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Nota di contenuto	Chapter 1. Protecting forest structure and functions for resilience and sustainability concerns in the changing world -- Chapter 2. Understanding the drivers of forest degradation -- Chapter 3. The so-called modern ‘sustainable forestry’ destroys wilderness, old-growth forest landscapes and ecological services world-wide: A short first-hand review and global narrative on the use of ‘growth-and-yield’ as a destructive and even impossible goal -- Chapter 4. Gangetic Plains of India: High on the water and air pollution map -- Chapter 5. Understanding wildfires and designing a sustainable future by solutions based on forest-society relationships -- Chapter 6. Is the gender agenda of Nepal’s Community Forestry at risk due to commercial transitions -- Chapter 7. Diversity of forest genes: Impacts on the structure and function of soil ecosystems under changing climate -- Chapter 8. Plant-herbivorous insect interactions in forest ecosystems: overview and perspectives to mitigate losses -- Chapter 9. Beyond the biophysical: contribution of community forestry in building socio-

ecological resilience -- Chapter 10. Biodiversity and Biomass Carbon Dynamics: Insights from Long-Term Monitoring in the Western Ghats -- Chapter 11. Peri-urban protected forests in peril: Insights from case studies in two Indian megacities -- Chapter 12. Mapping the extent of invasive species – An assessment based on high-resolution data for selected species in parts of Eastern Himalaya in Sikkim -- Chapter 13. Groundwater Dependent Vegetation to address the loss of ecosystems dependent on groundwater resources -- Chapter 14. Groundwater Dependent Vegetation to address the loss of ecosystems dependent on groundwater resources -- Chapter 15. Application of dynamic vegetation models for climate change impact studies -- Chapter 16. Agroforestry approaches in the restoration of peatland landscapes in Central Kalimantan, Indonesia -- Chapter 17. SmarteR approach for the mapping of invasive plant species -- Chapter 18. Mapping and identification of trees using semantic segmentation deep learning neural network -- Chapter 19. Application of biophysical, soil, and vegetation indices to better understand forest dynamics and develop strategies for forest conservation -- Chapter 20. Emission Reductions Program for Addressing Drivers of Deforestation and Forest Degradation: An insight from the Terai Arc Landscape in Southern Nepal -- Chapter 21. Public Interests and Private Incentives in Designing an Ecological Payment Systems -- Chapter 22. Awareness and conservation program at an ecotourism site in Langkawi Island, Malaysia.

Sommario/riassunto

This book unveils forestry science and its policy and management that connect past and present understanding of forests. The aggregated knowledge is presented to cover the approaches adopted in studying forest structure, its growth, functioning, and degradation, especially in the context of the surrounding environment. The application of advance computation, instrumentation, and modelling has been elaborated in various chapters. Forest ecosystems are rapidly changing due to forest fires, deforestation, urbanization, climate change, and other natural and anthropogenic drivers. Understanding the dynamics of forest ecosystems requires contemporary methods and measures, utilizing modern tools and big data for developing effective conservation plans. The book also covers discussion on policies for sustainable forestry, agroforestry, environmental governance, socio-ecology, nature-based solutions, and management implication. It is suitable for a wide range of readers working in the field of scientific forestry, policy making, and forest management. In addition, it is a useful material for postgraduate and research students of forestry sciences.