

1. Record Nr.	UNINA9910506388503321
Titolo	Agroforestry and ecosystem services // edited by Ranjith P. Udawatta and Shibu Jose
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2022] ©2022
ISBN	3-030-80060-1
Descrizione fisica	1 online resource (514 pages)
Disciplina	634.99
Soggetti	Agroforestry Forests and forestry Agroforestry projects Ecologia agricola Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- Contents -- Agroforestry for Ecosystem Services: An Introduction -- Introduction -- Agroforestry for Soil Ecosystem Services and Climate Resilience -- Agroforestry for Improved Water Quality -- Agroforestry and Silvopasture -- Agroforestry for Biodiversity Conservation and Enhanced Pollination -- Agroforestry for Flood Reduction, Air Quality Improvement, and Peatland Protection -- Agroforestry and Cultural Ecosystem Services -- Country-Specific Examples, India and Australia -- Agroforestry Design and Economics -- Conclusions -- References -- Agroforestry Practices for Soil Conservation and Resilient Agriculture -- Introduction -- Agroforestry Systems and Soil Conservation -- Shelterbelts in Eurasia and North America -- Shelterbelts in Temperate Eurasia -- Shelterbelts in Semiarid and Arid Eurasia -- Shelterbelts in the Semiarid US and Canadian Great Plains -- Summary of Shelterbelt Contributions in Eurasia and North America -- Silvopasture Systems of the Southeastern USA -- Soil-Based Ecosystem Services of Silvopasture Systems -- Forage Considerations for Silvopasture Production -- Perennial Cool-Season Forages -- Perennial Warm-

Season Forages -- Annual Cool-Season Forages -- Annual Warm-Season Forages -- Livestock Considerations in Silvopastoral Systems -- Summary of Silvopasture Considerations -- Agroforestry Practices for Soil Conservation and Agriculture Resilience in the Neotropics -- Soil Quality -- Soil Erosion -- Multifunctionality and Adoption -- Agroforestry in Africa and Asia -- Soil Conservation and Agroforestry in African Drylands -- Agroforestry and Soil Conservation in Humid Zones of Africa -- Agroforestry and Soil Conservation in Asia -- Summary of Agroforestry Contributions in Neotropical Africa and Asia -- Conclusions Regarding Agroforestry Contributions to Soil Conservation -- References.

Soil Health Ecosystem Services of Agroforestry -- Introduction -- Ecosystem Services -- Agroforestry and Ecosystem Services -- Soil Health -- Agroforestry and Soil Health -- Agroforestry Management to Sustain and Improve Soil Health and Ecosystem Services -- Conclusions -- References -- Belowground Services in Vineyard Agroforestry Systems -- Introduction -- Problems in Modern Viticulture -- Agroforestry in Vineyards as a Sustainable Solution -- The Effect of Trees on Soil Water Parameters in Vineyards -- Increased Water Conservation in Agroforestry Systems -- Competition Between Trees and Grapevines for Water -- Striking Water Stress Balance in Grapevines -- The Effect of Trees on Vineyard Nutrition Parameters -- Increased Nutrient Availability in Vineyard Agroforestry Systems -- Reduced Nutrient Losses in Vineyard Agroforestry Systems -- Competition Between Trees and Grapevines for Nutrients -- Striking Nutritional Balance in Grapevines -- The Effect of Trees on Vine Root Systems -- Improved Soil Structure in Vineyard Agroforestry Systems -- Soil Niche Competition Between Tree and Grapevine Roots -- Balancing Competition Through Root Plasticity -- Practical Implications -- Conclusion -- References -- Selected Soil Properties Among Agroforestry, Natural Forest, Traditional Agriculture, and Palm Oil Land Uses in Central Kalimantan -- Introduction -- Materials and Methods -- Study Site -- Soil Types -- Experimental Design and Sampling -- Cellulase Activity -- PMEase Activity -- Urease Activity -- C, N, and C:N Ratio -- Statistical Analysis -- Results and Discussion -- Soil Carbon -- Soil Nitrogen Concentration -- C:N Ratio -- Urease Activity -- Cellulase Activity -- PMEase Activity -- Conclusions -- References -- Water Quality and Quantity Benefits of Agroforestry and Processes: Long-Term Case Studies from Missouri, USA -- Introduction. The Two Study Sites (RAF and GAF) -- Surface Runoff -- Groundwater -- Water Quality -- Soil Physical Properties -- Soil Chemical Properties -- Soil Biological Activity -- Buffer Vegetation -- Summary and Conclusions -- References -- Enhanced Ecosystem Services Provided by Silvopastures -- Introduction -- Silvopasture Ecology -- Supporting Services of Silvopastures -- Wildlife Habitat -- Plant Communities -- Nutrient Cycling -- Provisioning Services of Silvopastures -- Forage Production -- Animal Production -- Tree Production -- Regulating Services of Silvopastures -- Water Quality -- Air Quality -- Soil Conservation -- Nutrient Distribution and Use Efficiency -- Weeds, Diseases, and Pests -- Environmental Modifications -- Carbon Cycling and Sequestration -- Cultural Services of Silvopastures -- Animal Welfare -- Aesthetics and Recreation -- Opportunities for Adoption: Placement, Design, and Management Considerations for Silvopastures -- Conclusion -- References -- Silvopasture for Food Security in a Changing Climate -- Introduction -- The Food-Climate Crisis -- Sustainable Livestock Production -- Silvopasture: A Contribution to Food Security -- Forage Production -- Forage Nutritive Value -- Tree Fodder Production and Nutritive Value

-- Tree Fruit Production -- Animal Performance -- Thermal Stress -- Animal Health -- Habitat for Pollinators -- Conclusion -- References -- Potential Indicators to Assess the Sustainability of South American Forests Under Silvopastoral Management: Case Study of an Old Roble Forest in Chile's Andes -- Introduction -- Materials and Methods -- Statistical Analysis -- Results and Discussion -- Results of Bibliographic Consultation -- Expert Consultation or Judgment Results -- Community Member Consultation Results -- Methodological Triangulation Results -- Conclusions -- References -- Agroforestry for Biodiversity Conservation. Introduction -- Agroforestry and Diversity -- Agroforestry and Floral Diversity -- Agroforestry and Faunal Diversity -- Agroforestry and Soil Microbial Diversity -- Practical Implication of Agroforestry on Biodiversity -- Summary and Future Directions -- References -- The Role of Temperate Agroforestry Practices in Supporting Pollinators -- Introduction -- Importance of Pollinators -- Important Groups of Pollinators -- Pollinator Status and Threats -- Agroforestry's Role -- Providing Habitat -- Foraging Resources -- Nesting and Egg-Laying Sites -- Enhancing Connectivity -- Reducing Pesticide Exposure -- Crop Pollination Services -- Summary -- References -- Flood Control and Air Cleaning Regulatory Ecosystem Services of Agroforestry -- Introduction -- Flood Control -- The Processes of Flood Control -- Air Cleaning -- Windbreaks -- Urban Food Forest (UFF) -- The Processes of Air Cleaning -- Practical Implications -- Summary and Future Directions -- References -- Establishing Agroforestry Conservation Buffer Zones to Protect Tropical Peatland Forests of Indonesia -- Introduction -- Conservation Challenges for Indonesian Peatland -- Agroforestry as a Conservation Option -- Materials and Methods -- Study Area -- Rimba Raya Biodiversity Reserve as a Case Study -- Data -- Soil -- Land Cover -- NDVI (Normalized Difference Vegetation Index) -- Fire -- Village Demographic and Spatial Planning -- Access and Traditional Land-Use Data -- Index-Based GIS Modeling -- Data Analysis -- Ecological Factors -- Peat Soil Depth Scoring -- Land Cover and NDVI Scoring -- Disturbance Factors -- Fire Density Scoring -- Access Density Scoring -- Result and Discussion -- Suitability Map -- Sensitivity Analysis -- Overall Conclusion and Future Directions -- Conclusion and Management Implications -- References -- Cultural Ecosystem Services in Agroforests -- Introduction. Cultural Ecosystem Service Definition and History -- Assessing CES -- Cultural Ecosystem Services in Agroforests -- Case Studies -- Lacandon Maya Milpa: Chiapas, Mexico -- Description and History -- Cultural Ecosystem Services -- Socioecological Changes -- VAC Homegardens: Vietnam -- Description and History -- Cultural Ecosystem Services -- Socioecological Changes -- Rubber Homegardens: Brazil -- Description and History -- Cultural Ecosystem Services -- Socioecological Changes -- Tree-Vine Vineyards: Portugal -- Description and History -- Cultural Ecosystem Services -- Socioecological Changes -- Conclusions and Recommendations -- Common Themes -- Framework for Assessing Cultural Ecosystem Services in Agroforests -- The Future of Cultural Ecosystem Services in Agroforests -- References -- Carbon Sequestration Potential of Agroforestry Systems in India: A Synthesis -- Introduction -- Agroforestry: A Cardinal Feature of the Indian Landscape -- Area Under Agroforestry in India -- Agroforestry for Climate Change Mitigation and Adaptation -- Vegetation Carbon Sequestration Potential of AFS in India -- Agroforestry Systems and the Nature of Components -- Ecoregions and Site Quality -- Species and Stand Age -- Silvicultural Management -- Soil Carbon Sequestration -- Measurement

and Estimation of C Sequestration in Agroforestry Systems --
Concluding Remarks -- References -- Ecosystem Services
from Agroforestry Systems in Australia -- Forests and Soils in Australia
-- Ecosystem Services -- Agroforestry Solutions for Natural
and Anthropogenic Issues -- Permaculture/Home Gardens -- Grazing
Systems and Shelterbelts in Australia -- Multipurpose Riparian Forests
on Farms -- Salinity -- Carbon -- Biodiversity Enhancement on Farms
-- Socioeconomic/Policy Challenges -- Conclusions -- References.
Agroforestry Integration and Multifunctional Landscape Planning
for Enhanced Ecosystem Services from Treed Habitats
