

1. Record Nr.	UNINA9910677234403321
Titolo	Urban ecology and global climate change // edited by Rahul Bhadouria, [and three others]
Pubbl/distr/stampa	Hoboken, New Jersey : , : Wiley, , [2022] ©2022
ISBN	1-119-80721-2 1-119-80719-0
Descrizione fisica	1 online resource (370 pages)
Disciplina	577.56
Soggetti	Urban ecology (Biology) - Environmental aspects
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover -- Title Page -- Copyright Page -- Contents -- List of Contributors -- Foreword -- Foreword -- Section 1 Urban Ecology and Global Climate Change: Introduction -- Chapter 1 Urban Ecology and Climate Change: Challenges and Mitigation Strategies -- 1.1 Introduction -- 1.1.1 Urban Ecology -- 1.2 Components of Urban Ecology -- 1.2.1 Urban (Built) Infrastructures -- 1.2.2 Urban Vegetation -- 1.2.3 Urban Metabolism -- 1.3 Climate Change as Emerging Challenge for Urban Ecology -- 1.3.1 Urban Ecosystems as Indicators of Future Ecosystems -- 1.3.2 Impact on Urban Flora -- 1.4 Bibliometric Analysis for Urban Ecology and Climate Change Nexus -- 1.5 Emerging Features of Urban Ecology for Mitigating Climate Change -- 1.5.1 Ecosystem Services -- 1.5.2 Plant Adaptations -- 1.5.3 Green Infrastructure -- 1.5.4 Urban Vegetation and CO2 Absorption -- 1.6 Conclusions and Future Research Directions -- Acknowledgements -- Chapter 2 Climate Change, Urbanisation, and Their Impact on Increased Occurrence of Cardiometabolic Syndrome* -- 2.1 Introduction -- 2.2 Overview of Cardiometabolic Syndromes -- 2.3 Pathophysiology of Cardiometabolic Syndromes -- 2.4 Urbanisation as a Factor to Increase Cardiometabolic and Cardiovascular Disorders -- 2.4.1 The Driving Development of Urbanisation and Its Implications on Cardiovascular Syndrome in the Twenty-First Century -- 2.4.2 Mutualistic Relationship Between Urbanisation and Ecosystem -- 2.4.3

Why Is Urban Development a Challenge for Cardiometabolic Syndrome?

-- 2.4.4 Attempts to Combat Cardiometabolic Syndrome Risk Factors

-- 2.5 Climate Change as a Risk Factor to Increase the Occurrence of Cardiometabolic Syndrome -- 2.5.1 Changing Climate Is One of the World's Principal Concerns -- 2.5.2 Indicators That Have Been Predominant Contributors to Climate Change -- 2.5.3 Health Impacts of Climate Change.

2.5.4 Potential Method for Improvement of Cardiometabolic Disorder Conditions by Reducing Greenhouse Gases -- 2.5.5 Introduction to Obesity and Its Associated Risk Factors Influencing Cardiometabolic Syndrome -- 2.5.6 The Impact of Urbanisation on Epidemiology of Obesity and Overweight in Relation to Cardiometabolic Syndrome -- 2.5.7 Obesity, a Major Risk Factor for Prevalent Cardiometabolic Syndrome -- 2.5.8 Obesity, a Major Risk Factor for Prevalent Metabolic Syndrome in Women -- 2.5.9 Childhood Obesity, a Growing Concern -- 2.5.10 Cardiometabolic Syndrome Associated Cancer Facilitated by Inflammation and Obesity -- 2.6 Conclusion -- Acknowledgements --

References -- Section 2 Urban Landscape Design Using Emerging Techniques -- Chapter 3 An Alternative Sustainable City Framework to Tackle Climate Change Issues in India -- 3.1 Introduction -- 3.2 Urbanization and Its Consequences -- 3.2.1 Climate Change -- 3.2.2 Urban Sprawl -- 3.3 Need for Alternative Sustainable Urban Development Model -- 3.3.1 New Urbanism -- 3.3.2 Transit-oriented Development (TOD) -- 3.3.3 Smart Growth -- 3.3.4 Smart Cities and Sustainable Development -- 3.4 Conclusion -- References -- Chapter 4 Integrated Water Resource Management for Future Water Security -- 4.1 Introduction -- 4.2 Significance of the Study -- 4.2.1 Water Resources and Rising Water Insecurity -- 4.2.2 Deteriorated Surface Water Bodies -- 4.2.3 Overexploited Groundwater Resources -- 4.2.4 Water Quality -- 4.2.5 Abrupt Rainfall Pattern -- 4.2.6 Government-led Initiatives -- 4.2.7 Urban Water Crisis and Poor Management -- 4.3 Methodology -- 4.3.1 Integrated Water Management -- 4.4 Recommendations for an Integrated Management of Water Resources -- 4.4.1 Regulate Water Extraction -- 4.4.2 Water Quality -- 4.4.3 Reduce, Reuse, and Recycle Water -- 4.4.4 Rainwater Harvesting -- 4.4.5 Agricultural Reforms.

4.4.6 Reusability of Wastewater -- 4.4.7 Conjunctive Use of All Resources -- 4.4.8 Sustainability of the Source -- 4.4.9 Participatory Mechanism -- 4.4.10 Decentralisation of Action Plans -- 4.5 Conclusion -- References -- Chapter 5 Water Urbanism and Multifunctional Landscapes: Case of Adyar River, Chennai, and Ganga River, Varanasi, India -- 5.1 Introduction -- 5.2 Definitions and Perspectives in the Spectrum of Multifunctional Landscapes -- 5.3 Case Studies -- 5.3.1 Case Study 1: Adyar Ecological Restoration Project -- 5.3.2 Case Study 2: Ganga Ghats and Kunds of Varanasi -- 5.4 Inferences from the Two Case Studies -- 5.5 Conclusion --

Acknowledgement -- References -- Chapter 6 Urban Landscape Change Detection Using GIS and RS: Chattogram City Corporation, Bangladesh -- 6.1 Introduction -- 6.2 Materials and Methods -- 6.2.1 Data Collection -- 6.2.2 Shape File Preparation and Image Processing -- 6.2.3 Supervised Classification and Map Preparation -- 6.2.4 Land Use and Land Cover (LULC) Change Detection -- 6.2.5 Accuracy Assessment -- 6.3 Results and Discussion -- 6.4 Conclusion -- References -- Chapter 7 Emerging Techniques for Urban Resource Restoration of Various Ecosystem: Bioremediation, Phytoremediation, Habitat Enhancement -- 7.1 Introduction -- 7.2 Urban Resources and Waste Generation -- 7.3 Composition of Urban Solid Waste -- 7.4 Threats from Urban Wastes -- 7.4.1 Health Impacts -- 7.4.2

Environmental Impacts -- 7.5 Emerging Techniques for Waste Treatment and Ecological Restoration -- 7.5.1 Bioremediation -- 7.5.2 Phytoremediation -- 7.6 Mitigation and Remedial Measures for Urban Environmental Problems -- 7.6.1 Waste Management Practices -- 7.7 Conclusion -- Acknowledgements -- References -- Chapter 8 Phytoremediation of Urban Air Pollutants: Current Status and Challenges -- 8.1 Introduction -- 8.2 Advantages of Phytoremediation. 8.3 Disadvantages of Phytoremediation -- 8.4 Processes Encompassing Phytoremediation -- 8.5 Phytoremediation of Urban Air Pollutants -- 8.5.1 Particulate Matter (PM) -- 8.5.2 Volatile Organic Compounds (VOCs) -- 8.5.3 Inorganic Air Pollutants (IAP) -- 8.6 Plant-microbe Symbiosis in Phytoremediation of Urban Air Pollutants -- 8.7 Transgenic Plants for Phytoremediation of Air Pollutants -- 8.8 Conclusion -- References -- Section 3 Biodiversity and Natural Resource Exploitation -- Chapter 9 Tree Benefits in Urban Environment and Incidences of Tree Vandalism: A Review for Potential Solutions -- 9.1 Introduction -- 9.2 Benefits of Urban Trees -- 9.3 Selection Criteria for the Urban Trees -- 9.3.1 Sites for Urban Tree Planting -- 9.4 Urban Trees Vandalism -- 9.4.1 Criteria Indicators for Tree Vandalism -- 9.4.2 Potential Solutions to Prevent Tree Vandalism -- 9.5 Conclusions -- References -- Chapter 10 Environmental Status of Green Spaces in Bhaktapur District of Nepal - 2019 -- 10.1 Introduction -- 10.2 Literature Review -- 10.2.1 Urban Development Overview -- 10.2.2 Roles of Green Space -- 10.2.3 Green Spaces -- 10.2.4 Relevance of Green Space Study -- 10.2.5 Measurement of Green Spaces -- 10.2.6 Indices for Measurement of Green Spaces -- 10.3 Study Area -- 10.4 Methods -- 10.4.1 Land Use Land Cover (LULC) -- 10.4.2 Normalised Difference Vegetation Index (NDVI) -- 10.4.3 Distance to Green Spaces -- 10.4.4 Analytical Hierarchy Process (AHP) -- 10.4.5 Weighted Urban Green Space Index (WUGSI) -- 10.4.6 Environmental Status Parameters -- 10.5 Results -- 10.6 Discussion -- 10.7 Conclusion -- References -- Chapter 11 Challenges and Opportunities of Establishing Jungle Flora Nursery in Urban Settlements -- 11.1 Introduction -- 11.2 Breeding Techniques: Jungle Flora Species -- 11.2.1 Plus and Elite Tree Selection -- 11.2.2 Wild Seed Collection. 11.2.3 Vegetative Propagation -- 11.2.4 Micro-propagation/Plant Tissue Culture (PTC) -- 11.3 Challenges of Including Jungle Flora Species in Urban Nurseries -- 11.3.1 Lack of Awareness -- 11.3.2 Lack of Availability -- 11.3.3 Lack of Research on Propagation Techniques -- 11.3.4 Air Pollution Tolerance -- 11.3.5 Over-exploitation Risk -- 11.4 Overcoming the Challenges -- 11.4.1 Creation of Native Forest Species Seed Banks -- 11.4.2 Connecting the Dots Between Forest Species Research Institutes and Commercial Nurseries -- 11.4.3 Purchase of Wild Seeds -- 11.5 Conclusion -- References -- Chapter 12 Effect of the Changing Climate and Urban Ecology on Spreading of Infectious Diseases Including SARS-CoV-2 -- 12.1 Introduction -- 12.1.1 Urbanisation as a Factor to Increase Infectious Disorders -- 12.1.2 Changing Climate as Another Factor Responsible for Increasing the Infectious Disorders -- 12.2 Spread and Emergence of Novel Fungal Infections with Changing Climate and Urban Ecology -- 12.2.1 Emergence of Multidrug-resistant Strains of Candida and Candidiasis -- 12.2.2 Mucormycosis in Immunocompromised Patients -- 12.2.3 Implication of Changing Climate and Urban Ecology on the Spread of Fungal Infections in Relation to SARS-CoV-2 -- 12.3 Spread and Emergence of Newer Bacterial Infections with Change in Climate and Urban Ecology -- 12.3.1 Infection by Acinetobacter baumannii -- 12.3.2 Infection by Mycobacterium tuberculosis -- 12.3.3 Implication of the Changing Climate and Urban Ecology on the Spread of Bacterial

Infections in Relation to SARS-CoV-2 -- 12.4 Spread and Emergence of Newer Viral Infections with Change in Climate and Urban Ecology -- 12.4.1 Ebola Viral Infection -- 12.4.2 H1N1 Flu Infection -- 12.4.3 Encephalitis (A Viral Infection) -- 12.4.4 Corona Viral Infection Including SARS-CoV-2 -- 12.5 Conclusion -- Acknowledgements -- References.  
Chapter 13 Human-Wildlife Conflict in the Mumbai Metropolitan Region - An Empirical Study.

---