



Information Technology and the Forest Sector

The emergence of digital information and communication technology (ICT) has created new challenges and opportunities for the global forest sector. This report – the first systematic and extensive assessment of ICT impacts on the forest sector – analyzes how ICT has affected the global forest sector to date and discusses the driving forces shaping ICT development and its implications for the sector's future. The report also proposes research and policy strategies to help the forest sector adjust to the changes brought about by ICT development.

Perhaps the most significant impacts of ICT development thus far have related to productivity increases and the greater demand for paper products. ICT has enhanced productivity and reduced production costs both in the forest industry and in forestry itself. Paper consumption has increased markedly as a result of modern office technology (personal computers, photocopiers, printers). The introduction of global positioning systems and satellite photography have revolutionized the monitoring and management of forest resources. These and many other examples, as well as their implications, are discussed in this report.

Will the current trends in ICT development continue? What are the emerging new trends? The report suggests that impacts are likely to be more significant in the future than in the past and, in many cases, qualitatively different or even unexpected. A systematic consideration of the topic, which this report seeks to provide, can thus assist the forest sector in making the relevant – and inevitable – adjustments.

The forest sector has only just begun to grasp the likely long-term impacts of ICT and to understand their potential magnitude. Views on the characteristics, number, and the timing of these impacts tend to differ significantly throughout the forest sector. Such differing views can be partly attributed to the lack of scientific research on the topic and the lack of relevant data. Thus ICT is providing new challenges not only to the global forest sector but to forest research. Indeed, a number of issues meriting further research are indicated in the report.

Lauri Hetemäki is a senior researcher at the Finnish Forest Research Institute (Metla) and Sten Nilsson is the Deputy Director of the International Institute for Applied Systems Analysis (IIASA).



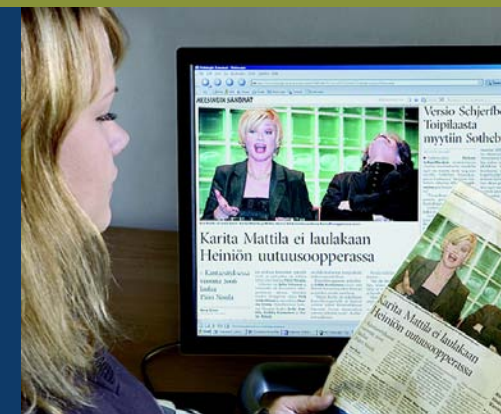
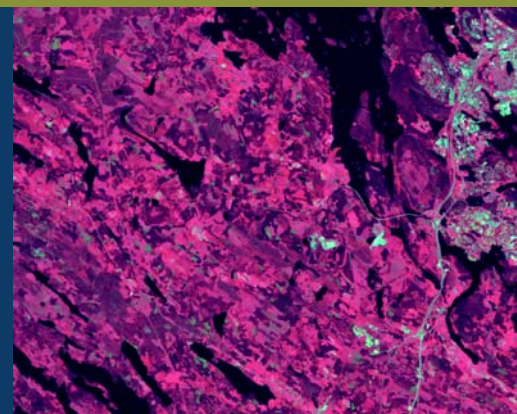
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Edited by
Lauri Hetemäki and Sten Nilsson

Report by the IUFRO Task Force on
"Information Technology and the Forest Sector"

- Task Force Partners:
- International Union of Forest Research Organizations (IUFRO)
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Preface

This volume in the International Union of Forest Research Organizations (IUFRO) World Series presents the final report of the IUFRO Task Force on Information Technology and the Forest Sector. The Task Force was established by Lauri Hetemäki (Metla), Sten Nilsson (IIASA), and Michael Obersteiner (IIASA) in 2002, with Sten Nilsson as chairman. The work was coordinated by IIASA. The objectives of the Task Force were 1) to establish an operational network to identify and coordinate research and activities on the topic of information technology and the forest sector and 2) to produce a Task Force report.

We would like to thank Risto Seppälä, the President of IUFRO, whose idea it was to establish the Task Force. We also thank IIASA, Metla, and the home institutions of the Task Force members for their contribution to the success of this work. We are first and foremost indebted to the authors of the chapters included in this volume. Special thanks go to IIASA's Forestry Program for organizing and hosting the Task Force workshops and for handling and funding the production of the report.

Technical editing of the report was carried out by Kathryn Platzer (IIASA); the Task Force administrative work was organized by Cynthia Festin (IIASA); and the Task Force Web pages coordinated by Ian McCallum (IIASA). We are indeed grateful for these crucial contributions to the work of the Task Force.

The Editors
Helsinki and Laxenburg, June 2005

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