

## **About the Books**

Sludge from water and wastewater treatment facilities, solid waste, and contamination of natural water resources have emerged as major problems in emerging nations. Urbanization, industrialization, population growth, and other human-caused phenomena are the main causes. One of the biggest obstacles to the environment's sustainable development is the rate at which solid waste is increasing. Unmanaged solid waste and sludge from wastewater and water treatment facilities may be the source of environmental issues and health risks. The book emphasizes the value of utilizing recycled materials while presenting innovative techniques and technological solutions to address the issues described above. The majority of developing nations are able to implement waste treatment technologies, such as composting, anaerobic digestion, plastic recycling, and the use of agricultural waste in construction, because they are affordable, environmentally friendly, and generate economic returns. The book's objective is to assist all those working in the world's top academic and research institutions who are engaged in teaching, research and solid waste management, water and wastewater treatment studies. Future researchers, scholars, scientists, and professionals in the domains of environmental science and engineering, as well as international and local authorities and policy makers in charge of the management of solid waste and sludge, will find this book to be of immeasurable value. Universities throughout the world can create fresh prospectuses on environmentally friendly and sustainable waste and sludge management that connect to the book's theme. This book can be a very helpful

resources for creating and managing initiatives for recycling and trash reuse.

## **Contents**

- 1) Material Flow and Cost-Benefit Analysis of Landfill Mining
- 2) Domestic Hazardous Waste: A Lurking Danger in Solid Waste Management
- 3) Comparative Life Cycle Impact Assessment for End-of-Life Lithium-Ion Batteries Recycling Processes
- 4) Hydrodynamic Study on Hilly Region to Understand the Impact of High Velocity Variation on Environmental Pollution
- 5) Areca Sheath Waste: An Underutilised Entrepreneurial Resource
- 6) Influence of Lead and Hexavalent Chromium Concentrations on Geotechnical Properties of Black Cotton Soil.
- 7) Enhancement of Mechanical Behaviour of Recycled Aggregate Concrete Using Modified Mixing Approach in Combination with Surface Treatment Method
- 8) Unwasting a Crisis Away: A Case Study of Anakkayam, a village in Kerala
- 9) Additional Power Generation and GHG Emission Reduction by Installation of Waste Heat Recovery for Open Cycle Gas Turbine
- 10) Role of Plants in Abandoned Mine Reclamation and Removal of Potentially Toxic Elements
- 11) Use of Plastic Waste as Soil Stabiliser
- 12) Recycling of Polypropylene to Produce Jute/ rPP Biocomposites Quantitative Analysis of Thermo-Mechanical Properties

13) Use of Water-LiBr vapour Absorption Refrigeration System Operated by Municipal Solid Waste for an Apartment Room Air Conditioning

14) Innovative Pyrolysis Technologies for Thermochemical Processing of Municipal Solid Waste into Products with Enhanced Values.

15) Microbial Fortification to Enhance the Disease-Suppressive Ability of Compost

16) Biogas Purification and Upgradation: Conventional and Contemporary Technologies

17) Evaluation of the Impact of Sawdust on Maturity and Stability in Rotary Drum Composting to Improve Swine Waste Composting

18) Performance Evaluation of Basic Oxygen Furnace (BOF) Slag as a partial Replacement of Aggregates for Cost-Effective Utilisation in Asphalt Mixture.