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Nota di contenuto	Chapter 1 - Cadmium toxicity in plants: uptake, translocation and phyto-remediation strategy -- Chapter 2 - Heavy metal/metalloid contamination: Their sources in environment and accumulation in food chain -- Chapter 3 - Heavy metal/metalloid contamination: Impact on human health and mitigation strategies -- Chapter 4 - Heavy Metal Pollution in the Environment: Impact on Air Quality and Human Health Implications -- Chapter 5 - Heavy Metals Contamination in Surface Water Bodies through Construction & Demolition Waste: a case study of city of lakes - Bhopal, Madhya Pradesh, India -- Chapter 6 - Soil Deterioration and Risk Assessment of Heavy Metal Contamination -- Chapter 7 - Heavy metal contamination in ground water: Environmental concerns and mitigation measures -- Chapter 8 - Effect of Heavy Metals on Roadside Vegetation -- Chapter 9 - Heavy Metal Pollution in Atmosphere from Vehicular Emission -- Chapter 10 - Life Cycle Assessment of Heavy Metal Toxicity in the Environment -- Chapter 11 - Metalliferous soil remediation through heavy metal resistant plant growth-promoting bacteria: prospects and paradigms -- Chapter 12 - Phytoremediation of Heavy Metals - Reaction mechanisms and selected efficient technologies of heavy metals contamination -- Chapter 13 - Industrial Wastewater Treatment Strategies -- Chapter 14 - Brassica

Juncea L.: A Potential Crop for Phytoremediation of Various Heavy Metals -- Chapter 15 - Phytoremediation of Heavy Metals -- Chapter 16 - Bioremediation of mining sites - sustainable approach to restore healthy ecosystem -- Chapter 17 - Industrial Pollution Management Approach -- Chapter 18 - Harnessing Green Energy Along with Precious Metal Recovery from Wastewater in Bio-electrochemical Systems: A Win-Win Scenario -- Chapter 19 - Minimization of Cadmium Toxicity in Wheat by Exogenous Application of Hydroxamate Siderophore. Chapter 20-Microbial remediation of Heavy Metals.

Sommario/riassunto

This contributed volume covers a comprehensive account of the sources, toxic biological as well as environmental impacts, and possible remediation strategies for contamination by heavy metals. In biological systems, toxic metals affect the integrity of cellular organelles and act as carcinogens causing chromosomal aberrations or as systemic toxicants leading to cardiovascular, neurobehavioral, and immunological disorders. In plants, they interfere with photosynthesis, fertility, metabolite, and chlorophyll synthesis. Toxicity induced by heavy metals involves mechanistic approaches that need to be understood properly. They cannot be degraded by biological or chemical means and thus can only be converted to less harmful forms. The conventional detection methods include biosensors, voltammetry, atomic absorption spectrometry, and inductively coupled plasma with atomic emission spectrometry. All such strategies for metal detection and mitigation strategies are covered in this title under one section. This book incorporates classical views along with modern scientific approaches to develop an understanding of the subject matter suitable for academicians, researchers, planners, policymakers, NGOs, and environmental consultancies and raise awareness on this concern. Topics representing diverse sections namely environmental impacts, biological effects, and methods used for detection and remediation have been included to address all possible contemporary issues on the topic in one concise volume.
