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Nota di contenuto	1. Restoration, construction and conservation of degrading wetlands: A step towards sustainable management practices -- 2. Phytoremediation and sustainable developmental policies and practices -- 3. Wetland as a sustainable reservoir of ecosystem services: Prospects of threat and conservation -- 4. Carbon sequestration by wetlands in the climate change scenario -- 5. Wetlands: A major natural source responsible for methane emissions -- 6. Wetland conservation and restoration of ecosystem services and halt biodiversity loss: An India Perspectives -- 7. Microbes biology: Microbes in wetland and bioprospection of microbes -- 8. Contribution of Microbes in the renovation of wetland -- 9. Phytoremediation: Role of Mycorrhiza in plant responses to Stress -- 10. Integrated approach for bioremediation and biofuel production

using algae -- 11. Dual role of Microalgae: Phycoremediation coupled with biomass generation for biofuel production -- 12. Microalgae and microorganisms- important regulators of Carbon dynamics in wetland ecosystem -- 13. Bioremediation of heavy metals: A new approach to sustainable agriculture -- 14. Waste water treatment through Nanotechnology: Role and Perspectives.

Sommario/riassunto

The risks and consequences of environmental change are increasing, leading to massive losses in terms of ecosystems and having a huge impact on human populations. As such, global thinkers, environmentalists, scientists and policy makers are focusing on finding solutions and ways to sustain life on Earth. Anthropogenic impacts on the climate system can only be mitigated by the restoration of existing natural resources and the sustainable development of the environment and society. This book discusses the potential of green technology in waste management, wetland restoration, presenting the latest developments in the field of bioenergy, green ecology, bioremediation and microbial management. Wetlands are one of Earth's most important ecosystems, and they provide valuable services to human societies, such as minimizing the impacts of floods, acting as a carbon sink, and offering water purification as well as recreational opportunities. Wetlands may be natural or constructed, and the effectiveness of wetland services largely depends on the diversity of macrophytes affecting the algal production, plant biomass and nutrient status of the system. In addition, they are one of the richest microbial ecosystems on earth: the rhizosphere, soil and water interface enhances wetland services with implications ranging from phytoremediation to microbial bioprospection. However, in order to function properly, they need to be effectively redesigned, reengineered, protected and maintained. The book addresses the dynamic relation between three global concerns: environmental pollution, resource exploitation and sustainability. It describes the utilization of resources like wastes (municipal, industrial, agricultural, mine drainage, tannery, solid, and e waste), plants, algae and microbes for production of renewable biofuel, biofertilizers and other value added products to achieve the goal of sustainable development. The book also discusses the current and future trends in employing wetlands in improving water quality. In addition it presents the latest international research in the fields of wetland science, waste management, carbon sequestration and bioremediation. Highlighting a broad spectrum of topics and strategies for achieving a sustainable environment, the book offers researchers, students and academics insights into utilizing resources in a sustainable way.
