



### **Intergovernmental Panel on Climate Change**

# Good Practice Guidance for Land Use, Land-Use Change and Forestry

### Edited by

Jim Penman, Michael Gytarsky, Taka Hiraishi, Thelma Krug, Dina Kruger, Riitta Pipatti, Leandro Buendia, Kyoko Miwa, Todd Ngara, Kiyoto Tanabe and Fabian Wagner





**IPCC National Greenhouse Gas Inventories Programme** 

Published by the Institute for Global Environmental Strategies (IGES) for the IPCC

© The Intergovernmental Panel on Climate Change (IPCC), 2003.

All rights reserved. No part of this publication may be reproduced or transmitted for commercial purposes in any form or any means, electronically or mechanically, including photocopying, recording or any information storage or retrieval system, without prior written permission from the publisher or a licence permitting restricted copying.

IPCC National Greenhouse Gas Inventories Programme Technical Support Unit

C/o Institute for Global Environmental Strategies 2108 -11, Kamiyamaguchi
Hayama, Kanagawa
Japan, 240-0115
Fax: (81 46) 855 3808
http://www.ipcc-nggip.iges.or.jp

Whilst advice and information in this IPCC Report is believed to be true and accurate at the date of going to press, neither the authors nor publisher can accept any legal responsibility or liability for any errors or omissions that may be made.

Printed in Japan ISBN 4-88788-003-0

## **CONTENTS**

Ack	nowledg	ement	iv				
Pref	ace		v				
Chaj	pters						
1	Overvi	Overview					
2	Basis for Consistent Representation of Land Areas						
3	LUCF Sector Good Practice Guidance						
4	Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol						
5	5 Cross-Cutting Issues						
Ann	exes						
Ann	ex A	Glossary	G.1				
Ann	ex B	Basic Information	B.1				
Ann	ex C	Abbreviations and Acronyms	AA.1				
Ann	ex D	List of Reviewers	LR.1				

### ACKNOWLEDGEMENT

The preparation of the *Good Practice Guidance for Land Use, Land-Use Change and Forestry (GPG-LULUCF)* has been a major undertaking by the IPCC National Greenhouse Gas Inventories Programme (NGGIP). The success in producing this report has depended foremost on the knowledge, enthusiasm and co-operation of the Coordinating Lead Authors, Lead Authors and Contributing Authors – some 150 worldwide. We wish to thank the authors for the time and effort devoted to the task, as well as the commitment to the IPCC process.

Review editors have ensured that the process for consideration of the comments has been appropriate. We would like to thank them for this important task.

UNFCCC Secretariat staff, Roberto Acosta, Claudio Forner and Heikki Granholm participated in the preparation of the report giving background and guidance on issues related to the Convention, the Kyoto Protocol and the Marrakesh Accords. We wish to thank them for their valuable input.

The Steering Group, consisting of the IPCC TFI Co-chairs Taka Hiraishi and Thelma Krug, and Michael Gytarsky (Russian Federation), Dina Kruger (USA) and Jim Penman (UK), has guided the work and ensured internal consistency within the report as well as consistency with the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories. We would like to express our gratitude for their skilful leadership and guidance throughout the preparation of the report.

Five authors/experts meetings were held in Eisenach, Germany; Tampere, Finland; Rio de Janeiro, Brazil; Kuala Lumpur, Malaysia; and Sydney, Australia during the course of preparation of the report. We wish to thank the host countries and hosting organisations for co-organising these meetings.

Two combined government/expert reviews were organised during the preparation of the report; the first during the period 2 December 2002 to 27 January 2003, and the second during 2 May 2003 to 27 June 2003. The first review resulted in almost 6,000 comments, the second in some 4,000 comments. The comments have provided additional expertise to the work in a constructive way, and consideration of the comments improved the drafts considerably. We wish to thank all reviewers for their comments.

The NGGIP Technical Support Unit (TSU Head Riitta Pipatti, Programme Officers Leandro Buendia, Kyoko Miwa, Todd Ngara, Kiyoto Tanabe and Fabian Wagner, Administrative Assistant Ayako Hongo, Project Secretary Akiko Kawase, and IT Officer John Lane) provided guidance as well as technical and organisational support for the project. They worked tirelessly with the authors as they managed the final editing of the report. We wish to thank them for their hard and competent work.

IPCC Secretariat (Rudie Bourgeois, Annie Courtin and Chantal Ettori) provided assistance for organising the meetings and for the reviews. We wish to thank them for their effort and flexibility in responding to the needs to the authors and the TSU during the tight schedule.

Last but not least, we wish to thank the IPCC Chair Rajendra Pachauri, IPCC Secretary Geoff Love (until August 2003), Acting Secretary Renate Christ and the Task Force Bureau on Inventories (Co-chairs, and Ian Carruthers, Soobaraj N. Sok Appadu, Kirit Parikh, Dhari Al-Ajimi, Jamidu Katima, Javier Hanna Figueroa (until June 2003), Sergio Gonzalez-Martineaux, Art Jaques, Dina Kruger, Helen Plume, Audun Rosland and Saad Khorfan) for their support, advice and encouragement.

G.O.P. Obasi

Secretary-General World Meteorological Organisation K. Töpfer

Executive Director United Nations Environmental Programme

### **PREFACE**

This report on *Good Practice Guidance for Land Use, Land-Use Change and Forestry (GPG-LULUCF)* is the response to the invitation by the United Nations Framework Convention on Climate Change (UNFCCC)<sup>1</sup> to the Intergovernmental Panel on Climate Change (IPCC)<sup>2</sup> to develop good practice guidance for land use, land-use change and forestry (LULUCF). *GPG-LULUCF* provides supplementary methods and *good practice guidance* for estimating, measuring, monitoring and reporting on carbon stock changes and greenhouse gas emissions from LULUCF activities under Article 3, paragraphs 3 and 4, and Articles 6 and 12 of the Kyoto Protocol.

The *GPG-LULUCF* assists countries in producing inventories for the land use, land-use change and forestry sector that are neither over- nor underestimates so far as can be judged, and in which uncertainties are reduced as far as practicable. It supports the development of inventories that are transparent, documented, consistent over time, complete, comparable, assessed for uncertainties, subject to quality control and quality assurance, and efficient in the use of resources.

The GPG-LULUCF is consistent with the existing good practice guidance for the other sector and addresses:

- Choice of estimation method within the context of the *IPCC Guidelines*:
- Quality assurance and quality control procedures to provide cross-checks during the inventory compilation;
- Data and information to be documented, archived and reported to facilitate review and assessment of inventory estimates;
- Quantification of uncertainties at the source or sink category level and for the inventory as a whole, so that
  resources available can be directed toward reducing uncertainties over time, and the improvement can be
  tracked.

In addition, *GPG-LULUCF* provides guidance related to the specific features of the LULUCF sector on consistent representation of land areas, sampling for area estimates and for estimating emissions and removals, verification, and guidance on how to complement the Convention reporting for the LULUCF sector to meet the supplementary requirements under the Kyoto Protocol.

The development of *good practice guidance* for LULUCF sector is a step in the IPCC's on-going programme of inventory development and will also support future revisions of the *IPCC Guidelines* themselves.

<sup>&</sup>lt;sup>1</sup> Decision 11/CP.7 (Land use, land-use change and forestry) in FCCC/CP/2001/13/Add.1, paragraphs 3(a) and 3 (b), page 55.

<sup>&</sup>lt;sup>2</sup> IPCC was established jointly by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) to

<sup>•</sup> Make periodic assessments of the science, impacts and the socio-economic aspects of climate change and of adaptation and mitigation options to address it;

Assess, and develop as necessary, methodologies such as the IPCC Guidelines for National Greenhouse Gas Inventories:

Provide, on request, scientific/technical/socio-economic advice to the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) and its bodies.