

Annex 2

Knowledge tools

GENERAL

Forest management and climate change: stakeholder perceptions (2012)

To facilitate the development of *Climate change guidelines for forest managers*, a survey was conducted through which forest stakeholders provided their views and perceptions on factors that influence the ability of forest managers to respond to climate change. This publication presents the results of the survey.

www.fao.org/docrep/015/md510e/md510e00.pdf

Forest management and climate change: a literature review (2012)

This document summarizes knowledge and experiences in forest management as a response to climate change based on a literature review and a survey of forest managers. Part of the FAO-led process to prepare the *Climate change guidelines for forest managers*, the document examines climate change impacts on forests and forest managers throughout the world. It also reviews the main perceived challenges that climate change poses for forests and their managers. It summarizes experiences in preparing for and reacting to climate change in different types of forest. Finally, it indicates a number of gaps in enabling conditions (related to knowledge, institutional setting and culture) that hamper forest managers in responding effectively to climate change and its impacts.

www.fao.org/docrep/015/md012e/md012e00.pdf

Forests and climate change toolbox (2010)

This toolbox was developed by the Center for International Forestry Research to build understanding and technical proficiency on issues of climate change and forests, including mitigation, adaptation, carbon accounting and markets, and biofuels. The toolbox consists of a series of PowerPoint presentations with accompanying notes.

www.cifor.cgiar.org/fctoolbox/

The sustainable forestry handbook: a practical guide for tropical forest managers on implementing new standards (2004)

This handbook provides a clear and concise guide to the practicalities of implementing international standards for SFM. It is targeted at forest managers and explains in clear terms what the standards require forest managers to do and how they might go about implementing them.

www.earthscan.co.uk/?TabId=1060 (for purchase)

VULNERABILITY ASSESSMENTS

An assessment of the vulnerability of Australian forests to the impacts of climate change (2011)

This document seeks to provide an improved understanding of current knowledge of the likely biophysical and socio-economic consequences of climate change for Australia's native and planted forest regions. It assesses the vulnerability of Australian forests from the perspective of both resource use and ecosystem services, identifying particularly vulnerable forests and communities in major forest areas. The document also provides information on what is being done in Australia to understand and manage climate-related risk in relation to forests, and it offers guidance on key gaps to assist climate change adaptation.

www.nccarf.edu.au/content/assessment-vulnerability-australian-forests-impacts-climate-change

A system for assessing vulnerability of species (SAVS) to climate change (2011)

The SAVS is a simple and flexible tool designed for managers to assess the relative risk of individual species to population declines in response to projected changes in climate and related phenomena. The SAVS uses an easily completed questionnaire based on predictive criteria that translate the responses of terrestrial vertebrate species into scores indicating vulnerability or resilience to climate change. The SAVS also includes methods for calculating uncertainty, detailed instructions for scoring a species and guidelines for tool application.

www.fs.fed.us/rm/pubs/rmrs_gtr257.pdf

Climate change in a living landscape: conceptual and methodological aspects of a vulnerability assessment in the Eastern Cordillera Real of Colombia, Ecuador and Peru (2011)

This document by the Worldwide Fund for Nature presents the results of combined vulnerability analyses (biological, hydrological and socio-economic). The results demonstrate the need for actions oriented at maintaining the continued provision of ecosystem services as well as the biological and cultural riches of the region. Priority adaptation measures include actions to develop and strengthen the capacities and production systems of local communities and institutions, with the aim of maintaining and recovering ecosystem resilience, strengthening a regional policy framework with considerations of vulnerability and adaptation to climate change, and strengthening the capacity to generate and disseminate information necessary to increase citizen participation in decision-making processes.

http://awsassets.panda.org/downloads/cc_eccr_final_web.pdf

Methods and tools for assessing the vulnerability of forests and people to climate change (2009)

This working paper by the Center for International Forestry Research provides an overview of methods and tools suitable for assessing the vulnerability of forests,

forest ecosystem services and forest-dependent people or sectors to climate change. It provides a typology of methods and tools and gives examples.

www.cifor.cgiar.org/publications/pdf_files/WPapers/WP43Locatelli.pdf

A framework for assessing vulnerability of forest-based communities to climate change (2007)

This publication presents a general framework for and approach to assessing the vulnerability of forest-based communities to climate change and the potentially increased risks associated with such change. It identifies specific elements that should be considered in assessing vulnerability and outlines a series of steps that researchers and communities can follow to systematically determine sources of vulnerability to climate change.

www.resourcesnorth.org/downloads/NOR-X-414_web.pdf

Compendium on methods and tools to evaluate impacts of, and vulnerability and adaptation to, climate change (2005)

This compendium provides a synthesis of key information about available frameworks and tools for assessing climate change vulnerability and adaptation options, special features of each framework or tool, and information about how to obtain documentation, training, or publications supporting each tool.

http://unfccc.int/files/adaptation/methodologies_for/vulnerability_and_adaptation/application/pdf/consolidated_version_updated_021204.pdf

ADAPTATION

Managing forests as complex adaptive systems: building resilience to the challenge of global change (2013)

This book links the emerging concepts of complexity, complex adaptive systems and resilience to forest ecology and management. It explores how these concepts can be applied in various forest biomes with their differing ecological, economic and social settings and history. Individual chapters stress different elements of these concepts based on the specific setting and expertise of the authors. Regions and authors have been selected to cover a diversity of viewpoints and emphases, from silviculture and natural forests to forest restoration, and from boreal to tropical forests.

www.routledge.com/books/details/9780415519779/ (*for purchase*)

Responding to climate change in national forests: a guidebook for developing adaptation options (2011)

This guidebook is a summary of current knowledge on climate change adaptation taken from educational syntheses, specific tools, facilitated dialogues, workshops and case studies. It focuses specifically on topics and approaches that are relevant to and compatible with resource management in national forests and potentially on other federal lands. The guidebook is intended to assist the transition to climate-smart approaches in resource management. It is not intended to be a comprehensive account

of all scientific and management efforts on climate change adaptation but rather a compilation of information and lessons learned that will inform adaptation planning and practice on national forests.

www.fs.fed.us/pnw/pubs/pnw_gtr855.pdf

weADAPT climate change explorer (2011)

This is an online platform focused on adaptation (and the synergies between adaptation and mitigation) targeting practitioners, researchers and policy-makers and providing them with access to information and possibilities to share experiences and lessons learned.

<http://weadapt.org/>

European forestry in the face of climate change: EUSTAFOR guidelines (2010)

The aim of this paper is to provide guidance to EUSTAFOR members on how forests can be managed to provide maximum benefits in terms of climate change mitigation and adaptation. The guidelines form a common framework of recommendations for EUSTAFOR members, focusing on the carbon balance. They come within the framework of the Pan European Operational-level Guidelines for SFM. The guidelines are voluntary and have been developed for state forests. They support synergies in implementing the United Nations Forum on Forests, the UNFCCC, the Convention on Biological Diversity, the United Nations Convention on Combating Desertification and other relevant forest-related international commitments.

www.eustafor.eu/failid/File/EustaforClimateReport2010_2.pdf

Adaptation of forests to climate change: some estimates (2010)

This paper focuses on the anticipated impacts of climate change on forests broadly and on industrial wood production in particular, and presents case studies from Brazil, South Africa and China. The aim is to identify likely damage and possible mitigating investments or activities. The results provide perspective on and estimates and projections of the impacts of climate change on forests and forestry in various regions and countries.

www.rff.org/documents/RFF-DP-10-06.pdf

Adaptation of forests and people to climate change: a global assessment report (2009)

This report produced by the International Union of Forest Research Organizations assesses the interrelations among forest ecosystems, the services they provide, and climate change; the past and future impacts of climate change on forest ecosystems and the people that depend on these ecosystems; and the management and policy options for adaptation.

www.iufro.org/download/file/4485/4496/Full_Report_.pdf

Making forests fit for climate change: a global view of climate-change impacts on forests and people and options for adaptation (2009)

This publication is based on a comprehensive assessment of scientific information about climate-change impacts and how forests and people can adapt to it. It also provides essential information for enhancing the adaptive capacity of both forests and people in the face of climate change.

www.iufro.org/download/file/4486/4496/Policy_Brief_ENG_final_pdf/

CRiSTAL (2009)

The Community-based Risk Screening Tool – Adaptation and Livelihoods (CRiSTAL) is designed to help project planners and managers integrate climate change adaptation and risk reduction into community-level projects.

www.iisd.org/cristaltool/

Impacts of climate change on European forests and options for adaptation (2008)

This study compiles and summarizes knowledge about the observed and projected impacts of climate change on forests in Europe and reviews options for forests and forestry to adapt to climate change.

http://ec.europa.eu/agriculture/analysis/external/euro_forests/full_report_en.pdf

Adapting to climate variability and change: a guidance manual for development planning (2007)

This manual was developed to assist project managers in understanding how climate change may affect their project outcomes and in identifying adaptation options to integrate into the design for more resilient projects.

http://pdf.usaid.gov/pdf_docs/PNADJ990.pdf

Climate adapt: European climate adaptation platform (CLIMATE-ADAPT)

This platform aims to support Europe in adapting to climate change, especially by providing access and information on expected climatic changes, the current and future vulnerability of regions and sectors, including forestry, national and transnational adaptation strategies, and potential adaptation options.

<http://climate-adapt.eea.europa.eu/data-and-downloads?searchtext=&searchsectors=BIODIVERSITY&searchtypes=GUIDANCE>

MOTIVE

The project on models for adaptive forest management (MOTIVE) investigates adaptive management strategies that address climate and land-use change. It also examines the impacts of these changes with respect to a broad range of forest goods and ecosystem services.

<http://motive-project.net/>

PRODUCTION AND ECOSYSTEM SERVICES

Revised ITTO guidelines for the sustainable management of natural tropical forests (2012)

These guidelines produced by the International Tropical Timber Organization (ITTO) are designed to assist forest managers, policy-makers and other stakeholders to manage, conserve and sustainably use natural tropical forests. They provide a reference on technical issues at the macro or landscape scale and the micro or FMU scale. The guidelines are designed to be applied in the management of production forest, although many of the principles, guidelines and recommended actions can and should also be applied to forest protection. They are designed to encourage multipurpose forest management practices that, if applied over the long term, will sustain the yields of multiple products from, maintain the provision of ecosystem services by, and safeguard the values of tropical forests for the benefit of multiple stakeholders.

www.itto.int/calls_proposals/id=2853

Guidelines on sustainable forest management in drylands of sub-Saharan Africa (2010)

These guidelines produced by FAO are intended to guide forestry decision-makers and managers in prioritizing the issues and aspects that need to be addressed to improve forest planning and management in drylands and as a result contribute to the well-being of local populations and enhance their social, cultural, environmental and economic benefits.

www.fao.org/docrep/012/i1628e/i1628e00.pdf

Incentives to sustain forest ecosystem services: a review and lessons for REDD (2009)

This publication presents a summary of a review of the design and performance of selected payments for ecosystem services and other incentive-based initiatives in four major tropical forest regions – the Amazon Basin, the Congo Basin, the miombo woodlands of eastern and southern Africa, and Southeast Asia. The report focuses on a number of critical issues for the design and implementation of national and subnational REDD activities, with a focus on the role of performance-based incentive mechanisms and key enabling conditions for their effective implementation.

<http://pubs.iied.org/pdfs/13555IIED.pdf>

Effects of management on timber production and carbon stocks in a boreal forest ecosystem under changing climate: a model-based approach (2007)

In this paper, a process-based growth and yield model was used to investigate the sensitivity of timber production and carbon stocks to management under different climate scenarios at the level of the FMU. The effects of initial age class distributions of an FMU on timber production and carbon stocks under different management

and climate scenarios were also examined and the implications on the cost of carbon sequestration over the next 100 years presented.

www.metla.fi/dissertationes/df42.pdf

Voluntary guidelines for the responsible management of planted forests (2006)

These non-legally binding FAO guidelines may be adopted and applied to planted forests in all ecogeographical zones and in countries, regions and landscapes at all stages of economic development. They are applicable to planted forests that fulfil productive functions for the provision of wood, fibre and non-wood forest products or protective functions for the provision of ecosystem and social services. They cover all aspects of planted forests, from policy development and planning to the technical considerations of planted forest management. The guidelines establish a framework to support dialogue in the formulation of policies, laws, regulations and strategic and management plans that, in turn, will help improve enabling conditions and enhance capacity and capability in planted forest management.

www.fao.org/docrep/009/j9256e/j9256e00.htm

ITTO guidelines for the restoration, management and rehabilitation of degraded and secondary tropical forests (2002)

These guidelines by ITTO highlight the increasing importance of degraded and secondary forests in tropical landscapes. They provide a set of principles and recommended actions to promote and encourage the management, restoration, rehabilitation and sustainable use of degraded and secondary forests as a component of sustainable social and economic development.

www.itto.int/policypapers_guidelines/

FAO model code of forest harvesting practice (1996)

The FAO model code is intended to promote harvesting practices that will improve standards of forest use, reduce environmental impacts, help ensure that forests are sustained for future generations and improve the economic and social contributions of forestry as a component of sustainable development. It examines harvesting planning, the implementation and control of harvesting operations, harvesting assessment, the communication of results to the planning team, and the development of a competent and properly motivated workforce. Information is also provided on the potential consequences that might be expected from a failure to implement these practices.

www.fao.org/docrep/V6530E/V6530E00.htm#Contents

BIODIVERSITY

Wildlife in a changing climate (2012)

This FAO publication analyses and presents how climate change affects or will likely affect wild animals and their habitats. Although climate change has already been observed and monitored over several decades, there are few long-term studies on how the phenomenon is affecting wildlife. There is growing evidence, however, that climate change significantly exacerbates other major human-induced pressures, such as encroachment, deforestation, forest degradation, land-use change, pollution and the overexploitation of wildlife resources. Case studies are presented that describe some of the body of evidence in some instances and provide projections of likely scenarios in others.

www.fao.org/forestry/30143-0bb7fb87ece780936a2f55130c87caf46.pdf

REDD+ and biodiversity (2011)

This document has been prepared by the Secretariat of the Convention on Biological Diversity (CBD) with a view to providing technical and scientific information on designing and implementing REDD+ activities in a way that does not run counter to the objectives of the CBD and supports the implementation of the programme of work on forest biodiversity. More specifically, the document aims to outline: the potential benefits of REDD+ for biodiversity and indigenous and local communities; the importance of biodiversity and indigenous and local community co-benefits for the long-term success of REDD+; possible risks of REDD+ for biodiversity and indigenous and local communities with a view to contributing to the development or improvement of appropriate policy recommendations; the ways in which the CBD can contribute to the success of REDD+; and the potential ways in which REDD+ can contribute to the objectives of the CBD.

www.cbd.int/doc/publications/cbd-ts-59-en.pdf

Climate change and forest genetic resources: state of knowledge, risks and opportunities (2011)

This FAO paper reviews and examines the impacts of climate change on genetic resources of organisms that are important for human well-being, and the potential role of these resources in mitigating and adapting to climate change. It focuses on forest genetic resources in the context of trees in natural forests, plantations and agroforestry systems. The paper consists of a review of the current state of knowledge and the identification of gaps and priorities for action.

www.fao.org/docrep/meeting/023/mb696e.pdf

Climate change and African forest and wildlife resources (2011)

This book prepared by the African Forest Forum systematically presents climate change in the context of African forests, trees and wildlife resources. It includes information on the broader aspects of climate change and variability, an overview of climate change on African wildlife resources, and socio-economic and policy

considerations for talking about climate change issues within the forest sector.
www.afforum.org/component/docman/doc_download/46-climate-change-and-african-forest-and-wildlife-resources.html

Sustainable forest management, biodiversity and livelihoods: a good practice guide (2009)

This publication by the CBD Secretariat addresses the linkages between forestry, biodiversity and development/poverty reduction. The summaries and examples show how biodiversity and sustainable economic development can go hand in hand.
www.cbd.int/development/doc/cbd-good-practice-guide-forestry-booklet-web-en.pdf

Mountain biodiversity and climate change (2009)

This publication of the International Center for Integrated Mountain Development reviews the impacts of climate change on mountain ecosystems and the consequences for the rest of the world. It discusses the present situation and approaches towards a common future strategy for mountain biodiversity conservation.
http://books.icimod.org/uploads/tmp/icimod-mountain_biodiversity_and_climate_change.pdf

Forest resilience, biodiversity, and climate change: a synthesis of the biodiversity/resilience/stability relationship in forest ecosystems (2009)

This paper by the CBD Secretariat reviews the concepts of ecosystem resilience, resistance and stability in forests and their relationship to biodiversity, with particular reference to climate change.
www.cbd.int/doc/publications/cbd-ts-43-en.pdf

ITTO/IUCN guidelines for the conservation and sustainable use of biodiversity in tropical timber production forests (2009)

These guidelines were prepared by ITTO and the International Union for Conservation of Nature and distinguish two levels of intervention. At one level, the guidelines set out those general approaches to forest management that will have wide application in ensuring that biodiversity values are maintained and should be adopted universally. At the other level, they review practical experience and provide advice that managers and decision-makers might draw on in designing locally applicable guidelines, codes of practice, regulations and silvicultural practices.
www.itto.int/policypapers_guidelines/

Connecting biodiversity and climate change mitigation and adaptation: report of the second ad hoc technical expert group on biodiversity and climate change (2009)

This CBD document examines the observed and projected impacts of climate change on biodiversity, the links between biodiversity and climate change adaptation and mitigation, the links between biodiversity and climate change mitigation with a

particular focus on land-use activities and reducing emissions from deforestation and forest degradation, and provides information on techniques for valuing biodiversity. It highlights that applying these techniques can quantify costs and benefits, opportunities and challenges and thus improve decision-making on climate change-related activities.

www.cbd.int/doc/publications/cbd-ts-41-en.pdf

Climate change and forest genetic diversity: implications for sustainable forest management in Europe (2007)

The publication reviews current understanding of how forest trees will cope with and adapt to climate change, and discusses the implications for SFM in Europe.

www.euforgen.org/fileadmin/bioersivity/publications/pdfs/1216.pdf

Ecological monitoring of forestry management in the humid tropics: a guide for forestry operators and certifiers with emphasis on high conservation value forests (2004)

This publication provides guidance to the global effort on the sustainable management of high conservation value forests (HCVF) using valid criteria for production and conservation. The general objective is to provide operators and certifiers of tropical forests with methodological procedures that are practical and relevant to the ecological monitoring of certified forestry activities in HCVF (following Forest Stewardship Council protocols and standards).

http://awsassets.panda.org/downloads/wwfca_monitoreo.pdf

WATER AVAILABILITY

Water, climate change and forests: watershed stewardship for a changing climate (2010)

This report describes adaptation opportunities associated with forest management, specifically in the context of water and aquatic ecosystems. The first two sections describe the importance of forests to water resources in the United States of America and summarize observed and projected effects of climate change on the hydrologic cycle and forested watersheds.

www.fs.fed.us/pnw/pubs/pnw_gtr812.pdf

Forests and water (2008)

This FAO publication explains the role of forests in the hydrological cycle, with a particular focus on critical “red flag” forest situations such as mountainous or steep terrain, river and coastal areas and swamp ecosystems. It also addresses the protection of municipal water supplies and emerging systems of payments for watershed services. The publication highlights the need for holistic management in complex watershed ecosystems, taking into account interactions among water, forest and other land uses, as well as socio-economic factors.

<ftp://ftp.fao.org/docrep/fao/011/i0410e/i0410e00.pdf>

The new generation of watershed management programmes and projects (2006)

This FAO publication has been prepared primarily for field-level watershed management practitioners and local decision-makers involved in watershed management at the district or municipality level. It provides information on the new generation of watershed management using examples from France, Italy, Kenya, Nepal and Peru.
www.fao.org/docrep/009/a0644e/a0644e00.htm

FIRE**Climate change, carbon sequestration and forest fire protection in the Canadian boreal zone (2011)**

This report reviews the potential influence of climate change on fire regimes in boreal forests and associated peatlands and the implications for managing fires in those ecosystems. It also discusses the role of boreal forest and peatland fires in cycling carbon through both the release of carbon (in the form of GHGs) in combustion, and the subsequent uptake of carbon in post-fire vegetation renewal.
www.mnr.gov.on.ca/stdprodconsume/groups/lr/@mnr/@climatechange/documents/document/stdprod_088316.pdf

Wildland fire management: handbook for trainers (2010)

This handbook supports the implementation of the *Voluntary Guidelines for Fire Management*, targeting field trainers and instructors. Together with the *Voluntary Guidelines*, the handbook forms the basis for a programme of institution-strengthening and capacity-building in fire management, particularly in developing countries.
www.fao.org/docrep/012/i1363e/i1363e00.htm

Assessment of forest fire risks and innovative strategies for fire prevention (2010)

This publication presents the outcomes of the Workshop on the Assessment of Forest Fire Risks and Innovative Strategies for Fire Prevention, which was held on 4–6 May 2010 in Greece. It reviews the current national forest fire prevention systems in European countries and identifies innovative strategies, best practices and possible policy instruments in relation to forest fire prevention in Europe.
www.foresteurope.org/filestore/foresteurope/Publications/pdf/FOREST_EUROPE_Forest_Fires_Report.pdf

Fire management voluntary guidelines: principles and strategic actions (2006)

These voluntary guidelines set out a framework of priority principles that will aid the formulation of policy, legal, regulatory and other enabling conditions and strategic actions for more holistic approaches to fire management. They have been tailored primarily for land-use policy-makers, planners and managers in fire management, including states, the private sector and NGOs. The guidelines cover the positive and negative social, cultural, environmental and economic impacts of natural and planned fires in forests, woodlands, rangelands, grasslands and agricultural and rural/urban landscapes. The scope includes early warning, prevention, preparedness

(international, national, subnational and community), safe and effective initial attack on fire incidents, and landscape restoration in the wake of wildfire.

<ftp://ftp.fao.org/docrep/fao/009/j9255e/j9255e00.pdf>

PESTS AND DISEASES

Guide to implementation of phytosanitary standards in forestry (2011)

This guide is intended to help reduce human-facilitated pest spread and its impacts. It provides easy-to-understand information on international standards for phytosanitary measures and the role of forest management practices in implementing phytosanitary standards and facilitating safe trade.

www.fao.org/forestry/foresthealthguide/en/

Climate change impacts on forest health

This paper reviews the current state of knowledge on the effects of climate change on forest pests and their implications for forest health protection and management. Because of the relatively limited research that has been dedicated specifically to forest pests, information on non-forest pests is also included to enable a better understanding of the potential impacts of climate change on forest health.

<ftp://ftp.fao.org/docrep/fao/011/k3837e/k3837e.pdf>

EXTREME WEATHER EVENTS

Climate change and extreme weather events (2000)

This assessment sponsored by the Worldwide Fund for Nature reviews scientific knowledge on climate change and its impacts regarding the weather, particularly weather extremes. It addresses the extent to which the human influence on the climate can be measured, the short- and long-term expectations and the potential impact on the future climate of measures to reduce net GHG emissions.

<http://awsassets.panda.org/downloads/xweather.pdf>

SEA-LEVEL RISE

Practical measures to tackle climate change: coastal forest buffer zones and shoreline change in Zanzibar, Tanzania (2009)

This report of the United Nations Educational, Scientific and Cultural Organization presents the results of analyses of change (over 50 years) to coastal forests and practical actions to mitigate the unwanted effects of the change.

www.unesco.org/csi/climate-frontlines/PracticalMeasuresZanzibar_Ebook.pdf

Managing mangroves for resilience to climate change (2006)

This paper provides an overview of mangrove ecosystems, the benefits of mangroves to people, and the human and global threats that compromise mangrove ecosystems. It describes the impacts of climate change on mangroves and outlines tools and strategies that enhance mangrove resilience.

<http://data.iucn.org/dbtw-wpd/edocs/2006-041.pdf>

Sea-level rise and coastal forests on the Gulf of Mexico (1999)

This report reviews literature pertaining to the response of coastal forests on the Gulf of Mexico to sea-level rise. It discusses the effects of sea-level rise on non-mangrove and mangrove forests, and the responses of coastal trees to increased flooding and salinity.

<http://coastal.er.usgs.gov/wetlands/ofr99-441/OFR99-441.pdf>

SOCIAL RESPONSES**Pathways to climate change resilience: guidebook for Canadian forest-based communities (2011)**

This guidebook emphasizes tools to facilitate community-based climate change adaptation in small communities (communities of less than 15 000 people) in Canadian forest environments. The guidebook will be pilot-tested in selected Canadian model forests, where communities will use the guidebook to support climate change adaptations. The learning from this testing will be used to increase the usefulness of the guide for forest-based communities.

www.modelforest.net/pubs/Pathways_to_Climate_Change_Resilience_FINAL_Feb_2011.pdf

Forests and society: responding to global drivers of change (2010)

An increasing number of complex global environmental and socio-economic drivers of change affect forests and society. This new book presents and discusses the challenges and opportunities related to the global drivers of change and the ways to reduce their adverse effects and to take advantage of the benefits and opportunities they might bring.

www.iufro.org/science/special/wfse/forests-society-global-drivers/

ECONOMIC RESPONSES**The implications of carbon financing for pro-poor community forestry (2007)**

The emergence of new financing mechanisms associated with the rise of carbon markets brings potential for increased investment in forestry. This paper explores the implications of these mechanisms for community forestry and suggests ways in which such finance may contribute to the pro-poor outcomes of community forestry. The paper also provides an opportunity for those working on the design of carbon-financing mechanisms to draw on the experience of community forestry in structuring appropriate benefit systems.

www.odi.org.uk/resources/details.asp?id=438&title=implications-carbon-financing-pro-poor-community-forestry

Climate funds update

This is an independent website that provides information on the growing number of international funding initiatives designed to help developing countries address the challenges of climate change.

www.climatefundsupdate.org

MITIGATION

Understanding community-based REDD+: a manual for indigenous communities (2011)

This manual prepared by the International Work Group for Indigenous Affairs and Asia Indigenous Peoples Pact is based on and seeks to promote in a holistic way an approach to REDD+ that respects and promotes the rights of indigenous peoples, as provided for in the United Nations Declaration on the Rights of Indigenous Peoples, the social and cultural systems of indigenous peoples and their values and practices, and the environment.

www.aippnet.org/home/images/stories/A-Manual-for-Indigenous-Communities-20120117174234.pdf

Estimating the opportunity costs of REDD+: a training manual (2011)

This manual addresses the calculation of costs and benefits of the various land-use alternatives in relation to their carbon stocks. As required data are generally not readily available, the manual also includes information on data collection, analysis and evaluation. Although sections of the manual are relevant for subnational or project analysis, it is not intended to calculate compensation for farmers or landowners at a given site.

www.asb.cgiar.org/PDFwebdocs/OppCostsREDD_Manual_v1%203_low-res.pdf

Developing social and environmental safeguards for REDD+: a guide for a bottom-up approach (2010)

This guide describes a process for developing REDD+ social and environmental safeguards in Brazil that is based on the broad participation of all parties involved, including the private sector, environmental organizations, representatives of indigenous peoples and local communities, smallholders, and research institutions.

www.forest-trends.org/documents/files/doc_2573.PDF

The REDD opportunities scoping exercise (2009)

This publication by Forest Trends provides a tool for classifying and prioritizing potential REDD+ subnational activities and for assessing critical constraints to project development, especially those associated with the legal, political and institutional framework for carbon finance. The ROSE tool was developed and refined during 2009 in the course of conducting case studies in Ghana, the United Republic of Tanzania and Uganda.

www.forest-trends.org/documents/files/doc_2431.pdf

Guidebook to markets and commercialization of forestry CDM projects (2007)

This guide provides information to project developers about markets and the commercialization of certified emissions reductions obtained by forestry projects. The guide takes the reader through the development stages of a Clean Development Mechanism forestry project; the specific characteristics of forestry certified emissions

reductions, and the demand for this type of credit.

www.katoombagroup.org/~katoomba/documents/tools/GuidebooktoMarketsandCommercializationofCDMforestryProjects.pdf

Community forest management as a carbon mitigation option: case studies (2006)

This publication by the Center for International Forestry Research presents the results of community-based forest management initiatives that were undertaken to explore opportunities and challenges for smallholder farmers in developing countries to participate in schemes to mitigate climate change.

www.communitycarbonforestry.org/Case%20study%20bookWeb.pdf

REPORTING

Forest carbon accounting: overview & principles (2009)

This guide presents the main principles, practices and challenges for carbon accounting in the forest sector. In order to be accessible, the report is not overly technical and should not, therefore, be considered as a stand-alone guide to forestry carbon accounting. It does, however, present guidance for good practice in accounting and indicates further sources of guidance.

www.undp.org/climatechange/carbon-finance/Docs/Forest%20Carbon%20Accounting%20-%20Overview%20&%20Principles.pdf

Revised ITTO criteria and indicators for sustainable management of tropical forests including reporting format (2005)

This is a tool for monitoring, assessing and reporting on forest management in tropical countries. The document includes a simplified set of indicators and a shortened format for reporting.

www.itto.int/direct/topics/topics_pdf_download/topics_id=9630000&no=1&disp=inline



Forest and clouds in East Kalimantan, Indonesia.