

1. Record Nr.	UNINA9910799248003321
Autore	Chatterjee Uday
Titolo	Climate Crisis
Pubbl/distr/stampa	Cham : , : Springer International Publishing AG, , 2024 ©2023
ISBN	3-031-44397-7
Edizione	[1st ed.]
Descrizione fisica	1 online resource (601 pages)
Collana	Sustainable Development Goals Series
Altri autori (Persone)	ShawRajib KumarSuresh RajAnu David DasSandipan
Disciplina	363.73874
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Foreword -- Preface -- Acknowledgments -- Disclaimer -- Contents -- About the Editors -- Contributors -- Part I: Introduction -- 1: Global Warming and Climate Crisis/Extreme Events -- 1.1 Introduction to Global Warming, Climate Change, and Extreme Events -- 1.2 Climate Change: Evidences, Causes, and Consequences -- 1.2.1 Evidences -- 1.2.2 Causes -- 1.2.3 Consequences/Effects -- 1.3 CO2 as a Major Indicator for Global Warming -- 1.3.1 Relationship Between Soils and Climate Change -- 1.4 Climate Crisis and Food Security -- 1.5 A Way Forward? Sustainability -- 1.5.1 Role of SDG in Mitigating Climate Crisis -- 1.6 A Framework of Climate Resilience for Sustainability: Watershed Level Measures -- 1.7 Conclusions -- References -- 2: Ecosystem Degradation to Restoration: A Challenge -- 2.1 Introduction -- 2.2 Farmland Ecosystem -- 2.3 Degradation of Farmlands -- 2.4 Forest Ecosystems -- 2.5 Degradation of Forests -- 2.6 Why Restoration? -- 2.7 Restoring Farmland Ecosystem -- 2.8 Restoring Forest Ecosystem -- 2.9 Restoration Methods -- 2.9.1 Regenerative Agriculture -- 2.9.2 Climate Smart Agriculture -- 2.9.3 Forest and Landscape Restoration -- 2.9.4 Phytoremediation -- 2.9.5 Phytocapping -- 2.9.6 Nucleation Techniques -- 2.9.7 Miyawaki Forest: An Eco-sustainable Afforestation Technique -- 2.9.8

Sustainable Agriculture -- 2.10 Conclusion -- References -- 3: Exploring the Dynamics of Antarctic Sea Ice over Four Decades Using Geospatial Technology -- 3.1 Introduction -- 3.2 Data and Methodology -- 3.3 Results and Discussion -- 3.4 Sea-Ice Anomaly -- 3.5 Conclusion -- References -- 4: Climate Change and Himalayan Glaciers: A Socio-Environmental Concern in Anthropocene Epoch -- 4.1 Introduction -- 4.1.1 Anthropocene Epoch -- 4.2 Himalayan Glaciers -- 4.3 Assessment of Glacial Mass Loss.

4.4 Climate Change Impacts -- 4.4.1 Glacial Retreat -- 4.4.2 Glacial Lake Formation -- 4.4.3 Glacial Lake Outburst Flood (GLOF) -- 4.4.4 Precipitation -- 4.4.5 Glacial Erosion -- 4.4.6 Impact on People's Livelihood and Ecosystem -- 4.5 Mitigation and Adaptation -- 4.5.1 Sustainability -- 4.6 Case Study -- 4.6.1 Materials and Methods -- 4.6.2 NDSI and LST -- 4.7 Summary and Conclusion -- References -- 5: Indigenous Strategies and Adaptive Approaches to Scrabble Recent Climate Crisis in Two Districts (Bankura and Purulia) of West Bengal, India -- 5.1 Introduction -- 5.2 Materials and Methods -- 5.2.1 Study Area -- 5.2.2 Data Collection -- 5.3 Result and Discussions -- 5.3.1 Navigating Food Choices, Eating Habits, and Food Preservation Techniques During Times of Scarcity -- 5.3.1.1 Rice and Its Other Derivatives -- 5.3.1.2 Various Cereals, Leafy Green Vegetables, and Others -- 5.3.1.3 Fruits, Tubers, and Leftover Food -- 5.3.1.4 Wild Animals as a Nutritious Source -- 5.3.1.5 Feeding Material for Pets and Livestock -- 5.3.1.6 Role of Wild Edible Mushrooms in Indigenous Communities' Food Security -- 5.3.1.7 Food Preservation Techniques for Long-Term Sustainability -- 5.3.2 Strategies for Effective Water Management During Times of Scarcity -- 5.3.3 Strategies of Indigenous People to Beat the Heat -- 5.3.3.1 Architectural Design of House to Reduce Indoor Temperature in Summer -- 5.3.3.2 Ancient Practices and Usage of Cotton Towels -- 5.3.4 Role of Indigenous Women During Famine -- 5.4 Recommendations -- 5.5 Conclusions -- References -- Part II: Climate Crisis: Geophysical Hazard and Risk Reduction and Mitigation -- 6: Addressing Climate Crisis Through Coastal Risk Management: The Social Protection Alternative -- 6.1 Introduction -- 6.2 Methodology -- 6.3 Climate Hazards and Impacts in the Sundarbans Coastal Area.

6.4 Addressing Climate Change Impacts in the Sundarbans Coastal Area -- 6.4.1 Short-Term Coping Techniques -- 6.4.2 Long-Term Coping Techniques -- 6.5 Social Protection as an Innovative Option for Coastal Risk Management -- 6.6 Conclusion -- Annex 1: Schematic Representing Findings from PRA Methods Applied for Data Collection -- References -- 7: Land Degradation and its Relation to Climate Change and Sustainability -- 7.1 Introduction to Climate Change and Land Degradation -- 7.2 Land Degradation -- 7.2.1 Physical Degradation -- 7.2.2 Chemical Degradation -- 7.2.3 Biological Degradation -- 7.3 Interlinkages Between Land Degradation, Carbon Loss, Climate Change and Sustainability -- 7.4 Soil Erosion-A Socio-Economic and Environmental Concern Worldwide -- 7.4.1 Climate Change Impact on Soil Degradation -- 7.4.2 Adaptation and Mitigation Measures to Address Climate Change -- 7.5 Climate Change as a Factor of Land Degradation -- 7.6 Land Degradation Impact on Climate Change -- 7.7 Sustainability of Natural Resources -- 7.8 A Case Study: Soil Erosion and Soil Quality in Relation to Sustainability of Soils -- 7.8.1 Study Area -- 7.8.2 Materials and Methods -- 7.9 Conclusion -- References -- 8: Social Resilience of Local Communities Due to Tidal Flooding on the North Coast of Semarang City, Indonesia

-- 8.1 Introduction -- 8.2 The Rationale of the Study -- 8.2.1 Climate Crisis Global -- 8.2.2 Impact of Tidal Flood in Semarang -- 8.2.3 Social Resilience of Local Communities as an Adaptation Strategy -- 8.3 Materials and Methods -- 8.4 Results and Discussion -- 8.4.1 Tidal Flood Conditions in Semarang -- 8.4.2 Impact of the Tidal Flood Disaster in Semarang -- 8.4.2.1 Social Vulnerability -- 8.4.2.2 Economic Vulnerability -- 8.4.3 Local Community Social Resilience as an Adaptation Strategy -- 8.4.3.1 Cause Society Survives. 8.4.3.2 Form of Community Resilience -- 8.5 Limitations of the Study -- 8.6 Recommendations -- 8.7 Conclusions -- References -- 9: Effects of Climatic Risks on Soil Erosion/Desertification in Southern and Northern Nigeria Using GIS/Remote Sensing Analysis -- 9.1 Introduction -- 9.2 Climate Action as Means to Minimize Soil Erosion/Desertification in Nigeria -- 9.3 Land/Soil Degradation in South/Northern Nigeria -- 9.4 Materials and Methods -- 9.5 Results and Discussion -- 9.6 Soil Erosion and Its Effects in Southeastern Nigeria -- 9.7 Effects of Desertification in Northern Nigeria -- 9.8 Intervention Strategies and Sustainable Pathways -- 9.9 Conclusion -- References -- 10: Strategies for Compound Urban and Climate Hazards: Linking Climate Adaptation and Sustainability to Address Risk in Environmental Justice Communities -- 10.1 Introduction -- 10.1.1 Background -- 10.1.2 The Gap Between SDG and Actionable Adaptation Strategies -- 10.2 Environmental Justice, Heat Risk, and Air Quality in Houston -- 10.2.1 Compound Impacts -- 10.3 Methodology -- 10.3.1 Compound Spatialized Analysis Toward Equitable Planning Strategies -- 10.3.2 Equity-Oriented Approach for Indicators -- 10.4 Neighborhood Analysis -- 10.4.1 Magnolia Park: Manchester Harrisburg -- 10.4.2 5th Ward -- 10.4.3 Kashmere and Trinity Gardens and the Heights -- 10.4.4 Summary of Findings -- 10.4.5 Policy Analysis Framework -- 10.5 Analysis of Adaptation Strategies -- 10.6 Discussion and Conclusion -- References -- Part III: Climate Crisis and Smart Agriculture and Food Security -- 11: The Role of Indigenous Climate Forecasting Systems in Building Farmers' Resilience in Nkayi District, Zimbabwe -- 11.1 Introduction -- 11.2 Literature Review -- 11.2.1 Climate Change and Impacts on Africa -- 11.2.2 Climate Change Adaptation. 11.2.3 Climate Change Adaptation Strategies in the Agriculture Sector -- 11.2.4 Climate Forecasting Information Systems -- 11.2.4.1 Scientific Climate Forecasts (SCF) -- Accuracy and Farmers' Perception of Scientific Climate Forecasting -- 11.2.5 Indigenous Knowledge Systems-Based Climate Forecasting -- 11.2.5.1 Indigenous Knowledge Systems -- 11.2.5.2 Indigenous Climate Forecasting Knowledge -- Challenges of Using Indigenous Climate Forecasting Systems -- 11.2.6 Integration of Indigenous Knowledge and Scientific Climate Forecasting -- 11.2.7 Description of the Study Area -- 11.2.8 Data Collection Methods -- 11.3 Research Findings -- 11.3.1 Tree Phenology Indicators -- 11.3.2 Animal Behaviour -- 11.3.3 Atmospheric Indicators -- 11.3.4 Scientific Climate Forecast and Observed IKS Indicators for the 2021/22 Season -- 11.3.5 Farmers' Perception of SCF and Integration with IK Climate Forecasting Methods -- 11.3.6 IKS and Climate Change Adaptation -- 11.4 Conclusion and Recommendations -- References -- 12: Agroforestry Practices: A Sustainable Way to Combat the Climate Crisis and Increase Productivity -- 12.1 Introduction -- 12.2 Climate Change Risks -- 12.2.1 Aberrations in Rainfall Events -- 12.2.2 Alterations in Temperature -- 12.2.3 Increased Frequency and Intensity of Droughts -- 12.2.4 Increased Wind and Water Storm Intensity -- 12.2.5 Increased Biotic and Abiotic Stresses -- 12.3 Role

of Agroforestry in Combating Climate Crisis -- 12.3.1 Microclimatic Modification -- 12.3.2 Conservation of Resources -- 12.3.3 Carbon Sequestration -- 12.3.4 Soil Fertility Management -- 12.3.5 Biodiversity Conservation -- 12.4 Enhanced Productivity -- 12.5 Agroforestry Practices in India -- 12.6 Conclusion -- References -- 13: Climate Crisis and Adoption of Climate-Smart Agriculture Technologies.  
13.1 Introduction: Brief About the Climate Crisis and Its Link to Agriculture.

---