Monitoring soil carbon

Soil carbon monitoring using surveys and modelling: general description and application in the United Republic of Tanzania. R. Mäkipää, J. Liski, S. Guendehou, R. Malimbwi & A. Kaaya. 2012. FAO Forestry Paper No. 168. Rome, FAO. ISBN 978-92-5-107271-4.

Forest soils constitute a large pool of carbon and the release of carbon from this pool through deforestation or forest degradation may significantly increase the concentration of greenhouse gases in the atmosphere. Reliable estimates of soil organic carbon stock and stock changes are needed for REDD (reducing emissions from deforestation and forest degradation in developing countries) and for reporting on greenhouse gas emissions under the United Nations Framework Convention on Climate Change.

This publication describes the application of survey-based and modelling-based methods for monitoring soil organic carbon stock and its changes on a national scale. It presents a design of the first inventory of soil organic carbon, including a discussion on factors that affect the reliability of carbon stock estimates; and a design of a modelling-based approach, including links to national forest inventory data and a discussion on alternative soil organic carbon models. Both approaches can provide information on soil carbon changes for national greenhouse gas inventories.

Also available online: www.fao.org/docrep/015/i2793e/i2793e00.htm.

Remote sensing for global forest change

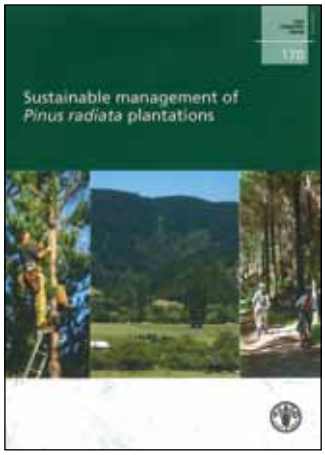
Global forest land-use change 1990–2005. FAO & European Commission Joint Research Centre. 2012, written by E.J. Lindquist, R. D'Annunzio, A. Gerrand, K. MacDicken, F. Achard, R. Beuchle, A. Brink, H.D. Eva, P. Mayaux, J. San-Miguel-Ayanz & H-J. Stibig. FAO Forestry Paper No. 169. Rome, FAO. ISBN 978-92-5-107399-5.

This report presents the key findings on forest land use and land-use change between 1990 and 2005 from FAO's 2010 Global Forest Resources Assessment Remote Sensing Survey. It is the first report of its kind to present systematic estimates of global forest land use and change.

The Remote Sensing Survey used remote sensing data to obtain globally consistent estimates of forest area and changes in tree cover and forest land use between 1990 and 2005. It found that there was a net decrease in global forest area between 1990 and 2005, with the highest net loss in South America. While forest area increased over the assessment period in the boreal, temperate and subtropical climatic domains, it decreased by an average of 6.8 million hectares annually in the tropics. The survey estimated the total area of the world's forests in 2005 at 3.8 billion hectares, or 30 percent of the global land area.

This report is the result of collaborative work by staff at FAO and the European Commission Joint Research Centre, with inputs from technical experts from more than 100 countries. Many of these contributors now constitute a valuable global network of forest remote sensing and land-use expertise.

Also available online: www.fao.org/docrep/017/i3110e/i3110e00.htm.



Consolidating knowledge on an important species

Sustainable management of Pinus radiata *plantations.* D. Mead. 2013. FAO Forestry Paper No. 170. Rome, FAO. ISBN 978-92-5-107634-7.

Pinus radiata (radiata pine) is a versatile, fast-growing, medium-density softwood that is suitable for a wide range of end-uses. Its silviculture is highly developed and is built on a firm foundation of over a century of research, observation and practice.

Radiata pine is often considered a model for growers of other plantation species. This book explores current knowledge of, and experiences with, radiata pine plantation management and examines its long-term sustainability.

Radiata pine management needs to integrate the biological aspects of tree-growing with socio-economics, management objectives, practical considerations and other constraints and opportunities. Although stands of radiata pine may appear simple, they are actually complex ecosystems because they contain large, long-lived trees that change dramatically over time and interact in changing ways with the environment and other organisms.

The focus of this book is on the principles and practices of growing radiata pine sustainably. It also looks ahead to emerging challenges facing radiata pine plantation management, such as the effects of climate change, new diseases and other threats, and meeting changing product needs and societal demands.

Also available onlline: www.fao.org/docrep/018/i3274e/i3274e00.htm.

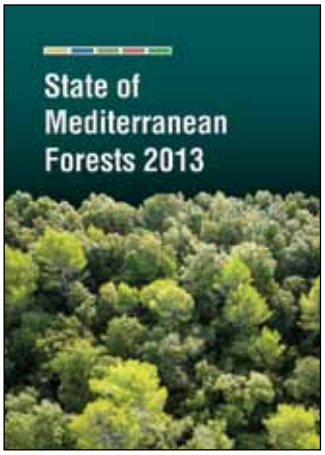
Insects on the menu

Edible insects: future prospects for food and feed security. FAO and Wageningen University and Research Centre. 2012, written by A. van Huis, J. Van Itterbeeck, H. Klunder, E. Mertens, A. Halloran, G. Muir & P. Vantomme. FAO Forestry Paper No. 171. Rome, FAO. ISBN 978-92-5-107595-1.

Edible insects have always been a part of human diets, but in some societies there remains a degree of disdain and disgust for their consumption. Although the majority of consumed insects are gathered in forest habitats, mass-rearing systems are being developed in many countries. Insects offer a significant opportunity to merge traditional knowledge and modern science to improve human food security worldwide.

This publication describes the contribution of insects to food security and examines future prospects for raising insects at a commercial scale to improve food and feed production, diversify diets, and support livelihoods in both developing and developed countries. It shows the many traditional and potential new uses of insects for direct human consumption and the opportunities for and constraints to farming them for food and feed. It examines the body of research on issues such as insect nutrition and food safety, the use of insects as animal feed, and the processing and preservation of insects and their products. It highlights the need to develop a regulatory framework to govern the use of insects for food security. And it presents case studies and examples from around the world.

Also available online: www.fao.org/docrep/018/i3253e/i3253e00.htm.



About Mediterranean forests

State of Mediterranean forests 2013. FAO & Plan Bleu. 2013. Rome, FAO.

Forest ecosystems and other wooded lands are important components of landscapes in the Mediterranean region, contributing significantly to rural development, poverty alleviation and food security. Forests and other wooded lands in the Mediterranean are sources of wood, cork, energy, food and incomes, and they provide important ecosystem services such as biodiversity conservation, soil and water protection, recreation and carbon storage.

This first report on the state of Mediterranean forests pays special attention to the vulnerability of Mediterranean forests to climate change and changes in regional demographics and lifestyles. It highlights, for example, the relationship in some parts of the region between depopulation and increased forest fires; and, in other parts, the relationship between population growth and increased deforestation.

The report reviews the goods and ecosystem and social services provided by Mediterranean forests, with special sections on cork oak forests and stone pine forests. Other sections focus on urban and peri-urban forestry; and legal, policy and institutional frameworks in the region. The report notes the urgent need for better information and tools to monitor and communicate forest changes to stakeholders across the region. In recognition of this gap, FAO intends to publish reports on the state of Mediterranean forests every five years.

Also available online: www.fao.org/docrep/017/i3226e/i3226e.pdf.

Forest farmer cooperatives in China

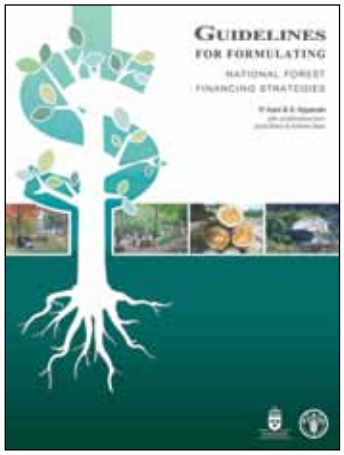
Success cases and good practices in forest farmer cooperative organizations in China. L. Wang. 2012. Rome, FAO.

To increase forest farmers' income and promote the rapid development of collective forest areas, China has being reforming its collective forest tenure system since 2003 by clarifying property rights, reducing taxes, liberalizing business operations, and regulating the transfer of rights over forest land.

Since they have been granted use rights over forest land and disposal rights over forest, farmers have been highly motivated to engage in forest production. However, the allocation of forests to individual households has also resulted in forest land fragmentation and small-scale management, which have hampered the access of individual farmers to, for example, technical services, forest fire prevention measures, pest and disease control and forest road construction. Collective management is an effective way of solving these problems. Supported by the government, various forms of forest farmer cooperative organizations (FFCOs) have been established and have increased rapidly in number.

This report collects and assesses good practices from FFCOs in China. It presents case studies on FFCOs of different types and analyses their successful experiences and good practices and their role in poverty reduction.

Also available online: www.fao.org/docrep/017/ap470e/ap470e00.pdf.

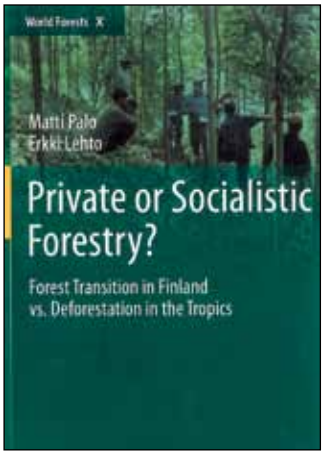


Boosting funding for the forest sector

Guidelines for formulating national forest financing strategies. P. Kant & S. Appanah, with contributions from J. Siteur & A. Steel. 2013. RAP Publication 2013/01. Bangkok, FAO Regional Office for Asia and the Pacific. ISBN 978-92-5-107476-3.

One of the major constraints to sustainable forest management is the lack of finance available to government agencies. This publication outlines the issues to be addressed to increase financing for forestry, including the roles and concerns of public institutions, how to safeguard the interests of communities, the additional sources of funding available beyond that derived from timber harvesting, and how to make the sector attractive for private-sector investment. Based on these issues, the publication presents a set of guidelines for formulating national forest financing strategies. It is hoped that this work, based mainly on developments in the Asian region, will serve to invigorate the forest sector, thereby increasing its role in economic development. The guidelines should equip countries with the means to increase their funding sources and their efforts to implement sustainable forest management.

Also available online: www.fao.org/docrep/017/i3187e/i3187e00.htm.

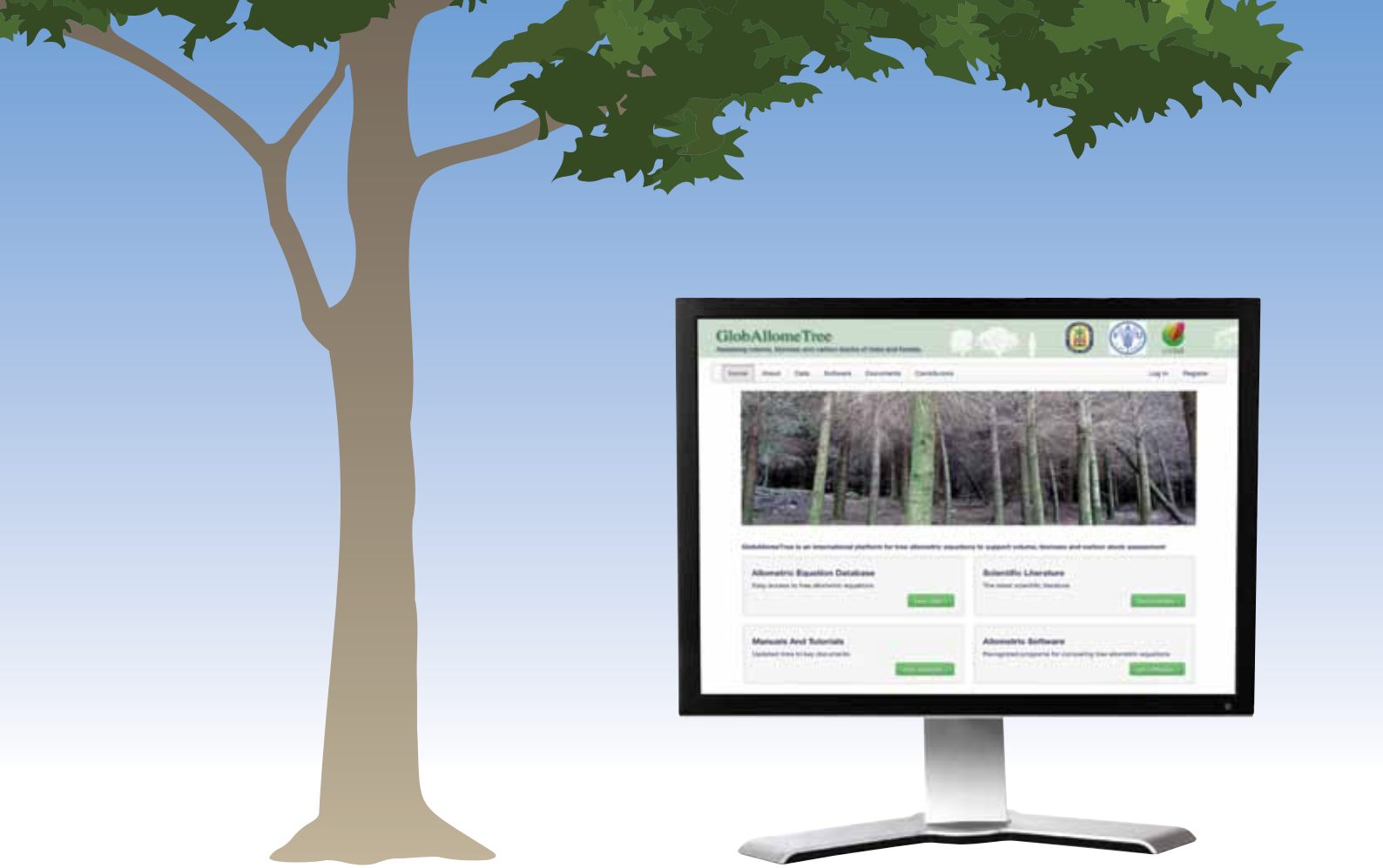


A theory on tropical deforestation

Private or socialistic forestry? Forest transition in Finland vs. deforestation in the tropics. M. Palo & E. Lehto. 2012. World Forests 10. Dordrecht, Heidelberg, London and New York, Springer. ISBN 978-90-481-3896-8.

The premise of this book is that studying the transition from deforestation to sustainable forestry in Finland in the first part of the twentieth century can provide insights into how deforestation in the tropics might be reduced in the future. Finland is the world's second-largest net exporter of forest products and also has the highest forest cover in Europe. The authors compare the underlying causes of Finland's transition with existing conditions in 74 tropical countries.

The interaction of public policies and market institutions appears to have been critical during Finland's transition. The authors suggest that private forest ownership, a continuous increase in the real value of forests, the alleviation of poverty under non-corruptive conditions, and conducive public policies were necessary preconditions for this transition. They conclude that "socialistic" forestry, which they define as "a situation where the state owns all or the majority of forests in a country, and sets stumpage prices [below] the respective market prices by administrative orders, and the forest administrators have not been [given] any financial profitability goals", along with corruption, is keeping wood prices artificially low in tropical forests.



NEW! GlobAllomeTree
the international tree allometric equation platform

GlobAllomeTree is designed to improve global access to tree allometric equations and therefore to assist in the assessment of tree biometric characteristics for calculating commercial volume, bioenergy production and carbon cycling.

GlobAllomeTree products are well-suited to a range of users, such as foresters, project developers, scientists, students and forest technicians. Access to GlobAllomeTree is free.

For the full range of products, visit: **www.globallometree.org**

Contact: **Globallometree@fao.org**

Developed jointly by FAO, the Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD) and the Università degli Studi della Tuscia

FAO Forestry: delivering information resources for 21st century learning and communication.

www.fao.org/forestry