

Teknik Dan Sistem Silvikultur Documents

"Program summarizes information on 2900 timbers-yielding species and has been extended with a search facility for wood properties and an interactive wood-anatomy identification system". . An assessment is made of dipterocarp mycorrhizal specificity and a discussion is presented on how mycorrhizal specificity may have contributed to speciation in Dipterocarpaceae. Other aspects touched upon include work on a non-ectomycorrhizal association of a fungus with dipterocarp roots, proposed to be called amphymycorrhizae. Also discussed are the effects of physical influences upon dipterocarp ectomycorrhizae, demonstrating the negative impact of high topsoil temperatures and lack of oxygen upon functioning and survival of dipterocarp ectomycorrhizae. Furthermore how dipterocarp ectomycorrhizae influence regeneration of Dipterocarpaceae through enhanced survival near the mother trees. At the end of the book practical recommendations are given for optimalization of management of mixed dipterocarp forests based upon the conclusions reached in the research, including the use of correct fungus-dipterocarp combinations for different sites.

A concise, descriptive overview of mangrove plants, with emphasis on individual species.

Since 1946, FAO regularly monitors the world's forests through Global Forest Resources Assessments. The mandate to carry out these assessments stems both from the basic statutes of FAO and the Committee on Forestry (COFO). Divided into nine chapters, the publication covers the following topics: the extent of forest resources; biological diversity; forest health and vitality; productive functions of forest resources; protective functions of forest resources; socio-economic functions; progress towards sustainable forest management.

This book presents a technical review of ecological and life history information on a range of Bornean wildlife species, aimed at identifying what makes these species sensitive to timber harvesting practices and associated impacts. It addresses three audiences: 1) those involved in assessing and regulating timber harvesting activities in Southeast Asia, 2) those involved in trying to achieve conservation goals in the region, and 3) those undertaking research to improve multipurpose forest management. This book shows that forest management can be improved in many simple ways to allow timber extraction and wildlife conservation to be more compatible than under current practices. The recommendations can also be valuable to the many governmental and non-governmental organisations promoting sustainable forest management and eco-labelling. Finally, it identifies a number of shortcomings and gaps in knowledge, which the hope can interest the scientific community and promote further research. This review is, an important scientific step toward understanding and improving sustainable forestry practices for long-term biodiversity conservation. Even in the short term, however, significant improvements can be made to improve both conservation and the efficiency of forest management, and there is no need to delay action due to a perceived lack of information. In the longer term it is expected that the recommendations from this review will be implemented, and that further research will continue to help foster an acceptable balance among the choices needed to maintain healthy wildlife populations and biodiversity in a productive forest estate.

Land Restoration: Reclaiming Landscapes for a Sustainable Future provides a holistic overview of land degradation and restoration in that it addresses the issue of land restoration from the scientific and practical development points of view. Furthermore, the breadth of chapter topics and contributors cover the topic and a wealth of connected issues, such as security, development, and environmental issues. The use of graphics and extensive references to case studies also make the work accessible and encourage it to be used for reference, but also in active field-work planning. Land Restoration: Reclaiming Landscapes for a Sustainable Future brings together practitioners from NGOs, academia, governments, and the United Nations Convention to Combat Desertification (UNCCD) to exchange lessons to enrich the academic understanding of these issues and the solution sets available. Provides accessible information about the science behind land degradation and restoration for those who do not directly engage with the science allowing full access to the issue at hand. Includes practical on-the-ground examples garnered from diverse areas, such as the Sahel, Southeast Asia, and the U.S.A. Provides practical tools for designing and implementing restoration/re-greening processes.

This country profile reviews the drivers of deforestation and forest degradation in Indonesia, sets out the institutional, political and economic environment within which REDD+ is being implemented in Indonesia, and documents the process of national REDD+ policy development during the period 2007 – early 2012. While Indonesia is committed at the national and international level to addressing climate change through the forestry sector, there are clearly contextual challenges that need to be addressed to create the enabling conditions for REDD+. Some of the major issues include inconsistent legal frameworks, sectoral focus, unclear tenure, consequences of decentralisation, and weak local governance. Despite these challenges, however, REDD+ opens up an opportunity for improvements in forest governance and, more broadly, in land use governance. More democratic political-economic processes in general, greater freedom of civil society and the press, and heightened awareness of environmental issues can help build support and solidify policies in this direction.

This book comprehensively describes essential research and projects on climate change and biodiversity. Moreover, it includes contributions on how to promote the climate agenda and biodiversity conservation at the local level. Climate change as a whole and global warming in particular are known to have a negative impact on biodiversity in three main ways. Firstly, increases in temperatures are detrimental to a number of organisms, especially those in sensitive habitats such as coral reefs and rainforests. Secondly, the pressures posed by a changing climate may lead to sets of responses in areas as varied as phenology, range and physiology of living organisms, often leading to changes in their lifecycles (especially but not only in reproduction), losses in productivity or even death. In some cases, the very survival of very sensitive species may be endangered. Thirdly, the impacts of climate change on biodiversity will be felt in the short term with regard to some species and ecosystems, but also in the medium and long term in many biomes. Indeed, if left unchecked, some of these impacts may be irreversible. Many individual governments, financial institutes and international donors are currently spending billions of dollars on projects addressing climate change and biodiversity, but with little coordination. Quite often, the emphasis is on adaptation efforts, with little emphasis on the connections between physio-ecological changes and the lifecycles and metabolisms of fauna and flora, or the influence of poor governance on biodiversity. As such, there is a recognized need to not only better understand the impacts of climate change on biodiversity, but to also identify, test and implement measures aimed at managing the many risks that climate change poses to fauna, flora and micro-organisms. In particular, the question of how to restore and protect ecosystems from the impact of climate change also has to be urgently addressed. This book was written to address this need. The respective papers explore matters related to the use of an

ecosystem-based approach to increase local adaptation capacity, consider the significance of a protected areas network in preserving biodiversity in a changing northern European climate, and assess the impacts of climate change on specific species, including wild terrestrial animals. The book also presents a variety of case studies such as the Yellowstone to Yukon Conservation Initiative, the effects of climate change on the biodiversity of Aleppo pine forest in Senalba (Algeria), climate change and biodiversity response in the Niger Delta region, and the effects of forest fires on the biodiversity and the soil characteristics of tropical peatlands in Indonesia. This is a truly interdisciplinary publication, and will benefit all scholars, social movements, practitioners and members of governmental agencies engaged in research and/or executing projects on climate change and biodiversity around the world.

Van Laar and Akça's popular text book, *Forest Mensuration*, was first published in 1997. Like that first edition, this modern update is based on extensive research, teaching and practical experience in both Europe, and the tropics and subtropics. However, it has also been extensively revised, and now includes chapters on remote sensing and the application of aerial photographs and satellite imagery. The book assumes no advanced knowledge of statistical methods, and combines practical techniques with important historical and disciplinary context. The result is a strong balance between a handbook and a valuable reference.

Based on thorough bibliographic research of a highly controversial topic, this report, jointly sponsored by IUCN, UNEP and WWF, shows the potential of plantations, while also exposing problems which may arise if massive tree plantations proposed for the tropics are to be established. Major issues covered include; species selection, soil and water cycle effects, fires, pests and diseases, effects on biodiversity, carbon dioxide fixation, land tenure and social issues, and plantation economics. Some broad conclusions and guidelines to be considered when establishing large scale plantations in the tropics complete this study.

Ekosistem mangrove merupakan salah satu jenis sumber daya alam yang menjadi target konservasi, dari berbagai potensi sumber daya alam yang ada. Berdasarkan hasil penelusuran literatur, bermacam-macam karakter ekologi mangrove pada berbagai negara dan daerah pantai di Indonesia sekarang telah banyak dikaji oleh para ahli. Namun demikian ternyata aspek ekologi mangrove pada pulau-pulau kecil, sampai saat ini belum banyak diungkap. Buku ini berisi 11 (sebelas) bagian pembahasan, yang di antaranya membahas tentang Ekosistem Mangrove, Fungsi Ekosistem Mangrove, Distribusi dan Komposisi Mangrove, Struktur Vegetasi Tegakan Mangrove, Zonasi Mangrove, Regenerasi Vegetasi Mangrove, Faktor Lingkungan Vegetasi Mangrove, Karakteristik Ekosistem Mangrove di Pulau Kaledupa Provinsi Sulawesi Tenggara, Karakteristik Ekosistem Mangrove di Pulau Derawa Provinsi Sulawesi Tenggara, Karakteristik Ekosistem Mangrove di Pulau Hoga Provinsi Sulawesi Tenggara, dan Karakteristik Ekosistem Mangrove di Taman Nasional Wakatobi Provinsi Sulawesi Tenggara.

Look out for David Owen's next book, *Where the Water Goes*. The Conundrum is a mind-changing manifesto about the environment, efficiency and the real path to sustainability. Hybrid cars, fast trains, compact florescent light bulbs, solar panels, carbon offsets: Everything you've been told about living green is wrong. The quest for a breakthrough battery or a 100 mpg car are dangerous fantasies. We are consumers, and we like to consume green and efficiently. But David Owen argues that our best intentions are still at cross purposes to our true goal - living sustainably and caring for our environment and the future of the planet. Efficiency, once considered the holy grail of our environmental problems, turns out to be part of the problem. Efforts to improve efficiency and increase sustainable development only exacerbate the problems they are meant to solve, more than negating the environmental gains. We have little trouble turning increases in efficiency into increases in consumption. David Owen's *The Conundrum* is an elegant nonfiction narrative filled with fascinating information and anecdotes takes you through the history of energy and the quest for efficiency. This is a book about the environment that will change how you look at the world. We should not be waiting for some geniuses to invent our way out of the energy and economic crisis we're in. We already have the technology and knowledge we need to live sustainably. But will we do it? That is the conundrum.

This study is one in a series of activities undertaken by CIFOR to reach a better understanding of the impact of commercialisation on forest resources and what factors influence the market demand for forest products. For example, two international workshops were organized by CIFOR in 1995 and another the following year to analyse key research issues in the field of NTFP development. These workshops recognised that the process of NTFP commercialisation interacts with people's welfare, forest management, tenure and control of resources, and forest structure and function (through ecological processes). Earlier review and analysis had generated a number of hypotheses, theories and conclusions related to the effects of commercialisation. Forest and resource tenure are likely to both affect the way a resource is managed and utilised, and be affected by changes in value due to commercialisation. Many authors have suggested that NTFP harvesting will be less damaging to biodiversity and other environmental values than management for timber. Others suggest that market pressures are likely to lead to the decline and eventual disappearance of valuable products and to severe impacts on the ecosystem. While there is a growing understanding (and acceptance) of the economic importance of forest products, especially for the poor, the potential impact of NTFP commercialisation needs to be better understood. A recommendation from the workshops was to undertake a thorough overview of the available literature to synthesise the key lessons about these areas of interaction. Such a review would critically examine the available information and analyses and identify key research areas needing further attention.

Distribution of tropical peat; Formation of peats; The main characteristics of tropical peats; Classification; Agricultural potential; Reclamation problems; Agricultural management; Energy use of peat; Environmental aspects of reclamation.

Management decisions on appropriate practices and policies regarding tropical forests often need to be made in spite of innumerable uncertainties and complexities. Among the uncertainties are the lack of formalization of lessons learned regarding the impacts of previous programs and projects. Beyond the challenges of generating the proper information on these impacts, there are other difficulties that relate with how to socialize the information and knowledge gained so that change is transformational and enduring. The main complexities lie in understanding the interactions of social-ecological systems at different scales and how they varied through time in response to policy and other processes. This volume is part of a broad research effort to develop an independent evaluation of certification impacts with stakeholder input, which focuses on FSC certification of natural tropical forests. More specifically, the evaluation program aims at building the evidence base of the empirical biophysical, social, economic, and policy effects that FSC certification of natural forest has had in Indonesia as well as in other tropical countries. The contents of this volume highlight the opportunities and constraints that those responsible for managing natural forests for timber production have experienced in their efforts to improve

their practices. As such, the goal of the studies in this volume is to serve as the foundation to design an impact evaluation framework of the impacts of FSC certification of natural forests in a participatory manner with interested parties, from institutions and organizations, to communities and individuals.

Reduced Impact Logging Guidelines for IndonesiaCIFOR

This college-level textbook summarizes the state of current knowledge in the rapidly expanding field of agroforestry. The book, organized into 25 chapters in six sections, reviews the developments in agroforestry during the past 15 years and describes the accomplishments in the application of biophysical (plant and soil related) and socioeconomic sciences to agroforestry. Although the major focus of the book is on the tropics, where the practice and potential of agroforestry are particularly promising, the developments in temperate zone agroforestry are also discussed. This text is recommended for students, teachers, and researchers in agroforestry, farming systems, and tropical land use.

Forest Management and Planning, Second Edition, addresses contemporary forest management planning issues, providing a concise, focused resource for those in forest management. The book is intermixed with chapters that concentrate on quantitative subjects, such as economics and linear programming, and qualitative chapters that provide discussions of important aspects of natural resource management, such as sustainability. Expanded coverage includes a case study of a closed canopy, uneven-aged forest, new forest plans from South America and Oceania, and a new chapter on scenario planning and climate change adaptation. Helps students and early career forest managers understand the problems facing professionals in the field today Designed to support land managers as they make complex decisions on the ecological, economic, and social impacts of forest and natural resources Presents updated, real-life examples that are illustrated both mathematically and graphically Includes a new chapter on scenario planning and climate change adaptation Incorporates the newest research and forest certification standards Offers access to a companion website with updated solutions, geographic databases, and illustrations

Although the only publication with a realistic claim to the title "The plant diversity of Malesia" is Flora Malesiana itself, we have hesitatingly chosen this title for the present proceedings volume. Past, present and future work on the Flora Malesiana project was the subject of a successful symposium held in August 1989. This book contains only a selection of the papers presented at that meeting, yet it covers a much greater diversity of themes than just the inventory of botanical diversity. It even goes beyond the boundaries of the vast Flora Malesiana region in several of its chapters. The role of the founder of the Flora Malesiana Project, Professor C.G.G.J. van Steenis, repeatedly recurs in several chapters; not only as director of and contributor to the project, but also as a pioneer in the fields of Malesian vegetation, conservation and biogeography, and as an enlightened systematist whose ideas and practical recommendations for taxonomic delimitation still largely apply. Botanical information made available in regional and local floras is of vital importance for applications such as the exploitation of natural forests on a sustainable yield basis, for establishing gene banks for the benefit of agriculture, forestry and horticulture, and not in the least for nature conservation. Several chapters are devoted to these themes. Floristic studies are also at the basis of the biogeographical essays and vegetation studies included in this book.

Tropical peatlands are found mostly in South East Asia, but also in Africa and in Central and South America. They and peat-swamp forests store large amounts of carbon and their destruction, particularly through the development of plantations for oil palm and other forms of agriculture, releases large quantities of greenhouse gases which contribute to climate change. They are also complex and vulnerable ecosystems, home to great biodiversity and a number of endangered species such as the orang utan. The aim of this book is to introduce this little known but important and vulnerable ecosystem in a way that explains its long standing interaction with the global carbon cycle and how it is being destroyed by deforestation and inappropriate development. The authors describe the origin and formation of peat in the tropics, its current location, extent and amount of carbon stored in it, its biodiversity and natural resource functions and key ecological functions and processes. Appropriate hydrology is the key to the development and maintenance of peatlands and the unique aspects of tropical peatland water supply and management are also explored. In the same vein the nutrient dynamics and budgets of this ecosystem are explained in order to show how complex habitats can be maintained mainly by rainwater containing very low concentrations of essential chemical elements. Past and present impacts on tropical peatlands in SE Asia are discussed and the need for restoration and wise use highlighted. Finally, projections are made about the future of this ecosystem as a result of continuing human impacts and climate change.

We live in an increasingly fragmented world, with islands of natural habitat cast adrift in a sea of cleared, burned, logged, polluted, and otherwise altered lands. Nowhere are fragmentation and its devastating effects more evident than in the tropical forests. By the year 2000, more than half of these forests will have been cut, causing increased soil erosion, watershed destabilization, climate degradation, and extinction of as many as 600,000 species. Tropical Forest Remnants provides the best information available to help us understand, manage, and conserve the remaining fragments. Covering geographic areas from Southeast Asia and Australia to Madagascar and the New World, this volume summarizes what is known about the ecology, management, restoration, socioeconomics, and conservation of fragmented forests. Thirty-three papers present results of recent research as well as updates from decades-long projects in progress. Two final chapters synthesize the state of research on tropical forest fragmentation and identify key priorities for future work.

This book covers the sustainable tropical agriculture, sustainable tropical animal production and health, sustainable tropical forestry, socio-economic dimension in tropical agriculture and innovative and emerging food technology and management as chapters in this book. The common challenging problems in plant, animal, and fisheries production in the tropic are climate change, inefficiency production system, low technological innovation, decreasing environment quality, and the outbreak risk of pest and diseases.

The principles and practices for forest harvesting in Indonesia (2000) have been developed to provide a uniform set of minimum standards for logging practices in the production and limited production forests in Indonesia. They provide the standard for WHAT is involved in planning and implementing logging activities in natural forest and WHY certain operations should be undertaken. The Reduced Impact Logging (RIL) guidelines for Indonesia provides the mechanism for HOW the standards will be applied in the field or "how to do the work". Tractor skidding—mostly by crawlers and skidders—is the most common system (ca. 90%) used in the Indonesian Selective Cutting and Planting (TPTI) System. Considering the fact that familiarity with more environmentally friendly logging system (such as cable and aerial logging) is still lacking in Indonesia, often due to cost, etc., RIL guidelines focus on ground-based harvesting which can be implemented in the lowland and hill forests in Indonesia. Target groups of this guidelines are production supervisors, RIL planners, block inspectors, road network planners, road

construction supervisors, machine operators, chainsaw operators, tractor operators and their assistants.

Forest biology. Forest management. Forest products.

Veteran mediator Barbara Gray presents an innovative approach to successfully mediating multi-party disputes. A superb resource for managers, public officials and others working to solve complex problems such as labor disputes, disposal of toxic wastes, racial integration, and the use of biotechnology.

Amphibian Conservation is the fourth in the series of Synopses of Conservation Evidence, linked to the online resource www.ConservationEvidence.com. This synopsis is part of the Conservation Evidence project and provides a useful resource for conservationists. It forms part of a series designed to promote a more evidence-based approach to biodiversity conservation. Others in the series include bee, bird, farmland and bat conservation and many others are in preparation. Approximately 32% of the 7,164+ amphibian species are currently threatened with extinction and at least 43% of species are declining. Despite this, until recently amphibians and their conservation had received little attention. Although work is now being carried out to conserve many species, often it is not adequately documented. This book brings together and summarises the available scientific evidence and experience relevant to the practical conservation of amphibians. The authors consulted an international group of amphibian experts and conservationists to produce a thorough summary of what is known, or not known, about the effectiveness of amphibian conservation actions across the world. "The book is packed with literature summaries and citations; a veritable information goldmine for graduate students and researchers. It also admirably provides decision makers with a well-researched resource of proven interventions that can be employed to stem/reverse the decline of amphibian populations." -John G Palis, Bulletin of the Chicago Herpetological Society

The book provides an up-to-date account of mangrove forests from Asia, together with restoration techniques, and the management requirements of these ecosystems to ensure their sustainability and conservation. All aspects of mangroves and their conservation are critically re-examined. The book is divided into three sections presenting the distribution and status of mangrove ecosystems in Asia, the challenges they are facing, their issues and opportunities, and the management strategies for their conservation.

The first edition of Tropical Rain Forests: an Ecological and Biogeographical Comparison exploded the myth of 'the rain forest' as a single, uniform entity. In reality, the major tropical rain forest regions, in tropical America, Africa, Southeast Asia, Madagascar, and New Guinea, have as many differences as similarities, as a result of their isolation from each other during the evolution of their floras and faunas. This new edition reinforces this message with new examples from recent and on-going research. After an introduction to the environments and geological histories of the major rain forest regions, subsequent chapters focus on plants, primates, carnivores and plant-eaters, birds, fruit bats and gliding animals, and insects, with an emphasis on the ecological and biogeographical differences between regions. This is followed by a new chapter on the unique tropical rain forests of oceanic islands. The final chapter, which has been completely rewritten, deals with the impacts of people on tropical rain forests and discusses possible conservation strategies that take into account the differences highlighted in the previous chapters. This exciting and very readable book, illustrated throughout with color photographs, will be invaluable reading for undergraduate students in a wide range of courses as well as an authoritative reference for graduate and professional ecologists, conservationists, and interested amateurs.

Decentralization is sweeping the world and having dramatic and far-reaching impacts on resource management and livelihoods, particularly in forestry. This book is the most up-to-date examination of the themes, experiences and lessons learned from decentralization worldwide. Drawing on research and support from all of the major international forestry and conservation organizations, the book provides a balanced account that covers the impact of decentralization on resource management worldwide, and provides comparative global insights with wide implications for policy, management, conservation and resource use and planning. Topics covered include forest governance in federal systems, democratic decentralization of forests and natural resources, paths and pitfalls in decentralization and biodiversity conservation in decentralized forests. The book provides in-depth case studies of decentralization from Bolivia, Ghana, Indonesia, Russia, Scotland, Switzerland, Uganda and the US, as well as highlights from federal countries including Australia, Brazil, Canada, India and Malaysia. It also addresses the critical links between the state, forests, communities and power relations in a range of regions and circumstances, and provides case examples of how decentralization has been viewed and experienced by communities in Guatemala, Philippines and Zimbabwe. The Politics of Decentralization is state-of-the-art coverage of decentralization and is essential for practitioners, academics and policy-makers across forestry and the full spectrum of natural resource management.

Integration of peatlands into land-use monitoring systems is central to the conservation of their carbon storage – be they conserved, degraded or restored. Healthy peatlands mitigate climate change, enhance adaptive capacity and maintain ecosystem services and biodiversity. Albeit peatlands are starting to receive a high level of attention and the scientific basis for their monitoring has quickly developed over the last few years. Robust and practical approaches and tools for developing and integrating peatland-monitoring into national monitoring and reporting frameworks is an important opportunity for countries to limit global warming to 2 °C.

Originally published in 1989, Karst Geomorphology and Hydrology became the leading textbook on karst studies. This new textbook has been substantially revised and updated. The first half of the book is a systematic presentation of the dissolution kinetics, chemical equilibria and physical flow laws relating to karst environments. It includes details of the many environmental factors that complicate their chemical evolution, with a critique of measurement of karst erosion rates. The second half of the book looks at the classification system for cave systems and the influence of climate and climatic change on karst development. The book ends with chapters on karst water resource management and a look at the important issues of environmental management, including environmental impact assessment, environmental rehabilitation, tourism impacts and conservation values. Practical application of karst studies are explained throughout the text. "This new edition strengthens the book's position as the essential reference in the field. Karst geoscientists will not dare to stray beyond arm's reach of this volume. It is certain to remain the professional standard for many decades." Journal of Cave and Karst Studies, August 2007

Forest Biometrics presents the methods of mathematical statistics and biometrics that are significant to forestry. This book explores other fields related to forestry, which are explained with the help of a large number of practical examples. Organized into 25 chapters, this book starts with an overview of the variety of data that play a significant role in forest management, including the

age of trees, the damage caused by storms, the fluctuation of timber prices, bark beetle infestation, and timber volume. This text then examines the factors that are responsible for a random distribution of the values in biological experimentation. Other chapters consider the important advantages of sample surveys compared to complete enumerations, include cheaper samples, wider applicability, quick results, and greater accuracy. The final chapter deals with the factors to be considered in determining the best time for harvesting of timber. This book is a valuable resource for students, research project leaders, and practical workers.

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