# Contents

## Part I  Introduction

1 Introduction to Silviculture in the Tropics ............................. 3  
   Sven Günter

## Part II  Forest Users: Past, Present, Future

2 Forest Users: Past, Present, Future (Review) .......................... 13  
   Rajan Kotru and Sudhirender Sharma

3 Participatory Forest Management and Sustainable Development  
   Outcomes in the Subtropical Himalayas: A Sequel of Environment,  
   Economy and Equity through Social Empowerment  ..................... 35  
   Rajan Kotru

4 Operationalizing High-Conservation Values in Tropical  
   Silviculture Through Access and Benefit Sharing ...................... 43  
   Konrad Uebelhör and Andreas Drews

5 Forest Concessions in Peru .................................................. 53  
   Christian Großheim

## Part III  New Aspects in Tropical Silviculture

6 New Aspects in Tropical Silviculture (Review)  ......................... 63  
   Michael Weber
7 Biodiversity Conservation in Tropical Forests Managed for Timber ......................................................... 91
Francis E. Putz

8 Management of Forest Genetic Resources .......................... 103
Reiner Finkeldey

9 Managing Short Rotation Tropical Plantations as Sustainable Source of Bioenergy ....................................... 109
Jonathan C. Onyekwelu

10 The Silviculture of Tropical Nonwood Forest Products, Between Farming and Forestry .................................... 119
Paul Vantomme

11 Modelling Forest Growth and Finance: Often Disregarded Tools in Tropical Land Management .......................... 129
Thomas Knoke and Andreas Huth

Part IV Silviculture in (Semi-)Natural Humid Forests

12 The Ecology, Silviculture, and Use of Tropical Wet Forests with Special Emphasis on Timber Rich Types (Review) ............ 145
Mark S. Ashton and Jefferson S. Hall

13 Sustainable Forest Management for Mixed-Dipterocarp Forests: A Case Study in Southwest Sri Lanka .............................. 193
Mark S. Ashton, B.M.P. Singhakumara, Nimal Gunatilleke, and Savitri Gunatilleke

14 Natural Forest Silviculture for Central African Meliaceae ........ 215
Jefferson S. Hall

15 Managing Natural Populations of Big-Leaf Mahogany ............ 227
James Grogan, Marielos Peña-Claros, and Sven Günter

Part V Silviculture in (Semi-)Natural Dry Forests

16 Silviculture in Seasonally Dry Tropical Forests (Review) ........ 239
Todd S. Fredericksen

17 Dry Forests of Ethiopia and Their Silviculture ....................... 261
Mulugeta Lemenih and Frans Bongers
18 Silviculture of Dry Deciduous Forests, India .......................... 273
   J.S. Singh and K.D. Singh

19 Silviculture of Tropical Dry Forests: Bolivian Case Study ....... 285
   Bonifacio Mostacedo

Part VI Silviculture in Azonal (Semi-)Natural Forests

20 Mangroves and Mountains: Silviculture at Ecological Margins
   (Review) ................................................................. 299
   Sven Günter

21 Natural Regeneration and Management of Podocarpus falcatus
   (Thunb.) Mirb. in the Afromontane Forests of Ethiopia .......... 325
   Demel Teketay

22 Mangroves: Sustainable Management in Bangladesh ............. 339
   Peter Saenger

Part VII Silviculture in Secondary Forests

23 Silviculture in Secondary Forests (Review) ......................... 351
   Shadrach Olufemi Akindele and Jonathan C. Onyekwelu

24 Secondary Forests and Fuel Wood Utilization in Africa .......... 369
   Joseph Adeola Fuwape

25 Rehabilitation of Degraded Natural Forests by Enrichment
   Planting of Four Native Species in Ethiopian Highlands ....... 377
   Girma Abebe Birru, Hany El Kateb, and Reinhard Mosandl

26 Sustainable Timber Harvesting in Fragmented Secondary
   Forests in Paraguay? An Inquiry Through Modelling ............. 387
   Ludwig Kammesheidt, Sandro Pütz, and Andreas Huth

Part VIII Planted Forests: Silviculture in Plantations

27 Plantation Forestry (Review) ........................................ 399
   Jonathan C. Onyekwelu, Bernd Stimm, and Julian Evans
28 Sustainability of Site Productivity in Tropical Forest Plantations:  
Case Study of *Gmelina arborea* Plantations in Tropical  
Rainforest, Nigeria ...................................................... 455  
Jonathan C. Onyekwelu

29 *Eucalyptus grandis* and Other Important *Eucalyptus* Species:  
A Case Study from Sri Lanka ........................................ 463  
T. Sivananthawerl and Ralph Mitlöhner

Part IX Planted Forests: Silvicultural Aspects for Restoration  
and Reforestation

30 Plantations for Protective Purposes and Rehabilitation (Review) .. 475  
Michael Weber, Bernd Stimm, and Reinhard Mosandl

31 Case Study Desertification: Central-Northern Namibia ............. 491  
Mary Seely and Patrik Klintenberg

32 Mixed Plantations of Native Trees on Abandoned Pastures:  
Restoring Productivity, Ecosystem Properties, and Services  
on a Humid Tropical Site ............................................. 501  
Florencia Montagnini and Daniel Piotto

33 Reforestation and Natural Succession as Tools for Restoration  
on Abandoned Pastures in the Andes of South Ecuador ............. 513  
Nikolay Aguirre, Ximena Palomeque, Michael Weber, Bernd Stimm, and  
Sven Günter

Part X Conclusions

34 Five Recommendations to Improve Tropical Silviculture .......... 527  
Sven Günter, Michael Weber, Bernd Stimm, and Reinhard Mosandl

Index ................................................................. 547
Silviculture in the Tropics
Günter, S.; Weber, M.; Stimm, B.; Mosandl, R. (Eds.)
2011, XVI, 560 p., Hardcover
ISBN: 978-3-642-19985-1