ethers (PBDEs) and other brominated organic pollutants, pesticides, polycyclic aromatic hydrocarbons (PAHs) and their derivatives, perfluorinated organic compounds, alkylphenols, as well as other persistent organic chemicals of high concern. Some organometallic compounds of concern are also included.

Many countries included in this book have experienced a rapid economic development during the past decades. Such development has resulted in measurable changes to their natural environments. Other Asian countries, including those in the Middle East and Central Asia, are omitted due mainly to the scarcity of reliable information. For the countries included, each is discussed in either a single chapter or multiple chapters that cover specific POPs or combinations of POPs. Most individual chapters provide regional or country-wide coverage on the targeted POPs. Three chapters describe areas of high environmental and economical importance (Hong Kong and the Pearl River Delta of China). Although not an Asian country, a chapter on Australia is included because of its location in the Eastern Hemisphere and relative proximity to Asia. This inclusion is meaningful and relevant with regard to the long-range Transport and Fate

of some POPs. The last chapter of the book provides a regional perspective for POPs in the Asian countries covered by this book.

A great deal of effort has been made by our authors to collect information from numerous sources and explore the data using the principles of environmental chemistry, toxicology, and risk assessment. Additionally, this book integrates the following information to provide important context and insight:

- Government policies, available national monitoring and surveillance programs, and treaties if any;
- history of manufacturing, industrial applications, and emission sources within the region or country;
- measured concentration levels in various matrices of the physical environment;
- measured or modeled transport and transformation of POPs, and the potential influencing factors on such processes;
- the impacts of POPs on the health of people living in the region or country; and
- magnitude and pathways of cross-boundary exchange with other countries, regions, and continents.

Together, these are invaluable pieces in understanding the situation in Asia and fitting it into the global “puzzle” of environmental behavior of POPs. With the Stockholm Convention on POPs entered into force in 2004, we believe that the publication of this book is both timely and useful. We expect this book to serve as a reference for environmental researchers, various organizations, and government decision makers seeking information on POPs in Asia or on a global scale.

This book is the result of decades of hard work conducted by tens of thousands of environmental researchers all over the world. As the number of publications on the Asian environment has grown exponentially in recent years, it is highly possible and unfortunate that some excellent studies are not included in this book. We sincerely acknowledge and highly appreciate the hard work of our authors in writing the chapters.

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