Environmental Pollution and Health

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teri
The Energy and Resources Institute

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Preface

Pollution as we know is an undesirable change in the physical, chemical, or biological characteristics of the environment. Various agents that pollute the environment are called pollutants. These pollutants have extremely hazardous effect on the health.

This book titled *Environmental Pollution and Health* deals with the effects various pollutants have on the health of a person. The pollutants are present in various segments of the environment, viz., air, water, and soil. Besides these pollutants, thermal, noise, and radioactive pollutions affect the health of living beings. Radioactive pollution is the worst type of pollutant encountered and is responsible for the destruction of life. The health of a person is also adversely affected by hazards due to factors other than pollutions. These factors include occupation of a person, stress, global warming, and ozone layer depletion. All these have been discussed in detail in the present book.

The waste generated in various establishments is responsible for the health of a person. Its management is very important and has also been discussed. The book is divided into eight chapters. Chapter 1, Introduction, discusses various forms of pollution. In Chapter 2, Air Pollution, the author discusses major types of air pollutants, sources of air pollutants, and effects of air pollutants. Chapter 3, Water Pollution, deals with major types of water pollution, water pollution in various water bodies, sources of marine pollution among others. Chapter 4, Soil Pollution, examines sources of soil pollution, harmful effects of soil pollution, and effects of improper disposal of hazardous wastes. In Chapter 5, Thermal and Noise Pollution, effects of thermal pollution, sources of noise, and effect of noise pollution are discussed. Chapter 6, Radioactive Pollution, examines sources of radioactive pollution, effect of radioactive pollution on health, and control of radioactive pollution. Chapter 7, Health Hazards due to Factors other

than Pollution, discusses occupation and health, stress and health, and global warming and health. Chapter 8, Management of Wastes, explains municipal wastes, industrial wastes, and hazardous wastes.

Any suggestion from the readers is most welcome and will be gratefully acknowledged. The author wishes to express his sincere gratitude to Anupama Jauhry, TERI Press for the help rendered for the publication of the book.

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Chapter 1
Introduction

Environment is the surroundings of an organism consisting of all living (biotic) and non-living (abiotic) components. It has the conditions suitable for the existence and growth of plants, animals, and microorganisms. These conditions have been continuously changing since life evolved, which have been beneficial to some organisms, while harmful to others. New species came into existence due to changes beneficial to them, and a number of existing species, which could not adapt to the same changes, became extinct from earth. A typical example is the extinction of dinosaurs due to hostile conditions. One of the causes attributed to their extinction is the appearance of many primitive mammals that fed on dinosaur eggs.

Although the earth's environment has been continuously changing due to natural reasons for millions of years, it has been subject to extreme and harmful changes since human population increased and their activities expanded. Some activities that have degraded the environment are as follows:

- Deforestation has been occurring for thousands of years, which involves cutting of trees in forests for farming or other requirements such as building residential areas.
- Hunting of wild animals for food and game has been responsible for the extinction of many species such as the Tasmanian tiger.
- Industrialization has led to pollution of air, water, and land because of harmful materials and effluents released from industries.
- Man-made environmental disasters have profoundly affected the environment. Some such incidents include the Great Smog of London; the nuclear bombing of Hiroshima and Nagasaki during World War II; nuclear accidents such as those in Chernobyl (Ukraine); Three Mile Island (USA), Fukushima (Japan), and the Bhopal Gas Tragedy of India.

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