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Tanu Jindal

Emerging Issues in Ecology and Environmental Science

Case Studies from India

 Springer

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Foreword

Ecological crisis, or environmental deterioration, is one of the most formidable dangers facing mankind today. Unfortunately, injudicious pursuit of technological and industrial progress has created multi-directional environmental issues, bringing unforeseen hindrances in our efforts towards improving the welfare of mankind.

Everyone is a stakeholder, as we are all inhabitants of this one and only mother Earth. Each person can contribute something to address environmental pollution mitigation measures. Environmental protection means caring for our resources and subsequently for ourselves and ensuring a sustainable future for generations to come so that they will have a better environment.

It is our duty to accept personal responsibility for the success of environmental protection programs in our respective communities by cooperating and actively participating in making the atmosphere pollution free. Although, on an individual basis, we can help combat pollution in our own immediate environment. Efficient control can be best institutionalized through legislation. Thus, most countries have already addressed the issue by passing some form of pollution prevention measures.

Averting the onset of pollution in any area, be it air, water or land, could be the simplest preventive solution to the problem. This calls for a conscientious effort to adopt good practices and habits by people, the passage and the proper implementation of appropriate government laws and strict compliance, especially in industrial sectors.

Evidence shows that a number of chemicals that may be released into the air or water cause adverse health effects. The associated burden of disease can be substantial, and investment in research on health effects and interventions in specific populations and exposure situations is important for the development of control strategies. Pollution control is therefore an important component of disease control, and health professionals and authorities need to develop partnerships with other sectors to identify and implement priority interventions.

There is an urgent need to realize the severity of the consequences of environmental pollution and to engage in exerting efforts to make progress in technological

and industrial aspects and, at the same time, apply innovative strategies towards combating pollution.

The chapters in this book hold many lessons. The goal is to place some of the many environmental events in a context in which they can be scrutinized objectively, systematically and passionately.

I sincerely believe that this book serves as an excellent medium for readers and enables them to explore new approaches and new outcome-based strategies.

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Preface

Environmental pollution is a growing menace to the human race as well as to all ecosystems on our planet. Deterioration of the environment is the world's biggest present challenge, and environmental problems such as global warming, ozone layer depletion and greenhouse effects threaten not only mankind's existence but also every living being.

Industrialization has grown at the expense of the environment, which in turn has impacted social health. Unmindful exploitation of natural resources is further causing degradation of our ecosystems.

The topics included within this book give a deeper knowledge into the correlation between abiotic stress and isoprene emission of selected plant species, temporal mount in air pollutants during specific festivals and firecracker burstings, atmospheric electrical conductivity measurements during monsoon period at a semi-urban tropical station of Northern India, activated carbon adsorbents in the treatment of wastewater, microplastics and their unsafe pathway from the aquatic environment, catalytic technology for treatment of non-biodegradable dye-polluted wastewater and dairy industry wastewater characteristics and treatment possibilities.

All topics are linked to the environment and technologies to combat pollution. Environmental pollution has repercussions on economic growth as well. Efforts need to be directed at local, regional, national and global levels to counter this problem. There is an imminent need to manage natural resources and wastes to ensure a clean and healthy environment for our future generations. Environmental education can be a potential tool in this noble cause and would ensure sustainability through awareness.

The environment has seen major action-oriented resolutions in the era of sustainability. It has been increasingly demonstrated that the future for coming generations can be secured only if environmental balance is maintained.

The book will provide an understanding to readers on various perspectives of current environmental problems in the global scenario, and pragmatic recommendations on environmental safety and public health.

Featuring a collection of informative and descriptive chapters, this book is essential reading for environmental scientists and people from related fields, as it addresses many environmental issues and practical solutions for societal benefit.

We would like to express our deepest appreciation to the scientists, faculties and research scholars who have contributed their chapters for the development of the book. In particular, Dr. Pallavi Saxena, Dr. Abhinav Garg, Dr. Adarsh Kumar, Dr. Ramanathan, Dr. R.B. Lal, Dr. Pachwarya, Ms. Guncha Sharma, Dr. Chirashree Ghosh and Dr. Rachana Singh played an important role for the book to come out in its present form. Several anonymous reviewers provided helpful comments that improved the presentation of the material in the book.

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