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	Nota di contenuto	1. Modelling tools and plausible scenarios in science-policy to improve evidence based decision making for human-well-being -- 2. Basic Introduction to Species Distribution Modelling -- 3. Machine Learning based predictive modelling approaches for better understanding evolutionary history, distribution and niche occupancy: Experience from Western Ghats -- 4. Mapping the impact of climate change on eco-sensitive hotspots using species distribution modelling (SDMs) – Gaps, Challenges and Future Perspectives -- 5. Approaches for modelling the climate change impacts on ecosystems -- 6. Developing a Bayesian Model of Climate-Induced Lake Overturn in Talisay, Taal Lake -- 7. Global sensitivity and uncertainty analysis of MaxEnt model: Implications in species habitat projections -- 8. Tree species diversity and richness patterns reveal high priority areas for conservation in Eswatini -- 9. Improving the conservation status of a threatened tree (Acer sikkimensis Miq. syn. Acer hookeri Miq.) through standardization of seed germination protocol and using ecological niche modeling -- 10. Ecological Niche Modeling of the endemic Himalayan near-threatened treeline conifer Abies spectabilis (D.Don) Mirb. in the Indian Central Himalaya -- 11. Modeling the distribution of a medicinal plant

Oroxylum indicum (L.) Kurz for its conservation in Arunachal Pradesh -- 12. Habitat Suitability and Niche Modeling for Conservation and Restoration of Aconitum heterophyllum Wall. in Temperate Himalayan Forest Ecosystem -- 13. Application of species distribution modeling for conservation and restoration of forest ecosystems -- 14. Habitat suitability analysis of Asiatic Elephants (Elephas maximus) in the Tropical Moist Deciduous Forest of Assam using Analytic Hierarchy Process (AHP) -- 15. Factors Affecting the Habitat Suitability of Eastern Swamp Deer (Rucervus duvaucelii ranjitsinhi Groves, 1982) in Manas National Park and Implication for Terai Grassland Restoration -- 16. Evaluating Potential Habitats of Chital, Sloth Bear and Jungle Cat in Selected Areas of Central Indian Landscape -- 17. Habitat suitability modeling of Tor tor (Hamilton, 1822) in the Indian drainage systems using MaxEnt -- 18. Modelling the influence of Marine Fishery Advisories on the reduction of Carbon Dioxide emissions for Odisha under varying Climate Change Scenarios using CMIP models – an evidence-based approach for policymaking -- 19. Impacts of pollution on tropical montane and temperate forests of South Asia: Preliminary studies by post graduate students in India and Sri Lanka -- 20. Selection of strategic sampling sites for river quality assessments near mined areas as a policy handle for low-impact development and biodiversity conservation – a case study of River Godavari -- 21. Ecological niche modeling predicts the potential area for cultivation of Melia dubia Cav. (Meliaceae): a promising tree species for agroforestry in India -- 22. Proportions of change in the airborne particulate matter (PM10) concentrations across selected states in Peninsular India - a study of decadal, pre-pandemic trends for planning restoration -- 23. Decomposition of Sunflower Cuttings and its Impact on Soil Fertility of Rice Terraces (Payoh) in Banaue, Ifugao, Philippines -- 24. Forest ecosystem modeling for policy planning: A review -- 25. Ecological Carrying Capacity Modelling and Sustainability Assessment of the Seven Lakes of San Pablo City, Laguna, Philippines -- 26. Assessment of the contribution of Fresh Water Ecosystem Services to the Hydropower Sector in the Kura-Araz basin -- 27. Eutrophication modelling of Chilika Lagoon using an artificial neural network approach.

| Sommario/riassunto | This edited book is focused on SDG 15. This volume covers aspects of species and ecosystem modeling in understanding the complexity of ecological systems, restoration, protected area management, and species conservation. The book follows a systematic and situation-sensitive approach to discuss ecosystem and species modeling tools, approaches, science, case studies, opportunities, and gaps for enhancing conservation efforts, ensuring ecosystem resilience, and addressing sustainability issues. The book emphasizes on science, innovations, case studies, and strategic relevance as main pillars of using ecosystem and species modeling tools and implementing the outcomes and results. In addition, clear conceptual frameworks, elaborated methodologies, and their applications are included to support policy planning and interventions to reduce and reverse human encroachment in human-dominated natural ecosystems, their degradation, and loss of important species and ecosystem services. Essential information with a special focus on advances and opportunities in advancing the implementation of results and outputs of the modeling tools, challenges and constraints for addressing loss of ecosystem services, designing and implementing sustainable landscape restoration, environmental risk assessment, and finally understanding policy implications and concerns for mainstreaming modeling results in conservation planning and decision-making is included in the book. Further topics include ultimate translational value of modeling tools |

and efforts across transitional ecosystems and species habitat to provide better evidence to influence the nature-based solutions (NbS) and ecosystem health assessment using Red List of Ecosystems (RLE). The emerging roles of integrative socio-ecological as well as techno-cultural factors in promoting the relevance of ecosystem and species modeling is one of the key features of this book. This edited volume is of interest and useful to researchers, students, scholars, policy makers, forest managers, consultants, and policy makers in the fields of protected area management, forest department, conservation, modeling, climate change, and sustainability science, and also authors engaged in IPBES, IPCC, and several other assessments.