

About The Book

The administration of water resources and wastewater treatment is a significant global concern, especially amid rapid urbanization, population expansion, and environmental deterioration. This volume offers a thorough examination of modern approaches for sustainable and decentralized treatment options.

The book analyzes essential subjects, including biological wastewater treatment, geofiltration systems, and GIS-based multi-criteria decision analysis for groundwater evaluation, utilizing empirical research and case studies. It examines the efficiency of pollutant removal, water quality metrics, and the function of sophisticated filtering methods in reducing contamination. The amalgamation of environmental science, engineering, and policy views guarantees a comprehensive understanding of water management difficulties and solutions.

This book is intended for researchers, engineers, policymakers, and graduate students, functioning as both a theoretical and practical resource for the advancement of sustainable water and wastewater management. By showcasing innovative methodologies and assessing their practical implementations. It provides significant insights into the formulation of efficient, economical and ecologically sustainable treatment techniques.

This book is a crucial addition to the area, promoting multi-disciplinary research and innovation to ensure the safety and sustainability of water supplies for the future.

Contents

- 1) Geofilter: A Low-Cost and Decentralized System for Domestic Wastewater Treatment
- 2) Multi-criteria GIS Using Fuzzy-Analytical Hierarchy Process (F-AHP) for Delineating Groundwater Potentiality Zones in the Cachar District of Assam, India
- 3) Waste Tyre-Derived magnetic Pyrochar Composite in Remediating Oxytetracycline Antibiotic from Wastewater.
- 4) Effective Magnetic Loading on Waste Cigarette Filter-Derived Hydrochar for Aqueous Phase Removal of Antibiotics
- 5) Employing Multivariate Statistics as a Tool to Address the Pollution Loadings of an Aquatic Ecosystem.
- 6) Simultaneous Determination of Heavy Metal Ions in Water Samples Using Anodic Stripping Voltammetry
- 7) Decontamination of Carbon-Based Nanomaterials from Contaminated Water Samples by Employing Microemulsion and Cloud Point Extraction Techniques
- 8) Isolation and Identification of Indigenous Bacteria for Microbial Bioremediation Study
- 9) Management and Treatment Technologies for Swine Wastewater: A Global Perspective
- 10) A Compendium of Existing Sewage Treatment Techniques at India's Premier Higher Technical Educational Institutes
- 11) Assessment of Drinking Water Treatment Plant Efficiency and Water Quality through Indexing Approach